Union of Concerned Scientists
ucsusa.org Two Brattle Square, Cambridge, MA 02138-3780 t 617.547.5552 f 617.864.9405
1825 K Street NW, Suite 800, Washington, DC 20006-1232 t 202.223.6133 f 202.223.6162
2397 Shattuck Avenue, Suite 203, Berkeley, CA 94704-1567 t 510.843.1872 f 510.843.3785
One North LaSalle Street, Suite 1904, Chicago, IL 60602-4064 t 312.578.1750 f 312.578.1751

May 1, 2017

Annette Vietti-Cook, Secretary
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

Attention: Rulemaking and Adjudications Staff

Submitted electronically to Rulemaking.Comments@nrc.gov

Dear Ms. Vietti-Cook:

On behalf of the Union of Concerned Scientists (UCS) and Beyond Nuclear, I respectfully submit the enclosed petition for rulemaking pursuant to §2.802 in Title 10 of the Code of Federal Regulations (10 CFR). The petition seeks to have the U.S. Nuclear Regulatory Commission (NRC) promulgate regulations that establish acceptable conditions for use of compensatory measures (e.g., fire watches, surveillance cameras, etc.) during periods when fire protection regulations are not met. These regulations would be applicable to nuclear power reactors with operating licenses and to those that may receive operating licenses in the future.

Sincerely,

David A. Lochbaum
Director, Nuclear Safety Project
Union of Concerned Scientists
PO Box 15316
Chattanooga, TN 37415
423-468-9272, office
dlochbaum@ucsusa.org

Co-Petitioner:
Paul Gunter, Director
Reactor Watchdog Project
Beyond Nuclear
6930 Carroll Avenue Suite 400
Takoma Park, MD 20912
301-270-2209
paul@beyondnuclear.org

Enclosure: Petition for Rulemaking—Fire Protection Compensatory Measures

Rulemaking for Fire Protection Compensatory Measures

The petitioners request that the NRC issue a final rule that defines the compensatory measures authorized for use and under what conditions when the fire protection regulations (e.g., 10 CFR 50.48 and General Design Criterion 3 in Appendix A to 10 CFR Part 50) are not met. The final rule must also define the maximum duration that compensatory measures may be relied upon. Table 1 lists measures commonly used to compensate for fire protection system impairments.

Compensatory Measure	Description
Continuous Fire Watch	A continuous fire watch is an individual that serves as an uninterrupted fire watch in a single fire area (see section below on Fire watch for more details and example in section 3.2.2.1 (B) on "Improper Definition of a Continuous Fire Watch"). If all parts of the single fire area are not in the line of sight from a fixed watch station (e.g., line-of-sight vision is obstructed by equipment), the fire watch is to maintain watch over the entire area by patrolling the assigned fire area.
Hourly Fire Watch	An hourly fire watch is an individual assigned to observe posted area(s) 24 times in 24 hours, at 60 minute intervals. The frequency of the hourly fire watch patrols is defined as intervals of sixty minutes with a margin of fifteen minutes, consistent with the frequencies of other forms of Technical Specification surveillance which allow margins of 25% [NRC 1986]. The repetitive use of a 15-minute margin or 25% grace would not be permitted to allow fewer patrols.
Roving Fire Watch	A roving, once-per-shift, fire watch patrol that is assigned to tour specific fire areas once every eight hours. Unlike the Hourly Fire Watch, this CM is not typically specified in approved FPPs. However, its use has been approved by the staff for certain specific circumstances, such as impairments inside the containment.
Backup Suppression	A backup means of suppression that is provided to compensate for an impaired fire suppression system. Examples include backup pumping capability, supplemental water source(s), or additional lengths of fire hose.
Standard Video Monitoring	Use of standard closed-circuit television (CCTV) systems, such as those used for plant security, to enhance the level of fire protection provided by a fire watch when unique conditions exist.
Temporary Repairs	A short-term, temporary change in the plant to restore the functional capability of an impaired FPP feature. Examples include installing temporary fire barriers, penetration-seal materials, and emergency lighting units.
Temporary Procedure Changes	Revising abnormal operating procedures (AOPs) temporarily to direct operators to use of feasible, reliable manual actions in the event of fire in areas where impaired fire protection features are located (typically, electrical-raceway fire barriers).
Enhanced Combustible Controls	Placing additional limits on the amount and/or type of combustible material materials in the area(s) of concern.
Enhanced Ignition Source Controls	Imposing additional limits on the amount and/or type of ignition sources in the area(s) of concern.
Wireless smoke detectors	Providing wireless smoke detectors as a backup means of detection to compensate for a degraded detection system.

Table 1 Source: NUREG/CR-7135 Table 3.2

Need for Proposed Rule

The problem this rulemaking seeks to solve is that violations of the NRC's fire protection regulations are often discovered, but the compensatory measures intended to provide sufficient protection until compliance is restored have not been properly established.

The fire protection regulations were primarily established with the issuance of Appendix R to 10 CFR Part 50 in 1980 and the NFPA 805 alternative regulations adopted in 2004. As illustrated in Figure 1, the NRC issued guidance documents along the way that outlined its expectations after violations of existing fire protection regulations were discovered and while owners undertook efforts needed to achieve compliance with newly adopted regulations.

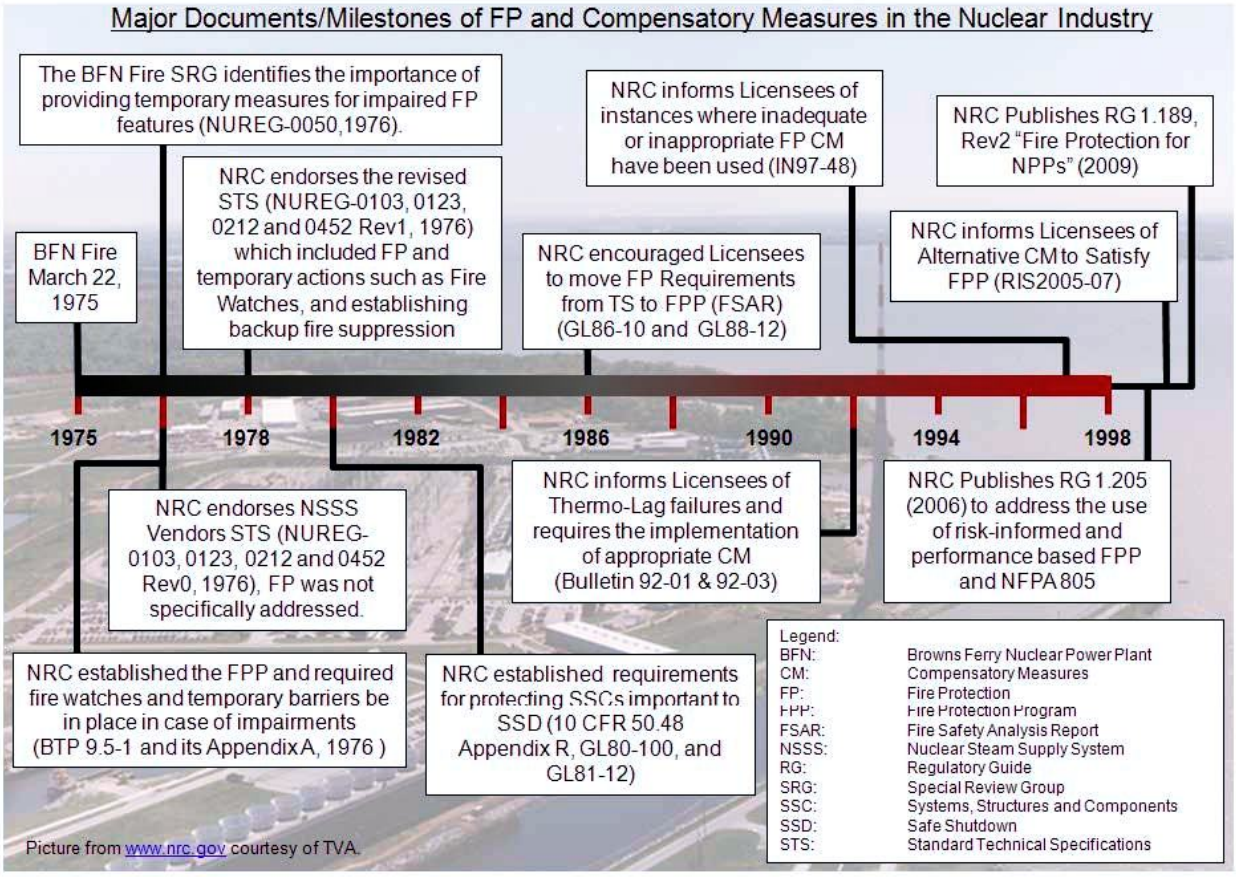

Figure 1 Source: NUREG/CR-7135 Figure 2.1

This compensatory measure guidance is deficient because:

1) The guidance documents are not regulations and therefore convey unenforceable expectations.

2) The guidance documents are not clear, creating confusion for licensees, NRC inspectors and reviewers, and the public about what constitutes an acceptable substitute for compliance with fire protection regulations as well as the permissible durations of the substitutions.

3) The guidance documents were not developed through an open process, thus depriving the public opportunities to weigh in on the acceptability of various compensatory measures.

Attachment 1 lists 1,935 licensee event reports (LERs) submitted by plant owners to the NRC between January 1, 1980, and December 16, 2016, about (a) violations of fire protection regulations necessitating the use of compensatory measures or (b) compensatory measures that were either not applied or inadequately applied. The 1,935 LERs over those 1,818 weeks is compelling testimony to the frequent need for fire protection compensatory measures. Fire protection system impairments that must be mitigated by compensatory measures do not arise once in a blue moon.

Some compensatory measures have remained in place for many moons. Compensatory measures employed for short durations are consistent with the regulatory requirements in Appendix B to 10 CFR Part 50 that safety problems be found and fixed in an effective, timely manner. But compensatory measures sustained for longer terms essentially become surrogate regulations. In other words, owners can comply with fire protection regulations or deploy compensatory measures. This petition for rulemaking does not seek to eliminate that option. Instead, the petition seeks to establish, through an open rulemaking process, regulatory requirements governing the use of compensatory measures.

This petition also does not seek to undo or undermine the series of license amendments issued by the NRC that relocated fire protection requirements from the technical specifications (appendices to the reactor operating licenses) to licensee-controlled documents as outlined in NRC Generic Letter 88-12.[1] On the contrary, the regulatory requirements sought by this petition should complement the administrative controls established via the licensee-controlled documents and facilitate their use. For example, consider a final rule issued as a result of this petition that defined conditions for permissible use of all the compensatory measures listed in Table 1. Suppose an owner wished to employ standard video monitoring instead of fire watches as a compensatory measure. That substitution need only entail revising the licensee-controlled document(s) to include measures that ensure video monitoring conforms to the regulatory requirements. No license amendment request or unreviewed safety question matter would require prior NRC review and approval. The process outlined in Generic Letter 88-12 would be preserved, not precluded, by the rulemaking sought by this petition.

The regulatory requirements sought by this petition would additionally help NRC inspectors evaluate compensatory measures used for fire protection system impairments at nuclear power plants. Whether reviewing licensee-controlled program documents or assessing measures in the field, the regulatory requirements would draw crisper lines between acceptable and unacceptable uses making verification of the former and identification of the latter easier.

Equally important, the regulatory requirements governing compensatory measures would restore public participation. Absent the regulation sought by this petition, the use of appropriate compensatory measures is essentially a secret negotiation between plant owners and the NRC. The licensee-controlled documents housing the fire protection requirements removed from the technical specifications are not typically docketed and therefore seldom available to the public. The open rulemaking process sought by the petitioners would enable the public to participate in the establishment of acceptable fire protection compensatory measures. That owners might subsequently revise licensee-controlled documents to swap one regulatory-acceptable method for another regulatory-acceptable method would not deprive the public of the opportunity to weigh in on acceptability of various methods.

[1] Nuclear Regulatory Commission. 1988. Generic Letter 99-12, Removal of fire protection requirements from technical specifications. Washington, DC: U. S. Nuclear Regulatory Commission. August 2. (ML031150471)

Compensatory Measure Guidance Documents Are Not Enforceable Expectations

During an inspection at the Waterford nuclear plant (LA) in November 1995, NRC inspectors discovered that workers had revised procedures to define a continuous fire watch from having someone in the area at all times to only having a roving fire watch check the area every 15 to 20 minutes. The NRC's Region IV office formally asked personnel at headquarters whether this change was acceptable and, if not, whether it warranted a sanction.

The NRC's headquarters staff replied:[2]

> *On the basis of our review, we concluded that the definition of a continuous fire watch used by the licensee for Waterford 3 is not consistent with the intent of the continuous fire watch (to remain in the affected fire area at all times), that the licensee did not provide a technical justification for redefining the criteria for a continuous fire watch or for extending the frequency of the fire watch patrols, and did not establish that the newly defined fire watch is equivalent to the previously defined fire watch. We also concluded that Procedure FP-001-014, Revision 9, Change 2, has a potential to create situations during which there could be inadequate fire watch coverage.*

Having determined that the change was unacceptable, the NRC's headquarters staff addressed the enforcement action issue:

> *With respect to potential enforcement action, the importance of the violation should, of course, be evaluated in accordance with the NRC Enforcement Policy. Consideration should be given to the actual and potential consequences as well as the programmatic implications of the inappropriate procedural changes in arriving at a final enforcement decision.*

In other words, they ducked the issue with a generic non-answer. No enforcement action was taken against Waterford's owner for unacceptably redefining "continuous" to be "once every 15 minutes or so" with "*a potential to create situations during which there could be inadequate fire watch coverage*."

The NRC issued Information Notice 97-48[3] to all nuclear plant owners on July 9, 1997 about its discovery that continuous fire watch had been improperly re-defined at Waterford to merely four glances per hour. The first paragraph of this guidance document stated:

> *The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to potential problems associated with the implementation of interim compensatory measures for degraded or inoperable plant fire protection features or degraded or inoperable conditions associated with post-fire safe-shutdown capability. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems.* ***However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.*** (emphasis added)

The NRC's Information Notice suggested that owners not repeat Waterford's 'fictionary' experience. If owners failed to heed NRC's written suggestion, they risked not being sanctioned like Waterford.

---

[2] Hannon, John N. 1998. Memo to Arthur T. Howell, NRC Director of Reactor Safety, Region IV, regarding response to Region IV task interface agreement (TIA) – evaluation of definition of continuous fire watch. Washington, DC: U.S. Nuclear Regulatory Commission. August 17. (ML012400048)

[3] Nuclear Regulatory Commission. 1997. Information notice no. 97-48: Inadequate or inappropriate fire protection compensatory measures. Washington, DC: U.S. Nuclear Regulatory Commission. July 9.

The NRC revised Regulatory Guide 1.189[4] in October 2009. A footnote on its first page stated:

> *The NRC issues regulatory guides to describe and make available to the public methods that the NRC staff considers acceptable for use in implementing specific parts of the agency's regulations, techniques that the staff uses in evaluating specific problems or postulated accidents, and data that the staff needs in reviewing applications for permits and licenses.* ***Regulatory guides are not substitutes for regulations, and compliance with them is not required*** (emphasis added).

This regulatory non-substitution defined "fire watch" to be:

> *Individuals responsible for providing additional (e.g., during hot work) or compensatory (e.g., for system impairments) coverage of plant activities or areas to detect fires or to identify activities and conditions that present a potential fire hazard. The individuals should be trained in identifying conditions or activities that present potential fire hazards, as well as in the use of fire extinguishers and the proper fire notification procedures.*

This regulatory non-substitution further described fire watch training:

> *Specific fire watch training should provide appropriate instruction on fire watch duties, responsibilities, and required actions for the different types of fire watches, such as continuous hot work fire watches, hourly fire watches, etc. Fire watch qualifications should include hands-on training on a practice fire with the extinguishing equipment to be used while on fire watch, if applicable. If fire watches are to be used as compensatory actions, the fire watch training should include recordkeeping requirements.*

Owners were free to train their fire watch personnel per these suggestions. Or they were free to train their fire watch personnel other ways. And they were free to not provide any training to their fire watch personnel.

Owners can get into the regulatory doghouse if their procedures state that individuals performing fire watches will receive training on the use of portable extinguishers and record-keeping and those individuals lack such training. They would get into trouble because regulations require owners to abide by their written procedures. Owners cannot get into the regulatory doghouse if their procedures do not require individuals performing fire watches to be trained and those individuals receive no training at all. Because regulatory guidelines are merely suggestions, and owners do not have procedures that specify training for fire watches, individuals without training can legally perform fire watches.

Compensatory Measure Guidance Documents Are Not Clear

That the compensatory measure guidance is not clear is perfectly clear from the following evidence:

1. On September 9, 1996, the NRC Region IV office formally requested that the NRC's headquarters determine what was meant by "continuous fire watch." If the guidance had been clear, Region IV would have been able to understand the acceptability of this compensatory

[4] Nuclear Regulatory Commission. 2009. Regulatory guide 1.189 Rev. 2, Fire protection for nuclear power plants. Washington, DC: U.S. Nuclear Regulatory Commission. October. (ML092580550)

measure without assistance. Additionally, Region IV noted that a lack of guidance on compensatory measures prompted its request of headquarters.[5]

2. On August 17, 1998, the NRC headquarters staff responded to the request from NRC Region IV regarding the meaning of "continuous fire watch." If the guidance had been clear, NRC headquarters would not have needed more than 23 months to reach that understanding. Additionally, NRC headquarters in its response explicitly stated its agreement with Region IV about the lack of compensatory measure guidance. The NRC's headquarters informed Region IV: "*We agree and note that NRC inspectors frequently ask us questions about the appropriateness and acceptability of interim compensatory measures for fire protection deficiencies and nonconformances*."[6]

3. Between these endpoints, the NRC issued Information Notice 97-48[7] in July 1997 to all plantowners about its concerns about the compensatory measures at Waterford. A fire protection supervisor working in the nuclear industry submitted a Freedom of Information Act (FOIA) request[8] to the NRC on July 5, 2001 for the NRC's headquarters response to NRC Region IV. The subtitle of that response was "Evaluation of Definition of Continuous Fire Watch." The NRC released the document on August 10, 2001 to the requestor.[9] That an industry fire protection supervisor sought additional information implicitly reveals that Information Notice 97-48 alone does not meet industry's needs.

4. During a February 9, 1999, briefing[10] on fire protection issues, NRC Chair Shirley Jackson and NRC Senior Fire Protection Engineer Ed Connell had this exchange:

> *Chairman Jackson: Speaking of that, you know, what does the guidance entail regarding the use, extent and duration of fire watches?*
>
> *Mr. Connell: We don't have guidance that expressly addresses that.*

5. NRC inspection procedures, such as 71111.05AQ,[11] have its inspectors check items like the "*Licensee's plans for permanent correction actions* [of fire protection system impairments] *including effectiveness in returning the equipment to service in a reasonable period of time.*" Like "beauty," "reasonable" is in the eye of the beholder. Neither the available guidance nor the non-existent regulatory requirements help NRC inspectors and industry workers figure out what would be a reasonable time period. If an inspector felt that N weeks for returning equipment to

---

[5] Hannon, John N. 1998. Memo to Arthur T. Howell, NRC Director of Reactor Safety, Region IV, regarding response to Region IV task interface agreement (TIA) – evaluation of definition of continuous fire watch. Washington, DC: U.S. Nuclear Regulatory Commission. August 17. (ML012400048)

[6] Hannon, John N. 1998. Memo to Arthur T. Howell, NRC Director of Reactor Safety, Region IV, regarding response to Region IV task interface agreement (TIA) – evaluation of definition of continuous fire watch. Washington, DC: U.S. Nuclear Regulatory Commission. August 17. (ML012400048)

[7] Nuclear Regulatory Commission. 1997. Information notice no. 97-48: Inadequate or inappropriate fire protection compensatory measures. Washington, DC: U.S. Nuclear Regulatory Commission. July 9.

[8] Conrad, Roseann E. 2001. FOIA request. Naperville, IL: Duke Engineering and Services. July 5. (ML011870138)

[9] Nuclear Regulatory Commission. 2001. Response to freedom of information act (FOIA) / privacy act (PA) request FOIA/PA-2001-0305. Washington, DC: U.S. Nuclear Regulatory Commission. August 10. (ML012400044)

[10] Nuclear Regulatory Commission (NRC). 1999. Transcript of briefing on fire protection issues. Washington, DC: U. S. Nuclear Regulatory Commission. February 9. (ML15127A015)

[11] Nuclear Regulatory Commission (NRC). 2010. Inspection procedure 71111.05AQ, Fire protection (annual/quarterly). Washington, DC: U. S. Nuclear Regulatory Commission. September 30. (ML102570167)

service was not reasonable yet plant workers felt that N weeks was perfectly reasonable, there would be no reasonable means to resolve their debate.

6. Following the promulgation of Appendix R, the discovery of Thermo-Lag fire barrier deficiencies, the discovery of Kaowool fire barrier deficiencies, the discovery of Hemyc fire barrier deficiencies, the discovery of unapproved operator manual actions improperly substituting for compliance with fire protection regulations, fire watches were deployed as "interim" compensatory measures. Because "interim" is defined in dictionaries but not in any enforceable regulations or even in any unenforceable guidance documents, it is a continuing source of debate between NRC and industry. For example, in 1998 the NRC issued Orders to owners it believed were taking too long to resolve fire protection system impairments. One typical Order was issued to the owner of the Davis-Besse nuclear plant in Ohio and read in part:[12]

> *The staff of the U.S. Nuclear Regulatory Commission (NRC) has been concerned that Thermo-Lag 330-1 fire barrier systems installed by licensees may not provide the level of fire endurance intended and that licensees using Thermo-Lag 330-1 fire barriers may not be meeting regulatory requirements. During the 1992 to 1994 timeframe, the NRC staff issued Generic Letter (GL) 92-08, "Thermo-Lag 330-1 Fire Barriers," and subsequent requests for additional information that asked licensees to submit plans and schedules for resolving the Thermo-Lag issue. ...* ***The staff is concerned that some licensees may not be making adequate progress toward resolving the plant specific issues, and that some implementation schedules may be either too tenuous or too protracted. For example, several licensees informed the NRC staff that their completion dates had slipped by 6 months to as much as 3 years. (emphasis added)*** *The NRC staff has met with licensees of plants that have completion action scheduled beyond 1997 to discuss the progress of the licensees' corrective actions and the extent of licensee management attention regarding completion of Thermo-Lag corrective actions. In addition, the NRC staff discussed with licensees the possibility of accelerating their completion schedules. ... The NRC staff met with the Licensees for Davis-Besse on April 3, 1997. At this meeting, the NRC staff reviewed the schedule of Thermo-Lag corrective actions described in the Licensees' submittals to the NRC dated February 20, April 24, June 26, and November 5, 1996, as documented in the NRC meeting summary dated April 16, 1997. On the basis of the information submitted by the Licensees (including an additional letter dated September 10, 1997), the NRC staff has concluded that the schedules presented are reasonable. This conclusion is based on* ***(1)*** *the amount of installed Thermo-Lag; (2) the complexity of the plant-specific fire barrier configurations and issues; and (3) the need to perform certain plant modifications during outages as opposed to those that can be performed while the plant is at power.* ***In order to remove compensatory measures such as fire watches, it has been determined that resolution of the Thermo-Lag corrective actions by the Licensees must be completed in accordance with their current schedule.*** (emphasis added)

7. Countering any notions that the lack of clear guidance is an "old" issue that has subsequently been resolved, the NRC's Office of the Inspector General (OIG) released a report[13] in March

[12] Hansen, Allen G.. 1998. Letter to Centerior Energy Company Vice President—Nuclear John K. Wood, regarding Confirmatory order modifying license — Davis-Besse nuclear power station unit 1. Washington, DC: U. S. Nuclear Regulatory Commission. June 22.

[13] Nuclear Regulatory Commission Office of the Inspector General (OIG). 2017. Audit of NRC's fire protection oversight for operating reactors. Washington, DC: U. S. Nuclear Regulatory Commission. (ML17101A737)

2017 of its audit of the agency's fire protection oversight program. Among other things, the OIG found that "*NRC staff have different views on whether they can hold licensees accountable to certain regulatory requirements because the applicability of certain regulatory requirements to individual plants is unclear. This could lead to inaccurate and inconsistent application of regulatory requirements which may affect plant safety*." The OIG provided an example of the unclear guidance:

> *Additionally, some inspectors told OIG they could not hold licensees accountable for a requirement to notify NRC of fire protection program changes that could be "adverse to safe shutdown" because NRC does not explicitly define what constitutes "adverse to safe shutdown." Some headquarters managers acknowledged the lack of a definition, but noted they were unfamiliar with the challenge faced by inspectors.*

Like "beauty" and "reasonable," "adverse to safe shutdown" is in the eye of the beholder.

If speed limit signs read "Don't Drive Too Fast," motorists and law enforcement officers would struggle to figure what "Too Fast" meant. Speed limit signs instead explicitly define what constitutes "Too Fast," eschewing pointless debates.

Compensatory Measure Guidance Documents Were Not Developed via An Open Process

The NRC published a revised 10 CFR 50.48 and a new Appendix R to 10 CFR Part 50 in the Federal Register (45 FR 76602) on November 19, 1980.[14] These fire protection regulations were issued after several years of public meetings and formal public comment periods on the proposed rule language. The regulatory requirements established by this open rulemaking process defined what constituted adequate protection against fire hazards.

The NRC published a revised 10 CFR 50.48 in the Federal Register (69 FR 33536) on June 6, 2004, adding alternative fire protection requirements based on National Fire Protection Association (NFPA) Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants." The fire protection regulations were issued following an open rulemaking process that the Commission approved on June 30, 1998.[15] The regulatory requirements defined another means for providing adequate protection against fire hazards.

When plant workers discover that these publicly-vetted fire protection regulatory requirements are not met, compensatory measures are commonly deployed to offset the consequences of the impairment. The compensatory measures remain in place until compliance with the regulatory requirements is restored.

Owners therefore have three options for managing the fire hazard risk—they can comply with the Appendix R requirements, they can comply with the NFPA 805 requirements, or they can deploy compensatory measures. The public only got to weigh in on the acceptability of the first two options.

Fire protection compensatory measures have remained in place for extended periods (i.e., years). Take the extreme case of the Browns Ferry Nuclear Plant in Alabama. A March 22, 1975, fire in the cable spreading room directly beneath the control room for the Unit 1 and 2 reactors disabled all the emergency core cooling systems for Unit 1 and most of those systems for Unit 2. Heroic operator actions that day prevented damage to either reactor core. But the NRC did not want to rely so heavily on heroic operator

[14] NRC Generic Letter 1980-100, "Appendix R to 10 CFR Regarding Fire Protection – Federal Register Notice." (ML070220242)

[15] Staff Requirements Memorandum for SECY-98-058, "Development of a Risk-Informed, Performance-Based Regulation for Fire Protection at Nuclear Power Plants," June 30, 1998.

actions and undertook efforts leading to the 1980 Appendix R regulations. But Browns Ferry did not meet those regulations. In March 2013 (38 years post-fire, 33 years post-Appendix R, nearly 9 years post-NFPA 805), its owner applied to the NRC for authorization to pursue the NFPA 805 alternative regulations. On October 28, 2015, the NRC approved the request.[16] But Browns Ferry still has fire protection compensatory measures in place—the NRC allowed the owner to take several more years to implement the modifications and procedure changes needed to achieve compliance with the NFPA 805 regulations. So, Browns Ferry to date has never complied with either the Appendix R or NFPA 805 fire protection regulations and instead has relied on compensatory measures for protection against fire hazards for much of the past four decades.

While no reactors have exceeded the duration of the Browns Ferry fire protection non-compliance period, compensatory measures have been routinely used for longstanding non-compliances with fire protection regulations. For example, a 2010 NRC report[17] chronicled extended use of fire watches as compensatory measures at Arkansas Nuclear One (AR), Catawba (SC), Ginna (NY), McGuire (NC), and Waterford (LA) after Hemyc fire barrier systems were declared inoperable. Similarly, problems with Kaowool fire barrier systems at the Farley nuclear plant (AL) and the Grand Gulf Nuclear Station (MS) required extended use of fire watches as compensatory measures.[18]

The public never had a chance to weigh in on the acceptability or the duration of fire protection compensatory measures as it had regarding the acceptability of the Appendix R and NFPA 805 regulations. Because fire protection compensatory measures have been employed in lieu of compliance with Appendix R and NFPA 805 regulatory requirements for many years, the public's legal rights have been infringed upon. If compensatory measures are going to be used as longstanding protection against fire hazard risks, the public deserves the opportunity to formally weight in on their acceptability.

This is not to suggest that the NRC staff has accepted improper compensatory measures. But the NRC staff drafted the proposed rulemaking language that, following public comment periods, became the final Appendix R and NFPA 805 regulations. The NRC staff is as capable of developing acceptable compensatory measures as it is of developing regulations. Likewise, the public is as capable of commenting on proposed compensatory measures as it is of commenting on proposed Appendix R and NFPA 805 regulations. The public deserves the right to exercise its capabilities, too.

That not all fire protection compensatory measures may be acceptable for longstanding periods is evident from the NRC's own statements and reports.

During an October 1993 Commission briefing[19] on the Thermo-Lag fire barrier problems, NRC Chairman Ivan Selin stated:

> *None of us is very comfortable with the fire watch. At least, I'm not very comfortable with the fire watch. Apart from the expense that the plants have and the temptation to short-cut it, people walking back and forth are not as reliable as some technical solutions.*

[16] Amendments issued October 28, 2015. (ML15212A796)
[17] NUREG-1924, "Electric Raceway Fire Barrier Systems in U.S. Nuclear Power Plants." May 2000. (ML101740246)
[18] Olshan, L. N. 2000. Summary of meeting to discuss Kawool and FP-60 fire barriers. Washington, DC: U. S. Nuclear Regulatory Commission. January 5. (ML003673753)
[19] Nuclear Regulatory Commission . 1993. Transcript of briefing on status of Thermo-Lag. Washington, DC: U. S. Nuclear Regulatory Commission. October 29. (ML15120A452)

Presumably, the relative reliability of "people walking back and forth" versus installed technical solutions was the source of Chairman Selin's discomfort. Later that decade, NRC Chairman Shirley Jackson questioned the NRC staff during another Commission briefing[20] about another fire protection deficiency regarding the reliability of fire watches as a compensatory measure:

> *Chairman Jackson: Are you able to include the effect of fire watches on the mitigation of core damage frequency due to fire, can you model that in a PRA* [probabilistic risk assessment]*?*
>
> *Mr.* [Steve] *Reynolds* [NRC Region III Deputy Director of the Division of Reactor Safety]*: I'll let you try to answer that one.*
>
> *Mr.* [Alan] *Rubin* [NRC Section Chief in the Office of Nuclear Regulatory Research]*: The question is, can you model the effect of fire watches in the PRA?*
>
> *Chairman Jackson: Correct*
>
> *Mr. Rubin: Our expert is shaking his head no. Dr. Siu is our fire PRA expert. Do you want to expand on that?*
>
> *Dr. Siu: Chairman, at this moment, fire frequencies are estimated based on statistical data, and those data generally don't include whether or not a fire watch was available. You can sometimes infer that the fire was started by people who* [were] *there, and you can say, well, there's — you know, obviously, it was detected quickly. But as far as fire frequency effects go, we don't have a way to measure that.*

The rulemaking sought by this petition would address the reliability issue raised by Chairman Jackson as well as the discomfort felt by Chairman Selin. The conditions and durations of various compensatory measures in the final rule would define what constitutes a reliable method for managing the fire hazard risk until compliance with Appendix R or NFPA 805 is restored.[21]

[20] Nuclear Regulatory Commission. 1999. Transcript of briefing on fire protection issues. Washington, DC: U. S. Nuclear Regulatory Commission. February 9. (ML15127A015)

[21] Appendix R has been called a deterministic rule while NFPA 805 has been called a risk-informed, performance-based rule. The rulemaking sought by the petitioners could be satisfied by deterministic requirements, by risk-informed, performance-based requirements, or a hybrid of both. The final rule would establish what compensatory measure were acceptable for how long under what conditions.

Why It Matters

During yet another briefing on yet another fire protection problem, an NRC senior manager informed the Commission in 2008:[22]

> *Approximately one-half of the core damage risk at operating reactor results from accident sequences that initiate with fire events.*

In other words, the fire risk is roughly equal to **ALL OTHER CORE DAMAGE RISKS COMBINED**.

And that assessment is based on risk studies that assume fire protection systems are fully operable and functional and are in full compliance with applicable fire protection regulations (except for the statistically-derived odds that an individual component may fail and that a common-mode failure disables multiple components.)

When the regulatory requirements in Appendix R or NFPA 805 are not met, this already high risk can only increase—unless compensatory measures provide comparable protection. But there are currently no regulatory requirements covering compensatory measures—leaving a gaping hole in reactor safety requirements.

This petition seeks to fill that hole.

The codified fire protection compensatory measures would define which methods are acceptable under what conditions for what durations. Existing guidance on compensatory measures is unclear. This petition seeks to rectify that vagueness with the likely outcome that industry workers and NRC inspectors can more easily determine appropriate measures for various situations.

The codified fire protection compensatory measures would become enforceable regulatory requirements. Thus, if an inappropriate compensatory measure was applied or an appropriate compensatory measure remained in effect for an inappropriate duration, the NRC would have the means to compel it to be replaced by an acceptable method.

Finally, the public had an opportunity to weigh in on the appropriateness of proposed language before the Appendix R and NFPA 805 requirements were finalized. The public never got the chance to weigh in on the appropriateness of compensatory measures that fill in for violations of these vetted fire protection regulations for extended periods. This petition also seeks to rectify that deprivation.

[22] Nuclear Regulatory Commission . 2008. Transcript of briefing on fire protection issues. Washington, DC: U. S. Nuclear Regulatory Commission. July 17. (ML082030647)

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Plant Name	Event Date	Report Date	Title
Arkansas 1	01/13/1981	02/09/1981	An Error in Establishing a Continuous Fire Watch Abstract: While installing a six inch conduit penetrating the floor of the compressor room (Fire Zone 76-W) between the north wall and compressor C2B, the penetration fire barrier was removed and a continuous fire watch was not established as required by T.S. a fire watch was established upon discovery and maintained until the fire barrier was installed The occurrence was caused by inadequate instructions to contractor personnel. The contractor has been instructed to maintain a firewatch whenever penetrations are opened and to seal penetrations as quickly as possible. Contractor procedures have been modified.
Arkansas 1	09/16/1983	01/10/1984	Deficient Fire Systems Abstract: Observations of fire protection deficiencies have been listed in the attachment to this LER. The attachment consists of a list which includes the discovery date, facility status code, method of discovery code, discovery description, cause code, cause and corrective actions. These occurrences are reportable per Tech Spec 6.12.3.2. Other occurrences regarding fire protection deficiencies were reported in LER's (50-313) 81-003 and 82-018. Individual occurrences are listed in the attachment. A complete fire protection system walkdown inspection is in progress as validation of the "ANO fire protection program manual." Interim controls have been placed on construction activities to assure restoration of fire systems after work is performed. In the interim, AP&L has established a roving fire inspector program for the purpose of monitoring activities affecting fire systems. Future action to prevent recurrence is the development of an integrated program to provide assurance that fire systems are maintained as required.
Arkansas 1	11/21/1985	07/29/1988	Plug Installed in Sprinkler Head Location Due to Inadequate Test Control During Original Hydrostatic Test Results In Inoperable Fire Suppression Sprinkler System Abstract: POWER LEVEL - 095%. ON 11/21/85 AT 1445 HRS, A PLUG FROM THE ORIGINAL HYDROSTATIC TEST PERFORMED IN 1972 WAS FOUND TO BE INSTALLED IN PLACE OF A FUSIBLE SPRINKLER HEAD IN THE LOWER SOUTH ELECTRICAL PENETRATION ROOM FIRE SUPPRESSION SPRINKLER SYSTEM. THE MISSING SPRINKLER HEAD WAS IDENTIFIED DURING A NATIONAL FIRE PROTECTION ASSOCIATED CODE COMPLIANCE INSPECTION THAT WAS INITIATED AS PART OF AN EFFORT TO IMPROVE THE FIRE PROTECTION PROGRAM. AN ENGINEERING EVALUATION COMPLETED IN 12/85, DETERMINED THAT THE FIRE SUPPRESSION SPRINKLER SYSTEM WAS INOPERABLE WITH THIS PLUG INSTALLED. THE CAUSE OF THIS EVENT WAS A FAILURE OF CONSTRUCTION AND TESTING PERSONNEL TO MAINTAIN ADEQUATE TEST CONTROL DURING THE SYSTEM HYDROSTATIC TESTING FOLLOWING CONSTRUCTION. DUE TO THE OPERABILITY OF THE REMAINING SPRINKLER HEADS IN THE SPRINKER SYSTEM AND THE ALARM AND RESPONSE CAPABILITIES OF THE FIRE BRIGADE, A FIRE OCCURRING IN THIS ROOM WHILE THIS CONDITION EXISTED SHOULD HAVE BEEN DETECTED, CONTAINED, AND EXTINGUISHED WITH MINIMAL DAMAGE TO ANY EQUIPMENT. FUSIBLE SPRINKLER HEAD. AN EXTENSIVE WALKDOWN OF THE FIRE SUPPRESSION SPRINKLER SYSTEMS HAS BEEN PERFORMED WHICH INDICATES THAT THIS EVENT WAS AN ISOLATED CASE AND IS NOT
Arkansas 1	06/12/1986	08/18/1986	Unsealed Fire Barrier Penetrations Between Yard Area Manholes Abstract: POWER LEVEL - 000%. ON 6-12-86 AN INSPECTION OF YARD AREA MANHOLES REVEALED THAT 4 UNSEALED 4 INCH CONDUITS EXISTED BETWEEN MANHOLES 1MH05 AND 1MH06. REDUNDANT TRAINS OF SERVICE WATER AND ARE THEREFORE TECHNICALLY CONSIDERED 3-HOUR FIRE RATED AREAS. THREE OF THE CONDUITS WERE EMPTY AND 1 CONDUIT CONTAINED COMMUNICATIONS AND INSTRUMENTATION CABLES. SINCE A VIABLE PATH WITH INTERVENING COMBUSTIBLES EXISTED IN WHICH A FIRE COULD PROPRAGATE FROM 1 FIRE AREA TO ANOTHER, A FIRE WATCH WAS POSTED WITHIN 1 HOUR PER THE REQUIREMENTS OF TECH SPECS. THE 3 EMPTY CONDUITS WERE CAPPED AND THE CONDUIT CONTAINING CABLING WAS SEALED WITH FOAM. THIS WORK WAS COMPLETED ON 6-21-86. THIS CONDITION WAS SUBSEQUENTLY DETERMINED TO HAVE EXISTED SINCE 12-5-84. ON THIS DATE A DESIGN MODIFICATION WAS COMPLETED WHICH ADDED AND REROUTED ELECTRICAL CABLES IN THESE MANHOLES AND REMOVED A PREVIOUSLY INSTALLED NON-COMBUSTIBLE MATERIAL WHICH HAD BEEN USED TO BACKFILL MANHOLE 1MH106 TO MEET APPENDIX R MINIMUM SEPARATION CRITERIA. THE CAUSES OF THE EVENT WERE AN APPARENT OVERSIGHT OF THE CONNECTING CONDUITS DURING THE DESIGN CHANGE PREPARATION AND AN INADEQUATE POST-INSTALLATION INSPECTION. MECHANISMS WERE IN PLACE TO ADDRESS FIRE PROTECTION REQUIREMENTS DURING THE DESIGN
Arkansas 1	06/27/1989	07/27/1989	Failure to Perform Surveillance of Fire Barriers due to Personnel Error Abstract: POWER LEVEL - 080%. ON 6/27/89, FOUR TECH SPEC FIRE BARRIERS WERE FOUND NOT TO HAVE BEEN INCLUDED IN THE FIRE BARRIER PENETRATION LOG AND SUBSEQUENTLY OMITTED FROM THE FIRE BARRIER VISUAL INSPECTION PROCEDURE DEVELOPED FROM THE LOG. THE OMISSION APPARENTLY OCCURRED WHEN THE LOG WAS INITIALLY COMPILED AS A PERMANENT PLANT DOCUMENT AFTER THE FIRE BARRIER UPGRADE TO 10CFR50, APPENDIX R CRITERIA. CONSEQUENTLY, AFTER THE INITIAL BARRIER INSPECTION IN NOVEMBER 1983, THE BARRIERS HAD NOT BEEN INSPECTED AT 18-MONTH INTERVALS AS REQUIRED BY TECH SPEC. UPON DISCOVERY A FIRE WATCH WAS POSTED TO OBSERVE THE AFFECTED AREA UNTIL THE BARRIERS WERE INSPECTED AND VERIFIED INTACT ON 7/7/89. THE BARRIERS WERE OMITTED FROM THE LOG APPARENTLY DUE TO PERSONNEL ERROR. THE METHOD USED TO INDICATE THESE PARTICULAR BARRIERS ON THE FIRE BARRIER DRAWINGS POSSIBLY CONTRIBUTED TO THE OVERSIGHT. THIS EVENT IS NOT CONSIDERED SAFETY SIGNIFICANT AS THE BARRIERS WERE VERIFIED TO BE INTACT AND WOULD HAVE PERFORMED THEIR INTENDED FUNCTION HAD A FIRE OCCURRED IN THE AREA. THE FIRE BARRIER INSPECTION PROCEDURE AND THE PENETRATION LOG WILL BE REVISED TO INCLUDE THE BARRIERS. THE APPLICABLE DRAWING WILL ALSO BE REVISED TO INDICATE THE BARRIERS AS OTHER TS BARRIERS ARE DEPICTED. A VERIFICATION OF THE PENETRATION LOG
Arkansas 1	05/31/1990	04/22/1992	Degraded Fire Barrier Penetrations as the Result of Personnel Oversight Abstract: POWER LEVEL - 080%. ARKANSAS NUCLEAR ONE INITIATED A COMPREHENSIVE INSPECTION PROGRAM FOR FIRE BARRIER PENETRATION SEALS AS PART OF THE GENERIC LETTER 86-10 EVALUATION. THERE WERE THREE OCCASIONS DURING THE INSPECTION WHEN DEFICIENT SEALS CAUSING THE PENETRATIONS TO BE INOPERABLE WERE DISCOVERED. TWO OF THESE CONDITIONS WERE FOUND TO HAVE EXISTED PRIOR TO A GENERAL FIRE BARRIER INSPECTION WALKDOWN CONDUCTED IN 1983. NOT HAVING IDENTIFIED THESE DEFICIENCIES DURING THIS WALKDOWN OR SUBSEQUENT TECHNICAL SPECIFICATION SURVEILLANCES HAS BEEN DETERMINED TO HAVE BEEN CAUSED BY PERSONNEL ERROR. THE THIRD DEFICIENCY WAS THE RESULT OF A CHANGE TO GUIDANCE CONCERNING THE RELATIONSHIP BETWEEN AN APPROVED SEAL DETAIL AND ITS QUALIFYING FIRE TEST. UPON DISCOVERY OF EACH CONDITION THE APPROPRIATE FIRE DETECTION SYSTEM WAS VERIFIED TO BE OPERABLE AND FIRE WATCHES WERE POSTED AS REQUIRED BY TECHNICAL SPECIFICATIONS. THE FIRE BARRIER INSPECTION PROCEDURE WAS REVISED. A TRAINING PROGRAM WAS IMPLEMENTED FOR FIRE BARRIER INSPECTORS. THE COMPREHENSIVE INSPECTION PROGRAM WAS COMPLETED ON MARCH 31, 1992.
Arkansas 1	10/17/1996	11/18/1996	Fire In the Reactor Building During Heatup Resulted From A Cracked Weld In An Oil Line On A Reactor Coolant Pump Motor Abstract: A fire was discovered in insulation around the Main Feedwater nozzle ring on 'B' Once Through Steam Generator (OTSG) during heatup of the Reactor Coolant System (RCS). A weld located in the discharge line of a Reactor Coolant Pump (RCP) motor oil lift pump had cracked due to a fabrication defect. The failure, believed to have occurred at the start of the outage, resulted in oil being introduced onto the insulation. Oil on the insulation allowed a wicking effect that reduced the auto-ignition point of the oil to a value lower than the documented value. The fire originated when the RCS temperature was approximately 439 degrees. Application of a light water fog from a fire hose extinguished the fire approximately 16 minutes after it was discovered. A Notification of Unusual Event was declared when the fire was not extinguished within 10 minutes. The plant returned to cold shutdown conditions to evaluate damage. Other than some minor damage to insulation, the fire did not damage any systems or components. Enhancements were made to the oil collection systems of all RCP motors, and damaged insulation was repaired or replaced prior to the subsequent heatup.
Arkansas 2	05/20/1980	06/16/1980	The #2 Diesel Generator Deluge System Failure During Mode 1 Operation. Abstract: The #2 Diesel Generator Deluge System was rendered inoperable. A fire watch was established and the back up suppression water system was verified operable. The modification was completed and the deluge system returned to service within 2 hours.
Arkansas 2	10/30/1980	07/16/1981	A Fire Barrier which was not Properly Maintained Abstract: On 10/30/80. while replacing piping on 2VUC-21 (Aux. Bldg. Electrical !Equipment Rnnm Cooler) and on 12/12180. while installing conduit as a part of a fire protection system change, a fire barrier was not properly maintained as required by Tech. Spec. 3.7.11. There have been no similar occurrences. Reportable per Tech. Spec. 6.9.1.9b . A fire barrier or a fire watch was established in each case. The failure to maintain a proper fire barrier was due to inadequate instructions to contractor personnel. The contractor has been instructed to maintain a firewatch whenever penetrations are opened and to seal Penetrations as quickly as possibible

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Arkansas 2	08/06/1981	09/17/1981	Two Fire Watches which were not Properly Maintained Abstract: Two unsealed penetrations in the wall fire barrier between the cable spreading room and a motor control center (mcc) room, without a properly maintained fire watch, was identified. Again on 8/11/81, a fire watch was not posted at an unsealed penetration between the engineered safeguard (es) switchgear room and the controlled access change room. A fire watch was established in both cases as required by T.S. similar to LER 50-368/80-081. Occurrences were due to inadequate instructions to contractor/maintenance personnel. All affected personnel were instructed on the importance of maintaining fire barrier integrity and fire watches. A fire watch was maintained, as needed, through the re-establishment of the permanent fire barrier. Additional administrative controls have been placed upon personnel and contractors. Training programs are under development to inform all personnel of fire protection requirements.
Arkansas 2	10/03/1981	10/27/1981	A Hole Which was Discovered in a Congested Area of a Wall Between the Cable Spreading Room and a Motor Control Center Room Abstract: While conduit installation was in progress, a hole was discovered in a congested area of a wall between the cable spreading room and a Motor Control Center Room. It appears that the wall was not completed during initial construction. The wall is not a load bearing wall. The cable speading room fire protection and detection systems were operable and a fire watch was posted per T.S.6.9.1.9.b. The cause of this occurrence was insufficient quality assurance during the initial construction stage. Observations to date indicate that this particular occurrence is an isolated case. Discovery was evidently due to increased awareness which was prompted by efforts following previous reporting on instances of inadequately restored fire barriers. The penetration was sealed to restore fire barrier integrity.
Arkansas 2	11/10/1981	11/30/1981	A Missing Condulet Cover Which was Discovered While in Mode 1 Operation Abstract: Personnel discovered that a condulet cover was missing from a 1 inch conduit that penetrates a firewall between a corridor and a pump room. Personnel were making an inspection of firewalls in preparation for development of a fire barrier inspection procedure. The missing cover degraded the fire barrier integrity for the pump room. Other ler's related to degradation of fire barriers are 81-036, 81-029 and 80-081. The condulet cover had not been installed. Operations personnel were notified promptly, and a fire watch was immediately established per tech. Spec. The condulet cover was reinstalled and all involved electrical craft personnel were instructed on fire watch requirements. Due to the recurring nature of fire barrier impairments, previous corrective actions are being reassessed.
Arkansas 2	09/18/1982	04/25/1985	Update on Inoperabillty Battery Room of Fire Curtain Abstract: On 9-18-82 with the reactor defueled, 4 electrical cables were found to be pulled through a fire curtain. This occurrence was discovered during a routine quality control (QC) inspection. These cables had been used for a station battery capacity test, but a fire watch had not been established as required by Tech Spec 3.7.11.a. This occurrence is reportable per Tech Spec 6.9.1.9.b. The personnel performing the test did not realize that the opening in the wall had a fire curtain. It appeared that the opening was to provide ventilation for the battery room (a similar opening for the other battery room had a grill covering the opening). The cables were left overnight without a fire watch, but the cables were removed the next morning as soon as the error was discovered. Electrical maintenance personnel who performed the battery test received a review of this occurrence and were advised to maintain a fire watch when using this opening for cable routing while conducting the battery test. To prevent recurrence, the station battery maintenance procedure has been revised to include precautions and guidelines in appropriate steps of the procedure regarding fire dampers and fire doors.
Arkansas 2	11/12/1982	12/13/1982	A Degraded Fire Barrier Existed Due to Two Unsealed Piping Penetrations Abstract: During a routine QC inspection it was determined that a degraded fire barrier existed due to two unsealed piping penetrations. While investigating this occurrence it was determined that (per the 18 month fire barrier surveillance on unit 2 completed 10/14/82) two other reportable, degraded fire barrier penetrations had existed. An unsealed conduit was identified during an nrc audit exit meeting on 11/19/82. Other lers concerning unit 2 fire barriers include 82-029, 81-042, 81-036, 81-029, and 80-081. This is reportable per Tech Spec 6.9.1.9.b. In each of the four instances, the cause can be attributed to personnel error because insufficient instruction was provided on the applicable design change documentation and/or job order authorizing the work to ensure that the workers knew the penetrations involved fire barriers, or because the workers failed to take the necessary precautions in their work affecting the fire barriers. Immediate corrective action in each case was to post a fire watch. The penetrations were subsequently sealed properly.
Arkansas 2	01/14/1983	02/04/1983	Fire Barrier Found Unsealed Abstract: A fire barrier penetration was found to be unsealed. This was discovered by plant personnel while engaged in unrelated activites. This occurrence is reportable per Tech Spec 6.9.1.9.b. Other LERs concerning unit 2 fire barriers were LER-82-039, 82-029, 81-042, 81-036, 81-029 and 80-081. The cause may have been personnel error. Indications are that the penetration had been sealed previously. It could not be determined why or when the penetration was left unsealed, however, this occurrence probably relates to modifications which predated existing administrative controls. Existing surveillance measures were inadequate to detect the unsealed penetration. Upon discovery of the fire barrier degradation, a fire watch was immediately posted. The penetration was sealed and inspected.
Arkansas 2	02/07/1983	10/06/1983	Update on Fire Barriers not Sealed Abstract: Fire barrier deficiencies were discovered during walkdowns initiated as part of the corrective actions outlined in LER (50-368) 82-039. The deficiencies found during the period 2/7/83 to 2/10/83 are delineated. Investigations indicate not all of these penetrations should be designated as penetrations in fire barriers required to protect safety related areas; however, until these investigations are complete, they all are being treated as required fire barriers. On 10/6/83, with the unit in mode 1 at 100% power, inadequate fire barrier penetration seals were identified during a walkdown. These deficiencies provided possible paths for heat, smoke or flame to reach safety related equipment. Other LER's include: (50-368) 79-025, 79-026, 80-081, 81-029, 81-036, 81-042, 82-029, 82-039, 83-004, 83-020, 83-021, 83-026, 83-032, 83-033, 83-037 and 83-042. The cause of the unsealed penetrations has been inadequate work controls. Corrective action was posting of a fire watch. All deficiencies were subsequently sealed with the exception of the one in corridor 2109 where a continuous fire watch is being maintained until seal is made.
Arkansas 2	05/19/1983	06/07/1983	Fire Watch Improperly Posted Abstract: On 5/19/83, while in mode 1, it was discovered that a fire watch established per Tech Spec 3/4.7.11 had been improperly posted. The fire watch was posted in close proximity (approx. 20 feet) to the room affected by the fire barrier degradation but did not meet the letter of the specification, i.e., 'establish a continuous fire watch on one side of the affected penetration within 1 hour.' this event is reportable per Tech Spec 6.9.1.8.b. Other ler's concerning fire barrier degradation are (50-368) 83-008, 83-004, 82-039, 82-029, 81-042, 81-036, 81-029, 80-081, and (50-313) 82-018, 81-003. This event occurred due to ineffective communication among plant personnel. The person posting the fire watch was placed on the wrong side of door 306 to fire zone 2024JJ. Upon discovery that the fire watch was posted in the wrong location, the fire watchman was immediately guided to the correct location. To prevent recurrence of this type of event, further guidance is being written for plant personnel regarding fire watch responsibilities. This guidance will include: 1) the responsibilities for posting a fire watch; 2) the duties of a fire watch and the method by which he will be made aware of these duties; and 3) the procedure for relieving a fire watch from his post both by another organizational group or upon restoration of fire barrier integrity.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Arkansas 2	07/14/1983	08/12/1983	Unsealed Fire Barrier Penetration Abstract: On 7/14/83, while in Mode 1, an unsealed electrical cable conduit was identified through the floor of the cable spreading room. This occurrence is reportable per Tech Spec 6.9.1.9.b. Other LER's concerning Unit 2 Fire Barriers include 80-081, 81-029, 81-042, 82-029, 82-039, 83-004, 83-008, 83-020 and 83-021. The cause of this occurrence has not been determined. Immediate corrective action was to post a fire watch. Subsequently, the penetration was properly sealed. Several measures to prevent recurrence of fire barrier degradation were outlined in ler 50-368, 82-039, and 50-368, 83-008. The commitment concerning the improvement of fire barrier administrative controls as related to the plant modification process has been addressed by revision of the design change package (DCP) procedure to specifically address fire barriers during both the initial design phase and the installation verification process. The walkdowns, which were initiated prior to revision of fire barrier surveillance procedures, have been completed and the surveillance procedures have now been revised. In addition, the fire plan committed to is now in draft form. Provisions are being made to conduct an inspection using these procedures in order to establish a current baseline status on required fire barriers and obtain practical field information to use in finalizing the inspection
Arkansas 2	08/02/1983	09/22/1983	Update Inadequate Fire Door Abstract: On 8/2/83, while in Mode 1 at 100% full power (FP), fire door 274, which is the entrance to the cable spreading room, was found to have a gap of greater than 3/4' at the bottom. Our procedures, which are utilized in determining the operability of fire barriers in accordance with ANO-2 Tech Spec 3.7.11, state that there will be no greater than 3/4' air gap at the base of fire doors. This occurrence was discovered during a fire barrier visual inspection. This occurrence is reportable per Tech Spec 6.9.1.9.b. No previous occurrences regarding excessive fire door gap have been reported. Other LER's regarding fire barriers include (50-368) 80-081, 81-029, 81-042, 82-029, 82-039, 83-004, 83-008, 83-020, 83-021 and 83-032. Inspected by procedures that did not contain guidance relating maximum allowable clearance. Immediate action was to post a fire watch until repairs could be made. A new threshold plate was installed to decrease the gap to 3/8' or less. The fire barrier visual inspection of the cable spreading room is continuing.
Arkansas 2	08/03/1983	12/09/1983	Update on Safety Equipment Subject to Flooding Abstract: Prior to receipt of IE Information Notice 83-41, (OCNA068314), 'Actuation of Fire Suppression System Causing Inoperability of Safety-Related Equipment,' AP&L had initiated a study of possible damage to safety-related equilpment resulting from suppression system operation. As a result of that study, the licensee has identified one suppression be subjected to flooding if the suppression system were operated for prolonged periods without operator intervention. Fire zone 2109-U, which is the corridor outside the cable spreading room on elevation 372 feet of the ANO-2 auxiliary building, has a suppression system which is a deluge-actuated, directional water spray system actuated by both smoke and line-type. The fire suppression system for Fire Zone 2109-U was installed per the requirements of the 1978 fire protection safety evaluation report. The original drainage assessment portion of the design changes was based on engineering judgment instead of detailed hydraulic calculation. A recent preliminary hydraulic calculation indicated that flooding could occur. Upon notification that a problem could exist, AP&L decided to isolate the 2109-U suppression system and to rely on manual operation of the system until a more refined calculation could be made,
Arkansas 2	09/07/1983	09/30/1983	Personnel Performing Fire Watch Found Asleep Abstract: On 9/7/83, while in Mode 1 at 100% full power (FP), a NRC inspector observed that a contract individual who had been posted to perform a fire watch was asleep. This violated the provision of maintaining a continuous fire watch and could possibly cause a delay in fire suppression efforts. This occurrence is reportable per Tech Spec 6.9.1.9.b. There have been no similar occurrences. The individual who fell asleep had worked the 0700-1530 hour shift on 9/6/83 and was called out on the 0000-0800 hour shift on 9/7/83 for the sole purpose of fire watch duty. He failed to call for a relief when he became sleepy and subsequently fell asleep while on duty. The individual was awakened when discovered and was relieved when the discrepancy was reported to AP&L. The individual was informed of the seriousness of the occurrence. Disciplinary actions were taken. The fire watch policy has been expanded to discuss relief practices for fire watch personnel. This provides for relief of personnel at periodic intervals which along with disciplinary actions should prevent recurrence.
Arkansas 2	09/13/1983	10/12/1983	Inadequate Fire Barrier Abstract: On 9/13/83, while in Mode 1 at 100% full power (FP), an NRC resident inspector discovered an open junction box for conduits EC2-309, EC2-312 and EC2-311 in fire zone 2150. Also, on 9/15/83, an NRC inspector discovered that the gap between the door and floor for fire doors 340 and 267 was in excess of the surveillance procedure acceptance criteria. These deficiencies allowed for a potential path for heat, flame, or smoke between fire zones. These occurrences are reportable per Tech Spec 6.9.1.9.b. Other LER's concerning fire barrier deficiencies include (50-368) 79-025, 79-026, 80-081, 81-029, 81-036, 81-042, 82-029, 82-039, 83-004, 83-008, 83-020, 83-021, 83-026, 83-032, 83-033, 83-034, and 83-037. Also reference (50-368) LER 83-035. The cause of the open junction box could not be determined. Investigation revealed no modification activities associated with the box. The box was closed to restore fire barrier integrity. The cause of the 9/15/83 occurrence was that the original installation specifications did not address gaps between doors and floors or thresholds. A fire watch was established per tech spec 3.7.11.a. Due to a flooding concern described in (50 368) LER 83-035, repairs could not be made to correct the excessive gap. A fire watch is being maintained until modifications can be made to eliminate flooding concerns and excessive gap.
Arkansas 2	09/16/1983	05/10/1984	Update on Inadequate Fire Barriers Abstract: Observations of fire protection deficiencies have been listed. The list consists of the discovery date, facility status code, method of discovery code, discovery description, cause code, cause and corrective actions. These occurrences are reportable per Tech Spec 6.9.1.9.b. Other occurrences regarding fire protection deficiencies were reported in LER's (50-368) 79 025, 79-026, 80-081, 81-029, 81-036, 81-042, 82-029, 82-039, 83-004, 83-008, 83-020, 83-021, 83-026, 83-032, 83-033, 83-034, 83-037 and 83-042. Also reference LER 83-035. The causes and corrective actions for the individual occurrences are listed. A complete fire protection system walkdown inspection is in progress as validation of the 'Ano Fire Protection Program Manual.' interim controls have been placed on construction activities to assure restoration of fire systems after work is performed. In the interim, AP&L has established a roving fire inspector program for the purpose of monitoring activities affecting fire systems. Future action to prevent recurrence is the development of an integrated program to provide assurance that fire systems are maintained as required.
Arkansas 2	03/02/1984	05/22/1989	Failure to Identify Nonfunctional Fire Barriers Due to Inadequate Procedures Results in Technical Specification Violations Abstract: POWER LEVEL - 100%. ON 6/21/84, DURING A REVIEW OF A REQUEST FOR ENGINEERING ASSISTANCE, A DISCREPANCY IN A FIRE BARRIER PENETRATION WHICH HAD PREVIOUSLY BEEN EVALUATED AS ACCEPTABLE WAS IDENTIFIED AS RENDERING THE FIRE BARRIER NONFUNCTIONAL. SINCE THE ORIGINAL EVALUATION DETERMINED THAT THE FIRE BARRIER WAS FUNCTIONAL, A CONTINUOUS FIRE WATCH HAD NOT BEEN ESTABLISHED AS REQUIRED BY TECH SPECS. THE DISCREPANCY IN THE FIRE BARRIER PENETRATION HAD BEEN ORIGINALLY IDENTIFIED ON 3/2/84, DURING AN ENGINEERING FIRE PROTECTION WALKDOWN. A REVIEW OF THE DOCUMENTATION FROM THE WALKDOWN RESULTED IN THE DISCOVERY OF A SECOND NONFUNCTIONAL FIRE BARRIER ON JULY 11, 1984. THE FAILURE TO CORRECTLY EVALUATE THE FIRE BARRIER DISCREPANCIES DOCUMENTED IN THIS EVENT WAS DUE TO A LACK OF DEFINITIVE GUIDELINES IN THE WALKDOWN PROGRAM. THE PROCEDURE USED TO INSPECT THE FIRE BARRIERS DID NOT PROVIDE ADEQUATE CRITERIA TO DETERMINE THE OPERABILITY OF FIRE BARRIER DISCREPANCIES. AS A RESULT OF THIS EVENT, GUIDELINES HAVE BEEN PROVIDED IN THE FIRE BARRIER INSPECTION PROCEDURES TO ALLOW CORRECT EVALUATION OF FIRE BARRIER DISCREPANCIES.
Arkansas 2	07/13/1984	08/31/1984	Degraded Fire Barrier Abstract: POWER LEVEL - 100%. ON 7-13-84 FIRE BARRIER PENETRATION 2124-0004 WAS IDENTIFIED AS DEGRADED BY ENGINEERING PERSONNEL WHILE WORKING ON HEATING, VENTILATING, AND AIR CONDITIONING (HVAC) MODIFICATIONS. THE PENETRATION CONSISTED OF A METAL SLEEVE WITH AN INTERNAL FOAM SEAL WHICH WAS TORN AND DID NOT APPEAR TO BE OF ADEQUATE DEPTH. TWO 1/4 INCH PLASTIC TUBES AND A TELEPHONE CABLE WERE CONTAINED IN THIS SLEEVE. THE PENETRATION WAS INSTALLED THROUGH A 3 HR RATED FIRE WALL. A FIRE WATCH WAS ESTABLISHED WITHIN 1 HR OF DISCOVERY AS REQUIRED BY THE TECH SPECS. THE DATE OF DEGRADATION COULD NOT BE DETERMINED. THE PENETRATION IS BEING REPAIRED BY REPLACING THE PLASTIC TUBING WITH COPPER TUBING AND RESEALING TO BRING THE PENETRATION TO A 3 HR RATING. PREVENTION OF THIS TYPE OCCURRENCE IS BEING ADDRESSED BY EMPLOYEE TRAINING AND AUGMENTED ADMINISTRATIVE CONTROLS. THIS EVENT IS SIMILAR TO EVENTS REPORTED IN LER'S 368/84-015, 83-026, 83-008, 83-004, 82-039, 81-042, 81-036, 81-029, AND 80-081.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Arkansas 2	11/29/1984	12/20/1984	Fire Door Self Closing Mechanism out of Adjustment Abstract: POWER LEVEL - 100%. ON 11-29-84 AT 1535 HRS, IT WAS DISCOVERED THAT THE SELF-CLOSING MECHANISM FOR FIRE DOOR 284 LACKED SUFFICIENT FORCE TO COMPLETELY CLOSE THE DOOR. THIS DOOR SEPARATES ANO-1 AND ANO-2 AT THE 386' ELEVATION, BUT IS ONLY REQUIRED BY ANO-2 TECH SPECS. A FIRE WATCH WAS POSTED WITHIN 1 HR AS REQUIRED BY TECH SPEC 3.7.11. DUE TO THE HIGH USAGE OF THIS DOOR, THE HYDRAULIC OIL CYLINDERS AND SEALS ON THE SELF-CLOSING MECHANISM DETERIORATED TO THE POINT WHERE THE DOOR WOULD NOT AUTOMATICALLY CLOSE AND LATCH. THE SELF CLOSING MECHANISM FOR FIRE DOOR 284 WAS REPLACED, AND THE DOOR WAS CHECKED FOR PROPER OPERATION. THE FREQUENCY OF FIRE DOOR INSPECTIONS FOR HIGH USE DOORS IS BEING RE-EVALUATED TO IMPROVE IDENTIFICATION OF REPAIR REQUIREMENTS BEFORE FAILURES OCCUR. ANOTHER OCCURRENCE RELATING TO A FAULTY DOOR CLOSING MECHANISM WAS REPORTED IN LER (50-368) 83-045.
Arkansas 2	02/21/1985	10/11/1985	Fire Door Found Open Abstract: POWER LEVEL - 000%. ON 2/21/85, A FIRE WATCH WAS REQUESTED TO BE POSTED AT FIRE DOOR #206, A WATER-TIGHT DOOR TO THE 'B' HIGH PRESSURE SAFETY INJECTION PUMP ROOM, SO THAT THE DOOR COULD BE OPENED FOR PAINTING AND LABELING AS A FIRE DOOR; THE FIRE WATCH FOUND THE DOOR OPEN. THE DOOR WAS PAINTED AND LABELED AFTER WHICH THE DOOR WAS CLOSED. IT IS BELIEVED THE INDIVIDUAL WHO LEFT THE DOOR OPEN DID NOT REALIZE THE DOOR WAS A FIRE DOOR SINCE IT LACKED PROPER FIRE DOOR LABELING IN ACCORDANCE WITH THE NEW FIRE BARRIER AND PENETRATION MARKING PROGRAM. A FIRE DOOR SURVEILLANCE, WHICH WAS COMPLETED ON 8/2/85, VERIFIED THAT THE FIRE DOORS PENETRATING TECH SPEC REQUIRED FIRE BARRIERS ARE PROPERLY IDENTIFIED AS FIRE DOORS. THIS SHOULD ELIMINATE CONFUSION AND PREVENT RECURRENCE.
Arkansas 2	03/18/1985	04/19/1985	Blockout in Fire Barrier Wall Not Sealed Properly Abstract: POWER LEVEL - 000%. ON 3-18-85 WITH THE UNIT IN REFUELING SHUTDOWN, AN INSPECTION ASSOCIATED WITH A 10 CFR 50, APPENDIX R, FIRE BARRIER UPGRADE DESIGN CHANGE REVEALED A DEGRADED PENETRATION FIRE BARRIER 'BLOCKOUT'. A BLOCKOUT IS A DESIGN OPENING IN A CONCRETE WALL WHICH HAS NO LOAD BEARING FUNCTION AND WHICH CAN BE LEFT OPEN DURING CONSTRUCTION ACTIVITIES AND SEALED AFTER ACCESS IS NO LONGER REQUIRED. THE BLOCKOUT, LOCATED IN THE FIRE BARRIER WALL BETWEEN AN ELECTRICAL PENETRATION ROOM AND DG ROOM, CONTAINED A GAP OF 1 INCH BY 8 INCHES. A FIRE WATCH WAS ESTABLISHED PER THE REQUIREMENTS OF TECH SPEC 3.7.11 AND THE VOID WAS SUBSEQUENTLY FILLED WITH GROUT TO PROVIDE A COMPLETE SEAL. FIRE DETECTION INSTRUMENTATION WITH CONTROL ROOM ALARM AND AUTOMATIC SUPPRESSION EQUIPMENT EXISTED ON BOTH SIDES OF THE FIRE BARRIER WALL. THE GAP IS BELIEVED TO HAVE EXISTED SINCE INITIAL GROUT SEALING OF THE BLOCKOUT. SIMILAR OCCURRENCE OF DEGRADED FIRE BARRIER WALLS WERE REPORTED IN LER 50-368/83-045.
Arkansas 2	09/25/1985	10/26/1985	Fire Barrier Penetration Not Completely Sealed Abstract: POWER LEVEL - 100%. ON 9-25-85 WITH THE UNIT OPERATING AT 100% POWER, IT WAS REPORTED BY MAINTENANCE PERSONNEL AT 1100 HRS THAT A FIRE BARRIER PENETRATION WAS NOT COMPLETELY SEALED. THE PENETRATION ALLOWS PASSAGE OF A CLEANOUT PIPE FROM A RESTROOM THROUGH AN AUX BLDG WALL INTO THE TURBINE BLDG. THE UNSEALED PENETRATION WAS DISCOVERED DURING PERFORMANCE OF THE TECH SPEC 18 MONTH FIRE BARRIER SURVEILLANCE. A FIRE WATCH WAS POSTED WITHIN THE HR AS REQUIRED BY TECH SPECS. ON 10-2-85 AT 1600 HRS THE FIRE BARRIER WAS COMPLETELY SEALED AND THE FIRE WATCH WAS SECURED. FIRE DETECTION INSTRUMENTATION WITH CONTROL ROOM ANNUNCIATION EXISTS IN THE RESTROOM AND PORTABLE FIRE SUPPRESSION EQUIPMENT IS AVAILABLE IN THIS AREA. THE PENETRATION IN THE BARRIER WAS MADE DURING A PLANT DESIGN CHANGE THAT RESULTED IN FLOOR PLAN MODIFICATIONS. THE MODIFICATION WAS COMPLETED 7-25-83 AND THE IMPROPER SEALING OF THIS PENETRATION MAY HAVE EXISTED SINCE THAT DATE. THE INSTALLATION OF THE PENETRATION INCLUDED A SLEEVE AND FALSE WALL FOR SEALING. THIS ARRANGEMENT WAS NOTED DURING A PREVIOUS SURVEILLANCE BUT THE INADEQUACY OF THE FALSE WALL FOR SEALING WAS NOT RECOGNIZED BECAUSE THE ANNULAR SPACE BETWEEN THE CLEAN OUT PIPE AND FALSE WALL IS EXTREMELY SMALL AND MUST BE VIEWED FROM THE NON-PROTECTED AREA TO BE SEEN. SIMILAR
Arkansas 2	11/19/1985	12/19/1985	Breech of Fire Barrier Seal Abstract: POWER LEVEL - 100%. ON 11/19/85 AT 1102 HOURS, WITH THE PLANT OPERATING AT 100% POWER, A PLANT ENGINEERING INSPECTION OF THE 1 INCH EXPANSION GAPS BETWEEN THE AUXILIARY BUILDING FLOORS AND REACTOR BUILDING WALL REVEALED THAT IN ONE AREA THE SEALING MATERIAL HAD SUFFERED SOME DEGREE OF PHYSICAL DEGRADATION. THE DEGRADATION OBSERVED WAS TO SUCH AN EXTENT THAT THERE WAS A BREECH IN THE FIRE BARRIER AFFORDED BY THIS SEAL AND THE PROTECTED AREA (AN ELECTRICAL PENETRATION ROOM) WAS SUSCEPTIBLE TO COMBUSTION PRODUCT OR FIRE INGRESS. WITHIN 1 HOUR A FIRE WATCH WAS POSTED IN THE AREA. THE PENETRATION ROOM HAS CONTINUOUS FIRE SURVEILLANCE EQUIPMENT AND A DEDICATED FIRE SUPPRESSION SYSTEM. THE SEAL HAS BEEN IN PLACE SINCE INITIAL CONSTRUCTION AND THE MECHANISM FOR DEGRADATION IS UNKNOWN BUT IS SUSPECTED TO BE A RESULT OF WORK ACTIVITIES IN THE AREA SINCE INSTALLATION. WORK ON SEALING THE GAP TO RESTORE A 3 HOUR FIRE BARRIER RATING TO THE SEAL IS SCHEDULED TO COMMENCE 12/16/85 WITH COMPLETION DUE ON 12/20/85. A FIRE WATCH WILL REMAIN IN PLACE UNTIL THE WORK IS COMPLETED. THE WALKDOWN OF THE REMAINING SEALED AREAS DEMONSTRATED NO ADDITIONAL BREECHES OF FIRE BARRIER SEALS OF THIS TYPE. THESE SEALS ARE TO BE ADDED TO THE FIRE BARRIER SURVEILLANCE PROGRAM TO AID IN IDENTIFICATION OF ANY FUTURE BREECHES. SIMILAR EVENTS WERE DESCRIBED IN
Arkansas 2	02/27/1986	03/28/1986	Incorrect Test Specification Used to Analyze Charcoal Filter Samples Abstract: POWER LEVEL - 100%. ON 2-27-86, THE PLANT STAFF DETERMINED THAT A NON-CONSERVATIVE ERROR HAD BEEN MADE IN THE ANALYSIS OF SAMPLES FROM THE CHARCOAL FILTERS IN 3 PLANT VENTILATION SYSTEMS. THE AFFECTED SYSTEMS WERE CONTROL ROOM EMERGENCY VENTILATION SUPPLY FAN, CONTAINMENT PURGE EXHAUST FAN, AND FUEL HANDLING AREA EXHAUST FAN. A FINDING BY AN AEOD/NRC REVIEW TEAM THAT A CHARCOAL SAMPLE ANALYZED FOR RADIOACTIVE IODINE REMOVAL EFFICIENCY ON 7-12-84 HAD BEEN PERFORMED AT 130 DEGREES CENTIGRADE INSTEAD OF 80 DEGREES CENTIGRADE PROMPTED A REVIEW OF VENTILATION SYSTEM SURVEILLANCE PROCEDURES BY THE PLANT STAFF. THE REVIEW CONDUCTED BY THE PLANT STAFF SHOWED THAT THIS ERROR IN ANALYSIS WAS NON-CONSERVATIVE AND WAS MADE ON CHARCOAL SAMPLE ANALYSES PERFORMED FROM 1979 (DURING UNIT STARTUP) AND CONTINUED UNTIL 7/84. THE REVIEW SHOWED NO OTHER SURVEILLANCE DEFICIENCIES RELEVANT TO VENTILATION SYSTEM REQUIRED SPECIFICATIONS. THE CAUSE OF THIS ERROR WAS INADEQUATE TECHNICAL REVIEW OF THE PROCEDURE DURING INITIAL DRAFT AND SUBSEQUENT REVIEW AND REVISIONS TO THE PROCEDURE. AN INCIDENT INVOLVING A SIMILAR ROOT CAUSE (E.G., INADEQUATE SURVEILLANCE TEST PROCEDURE) WAS REPORTED IN 50/368-85-003.
Arkansas 2	03/12/1986	02/15/1991	Inoperable Fire Dampers Result in Technical Specification Violation Due to Failure to Perform Functional Testing Following Installation Abstract: POWER LEVEL - 100%. DURING THE INITIAL PERFORMANCE OF PERIODIC FUNCTIONAL TESTING OF FIRE DAMPERS, A TOTAL OF 19 FIRE DAMPERS WERE IDENTIFIED AS INOPERABLE. THE TESTING INVOLVES REMOVAL OF THE FIRE DAMPER FUSIBLE LINK AND VERIFYING THAT THE FIRE DAMPER COMPLETELY CLOSES IN THE PRESENCE OF NORMAL VENTILATION AIR FLOW. OF THE 19 INOPERABLE FIRE DAMPERS, 9 FAILURES WERE ATTRIBUTED TO MECHANICAL INTERFERENCE AND 10 WERE ATTRIBUTED TO A DESIGN DEFICIENCY OF THE FIRE DAMPER. THE CAUSE OF THIS EVENT WAS INADEQUATE FUNCTIONAL TESTING OF INSTALLED FIRE DAMPERS IN THAT THE ABILITY OF THE FIRE DAMPERS TO COMPLETELY CLOSE WITH NORMAL VENTILATION AIR FLOW HAD NOT BEEN PREVIOUSLY VERIFIED. AS A RESULT OF THIS EVENT, THE FIRE DAMPERS THAT FAILED TO COMPLETELY CLOSE DUE TO MECHANICAL INTERFERENCE WERE REPAIRED AND SUCCESSFULLY TESTED. A PLANT MODIFICATION HAS BEEN IMPLEMENTED TO REPLACE THE FIRE DAMPERS THAT FAILED TO COMPLETELY CLOSE UNDER NORMAL VENTILATION AIR FLOW. PERIODIC FUNCTIONAL TESTING WILL BE DISCONTINUED TO ELIMINATE THE POTENTIAL FOR PERSONNEL INJURY OR EQUIPMENT DAMAGE. THE PERFORMANCE OF FUNCTIONAL TESTS FOLLOWING MAINTENANCE OR MODIFICATION ACTIVITIES COMBINED WITH THE TECH SPEC REQUIRED VISUAL INSPECTIONS WILL ENSURE THE

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Arkansas 2	04/30/1986	06/02/1986	Breach in Penetration Fire Barrier and Failure to Surveil Penetration Fire Barreirs at Required Interval Abstract: POWER LEVEL - 100%. ON 4-30-86 AT 1650 HOURS, THE SHIFT OPERATIONS SUPERVISOR FOR ARKANSAS NUCLEAR 1, UNIT 2 WAS NOTIFIED BY PLANT ENGINEERING PERSONNEL THAT PENETRATION FIRE BARRIERS FOR A PIPING PENETRATION ROOM (ROOM 2055) HAD NOT BEEN SURVEILLED ON AN 18 MONTH INTERVAL AS REQUIRED BY TECH SPEC 4.7.11.A. A FIRE WATCH WAS SUBSEQUENTLY POSTED WITHIN 1 HOUR AS REQUIRED BY TECH SPEC 3.7.11.A. ON 5-1-86, DURING THE FOLLOW-UP VISUAL INSPECTION OF ROOM 2055 PENETRATION FIRE BARRIERS, A BREACH IN 1 OF THE PENETRATION FIRE BARRIERS WAS DISCOVERED. THIS BREACH WAS SUBSEQUENTLY SEALED ON 5-2-86. THE CAUSE OF THE FAILURE TO PERFORM THE 18 MONTH VISUAL SURVEILLANCE AND OF THE BREACH FOUND DURING THE FOLLOW-UP INSPECTION OF ROOM 2055 PENETRATION FIRE BARRIERS WAS A BREAKDOWN IN THE ADMINISTRATIVE CONTROLS FOR IDENTIFICATION AND DOCUMENTATION OF PENETRATION FIRE BARRIERS ASSOCIATED WITH 10CFR50, APPENDIX R PLANT FIRE BARRIER UPGRADES. ADMINISTRATIVE AND PROCEDURAL CHANGES HAVE BEEN IMPLEMENTED TO PREVENT RECURRENCE. SIMILAR EVENTS INVOLVING DEGRADED PENETRATION FIRE BARRIERS WERE REPORTED AS LERS 50-368/83-045, 50-368/85-008, AND 50-368/85-021.
Arkansas 2	07/22/1986	08/29/1986	Fire Watch Personnel Found Asleep Abstract: POWER LEVEL - 000%. ON 7-22-86 BETWEEN 0100 HOURS AND 0200 HOURS, ANO FIRE PREVENTION AND SAFETY PERSONNEL OBSERVED 2 CONTRACTOR FIRE WATCH PERSONNEL WHO WERE ASLEEP AT THEIR RESPECTIVE FIRE WATCH STATIONS. AT THE TIME OF THE EVENT ANO-2 WAS SHUTDOWN FOR A REFUELING OUTAGE. THE FIRE PREVENTION AND SAFETY PERSONNEL WERE CONDUCTING A ROUTINE PLANT TOUR AT THE TIME OF DISCOVERY. ONE INDIVIDUAL WAS SERVING AS A FIRE WATCH IN THE CONTAINMENT PURGE AIR EQUIPMENT AREA. THE OTHER INDIVIDUAL WAS SERVING AS A FIRE WATCH IN THE LOWER SOUTH PIPING PENETRATION ROOM. THE FIRE WATCH WAS ESTABLISHED IN THE CONTAINMENT PURGE AIR EQUIPMENT AREA BECAUSE A FIRE DAMPER HAD FAILED DURING A SURVEILLANCE TEST. THE FIRE WATCH WAS ESTABLISHED IN THE LOWER SOUTH PIPING PENETRATION ROOM BECAUSE OF CORE DRILLING ASSOCIATED WITH A DESIGN MODIFICATION. THIS EVENT IS NOT SAFETY SIGNIFICANT AS EACH AREA IS MONITORED BY SMOKE DETECTORS WHICH ALARM TO THE CONTROL ROOM. HOWEVER, TECH SPEC 3.7.11 REQUIRES THAT A CONTINUOUS FIRE WATCH BE ESTALBISHED WHEN A FIRE BARRIER IS NOT FUNCTIONAL. BOTH OF THESE FIRE WATCH PERSONNEL WERE REPLACED. DISCIPLINARY ACTION CONSISTED OF TERMINATION OF THE INDIVIDUALS. THE REQUIREMENT TO STAY ALERT AT THEIR POST WAS STRESSED TO FIRE WATCH PERSONNEL. THESE TYPE OCCURRENCES WOULD BE DETECTED BY ROUTINE
Arkansas 2	01/30/1987	03/09/1987	Breach of Fire Barriers Caused by Personnel Error While Performing Plant Modification Abstract: POWER LEVEL - 100%. ON 1/30/87, WHILE PERFORMING A VISUAL INSPECTION FOR INSTALLATION VERIFICATION OF A PLANT MODIFICATION A FIELD ENGINEER DISCOVERED TWO FIRE BARRIER PENETRATIONS WERE NOT SEALED AS REQUIRED. THESE PENETRATIONS CONSIST OF CONDUITS ASSOCIATED WITH THE PLANT PAGING SYSTEM WHICH PASS THROUGH THREE HOUR RATED FIRE WALLS LOCATED IN THE LOWER SOUTH AND LOWER NORTH PIPING PENETRATION AREAS. THE OPENING INSIDE THE CONDUITS WAS NOT SEALED AT EITHER END AS REQUIRED TO PREVENT THE SPREAD OF COMBUSTION PRODUCTS BETWEEN THE AREAS. UPON DISCOVERY OF THE DISCREPANCIES, A FIRE WATCH WAS TESTED IN BOTH AREAS WITHIN ONE HOUR. THE CONDUITS WERE SEALED INTERNALLY ON 2/4/87 WITH A FOAM SEALANT AT THE BARRIER PENETRATIONS AND VERIFIED ACCEPTABLE. THE AFFECTED AREAS ARE EQUIPPED WITH FIRE DETECTION INSTRUMENTATION WHICH ALARMS IN THE CONTROL ROOM, ARE READILY ACCESSIBLE WITHIN A FEW MINUTES FOLLOWING AN INDICATION OF A FIRE, AND SUPPRESSION EQUIPMENT IS LOCATED IN THE AREAS. THE CAUSE OF THIS EVENT WAS FAILURE BY PERSONNEL INSTALLING THE PLANT MODIFICATION TO RECOGNIZE THAT AN ACTIVITY NECESSARY TO COMPLETE THE MODIFICATION CONSTITUTED A BREACH OF THE BARRIERS.
Arkansas 2	02/19/1988	03/18/1988	Continuous Fire Watch Personnel Found Asleep Abstract: POWER LEVEL - 000%. ON 2/19/88 AT 1345 HOURS, AN INDIVIDUAL SENT TO RELIEVE A CONTRACTOR FIRE WATCH STATIONED AT THE ENTRANCE DOOR FOR THE LOWER NORTH ELECTRICAL PENETRATION ROOM FOUND THE FIRE WATCH ON STATION ASLEEP. THE FIRE WATCH HAD BEEN AT THE POST FOR APPROXIMATELY 30 MINUTES WHEN FOUND ASLEEP. AT THE TIME OF THE EVENT, ANO-2 WAS IN COLD SHUTDOWN PREPARING FOR A REFUELING OUTAGE. THE FIRE WATCH POST HAD BEEN ESTABLISHED DUE TO MODIFICATIONS BEING PERFORMED IN THE AREA WHICH REQUIRED BREACHING OF A FIRE BARRIER. THE EVENT IS NOT CONSIDERED TO BE SAFETY SIGNIFICANT AS THIS ROOM IS MONITORED BY FIRE DETECTORS WHICH ALARM IN THE CONTROL ROOM AND IS PROTECTED BY AUTOMATIC PREACTION SPRINKLER EQUIPMENT. BOTH OF THESE SYSTEMS WERE OPERABLE AT THE TIME OF DISCOVERY OF THIS EVENT. HOWEVER, TECH SPEC 3.7.11 REQUIRES THAT A CONTINUOUS FIRE WATCH BE ESTABLISHED WHEN A FIRE BARRIER IS NOT FUNCTIONAL. THEREFORE, THE OCCURRENCE OF THE FIRE WATCH BE ESTABLISHED WHEN A FIRE BARRIER IS NOT FUNCTIONAL. THEREFORE, THE OCCURRENCE OF THE FIRE WATCH SLEEPING WHILE STATIONED ON POST WAS CONSIDERED TO BE A VIOLATION OF THIS TECH SPEC REQUIREMENT. THE INDIVIDUAL WAS IMMEDIATELY RELIEVED OF FIRE WATCH DUTIES AND EMPLOYMENT WAS TERMINATED. SIMILAR EVENTS: 368/83-043 AND 368/86-010.
Arkansas 2	03/19/1988	04/07/1988	Continuous Fire Watch Personnel Found Asleep Abstract: POWER LEVEL - 000%. ON 3/19/88 AT 0440 HOURS, THE SHIFT FIRE WATCH FOREMAN FOUND A FIRE WATCH ON STATION ASLEEP. THE FIRE WATCH WAS POSTED IN THE ANO-2 UPPER NORTH PIPING PENETRATION ROOM. THE FIRE WATCH HAD BEEN AT THE POST FOR APPROXIMATELY 15 MINUTES WHEN FOUND ASLEEP. AT THE TIME OF THE EVENT, ANO-2 WAS IN A REFUELING MODE. THE FIRE WATCH POST HAD BEEN ESTABLISHED DUE TO MODIFICATIONS BEING PERFORMED IN THE AREA WHICH REQUIRED BREACHING A FIRE BARRIER. THE EVENT IS NOT CONSIDERED TO BE SAFETY SIGNIFICANT AS THIS ROOM IS MONITORED BY SMOKE DETECTORS WITH CONTROL ROOM ALARM WHICH WERE OPERABLE AND THE FIRE LOAD IN THE ROOM IS LOW. HOWEVER, TECH SPEC 3.7.11 REQUIRES THAT A CONTINUOUS FIRE WATCH BE ESTABLISHED WHEN A FIRE BARRIER IS NOT FUNCTIONAL. SLEEPING WHILE STATIONED ON POST WAS CONSIDERED TO BE A VIOLATION OF THIS TECH SPEC REQUIREMENT. THE INDIVIDUAL WAS IMMEDIATELY RELIEVED OF FIRE WATCH DUTIES AND EMPLOYMENT WAS TERMINATED. FIRE WATCH PERSONNEL ARE CURRENTLY ROTATED TO DIFFERENT POSTS APPROXIMATELY EVERY 30 MINUTES TO MINIMIZE THE POTENTIAL FOR THIS TYPE OF OCCURRENCE. ADDITIONALLY, ROUTINE TOURS BY FIRE WATCH ROVERS AND OTHER PLANT PERSONNEL SHOULD DETECT THIS TYPE OCCURRENCE.
Arkansas 2	04/02/1988	04/21/1988	Cable Spreading Room Fire Water System Removed From Service To Prevent Inadvertent Actuation Due To Construction Activities Being Performed In Area Abstract: POWER LEVEL - 000%. ANO-2 IS SHUT DOWN FOR A REFUELING OUTAGE. DURING THE OUTAGE, A MODIFICATION OF THE UNIT'S CABLE SPREADING ROOM TO PROVIDE AN AREA FOR INSTALLATION OF NEW CORE PROTECTION CALCULATOR COMPUTERS AT A FUTURE DATE IS BEING PERFORMED. THE CABLE SPREADING ROOM IS EQUIPPED WITH A FIRE PROTECTION WATER DELUGE SYSTEM WHICH IS AUTOMATICALLY ACTUATED UPON DETECTION OF HEAT AND SMOKE IN THE AREA. MODIFICATION OF THE AREA REQUIRED CONSTRUCTION ACTIVITIES WHICH INCLUDED WELDING AND GRINDING OPERATIONS. ON 3/15/88 AT 1050 HRS, TO PRECLUDE INADVERTENT AUTOMATIC ACTUATION OF THE DELUGE SYSTEM, THE SYSTEM WAS MANUALLY ISOLATED BY CLOSING A VALVE IN THE FIRE WATER SUPPLY LINE. A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT WAS ESTABLISHED FOR THE AREA PRIOR TO CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT WAS ESTABLISHED FOR THE AREA PRIOR TO REMOVING THE SYSTEM FROM SERVICE AS REQUIRED BY TECH SPEC 3.7.10.2. TECH SPEC 3.7.10.2 ALSO REQUIRES SUBMISSION OF A SPECIAL REPORT TO THE COMMISSION IF THE SYSTEM IS NOT RESTORED TO AN OPERABLE STATUS WITHIN 14 DAYS. IN ORDER TO COMPLETE THE MODIFICATION OF THE AREA, IT IS NOT POSSIBLE TO RETURN THE SYSTEM TO SERVICE WITHIN THE 14 DAY
Arkansas 2	05/18/1989	12/01/1989	Inadequate Procedural Guidance Resulted in Voids in Sealant Material of Penetration Fire Barriers Rendering the Barriers Non- Functional Abstract: POWER LEVEL - 100%. IN 5/89 AP&L INITIATED A PLAN TO CONDUCT NON-ROUTINE INSPECTIONS OF PENETRATION FIRE BARRIERS LOCATED IN WALL BLOCKOUTS THAT CONTAIN SILICONE FOAM MATERIAL WITH FIRE-RETARDANT (DAMMING) BOARDS ON BOTH SIDES OF THE PENETRATION AS A RESULT OF NRC INFORMATION NOTICE 88-56. TWENTY-FOUR PENETRATIONS LOCATED IN VARIOUS FIRE BARRIERS SEPARATING PLANT FIRE AREAS WERE IDENTIFIED WITH VOIDS IN THE SILICONE FOAM MATERIAL, RENDERING EACH PENETRATION FIRE BARRIER NON-FUNCTIONAL. AS REQUIRED BY TECH SPECS, A FIRE WATCH WAS ESTABLISHED WITHIN ONE HOUR OF DISCOVERING THE DEGRADATION IN THE SEALS. IN EACH AFFECTED AREA, FIXED FIRE DETECTION SYSTEMS AND FIRE SUPPRESSION EQUIPMENT ARE AVAILABLE TO HELP PREVENT THE SPREAD OF A FIRE. ALSO, TRAINED FIRE BRIGADE PERSONNEL ARE CONTINUOUSLY AVAILABLE. INITIAL SEAL INSTALLATION PROCEDURES USED TO INSTALL THE SILICONE FOAM MATERIAL WERE INADEQUATE TO ENSURE VOIDS DID NOT EXIST. PROCEDURE REVISIONS HAVE BEEN MADE TO REQUIRE REMOVING OF THE DAMMING BOARDS ON BOTH SIDES OF THE BARRIER WHEN PERFORMING REPAIRS TO PREVIOUSLY SEALED BLOCKOUTS. ADDITIONAL PROCEDURE REVISIONS FOR NEW SEAL INSTALLATIONS ARE IN PROGRESS. REPAIRS HAVE BEEN COMPLETED TO RESTORE EACH IDENTIFIED

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Arkansas 2	06/08/1989	07/07/1989	Personnel Error Results in a Fire Door Separating Plant Fire Areas Being Propped Open Without a Fire Watch Stationed as Required by Technical Specifications Abstract: POWER LEVEL - 100%. ON 6/8/89, AN NRC RESIDENT INSPECTOR NOTIFIED ARKANSAS NUCLEAR ONE, UNIT 2 CONTROL ROOM PERSONNEL THAT A 3-HOUR RATED FIRE DOOR WAS PROPPED OPEN WITHOUT A FIRE WATCH ESTABLISHED IN THE AREA. OPERATIONS PERSONNEL WERE DISPATCHED TO THE AREA TO CLOSE THE DOOR AND TO INVESTIGATE THE DISCREPANCY. THE FIRE DOOR IS LOCATED IN A CORRIDOR WHICH SEPARATES THE ANO-2 AND THE ANO, UNIT 1 AUX. BLDGS. THERE ARE NO COMPONENTS REQUIRED FOR SAFE SHUTDOWN OF THE PLANT IN THE CORRIDOR. IN ADJACENT FIRE ZONES WITHIN THE FIRE AREA, WHERE SAFE SHUT DOWN EQUIPMENT IS LOCATED, FIXED FIRE SUPPRESSION OR FIRE DETECTION EQUIPMENT EXISTS. ALTHOUGH, THERE IS NO FIXED FIRE SUPPRESSION EQUIPMENT OR FIXED FIRE DETECTION SYSTEMS IN THE CORRIDOR, PORTABLE FIRE EXTINGUISHERS AND FIRE WATER HOSE REEL STATIONS ARE AVAILABLE NEAR THE AREA. TRAINED FIRE BRIGADE PERSONNEL CAN EASILY GAIN ACCESS TO THE AREA, IF NECESSARY. ALSO, ROUTINE TOURS OF THE AUX. BLDG, INCLUDING THE CORRIDOR AREA, ARE PERFORMED. INTERVIEWS OF VARIOUS PLANT DEPARTMENT PERSONNEL FAILED TO DETERMINE THE INDIVIDUAL(S) RESPONSIBLE FOR THE DOOR BEING OPEN. APPARENTLY, THE FIRE DOOR WAS PROPPED OPEN WITHOUT REGARD TO IT BEING A FIRE DOOR. PERIODIC TRAINING IS
Arkansas 2	09/03/1989	10/03/1989	Lack of Contingencies Established to Ensure Continuous Fire Watches Required by Technical Specification Could Be Maintained at Nonfunctional Fire Barriers if High Airborne Radioactivity Were to Occur Abstract: POWER LEVEL - 100%. ON 9/3/89 AND ON 9/18/89, THE CONTINUOUS FIRE WATCH PERSONNEL STATIONED AS REQUIRED BY TECH SPECS TO MONITOR NONFUNCTIONAL FIRE BARRIERS, WERE REMOVED DUE TO HIGH AIRBORNE RADIOACTIVITY. FOLLOWING THE FIRST EVENT THE CONTROL ROOM SHIFT SUPERVISOR MET WITH THE FIRE WATCH SUPERVISOR AND HP TECHNICIANS TO ESTABLISH A CONTINGENCY OF RELIEVING FIRE WATCHES IN AFFECTED AREAS WITH A ROVING FIRE WATCH WHO HAD DONNED RESPIRATORY PROTECTION UNTIL THE PERSONNEL POSTED AT SPECIFIC LOCATIONS COULD OBTAIN THE APPROPRIATE RESPIRATORY EQUIPMENT AND RETURN TO THEIR POSTS. DURING THE TIMES FIRE WATCHES WERE NOT MAINTAINED AT REQUIRED AREAS, THE FIRE DETECTION INSTRUMENTATION AND ASSOCIATED CONTROL ROOM ANNUNCIATION AND FIRE WATER SUPPRESSION SYSTEMS FOR AFFECTED AREAS WERE VERIFIED TO BE OPERATIONAL ENSURING IF A FIRE WERE TO OCCUR IT COULD HAVE BEEN PROMPTLY DETECTED AND SUPPRESSED. OPERATIONS PERSONNEL ALSO EVALUATED THE PLANT EVOLUTIONS IN PROGRESS AT THE TIME OF INCREASED AIRBORNE RADIOACTIVITY TO ATTEMPT TO DETERMINE THE CAUSE OF THE AIRBORNE ACTIVITY AND COORDINATED WITH FIRE WATCH PERSONNEL IF AIRBORNE ACTIVITY WERE EXPECTED TO OCCUR. WHEN AN
Arkansas 2	05/30/1990	06/29/1990	Degraded Fire Barrier Penetration Caused by Personnel Error Associated with the Plant Modification Process Abstract: POWER LEVEL - 100%. ON 5/30/90, WHILE PERFORMING A ROUTINE TOUR OF THE ARKANSAS NUCLEAR ONE, UNIT TWO (ANO-2) AUXILIARY BUILDING, AN ANO-2 WASTE CONTROL OPERATOR IDENTIFIED A DEGRADED FIRE BARRIER (PENETRATION, FB-2054-6). A ROVING FIRE WATCH WAS IMMEDIATELY ESTABLISHED AND THE FIRE DETECTION INSTRUMENTATION IN THE AREA WAS VERIFIED OPERABLE. INCH CONDUIT PENETRATING A FOUR INCH CORE BORE. THE FIRE BARRIER SEPARATES TWO FIRE AREAS, WITH VERY LOW FIRE LOADING IN EACH AREA. WHILE PERFORMING A PLANT MODIFICATION, THE PENETRATION WAS BREACHED. IN THE PLANT MODIFICATION PROCESS, AT THAT TIME, ADEQUATE PROCEDURAL CONTROLS EXISTED TO ENSURE BREACHED BARRIERS WERE PROPERLY SEALED. AS A RESULT OF A PERSONNEL ERROR, THE PROCESS WAS NOT UTILIZED AND THE PENETRATION WAS NOT PROPERLY SEALED WHEN IT WAS BREACHED. THE DEGRADED PENETRATION FIRE BARRIER HAS BEEN PROPERLY SEALED. BARRIER ARE EQUIPPED WITH FIXED FIRE DETECTION INSTRUMENTATION WHICH ANNUNCIATE IN THE CONTROL ROOM. ADDITIONALLY, FIRE SUPPRESSION EQUIPMENT IS READILY AVAILABLE AND FIRE BRIGADE PERSONNEL, TRAINED IN FIRE FIGHTING, ARE AVAILABLE AT ALL TIMES. THEREFORE, THERE ARE NO SAFETY CONCERNS RELATED TO THIS DEGRADED PENETRATION FIRE BARRIER. 10CFR50.73(A)(2)(I)(B).
Arkansas 2	07/18/1990	08/17/1990	Personnel Errors Resulted in an Inoperable Technical Specification Fire Barrier Penetration Grout Seal During a Fire Barrier Inspection Abstract: POWER LEVEL - 000%. ON 7/18/90, WHILE IN COLD SHUTDOWN, A CRAFTSMAN DISCOVERED A VOID IN A GROUT SEALED TECH SPEC FIRE BARRIER PENETRATION AS HE WAS PERFORMING A WORK ACTIVITY ON THE PENETRATION. BY TECH SPECS. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR. DURING A PREVIOUS INSPECTION PERFORMED IN 1983 AND 1984, A VOID WAS IDENTIFIED IN THE SEAL, THIS DISCREPANCY WAS NOT CORRECTLY DISPOSITIONED. THE BARRIER WAS REINSPECTED A SECOND TIME DURING THE SAME TIME FRAME AND WAS AGAIN FOUND ACCEPTABLE. THE INSPECTIONS PERFORMED SINCE 1984 TO SATISFY THE EIGHTEEN MONTH TECH SPEC SURVEILLANCE REQUIREMENTS HAVE ALSO FAILED TO IDENTIFY THE VOID. THE PERSONNEL RESPONSIBLE FOR THE EIGHTEEN MONTH INSPECTIONS HAVE BEEN COUNSELLED. THE SEAL WILL BE RESTORED TO AN OPERABLE STATUS BY 10/1/90. A PREJOB BRIEFING TO THE INSPECTORS PERFORMING THE EIGHTEEN MONTH SURVEILLANCE WILL BE PROVIDED BY THE FIRE PROTECTION ENGINEERING GROUP PRIOR TO THE NEXT SCHEDULED SURVEILLANCE. THIS WILL PROVIDE AN ASSURANCE THAT THE INSPECTORS ARE AWARE OF THE TYPE OF DEFICIENCIES THAT MAY EXIST. THE FIRE DURATION IN EACH AREA SEPARATED BY THE FIRE BARRIER IS LESS THAN ONE HOUR. ADEQUATE DETECTION INSTRUMENTATION, SUPPRESSION EQUIPMENT, AND FIRE BRIGADE
Arkansas 2	11/05/1990	12/05/1990	Degraded Fire Barrier Caused by Unsealed Penetration Which was Undetected Due to Personnel Error Abstract: POWER LEVEL - 100%. ON NOVEMBER 5, 1990, WHILE PERFORMING A FIRE BARRIER PENETRATION SEAL INSPECTION ANO MAINTENANCE PERSONNEL IDENTIFIED A FIRE BARRIER PENETRATION WHICH WAS NOT SEALED. THE PENETRATION, A ONE AND ONE-HALF INCH DIAMETER PIPE, WAS IN FIRE BARRIER FB-2101-01, WHICH PROVIDES SEPARATION BETWEEN TWO AREAS ON EITHER SIDE OF THE 372 FOOT ELEVATION AUXILIARY BUILDING FLOOR. THE ROOT CAUSE FOR THE FAILURE OF PAST INSPECTIONS TO IDENTIFY THE DEGRADATION WAS DETERMINED TO BE PERSONNEL ERROR. ADDITIONALLY, THE DIFFICULTY OF INSPECTING THIS PENETRATION DUE TO ITS LOCATION WAS CONSIDERED A CONTRIBUTING FACTOR FOR THE PIPE NOT BEING IDENTIFIED AS AN OPEN PENETRATION THROUGH THE FIRE BARRIER. UPON DISCOVERY, A ROVING FIRE WATCH WAS ESTABLISHED AND FIRE DETECTION INSTRUMENTATION WAS VERIFIED OPERABLE. THE PENETRATION WILL BE PROPERLY SEALED. PROCEDURES USED FOR INSPECTIONS OF FIRE BARRIERS ARE BEING REVISED AND A FORMAL TRAINING PROGRAM ON INSPECTION OF PENETRATION SEALS IS CURRENTLY UNDER DEVELOPMENT. ALTHOUGH THE FIRE BARRIER WAS DEGRADED, NO SIGNIFICANT SAFETY CONCERNS EXISTED SINCE ADEQUATE FIRE DETECTION INSTRUMENTATION, SUPPRESSION EQUIPMENT AND FIRE BRIGADE PERSONNEL PROVIDED SIGNIFICANT PROTECTION AGAINST THE SPREAD OF A FIRE.
Arkansas 2	01/14/1991	02/13/1991	Degraded Plant Fire Barriers Which Were Not Properly Identified During Routine Inspections Due To Inadequate Communications Between Different Plant Departments Abstract: POWER LEVEL - 100%. IN JANUARY 1991, WHILE PERFORMING ADDITIONAL INSPECTIONS OF PLANT FIRE BARRIERS FOLLOWING THE RECENT COMPLETION OF A ROUTINE 18 MONTH SURVEILLANCE OF THE BARRIERS, FIRE PROTECTION PERSONNEL DISCOVERED SEVERAL DEFICIENCIES WHICH HAD NOT BEEN IDENTIFIED DURING PERFORMANCE OF THE SURVEILLANCE ACTIVITY. BASED ON EVALUATIONS OF THE DEFICIENCIES, IT WAS DETERMINED THAT 3 FIRE BARRIERS SEPARATING SAFETY RELATED AREAS WERE INOPERABLE. UPON DISCOVERY OF THE CONDITIONS ROVING FIRE WATCHES WERE ESTABLISHED IN THE AFFECTED AREAS. THE ROOT CAUSE OF THE FAILURE TO IDENTIFY THE DEFICIENCIES DURING THE SURVEILLANCE ACTIVITY WAS ATTRIBUTED TO INADEQUATE COMMUNICATION BETWEEN FIRE PROTECTION PERSONNEL AND ELECTRICAL MAINTENANCE DURING A PREJOB BRIEFING CONDUCTED PRIOR TO PERFORMING THE SURVEILLANCE. APPROPRIATE ACTIONS HAVE BEEN INITIATED TO IMPROVE THE PROCEDURES USED FOR INSPECTIONS AND TO PROVIDE ADDITIONAL TRAINING OF INSPECTION PERSONNEL. BASED ON THE AVAILABILITY OF FIRE DETECTION AND FIRE SUPPRESSION SYSTEMS FOR THE AFFECTED PLANT AREAS AND FIRE BRIGADE PERSONNEL, THERE WAS NO SAFETY SIGNIFICANCE TO THESE CONDITIONS.
Arkansas 2	05/12/1991	06/07/1991	Fire Watches Released From Inoperable Fire Barriers Due To Inadequate Documentation Concerning Posting Requirements Abstract: POWER LEVEL - 100%. ON MAY 12, 1991, THE OPERATIONS SHIFT SUPERVISOR AUTHORIZED RELEASE OF FIRE WATCHES THAT HAD BEEN POSTED AS REQUIRED BY A TECHNICAL SPECIFICATION ACTION STATEMENT AT CERTAIN INOPERABLE FIRE BARRIERS. THESE FIRE BARRIERS WERE LOCATED IN THE LUBE OIL TANK ROOM, LUBE OIL RESERVOIR ROOM, BOTH BATTERY ROOMS, AND THE CONTROL ROOM. WORK REQUIRED TO RESTORE THE BARRIERS TO AN OPERABLE STATUS HAD NOT BEEN COMPLETED. PREMATURE RELEASE OF THE FIRE WATCHES WAS CAUSED BY INADEQUATE DOCUMENTATION ON THE FIRE WATCH REQUEST FORMS CONCERNING POSTING REQUIREMENTS. DURING THE PERIOD WITHOUT FIRE WATCH COVERAGE, SMOKE OR SPRINKLER PRESSURE SWITCH ALARMS WERE AVAILABLE IN THE CONTROL ROOM FOR THE AFFECTED AREAS. FIRE WATCH POSTING WAS REESTABLISHED AFTER THE ERROR WAS DISCOVERED. THE TOTAL TIME WITHOUT FIRE WATCH COVERAGE WAS APPROXIMATELY THIRTY-FOUR HOURS. THE FIRE WATCH REQUEST FORMS FOR THE AFFECTED BARRIERS WERE REVISED TO PREVENT RECURRENCE OF THIS EVENT BY SPECIFICALLY STATING THAT THE BARRIERS HAVE BEEN INSPECTED AND ARE INOPERABLE. APPROVAL BY FIRE PROTECTION PERSONNEL WILL BE REQUIRED BEFORE FUTURE RELEASE OF FIRE WATCHES AT THESE BARRIERS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Arkansas 2	09/24/1991	10/18/1991	Degraded Fire Barrier Caused By Unsealed Penetration Resulted From Inadequate Administrative Controls During Plant Construction Abstract: POWER LEVEL - 100%. ON 9/24/91, WHILE PERFORMING A CORRECTIVE MAINTENANCE ACTIVITY IDENTIFIED DURING THE PREVIOUS TECHNICAL SPECIFICATION SURVEILLANCE INSPECTION, PLANT MODIFICATIONS PERSONNEL IDENTIFIED A FIRE BARRIER PENETRATION WHICH WAS NOT PROPERLY SEALED. THE PENETRATION BETWEEN THE FLOOR OF THE SOUTH EMERGENCY DIESEL GENERATOR ROOM AND THE OVERHEAD OF A CORRIDOR OUTSIDE OF THE SAMPLE ROOM WAS FILLED WITH RAGS INSTEAD OF GROUT. THE ROOT CAUSE FOR THIS EVENT WAS DETERMINED TO BE INADEQUATE ADMINISTRATIVE CONTROLS DURING PLANT CONSTRUCTION TO ENSURE THAT RAGS USED FOR DAMMING MATERIAL WHEN APPLYING AN EPOXY COATING TO THE FLOOR WERE REMOVED WHEN NO LONGER REQUIRED. THE PENETRATION BEING PAINTED AT THE TOP CAUSED IT TO APPEAR LIKE THE REST OF THE FLOOR SLAB AND MADE THE CONDITION DIFFICULT TO DETECT. UPON DISCOVERY, A FIRE WATCH WAS POSTED. THE PENETRATION HAS BEEN PROPERLY SEALED WITH GROUT. CURRENT ADMINISTRATIVE CONTROLS HAVE BEEN EVALUATED TO BE SUFFICIENT TO PREVENT RECURRENCE OF THIS CONDITION. ALTHOUGH THE FIRE BARRIER WAS DEGRADED, NO SIGNIFICANT SAFETY CONCERN EXISTED SINCE ADEQUATE FIRE DETECTION, SUPPRESSION EQUIPMENT, AND THE AVAILABILITY OF FIRE BRIGADE PERSONNEL PROVIDED SIGNIFICANT PROTECTION
Arkansas 2, Arkansas 1	12/21/1989	09/04/1990	Personnel Error Resulted in Not Properly Identifying Technical Specification Fire Barriers Rendering the Fire Barrier Penetrations Inoperable Due to Failure to Perform Surveillance Requirements Within the Appropriate Time Interval Abstract: POWER LEVEL - 100%. ON 12/21/89, IT WAS IDENTIFIED THAT A PORTION OF A WALL LOCATED IN THE AUX. BLDG. BETWEEN THE 354 AND 360 FOOT ELEVATIONS HAD NOT BEEN PREVIOUSLY IDENTIFIED AS A TECH SPEC FIRE BARRIER. TWO PIPING PENETRATIONS LOCATED IN THE BARRIER HAD NOT BEEN SURVEILED AS REQUIRED BY TECH SPECS. A VISUAL INSPECTION OF ONE SIDE OF THE PENETRATIONS WAS PERFORMED WITH NO DISCREPANCIES IDENTIFIED. IT IS REASONABLE TO BELIEVE SINCE NO DISCREPANCIES WERE IDENTIFIED THAT THE PENETRATION FIRE BARRIERS HAD PREVIOUSLY BEEN FUNCTIONAL. ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR. DURING THE INITIAL REVIEW OF PLANT AREAS THE DESIGN CONFIGURATION ON DIFFERENT ELEVATIONS WAS NOT CONSIDERED. A REVIEW OF THE DRAWINGS FOR ANO-1 AND ANO-2 HAS BEEN PERFORMED TO ENSURE ANY OTHER BARRIERS THAT EXIST ON DIFFERENT PLANT ELEVATIONS HAVE BEEN PROPERLY ACCOUNTED FOR AS TECH SPEC BARRIERS. SEVERAL BARRIERS HAVE BEEN IDENTIFIED WHICH ARE LOCATED ON DIFFERENT PLANT ELEVATIONS AND A WALKDOWN OF THESE BARRIERS HAS BEEN COMPLETED. A FIRE WATCH WAS POSTED WHEN NECESSARY AS REQUIRED BY TECH SPECS. A VISUAL INSPECTION OF THE FIRE BARRIER PENETRATIONS HAS BEEN PERFORMED AND THE
Beaver Valley 1	11/16/1980	12/12/1980	Abstract: CABLE VAULT. DURING A TEST ON THE FIRE PROTECTION SYSTEM, A TIMER ON THE CO2 SYSTEM IN THE WEST CABLE VAULT WAS FOUND DEFECTIVE. THE OPERATION OF THE SYSTEM WAS STILL POSSIBLE MANUALLY AND USE OF THE SYSTEM WAS NOT APPRECIABLY DEGRADED. THE FIRE WATCH WAS POSTED IN THE AREA WITH INSTRUCTIONS FOR USE OF THE SYSTEM IN MANUAL. THE DEFECTIVE TIMER WAS REPLACED.
Beaver Valley 1	12/14/1980	01/15/1981	Abstract: WHILE PERFORMING A SURVEILLANCE TEST ON THE PENETRATION FIRE BARRIERS, SOME WERE FOUND WITHOUT A SEAL. A FIRE WATCH WAS POSTED. A LARGE NUMBER OF PENETRATIONS WERE OPENED DURING A RECENT PLANT OUTAGE FOR DESIGN CHANGE WORK. THE FIRE BARRIER SURVEILLANCE TEST WAS WRITTEN, IN PART, TO CATCH ANY PENETRATIONS THAT ARE UNSEALED DUE TO DESIGN CHANGES AND TO VERIFY THAT THEY GET SEALED. THE IDENTIFIED OPENINGS WERE SEALED AND THE FIRE WATCH WAS TERMINATED.
Beaver Valley 1	04/22/1981	05/21/1981	A Bad Resistor in the Timer was found Responsible for its Faulty Operation Abstract: During a test on the fire protection system, the carbon dioxide discharge timer for the west cable vault unit was found to be cycling too fast, thus limiting the discharge and pre-discharge warning times. The unit was declared inoperable and a continuous fire watch was established. A bad resistor in the timer was found responsible for its faulty operation. It was replaced and returned to service. Spare timing units are on order.
Beaver Valley 1	06/06/1981	08/11/1981	Administrative Controls and penetration Fire Barriers Abstract: Three apparent items of noncompliance recently identified in NRC Inspection 81-15 and 81-18 are reportable violations of T.S. the violations include an open fire barrier penetration between the emergency switchgear rooms and two incidents of open and unattended fire doors within the primary auxiliary building. The cause was an inadequacy in the maintenance procedure used by the construction department for the opening of fire barriers. A precaution step in the procedure will be changed to address the need for sealing or establishing a continuous fire watch within 1 hour of opening the barrier.
Beaver Valley 1	01/28/1982	11/10/1982	Penetration Fire Barriers Abstract: On 1/27/82 a jumper cable was run between MCC-39 and MCC-310 through a spare electrical conduit penetration. The cable was run to re-establish power to MCC-E9 which had been lost due to a fault in a section of 4kv bus cable. The NRC onsite inspector, while making a tour, discovered that the penetration had not been resealed nor a fire watch established after the completion of the cable run as required by Tech Spec 3.7.15. The fire barrier was immediately sealed with fire retardent batting. Maintenance personnel were instructed on the implications of unsecured fire barriers. To eliminate this fire protection problem a station modification request was initiated to install a permanent cable in the conduit penetration with 480v plugs.
Beaver Valley 1	03/26/1986	04/24/1986	Inoperable Fire Detection System in Diesel Generator Area Abstract: POWER LEVEL - 100%. ON 3/26/86 THE #2 DIESEL GENERATOR WAS RUN FOR ITS MONTHLY TEST. DURING THIS TEST IT WAS NOTICED THAT WHILE A DIESEL AREA SMOKE DETECTOR ALARMED, NO FIRE ALARM WAS RECEIVED IN THE CONTROL ROOM. FURTHER INVESTIGATION SHOWED THAT TWO OF THE THREE SMOKE DETECTORS IN THE #2 DIESEL AREA WERE INOPERABLE. AT 2200 HOURS THE FIRE DETECTION SYSTEM FOR THIS AREA WAS DECLARED INOPERABLE AND A ONCE-PER-HOUR FIRE WATCH WAS ESTABLISHED AS REQUIRED PER TECH. SPEC. 3.3.3.6. ON 4/1/86 PERSONNEL FROM THE VENDOR (HONEYWELL) ARRIVED AND DETERMINED THAT THE PROBLEM WITH THE ONE INOPERABLE DETECTOR WAS A MISSING 470 OHM RESISTOR WHICH WAS TO HAVE BEEN USED DURING DETECTOR INSTALLATION TO INCREASE DETECTOR ALARM CURRENT. THE OTHER INOPERABLE DETECTOR HAD ITS 470 OHM RESISTOR IN PLACE BUT A LOOSE CONNECTION BETWEEN THE RESISTOR AND THE DETECTOR PREVENTED THE RESISTOR FROM BEING IN THE CURRENT LOOP. THE MISSING RESISTOR WAS REPLACED ON THE ONE DETECTOR. WAS TIGHTENED. IT WAS DISCOVERED THAT HONEYWELL PERSONNEL PERFORMING THE SURVEILLANCE TEST HAD MISINTERPRETED BEAVER VALLEY'S PROCEDURE AND NOT VERIFIED THAT EACH DETECTOR COULD ACTUATE THE REMOTE FIRE ALARM IN THE CONTROL ROOM. ALL SMOKE DETECTORS ARE CURRENTLY BEING TESTED PROPERLY TO VERIFY OPERABILITY.
Beaver Valley 1	06/30/1986	07/15/1986	Inoperable Fire Suppression System Smoke Detectors Abstract: POWER LEVEL - 000%. THE PLANT WAS IN THE FIFTH SCHEDULED REFUELING OUTAGE WITH NO FUEL IN THE REACTOR VESSEL. ON 5-30-86, AT 0645 HOURS, AN ELECTRICAL CLEARANCE WAS POSTED ON A 480V BREAKER TO PERMIT INSPECTION AND TESTING. AMONG THE LOADS THAT DERIVE POWER FROM THE 480V SUBSTATION AREA THE FIRE PROTECTION SYSTEM SMOKE DETECTORS (MANUFACTURED BY HONEYWELL). THEREFORE, DEENERGIZING THE BREAKER RENDERED THE DETECTORS INOPERABLE, WHICH VIOLATES THE PROVISIONS OF TECH SPEC 3.3.3.6. DUE TO LACK OF INFORMATION IN THE 480V SYSTEM OPERATING MANUALS AND SYSTEM DRAWINGS, IT WAS NOT REALIZED THAT THE BREAKER CLEARANCE WOULD DEENERGIZE THE DETECTORS. THE DETECTORS WERE FOUND TO BE UNPOWERED DURING A FIRE SYSTEM CHECK AT 1600 HOURS ON 6-30-86. THE DETECTORS WERE THUS INOPERABLE FOR A PERIOD LONGER THAN THE 14 DAYS PERMITTED BY THE TECH SPEC ACTION STATEMENT. THEREFORE, THIS REPORT IS BEING SUBMITTED UNDER THE PROVISIONS OF 10 CFR 50.73.A.2.I.B, AND TECH SPEC 6.9.2. THE CLEARANCE WAS REMOVED AND THE DETECTOR POWER RESTORED ON 6-30-86. THE OPERATING MANUALS WERE REVISED TO INDICATE THE DETECTOR POWER SUPPLY, AND AN ONGOING REVIEW OF CONTROL ROOM DRAWINGS WILL UPDATE THE PRINTS.
Beaver Valley 1	05/24/1997	01/05/1998	Unsealed Penetration in Main Steam Valve Cubicle Floor Abstract: On May 24, 1997, a degraded penetration seal (MSV-752-1910) associated with a 3/4 inch drain line located in the floor of the Unit 1 main steam valve cubicle was discovered in the field. However, actions to address the degraded floor penetration seal were not taken until September 9, 1997. At that time an hourly fire watch was established. Installation of a hydrostatic and fire rated seal was completed on October 8, 1997. On December 5, 1997, an engineering evaluation concluded that in the event of a feedwater line break, water could drain through the degraded floor penetration seal and enter the pump room below, causing a temperature rise in the area that could disable the motor driven auxiliary feedwater pumps. In addition, the turbine driven auxiliary feedwater pump may also be unavailable in the event of a feedwater line break. The degraded floor penetration seal together with the postulated event, could cause three auxiliary feedwater pumps to become inoperable. Since this condition is outside the design basis of the plant, and could have prevented the fulfillment of the safety function of systems that are needed to mitigate the consequences of an accident, it is reportable in accordance with 10 CFR 50.73(a)(2)(ii)(B), and 10 CFR 50.73(a)(2)(v). The cause of the penetration seat degradation could not be

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Beaver Valley 1	07/05/1997	08/04/1997	Potential for Spurious Seismically Induced Fire Protection System Activation Affecting Emergency Diesel Generators Abstract: On July 5, 1997, at 1930 hours with Beaver Valley Power Station (BVPS) Unit 1 in Mode 5 at 0% reactor power level, it was determined that a condition existed that could adversely affect the ability of both Emergency Diesel Generators (EDG) (EE-EG-1 and EE-EG-2) to function due to a seismic event. Based on Engineering reviews performed as part of USI A-46, "Seismic Qualification of Equipment in Operating Plants," it was determined that certain Fire Protection System components which are part of the control circuitry for the carbon dioxide fire suppression system for the EDG rooms potentially could spuriously operate during a seismic event. This would result in carbon dioxide discharging into both EDG rooms and adversely affecting the EDGs' ability to function, if called upon, due to air displacement by carbon dioxide flooding. The BVPS Unit 1 UFSAR Section 9.10.1 states, "The fire protection system is designed on the basis that rupture or inadvertent operation will not significantly impair the safety capability of structures, systems, or components important to safety or designed to Seismic Category 1 requirements." Immediately following this determination, both EDGs were declared inoperable, until at 1935 hours on July 5, 1997 when the carbon dioxide fire suppression system
Beaver Valley 1	03/29/1998	04/28/1998	Missing Fire/Flood Seal in Main Steam Valve Room Shakespace Abstract: On March 29, 1998, with Unit 1 in Mode 5, a Unit 1 operator noticed during a plant tour a hole/tear in the vertical seal membrane at the intersections of the exterior of the containment wall and a wall separating the main steam valve room and an adjacent ventilation room on the same floor level. This wall between the main steam valve room and the adjacent ventilation room is an isolation boundary between two separate fire zones within BVPS Unit 1. Subsequent visual inspection determined that the requisite fire retardant material inside of the wall shakespace fire seal was missing as seen through the identified hole. Continued visual inspection from underneath the main steam valve room on a lower floor level identified that the shakespace fire/flood seal between the main steam valve room floor (against the containment wall) and the safeguards room below the main steam valve room was also not adequate. This floor shakespace condition which allows a path way for water to flow from a postulated main feedwater line break in the main steam valve room to the safeguards room below was determined to be able to disable both motor driven auxiliary feedwater pumps due to exceeding the pump's equipment qualification temperature. The steam driven auxiliary feedwater pump is assumed disabled by the postulated main feedwater line break event. Since the recently identified condition was determined to be a condition outside of the plant design basis and could have prevented the fulfillment of the safety function of systems needed to mitigate the consequences of an accident, it is reportable pursuant to 10 CFR 50.73(a)(2)(ii)(B) and 10 CFR 50.73(a)(2)(v). A sample inspection of similar applications on Unit 2 was
Beaver Valley 1	03/17/1999	04/14/1999	Inadequate Pre-Fire Plan Procedure Guidance Resulting in Potential Damage to the Charging / High Head Safety Injection (HHSI) Pumps Abstract: On March 17, 1999 it was determined that Unit 1 was outside the design basis requirements of the Fire Protection Program required by 10 CFR 50 Appendix R, Section III.G, as a result of identified inadequacies in the Unit pre-fire plan procedures. In the event of a fire in select fire areas, this condition could have led to damage to the Charging/High Head Safety Injection (HHSI) pumps. This condition was discovered during an extent of condition review following a similar Unit 2 discovery on March 5, 1999 (reported in LER 2-99-002-00). At approximately 1528 hours on March 17, 1999, notification of this discovery was made pursuant to 10 CFR 50.72(b)(1). The apparent cause is that architect engineer and Duquesne Light Company personnel, who jointly developed the list of safe shutdown equipment for the Appendix R Report in 1982, failed to account for periods of plant operation where the Volume Control Tank operating pressure could initially exceed the static head pressure of the Refueling Water Storage Tank. This error apparently led to the procedure inadequacies, due to resulting inadequate consideration of required operator actions. Unit 1 compensatory actions, including issuance of a basis for continued operation on March 26, 1999, were implemented to preclude potential damage to the Charging/HHSI pumps. Procedure changes will be made to address the issues identified in this LER. The issues identified in this LER will be reviewed against the reporting criteria of 10 CFR 21.
Beaver Valley 1	02/05/2003	05/30/2003	Potential Overpressurization of Unit 1 Cable Vaults if a CO2 Discharge Were to Occur Results in Unanalyzed Condition Abstract: On February 5, 2003, during an extent of condition review of the potential to over-pressurize a fire area if the Carbon Dioxide (CO2) fire protection system discharges, it was discovered that the East and West Cable Vaults fire areas at Beaver Valley Unit 1 (BV-1) were susceptible to this concern. If the total flooding CO2 fire suppression systems in the East and West Cable Vaults were discharged, the resultant pressure transient could cause the fire barriers within the subject areas to be structurally challenged, causing the fire barriers to be breached. Losing the fire barrier integrity could result in a decrease in C02 concentration in the area, which would reduce the effectiveness of the CO2 system to extinguish the fire. If the fire were not extinguished it could result in the potential for a postulated fire in one fire area to spread to an adjacent fire area. This would invalidate the assumptions made in the BV-1 10 CFR 50 Appendix R fire protection safe shutdown analysis and thus represents an unanalyzed condition. As a compensatory measure, the automatic CO2 suppression systems in the East and West Cable Vaults were disabled on February 5, 2003 at 2150 hours in response to the initial identified issue and a fire watch was established in the affected areas. The fire protection system alarm function remained enabled in order to provide notification in the Control Room if a fire would occur. These measures eliminated the potential for a CO2 overpressure transient condition to occur in the affected areas.
Beaver Valley 1	11/02/2011	12/20/2011	Use of Liquid Tight Flexible Conduits Installed in Fire Barrier Penetrations Results in Unanalyzed Configurations Abstract: On November 2, 2011, the Beaver Valley Power Station NFPA 805 transition team personnel identified that samples taken from the outer coating from certain liquid tight flexible conduits installed through fire barrier penetrations did not exhibit expected flame resistant characteristics and were not in conformance with documented previously tested fire barrier configurations at Beaver Valley Power Station Unit 1 (BVPS-1). The liquid tight flexible conduits installed through fire barrier penetrations are non-conforming with the provisions of NRC Branch Technical Position (BTP) APCSB 9.5-1. The BVPS-1 plant areas that require fire barriers for train separation for safe shutdown equipment are potentially affected, except for the reactor containment and the river water main intake structure. The concern is whether the liquid tight coating could ignite and spread the fire to the opposite side of the barrier. The apparent cause of this latent issue is inadequate review of the accumulative effects from all field changes. Specifically, subsequent installation of otherwise qualified fire seals did not consider potential compromise by the jacket material of the previously installed liquid tight flexible conduit acting as a penetrant. Following identification of this issue, compensatory actions were promptly implemented to provide an adequate level of protection for redundant equipment. These include a twice per twelve hour shift fire watch patrol in the affected plant areas, and the restrictions for performing hot work in the vicinity of the affected penetrations. In addition, transient combustible materials are prohibited in affected plant areas from being stored adjacent to electrical penetrations fire seals or adjacent to conduit within five feet of an electrical penetration fire seal as a compensatory action.
Big Rock Point	08/25/1986	10/03/1986	INADEQUATE PROCEDURE CAUSING UNTIMELY INITIATION OF FIRE WATCH PATROL Abstract: POWER LEVEL - 000%. TECHNICAL SPECIFICATION 12.3.7.12 REQUIRES THAT, WHEN ONE OR MORE FIRE BARRIERS PROTECTING SAFETY-RELATED AREAS ARE NON-FUNCTIONAL AND THE AREA OF THE AFFECTED BARRIER(S) IS MONITORED BY OPERABLE FIRE DETECTION INSTRUMENTATION, A FIRE WATCH PATROL BE ESTABLISHED WITHIN ONE HOUR AND INSPECT THE AFFECTED AREA(S) AT LEAST ONCE PER HOUR. CONTRARY TO THIS REQUIREMENT, ON OCTOBER 8, 1985 FOLLOWING PERFORMANCE OF SURVEILLANCE TEST, TR-69 (FIRE SYSTEM INSPECTION), A FIRE BARRIER WAS DETERMINED TO BE NON-FUNCTIONAL, HOWEVER, THE FIRE WATCH PATROL WAS NOT ESTABLISHED WITHIN ONE HOUR. THIS DEVIATION WAS DISCOVERED DURING A QUALITY ASSURANCE AUDIT OF THE FIRE PROTECTION PROGRAM AND DOCUMENTED TO PLANT MANAGEMENT ON AUGUST 25, 1986. PROCEDURAL INADEQUACY IN NOT PROVIDING A DESCRIPTION OF WHAT CONSTITUTED A NON-FUNCTIONAL BARRIER. SHIFT SUPERVISORS DID NOT REALIZE THAT THE MINOR DEFICIENCIES FOUND DURING THE TEST CONSTITUTED A NON- FUNCTIONAL FIRE BARRIER. A CHANGE TO TR-69 HAS BEEN INITIATED TO PROVIDE IMPROVED DEFINITION/GUIDANCE TO AVOID RECURRENCE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Big Rock Point	07/20/1989	04/05/1990	DISCOVERED DEFECTS IN FIRE PENETRATION SEALS RESULTING IN TECH SPEC VIOLATION Abstract: POWER LEVEL - 000%. BIG ROCK POINT TECH SPEC 3.7.12 REQUIRES THAT PENETRATION FIRE BARRIERS BE OPERATIONAL AT ALL TIMES. CONTRARY TO THE ABOVE, DURING PERFORMANCE OF THE SURVEILLANCE TEST REQUIRED BY TECH SPEC 4.7.12, TWO BARRIERS WERE DISCOVERED WITH SMALL HOLES ON JULY 19, 1989. UPON DISCOVERY, A FIRE WATCH/PATROL WAS ESTABLISHED PER THE REQUIREMENTS OF TECH SPEC 3.7.12 ACTION 'A' AND 'B'. REPAIRS WERE COMPLETED LATER ON JULY 19, 1989 AND THE FIRE WATCH/PATROL WAS TERMINATED. IN ADDITION, ON AUGUST 14, 1989, DURING A QA FIRE PROTECTION AUDIT PLANT WALKDOWN, A FIRE BARRIER PENETRATION SEAL WAS FOUND TO BE DEFICIENT. UPON DISCOVERY, A FIRE WATCH/PATROL WAS ESTABLISHED PER TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT UNTIL REPAIRS ARE COMPLETED. CAUSE OF THE DEFICIENCY WAS ATTRIBUTED TO THE FOLLOWING: 1) FAILURE OF THE INITIAL FIRE BARRIER DESIGN REVIEW TO IDENTIFY A BREACH WHICH WAS LOCATED BEHIND A VENTILATION FAN AND A BREACH IN THE BARRIER BETWEEN THE ELECTRICAL EQUIPMENT ROOM AND THE COMPUTER ROOM. 2) INADEQUATE MAINTENANCE CONTROLS WHICH RESULTED IN A FAILURE TO REPAIR A PENETRATION AFTER A MODIFICATION.
Big Rock Point	08/16/1989	09/15/1989	Technical Specification Violation - Omission of Fire Detector Testing Abstract: POWER LEVEL - 067%. BIG ROCK POINT TECH SPEC 4.3.3.8.1A REQUIRES THAT THE FIRE DETECTION INSTRUMENTS LISTED IN TABLE 3.3-8 OF THE BIG ROCK POINT TECH SPECS ARE TO BE DEMONSTRATED OPERABLE ONCE PER SIX (6) MONTHS. CONTRARY TO THIS REQUIREMENT, DURING PERFORMANCE OF A QA FIRE PROTECTION AUDIT ON 8/16/89, IT WAS DISCOVERED THAT DETECTORS IN THE EMERGENCY DIESEL GENERATOR ROOM AND THE SCREENWELL AND PUMP HOUSE AREA WERE NOT TESTED WITHIN THE SIX (6) MONTH INTERVAL. UPON DISCOVERY, THE DETECTORS WERE DECLARED INOPERABLE AND A FIRE WATCH/PATROL WAS ESTABLISHED PER THE REQUIREMENTS OF TECH SPEC 3.3.3.8 ACTIONS A. AND B. THE DETECTORS WERE TESTED AND DECLARED OPERABLE LATER ON 8/16/89 AND THE FIRE WATCH/PATROL WAS TERMINATED. CAUSE OF THE DEFICIENCIES WAS ATTRIBUTED TO THE LACK OF UNDERSTANDING OF PROCEDURAL REQUIREMENTS INVOLVING FIRE DETECTOR TESTING.
Big Rock Point	12/06/1993	01/03/1994	INADVERTENT REMOVAL OF DIESEL FIRE PUMP FROM SERVICE DURING FACILITY POWER OPERATION Abstract: POWER LEVEL - 094%. On December 6, 1993, at approximately 1045, the diesel fire pump fuel line was punctured. An inspection hole was being drilled in the floor near the fire pump to accommodate a zebra mussel observation camera system. The fuel line was not shown on the plant drawings and was not detected by radar equipment used to map the floor. The pump was immediately declared inoperable and a Limiting Condition of Operation (LCO) entered. The NRC Operations Center was notified by 1430 of the event. Repairs were performed within the window of the Technical Specification LCO, and the pump returned to service on December 7, 1993, at 0528. The root cause of the event has been attributed to human error, incorporating several causal factors that address protective equipment use and management oversight. Corrective actions will include revisions to plant procedures and safety standards to address the use of drill stop boxes; and a generic review of safety evaluations will be performed.
Big Rock Point	06/06/1995	06/30/1995	BATTERY ROOM FIRE DOOR BLOCKED OPEN DURING MONTHLY BATTERY READINGS Abstract: Big Rock Point Technical Specification 3/4.7.12 requires that 'all penetration fire barriers including fire doors and fire dampers protecting safety-related areas shall be operable at all times'. Contrary to the above, on June 6, 1995 at 1618 hours, an auxiliary operator performing routine rounds discovered the fire door between Uninterruptible Power Supply (UPS)-B and UPS D battery rooms blocked open. The wedge was removed and the door was closed by the operator. A review of the days work schedule indicated that battery readings had been completed by maintenance workers in accordance with a monthly surveillance requirement at approximately 1300 hours. The root cause of this event has been contributed to human performance. Inattention to detail resulted in the undesirable performance; and was not willful. The individuals involved were counseled by the department manager.
Braidwood 1	10/21/1986	04/28/1987	Violated Fire Watches Due to Personnel Errors Abstract: POWER LEVEL - 000%. ON 10/21/86 AND ON 11/7/86 A CONTINUOUS FIRE WATCH WAS FOUND INATTENTIVE. EMPLOYMENT WAS TERMINATED FOR BOTH INDIVIDUALS INVOLVED. ALL FIRE WATCHES RETRAINED ON PROPER MANNING OF POST. UNANNOUNCED ROUNDS OF POSTS BY SUPERVISORS TO ENSURE ATTENTIVENESS. ON 10/22/86 A CONTINUOUS FIRE WATCH WAS ORDERED TO LEAVE HIS POST BY A GUARD WHO HAD MISINTERPRETED HIS INSTRUCTIONS. SECURITY HAS BEEN RETRAINED ON THE INSTRUCTIONS AND TOLD THAT FIRE WATCH POSTS ARE NOT TO BE EVACUATED. ON 11/01/86 ALL CONTINUOUS FIRE WATCHES EVACUATED THEIR POSTS DUE TO EVACUATION FOLLOWING A BOMB THREAT. FIRE WATCHES GIVEN INSTRUCTIONS ON CONDITIONS REQUIRING EVACUATION. ON 11/17/86 AN HOURLY FIRE WATCH PATROLMAN FAILED TO PATROL HIS ENTIRE ROUTE. THE INDIVIDUAL'S EMPLOYMENT WAS TERMINATED. ON 11/25/86 AN HOURLY FIRE WATCH WAS NOT PERFORMED DUE TO MISCOMMUNICATION. INDIVIDUALS HAVE BEEN INSTRUCTED ON IMPORTANCE OF FIRE WATCHES AND PROVIDING SUPPORT. ON 11/29/86 AN HOURLY FIREWATCH PATROLMAN FAILED TO PATROL HIS ENTIRE ROUTE BECAUSE HE WAS DISORIENTED. THE INDIVIDUAL WAS RETRAINED. ON 12/2/86 A FIRE WATCH PATROL WAS NOT COMPLETED WITHIN ONE HOUR BECAUSE THE PREVIOUS PATROL WAS COMPLETED AHEAD OF SCHEDULE. THE PREVIOUS PATROLMAN WAS RETRAINED. NO PREVIOUS OCCURRENCES.
Braidwood 1	01/20/1987	12/18/1989	Missed Hourly and Continuous Fire Watches Due to Miscommunications, Inattentiveness, and Cognitive Personnel Error of Contractor Personnel Abstract: POWER LEVEL - 000%. THESE ARE THE ADDITIONAL EVENTS ASSOCIATED WITH INATTENTIVE FIRE WATCHES IN 1987: AT 0400 ON 3/28/87 THE ROUTE 4 HOURLY FIRE WATCH PATROL WAS DETAINED BY RADIATION CHEMISTRY PERSONNEL DUE TO NOT SIGNING THE LATEST RADIATION WORK PERMIT. THE WIRE WATCH WAS UNAWARE OF THE REQUIREMENT TO NOTIFY RADIATION CHEMISTRY OF THE TIME REQUIREMENTS ASSOCIATED WITH FIRE WATCH DUTIES. AT 0600 ON 3/31/87 THE ROUTE 4 HOURLY FIRE WATCH PATROL WAS WAITING TO BE RELIEVED AT THE STARTING POINT OF THE ROUTE, AND DID NOT START THE ROUTE AT 0605. THE CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR IN THAT THE FIRE WATCH FAILED TO RESTART THE ROUTE WHILE AWAITING WATCH RELIEF. AT 1355 ON 5/10/87 AND AT 0555, ON 5/14/87 ARE TWO CASES OF FIRE WATCH INATTENTIVENESS. THESE EVENTS WERE CAUSED BY COGNITIVE PERSONNEL ERRORS DUE TO INATTENTIVENESS TO DUTY. THE CORRECTIVE ACTIONS WERE AS FOLLOWS: FOR THE MARCH 28 AND MARCH 31, 1987 OCCURRENCES THE FIREWATCH PERSONNEL WERE RETRAINED REGARDING ACTIONS REQUIRED BY THE FIRE WATCH. FOR THE 5/10 AND 5/14/87 OCCURRENCES THE FIRE WATCH PERSONNEL WERE TERMINATED. PREVIOUS OCCURRENCES OF FIRE WATCH INATTENTIVENESS ARE DOCUMENTED IN 50-456/86-001-01.
Braidwood 1	02/13/1987	03/18/1987	Fire Detection Zone 1D-8 Inoperable due to Unauthorized Removal of a Detector Abstract: POWER LEVEL - 000%. ON 2-17-87 AT ABOUT 1035 HRS THE OPERATING DEPARTMENT WAS INFORMED THAT DETECTION ZONE 1D-8, LOCATED IN THE 401 ELEVATION OF THE AUXILIARY BUILDING, WAS IN TROUBLE ALARM. PER TECH SPEC 3.7.11, FIRE RATED ASSEMBLIES, A CONTINUOUS FIRE WATCH WAS REQUIRED TO BE ESTABLISHED IN THE AREA WITHIN 1 HR AFTER THE DETECTION ZONE BECAME INOPERABLE, AS A RESULT OF INOPERABLE FIRE DETECTION EXISTING ON 2 SIDES OF FIRE WALLS IN THE AREA WHICH CONTAINED INOPERABLE FIRE SEALS. A REVIEW OF THE AVAILABLE MAIN CONTROL ROOM ALARM HISTORY INDICATES THAT THE ALARM WAS RECEIVED ON 2-13 AT 1606 HRS. NINETY-ONE HRS AND 39 MINS PASSED BEFORE A CONTINUOUS FIRE WATCH WAS ESTABLISHED IN THE AREA, EXCEEDING THE LCO OF TECH SPEC 3.7.11. CAUSE OF THE TROUBLE ALARM WAS DUE TO UNAUTHORIZED REMOVAL OF A DETECTOR IN DETECTION ZONE ID-8 BY UNIDENTIFIED PERSONNEL. INADEQUATE CONTROL ROOM RESPONSE TO THE DETECTION ZONE TROUBLE ALARM WAS DUE TO COGNITIVE PERSONNEL ERROR. THE 1D-8 DETECTION ZONE WAS REPAIRED AND RETURNED TO SERVICE. SHIFT OPERATING PERSONNEL WILL BE COUNSELED ON THE SERIOUS NATURE OF THE EVENT AND THE IMPORTANCE OF A THOROUGH RESPONSE TO ANNUNCIATORS. THERE HAVE BEEN NO PREVIOUS OCCURRENCES.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Braidwood 1	03/12/1987	04/10/1987	Power Supply Cooling Fan Failure Results in Loss of Control Room Fire Protection Zone Annunciators Abstract: POWER LEVEL - 000%. ON 3-12 AT 1900 HRS CONTROL ROOM OPERATING PERSONNEL NOTED AN UNUSUAL NOISE EMITTING FROM MAIN CONTROL ROOM PANEL 1-M09J. THE PANEL DE-ENERGIZED RESULTING IN A LOSS OF UNIT 1 FIRE ZONE DETECTION AND SUPPRESSION CAPABILITY ASSOCIATED WITH THE PANEL. PER TECH SPECS CONTINUOUS FIRE WATCHES WERE REQUIRED TO BE ESTABLISHED IN THE AFFECTED AREAS WITHIN 1 HR. DUE TO THE NUMBER OF AREAS REQUIRING FIRE WATCHES AND THE LIMITED NUMBER OF AVAILABLE FIRE WATCH PERSONNEL, FIRE WATCH COVERAGE WAS NOT SUFFICIENTLY IN PLACE WITHIN THE 1 HR TIME LIMIT. THIS CAUSED THE LCO FOR THE APPLICABLE TECH SPECS TO BE VIOLATED. WITHIN 1 HR ALL AVAILABLE FIRE WATCH PERSONNEL WERE POSTED IN THE AUX. BLDG. WITHIN 2-1/2 HRS THE AFFECTED PANEL WAS ENERGIZED USING A TEMPORARY POWER SUPPLY. WITHIN 6 HRS AFTER THE EVENT, SUFFICIENT FIRE WATCHES WERE IMPLEMENTED. CAUSE OF THE MCR PANEL DE-ENERGIZING WAS A FAULTY POWER SUPPLY COOLING FAN WHICH FAILED TO PROVIDE ADEQUATE COOLING TO THE POWER SUPPLY WHICH ULTIMATELY FAILED. THE PANEL POWER SUPPLY AND THE ASSOCIATED COOLING FAN WAS REPAIRED AND SATISFACTORILY TESTED. NO PREVIOUS OCCURRENCES.
Braidwood 1, Braidwood 2	09/24/1996	10/24/1996	Management Deficiencies Leading To Not Testing The Installation Of The Roll-Up Fire Door Modification In A Timely Manner Resulted In An Unanalyzed Condition Abstract: During a surveillance of fire doors, four roll-up doors that separate areas containing safety related the Turbine Building failed to fully close under full ventilation conditions. The was reperformed with the ventilation secured and the doors closed completely. A subsequent review by System Engineering indicated that the doors were not tested following installation. The roll-up fire door installation was a plant design change for Unit one and initial construction for Unit Two. Immediate corrective actions were to close and secure the doors. Additional testing was performed and demonstrated that the doors would: a) close completely under minimum ventilation, b) close partially under full ventilation and complete closing when ventilation was secured. The investigation concluded that the cause of this event was a Management Deficiency resulting in not testing the doors in a timely manner. Corrective actions include correcting identified door deficiencies, performing the appropriate door testing, revising relevant portion of the surveillance procedure, revising the modification process and reviewing other open modifications for similar problems. This event has minimal safety consequences.
Braidwood 1, Braidwood 2	03/04/2016	04/28/2016	Auxiliary Feedwater Diesel Intake Design Deficiency Related to Turbine Building High Energy Line Break Resulted in an Unanalyzed Condition due to Insufficient Validation of Vendor Analysis Inputs Abstract: On March 4, 2016, during the NRC Component Design Basis Inspection, a concern was raised regarding why it was acceptable for the diesel driven auxiliary feedwater (AF) pump engine combustion air intake to be located in the turbine building, a non-safety related structure. On March 6, 2016, the additional evaluations that were completed determined that the existing configuration did not adequately support diesel engine operation with high energy line break (HELB) conditions in the turbine building, and at 2000 hours, Operations entered Technical Specification Limiting Condition for Operation 3.7.5, "Auxiliary Feedwater (AF) System," Condition A, "One AF train inoperable," for one train (B-train) of AF inoperable for both Units 1 and 2. The AF trains were declared operable following a corrective action to install a temporary configuration change to provide engine combustion air intake from the auxiliary building. The cause of the event was insufficient validation of vendor analysis inputs in 1993 while reviewing the AF diesel engine's ability to function during a turbine building HELB event. The corrective actions planned are to develop and install a permanent modification to re-route the AF diesel engine intakes for Unit 1 and 2.
Browns Ferry 1	05/08/1980	06/05/1980	A Smoke Detector in Reactor Building Alarmed and would not Clear Abstract: During normal operation a smoke detector in reactor building alarmed and would not clear. Alarm would have masked signals from detectors required to be operational by T.S. previous occurrence/ BFRO-50-259/79015. The cause was increased detector sensitivity. The kidde ionization detector model CPD 1201 was replaced. A fire watch was established until repairs were made.
Browns Ferry 1	10/15/1980	11/13/1980	Valve O-FCV 39-11 on the Fire Protection System had an Actuating Piston Seal Leak Abstract: EMI-27 was being performed when it was discovered that valve O-FCV 39-11 on the fire protection system had an actuating piston seal leak. The piston cup was worn out due to natural aging. The part was replaced.
Browns Ferry 1	08/22/1981	09/18/1981	The Fire Watch which was not Posted in the Immediate Vacinity of Welding Operations Abstract: While modification of torus was in progress, fire watch was not posted in the immediate vicinity of welding operations. A fire occurred and was not extinguished as rapidly as it would have been had the fire watch been posted in the immediate vicinity. Previous similar event: BFRO-50-259/76005W. The cause is personnel error. Fire watches perstandard practice. The responsible personnel were given appropriate disciplinary action.
Browns Ferry 1	08/23/1982	04/20/1984	Update on Cable Tray Fire Situation Failures Abstract: During normal operation while performing SI 4.11.a.1.g (Building Hydraulic Performance Verification), it was determined that unit 1, station cable tray fixed spray system did not meet Tech Spec requirements as shown in table 3.11.a. Station was retested within following 18 months (Jan 1984), and failed again. A firewatch was established per Tech Spec 3.11.a.2. There are no redundant systems. Cause in each case was apparent restriction in supply line strainer (Fisher Governor Fre-Flo 260C) due to buildup of silt and clam shells. Strainer was cleaned, flushed and satisfactorily retested. Strainers are routinely inspected and cleaned, and no problems have been detected. Station II strainer will be removed and cleaned every month.
Browns Ferry 1	01/26/1983	02/24/1983	Power Loss on Sme Smoke Detectors Abstract: During normal operation, a trouble alarm came in for control bay elevation 593 fire protection panel 1-25-325 zone 14. Since several detectors in this zone were affected, Tech Spec 3.11.c.1 was not satisfied. A patrolling fire watch was established while the plant was out of service (approx. 3 1/2 hours) per Tech Spec 3.11.c.2. There are no redundant systems. Exact cause could not be determined since alarm cleared during troubleshooting. A broken nylon insulating screw was found which allowed a Kidde CPD 1201 detector to short-circuit to the mounting base during troubleshooting. The supply breaker tripped and upon reset all alarms cleared. Screw was replaced. No further recurrence control planned.
Browns Ferry 1	04/10/1983	05/06/1983	Smoke Detector Alarms Abstract: During normal operation, smoke detector XS-39-66xm alarmed due to water leaking on it. The exact source could not be determined. This alarm could have masked signals from other detectors which are required to be operable by Tech Spec 3.11.C.1. The system was returned to service in approximately four hours. The cause of this event was water in the detector. The detector, Kidde CPD-1201, was replaced and functionally tested per SI 4.11.C.1 & 5. A fire watch was established per Tech Spec 3.11.c.2. This smoke detector will be relocated so as to avoid leaking from upper elevation. Work will be complete by 5/17/83.
Browns Ferry 1	06/12/1983	07/11/1983	Control Bay Smoke Detectors Lose Power Abstract: During unit 1 refueling outage and normal operation of units 2 and 3 a trouble alarm came in for control bay elevation 593 fire protection panel 1-25-325, zone 14. The trouble was due to power loss to some of the 16 smoke detectors in that zone. Since several detectors in this zone were affected, Tech Spec 3.11.c.1 was not satisfied. A fire watch was established while the panel was out of service. There are no redundant systems. The cause of the trouble alarm was loose wires connected to smoke detector XS-39-104BA resulting loss of power to several additional detectors connected to XS-39-104BA. The terminal block screws for the wires were tightened to restore power and the trouble alarm cleared. No further recurrence control is planned.
Browns Ferry 1	06/27/1983	07/21/1983	Control Bay Smoke Detectors Lose Power Abstract: During unit 1 refueling outage and normal operation of units 2 and 3 a trouble alarm came in for control bay elevation 593 fire protection panel 1-25-325, zone 14. The trouble was due to power loss to some of the 16 smoke detectors in that zone. Since several detectors in this zone were affected, Tech Spec 3.11.c.1 was not satisfied. A fire watch was established while the panel was out of service. There are no redundant systems. A loose wire connected to smoke detector XS-39-104BE resulted in loss of power to several detectors connected to XS-39-104BE. The terminal block screw for the wire was tightened to restore power and clear trouble alarm. All loose detector terminal connections in this zone were tightened. No further recurrence control is planned.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Browns Ferry 1	06/29/1983	07/28/1983	Twelve Smoke Detectors Lose Power Abstract: During unit 1 refueling outage and normal operation of units 2 and 3, a trouble alarm came in for reactor building elevation 621 fire protection panel 1-25-303, zones W and X. The trouble was due to power loss to the 12 smoke detectors in these zones. Since all detectors in these zones were affected, tech spec 3.11.c.1 was not satisfied. There are no redundant systems. A spring loaded 8a fuse holder released on the Kidde P/N 601184 panel causing loss of power to detectors. The fuse and fuse holder were reinstalled and the trouble alarm cleared. Panel door was found open, preventing determination of the reason for fuse release. Panel door lock was repaired. No further recurrence control is planned.
Browns Ferry 1	09/12/1983	10/11/1983	Reactor Building Heat Detector Relay Found Inoperable Abstract: During unit 1 refueling outage and normal operation of units 2 and 3, while performing SI 4.11.c.3 & 4 on Reactor Bldg. E1. 593 fixed spray zone 1E, an inoperable heat detector relay was discovered. This would have made the automatic initiation logic for the zone inoperable, therefore Tech Spec 3.11.a.1.b was not satisfied. A fire watch was established while the zone was out of service. There are no redundant systems. An inoperable Potter-Brumfield part number R10-E3801-3 relay would have prevented automatic initiation of fixed spray zone 1E. The relay was replaced. SI 4.11.C.3&4 was successfully completed on 8/3/83 and further test was completed 9/12/83. SI revision and additional training will be completed by 11/1/83.
Browns Ferry 1	05/05/1984	08/31/1984	Failure to Meet Design Basis for Cable Separation Abstract: POWER LEVEL - 100%. BROWNS FERRY'S FSAR SECTIONS 10.11 AND 8.9, AND THE BROWNS FERRY FIRE RECOVERY PLAN REQUIRE THE CABLES FOR THE RELIEF VALVES ASSIGNED TO THE AUTOMATIC DEPRESSURIZATION SYSTEM TO BE SEPARATED FROM THE CABLES FOR NONAUTOMATIC DEPRESSURIZATION SYSTEM RELIEF VALVES, AND THAT THE CABLES FOR THE HPCI SYSTEM BE SEPARATED FROM THE CABLES FOR THE AUTOMATIC DEPRESSURIZATION SYSTEM. DUE TO DESIGN ERRORS DURING THE RECOVERY MODIFICATION AFTER THE 1975 BROWNS FERRY FIRE, THIS SEPARATION WAS NOT FULLY ACHIEVED. DURING A LATER MODIFICATION, THE SEPARATION WHICH HAD BEEN ACHIEVED WAS DEGRADED. THIS ERROR WAS FOUND BY TVA'S ENGINEERING DESIGN GROUP DURING THE 10 CFR 50, APPENDIX R EVALUATION AND WAS REPORTED BY A NONCONFORMANCE REPORT. IMMEDIATE CORRECTIVE ACTION WAS TO PLACE FIRE WATCHES IN THE AREAS OF INADEQUATE SEPARATION, PLACE INTO EFFECT ADMINISTRATIVE CONTROLS REGARDING RELIEF VALVE OPERABILITY, PERFORM AN INTERIM MODIFICATION TO UNIT 2, AND ISSUE CHANGES TO OPERATING INSTRUCTIONS REGARDING A FIRE IN THE AFFECTED AREAS. DESIGN CHANGE REQUEST P-3004 HAS BEEN INITIATED TO SEPARATE THE HPCI AND AUTOMATIC DEPRESSURIZATION SYSTEM DIV 1 CABLES. ALSO, SAFETY RELIEF VALVE CONTROL AND POWER CABLES WILL BE SEPARATED TO MEET APPENDIX R REQUIREMENTS AND TO ASSURE THAT 4 SAFETY RELIEF
Browns Ferry 1	08/14/1984	09/13/1984	Overpressurization of Core Spray Piping Abstract: POWER LEVEL - 100%. WITH THE REACTOR OPERATING AT 100 PERCENT STEADY STATE POWER, A PERSONNEL ERROR DURING THE PERFORMANCE OF SURVEILLANCE TEST 4.2.B.39-A, 'CORE SPRAY LOGIC TEST,' ALLOWED THE INBOARD INJECTION VALVE, FCV 75-25, TO OPEN. PREVIOUS MAINTENANCE TO THE SOLENOID WHICH CONTROLS THE AIR TO THE ACTUATOR OF THE INBOARD ISOLATION VALVE (A TESTABLE CHECK VALVE) CAUSED THE ACTUATOR TO HOLD THE CHECK VALVE IN THE OPEN POSITION. THIS ALLOWED A BACKFLOW OF REACTOR COOLANT INTO LOOP I OF THE CORE SPRAY SYSTEM AT THE SYSTEM RELIEF VALVE LETDOWN FLOW RATE. THIS VALVE ALIGNMENT ALSO PRESSURIZED THE CORE SPRAY PIPING TO NEAR REACTOR PRESSURE AND HEATED PORTIONS OF THE PIPING TO A MAXIMUM OF 400F. LOOP I WAS ISOLATED WHICH PLACED THE UNIT IN A 7-DAY LIMITING CONDITION OF OPERATION. THE UNIT WAS SHUT DOWN AND THE SOLENOID REPAIRED. THE SYSTEM AND APPURTENANT EQUIPMENT WERE INSPECTED AND NO DAMAGE WAS NOTED. ENGINEERING EVALUATION OF THE AFFECTED PIPING AND SUPPORTS INDICATED THAT THE TRANSIENT DID NOT AFFECT SYSTEM INTEGRITY FOR CONTINUED USE.
Browns Ferry 1	08/29/1984	09/25/1984	Fire Door Structural and Fire Rating Integrity Degraded Abstract: POWER LEVEL - 100%. ON 8-29-84, ENGINEERING DESIGN DETERMINED THAT THE STRUCTURAL INTEGRITY OF 12 FIRE DOORS HAD BEEN REDUCED. THIS REDUCTION OF DOOR INTEGRITY WAS CAUSED BY MAINTENANCE AND MODIFICATIONS TO THE DOORS AND DOOR FRAMES. THE DOORS IDENTIFIED WILL BE REPLACED AS SOON AS NEW DOORS ARE RECEIVED ON SITE AND A CONTINUOUS ROVING FIRE WATCH WILL REMAIN IN FORCE UNTIL THE DOORS HAVE BEEN REPLACED, AS AN INTERIM CORRECTIVE MEASURE.
Browns Ferry 1	11/14/1984	12/11/1984	Reactor Protection System Wiring Error Abstract: POWER LEVEL - 100%. DURING NORMAL OPERATION, TVA'S ENGINEERING AND DESIGN GROUP DISCOVERED DURING A SCHEMATIC REVIEW OF THE RPS THAT 9 WIRES WERE NOT RUN IN CONDUIT AS REQUIRED. THIS COULD LEAD TO A SINGLE FAILURE PROHIBITING THE RPS SCRAM CAPABILITY BY NORMAL MEANS. A FIRE WATCH WAS IMMEDIATELY POSTED ON THE ONLY OPERATING UNIT FOR THE 48 HR PERIOD IT TOOK TO INSTALL THE WIRES IN CONDUIT. UNIT 3 WAS ALSO CORRECTED WITH UNIT 2 TO BE DONE PRIOR TO RESTART. NO FURTHER CORRECTIVE ACTION IS REQUIRED.
Browns Ferry 1	11/22/1985	01/31/1986	Open Fire Barrier Penetrations Abstract: POWER LEVEL - 000%. DURING MAINTENANCE ACTIVITIES, A SPARE SLEEVE PENETRATION IN A FIRE BARRIER WAS FOUND TO BE UNSEALED. THE PENETRATION WAS A TWO-INCH HORIZONTAL SLEEVE THROUGH A CONCRETE WALL WHICH SEPARATES A COMPUTER ROOM FROM THE UNIT 1 BATTERY BOARD ROOM. THE PENETRATION WAS CONCEALED ABOVE A SUSPENDED CEILING WHICH HINDERED EARLIER DETECTION. THE PENETRATION HAS BEEN SEALED. A SUBSEQUENT INVESTIGATION DISCOVERED THAT PIPING PENETRATIONS WERE NOT BEING INSPECTED BECAUSE OF A PROCEDURAL DEFICIENCY. ALL FIRE BARRIER PENETRATIONS HAVE BEEN IDENTIFIED AND INSPECTED. OF THE ADDITIONAL 190 IDENTIFIED FIRE BARRIER PIPING PENETRATIONS, 114 WERE FOUND NOT TO FULLY MEET THE INSPECTION CRITERIA. ALL PENETRATIONS FOUND IN AN UNACCEPTABLE CONFIGURATION WILL BE PROPERLY SEALED.
Browns Ferry 1	01/14/1986	08/29/1986	Cable Fault Results in Shutdown Bus Transfer Abstract: POWER LEVEL - 000%. ON JANUARY 14, 1986, AT 1430 CST, CABLE 2PP97, THE ALTERNATE FEEDER TO SHUTDOWN BUS 1, SHORTED TO GROUND AND CAUSED THE SHUTDOWN BUS 1 TO TRANSFER AND DIESEL GENERATOR A AND B TO AUTO START. THE GROUND SHORT CAUSED A MINOR EXPLOSION AND RELEASED SMOKE IN THE TURBINE BUILDING. A 'NOTIFICATION OF UNUSUAL EVENT' (IP-2) WAS DECLARED SINCE THE FIRE ALARM LASTED MORE THAN 10 MINUTES. THE FIRE BRIGADE RESPONDED AND NOTIFIED THE SHIFT ENGINEER THAT NO FIRE EXISTED. THE IP-2 WAS CANCELLED, AND THE DIESEL GENERATORS SECURED. THE DEFECTIVE CABLE HAS SINCE BEEN SPLICED AND IS AVAILABLE FOR SERVICE. AN INDEPENDENT INVESTIGATION BY WYLE LABORATORIES CLASSIFIED THE CABLE FAULT AS A RANDOM FAILURE.
Browns Ferry 1	07/20/1986	08/19/1986	Technical Specification Violation for Smoke Detectors Operability Abstract: POWER LEVEL - 000%. AT 0900 ON 7-20-86, A BATTERY TERMINAL WAS BROKEN AS AN APPROVED MAINTENANCE ACTIVITY WAS BEING PERFORMED ON THE BACKUP EMERGENCY POWER SUPPLY FOR ZONE A SMOKE DETECTORS. MADE INOPERABLE 8 AFFECTED SMOKE DETECTORS WHICH RECEIVE EMERGENCY POWER FROM THE BROKEN BATTERY. THROUGH MISCOMMUNICATION BETWEEN THE MAINTENANCE PERSONNEL AND THE LICENSED SHIFT ENGINEER, TECH SPEC 3.11.C.2 REQUIREMENTS WERE NOT MET FOR THE 31 HOURS THAT THE AFFECTED SMOKE DETECTORS WERE WITHOUT ADEQUATE EMERGENCY POWER. THE TECH SPEC 3.11.C.2 REQUIREMENTS WERE MET WHEN THE COGNIZANT ENGINEER REVIEWED THE DATA PACKAGE THE FOLLOWING DAY AND DETERMINED THE NEED TO POST A ROVING FIRE WATCH AT 1600. THE LICENSED OPERATOR HAS A TROUBLE ANNUNCIATOR WHICH WILL ALARM HIM IF THE NORMAL AC POWER BECOMES UNAVAILABLE TO ANY SMOKE DETECTORS. THEREFORE, IN A TIME OF NEED, THE ABSENCE OF BACKUP EMERGENCY BATTERY POWER TO THE DETECTORS WOULD BE DISCOVERED BY THE TROUBLESHOOTING PLANT PERSONNEL DISPATCHED DUE TO THE TROUBLE ANNUNCIATOR ALARMING. THE MAINTENANCE AND OPERATING PERSONNEL INVOLVED WITH THIS EVENT HAVE BEEN BRIEFED ON THE IMPORTANCE OF COMPLETE AND TIMELY COMMUNICATION OF ALL RELATED DETAILS WHICH MAY BE ENCOUNTERED DURING MAINTENANCE PROBLEMS SO THAT ALL

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Browns Ferry 1	09/05/1990	09/23/1991	Fire Penetration Discovered Open Without Fire Watch in Place as Required by Plant Technical Specifications Abstract: POWER LEVEL - 000%. ON AUGUST 24, 1991 A MAINTENANCE PLANNER CONDUCTING A REVIEW OF OPEN WORK REQUESTS ON UNIT 1 DISCOVERED THAT A FIRE PENETRATION UNDER 480V REACTOR MOTOR OPERATED VALVE (MOV) BOARD 1B WAS NOT SEALED. THE PLANNER NOTIFIED THE SHIFT OPERATIONS SUPERVISOR (SOS) OF THE CONDITION AND A FIRE WATCH WAS ESTABLISHED. THIS PENETRATION WAS OPENED ON MAY 11, 1990 FOR MODIFICATIONS AND A FIRE WATCH ESTABLISHED. ON SEPTEMBER 5, 1990 THE FIRE WATCH WAS TERMINATED. THE ROOT CAUSE OF THIS EVENT WAS INAPPROPRIATE PERSONNEL ACTION IN THAT THE CABLE PULLING ACTIVITY WAS SIGNED OFF AS COMPLETED WITHOUT VISUAL VERIFICATION THAT THE PENETRATION WAS SEALED. CONTRIBUTING TO THIS EVENT WAS CLOSURE OF THE WORK PLAN WITHOUT SEALING THE PENETRATION, FAILURE TO IMMEDIATELY NOTIFY THE SOS WHEN THE UNSEALED PENETRATION WAS DISCOVERED, AND FAILURE OF THE SOS TO RECOGNIZE THE OPEN PENETRATION PLACED THE PLANT IN A LIMITING CONDITION OF OPERATION. THE IMMEDIATE CORRECTIVE ACTIONS INCLUDED SEALING THE OPEN PENETRATION AND PERFORMING A REVIEW OF OPEN WORK REQUEST/WORK ORDERS FOR SIMILAR PROBLEMS. PERSONNEL WILL BE TRAINED ON THIS EVENT.
Browns Ferry 1	09/27/1990	02/14/1991	Hourly Fire Watch Could Not Enter Vital Area, Placing the Plant in Violation of Technical Specifications Abstract: POWER LEVEL - 000%. On December 22, 1990, it was determined that on September 27, 1990, proper compensatory actions had not been taken for fire protection detection systems out of service when an hourly roving fire watch could not enter 'A' 4160V shutdown board room to perform a visual inspection of the area, thus violating technical specifications. The cause of this event was procedural deficiency. At the time of the event, Procedure, Fire Protection Program-2 (FPP-2), 'Fire Protection Attachments,' did not specify a method to detect a fire behind a closed door. FPP-2 has been revised with specific steps that are required to be taken when personnel performing fire watch duties encounter an unusual or unexpected situation.
Browns Ferry 1, Browns Ferry 2	08/05/1989	09/06/1989	FAILURE TO ESTABLISH CORRECT FIRE WATCH DUE TO PERSONNEL ERROR RESULTS IN CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS Abstract: POWER LEVEL - 000%. ON 8/7/89, FIRE PROTECTION PERSONNEL IDENTIFIED THAT A CONTINUOUS FIRE WATCH WAS NOT ESTABLISHED FOR TWO BLOCKED-OPEN FIRE DOORS AS REQUIRED BY TECH SPECS. THE EMERGENCY SERVICES TECHNICIAN (EST) FOREMAN, WHO ISSUED THE PERMIT AT 2000 HOURS ON 8/5/89, INAPPROPRIATELY RELIED UPON THE EXISTING HOURLY FIRE WATCH PATROL IN THE AREA AS THE COMPENSATORY MEASURE. THE SHIFT OPERATIONS SUPERVISOR WAS IMMEDIATELY NOTIFIED AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED TO MONITOR BOTH FIRE DOORS AT 0900 HOURS ON 8/7/89. FAILURE TO ESTABLISH REQUIRED FIRE WATCH IS A VIOLATION OF TECH SPECS AND IS REPORTABLE IN ACCORDANCE WITH 10 CFR 50.73(A)(2) (I)(B). DURING THE EVENT, THE UNIT 2 REACTOR WAS IN THE COLD SHUTDOWN CONDITION WITH IRRADIATED FUEL IN THE REACTOR. UNITS 1 AND 3 WERE DEFUELED. CAUSE OF THE EVENT IS ATTRIBUTED TO PERSONNEL ERROR, IN THAT PERSONNEL FAILED TO FOLLOW PROCEDURES IN DETERMINING THE CORRECT FIRE WATCH REQUIREMENTS. THE EST FOREMAN WAS COUNSELED ON THE CONTENT OF THE APPLICABLE FIRE PROTECTION PROCEDURES AND THE NEED TO CONSULT WITH THE DUTY FIRE PROTECTION ENGINEER REGARDING COMPENSATORY PROCEDURES FOR INOPERABLE FIRE PROTECTION EQUIPMENT. FIRE PROTECTION PERSONNEL WILL REVIEW THIS
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	01/27/1987	12/04/1987	Personnel Errors Cause Fire-Watch Violations Abstract: POWER LEVEL - 000%. ON JANUARY 27, 1987, AT 2200 PORTIONS OF THE FIRE PROTECTION SYSTEM WERE ISOLATED IN ORDER TO REPLACE A HOSE STATION VALVE IN THE UNIT 1 REACTOR BUILDING. APPROXIMATELY FIVE HOURS LATER THE SHIFT ENGINEER DISCOVERED THAT A FIRE WATCH WAS NOT POSTED, AS REQUIRED BY PLANT TECH SPECS, IN AN AREA OF THE UNIT 1 AND 2 DIESEL GENERATOR BUILDING. IMMEDIATE STEPS WERE TAKEN TO POST THE WATCH. THE INTENT OF THE WORDING ON THE FIRE EQUIPMENT REMOVAL FROM SERVICE PERMIT HAD NOT BEEN CLEARLY COMMUNICATED, AND THE EXISTING PATROLLING FIRE WATCH IN THE REACTOR BUILDING WAS DEEMED ADEQUATE. ONE PREACTION SPRINKLER SYSTEM AND FOUR FIRE HOSE STATIONS IN THE DIESEL GENERATOR BUILDING WERE INCAPACITATED AND UNMONITORED FOR THE DURATION OF THIS EVENT. FIRE DETECTION AND CO(2) FIRE SUPPRESSION FOR THE INDIVIDUAL DIESEL GENERATORS REMAINED UNAFFECTED. ANOTHER FIRE WATCH INFRACTION OCCURRED ON FEBRUARY 10, 1987, WHEN AN INDIVIDUAL REPORTED TO THE WRONG CABLE SPREADING ROOM FOLLOWING THE FAILURE OF A MASTER CONTROL VALVE FOR THE CO(2) FIRE PROTECTION SYSTEM. THE PLANT FIRE PROTECTION UNIT HAS DEVELOPED A CONCISE LISTING OF AREAS REQUIRING FIRE WATCHES, AND THE REASONS FOR THEM, FOR THE SHIFT ENGINEER'S OFFICE.
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	04/26/1987	05/26/1987	Failure To Properly Post Fire Watch Abstract: POWER LEVEL - 000%. ON APRIL 26, 1987 AT APPROXIMATELY 0130, THE UNIT 1 AND UNIT 2 CO2 STORAGE TANK WAS VENTING INTO THE STORAGE TANK ROOM BECAUSE THE COOLING UNIT FOR THE CO2 WAS INOPERABLE AND THE TANK PRESSURE HAD REACHED THE RELIEF VALVE SET POINT. AT 0200, THE OUTSIDE DOOR TO THE CO2 STORAGE TANK ROOM WAS OPENED AND A CONTINUOUS SECURITY DOOR WATCH AND A ROVING FIRE WATCH WERE ESTABLISHED AFTER THE SHIFT ENGINEER HAD DISCUSSED THE SITUATION WITH AN INDUSTRIAL SAFETY TECHNICIAN ON CALL. AT 0810 A CONTINUOUS FIRE WATCH WAS POSTED IN ORDER TO MEET TECH SPEC REQUIREMENTS. IN ORDER TO PREVENT FUTURE SUCH OCCURRENCES, THE CALL LIST WILL BE REVISED TO INCLUDE A FIRE PROTECTION ENGINEER SO SHIFT ENGINEERS WILL BE ABLE TO TALK TO PERSONNEL WITH AN INDEPTH KNOWLEDGE OF FIRE PROTECTION REQUIREMENTS.
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	07/11/1987	08/11/1987	Fire Barrier Breached Without Required Compensatory Measures Abstract: POWER LEVEL - 000%. ON JULY 10, 1987, THE REFRIGERATION UNIT BECAME INOPERABLE ON THE UNIT 1 AND 2 CO(2) STORAGE TANK ALLOWING TANK PRESSURE TO INCREASE. AT APPROXIMATELY 1700, ON JULY 11, 1987, THE SHIFT ENGINEER WAS NOTIFIED THAT THE TANK WAS VENTING THROUGH ITS RELIEF LINE INTO THE TANK ROOM. AT 1906, THE OUTSIDE DOOR TO THE CO(2) STORAGE TANK ROOM (WHICH IS LISTED AS A FIRE DOOR) WAS OPENED AND MAINTAINED OPEN. A PUBLIC SAFETY OFFICER WAS CONTINUOUSLY POSTED AT THE DOOR WHILE IT WAS OPEN. IN ADDITION A ROVING FIRE WATCH PASSED THROUGH THE ROOM EVERY HOUR. A CONTINUOUS FIRE WATCH WAS POSTED APPROXIMATELY 5 HOURS LATER AT 0005 ON JULY 12, 1987. THE ONE HOUR LIMIT ALLOWED BY TECH SPEC 3.11.E WAS EXCEEDED. THE ELECTRICAL MAINTENANCE FOREMAN IN CHARGE OF REPAIRING THE REFRIGERATION UNIT DID NOT FOLLOW PROPER PROCEDURE FOR BREACHING A FIRE BARRIER. THE ELECTRICAL MAINTENANCE FOREMAN INVOLVED IN THIS EVENT HAS BEEN COUNSELED ON THE PROPER METHOD AND RESPONSIBILITY FOR INITIATING THE BREACH OF A FIRE BARRIER. ALL CURRENT MAINTENANCE FOREMEN WILL BE BRIEFED ON THIS EVENT AND WILL RECEIVE TRAINING ON THE PROPER METHOD AND RESPONSIBILITY FOR INITIATING THE BREACH OF A FIRE BARRIER.
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	08/30/1988	09/29/1988	VIOLATION OF FIRE PROTECTION TECHNICAL SPECIFICATIONS DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 000%. ON AUGUST 30, 1988, AT 0830 HOURS. WITH ALL 3 BROWNS FERRY UNITS DEFUELED, A CONDITION ADVERSE TO QUALITY REPORT (CAQR), WHICH IDENTIFIED A CONDITION OUTSIDE THE REQUIREMENTS OF THE PLANT'S TECH SPECS, WAS DELIVERED TO THE SHIFT OPERATIONS SUPERVISOR (SOS). THIS CAQR STATED THAT FIRE DOORS 643, 644, 659 AND 660 WERE BLOCKED OPEN WITHOUT PROPER COMPENSATORY MEASURES. TS 3.11.E REQUIRES A CONTINUOUS FIRE WATCH BE POSTED ON NONFUNCTIONAL FIRE BARRIER PENETRATIONS UNLESS A FIRE DETECTION SYSTEM ON EITHER SIDE OF THE PENETRATION IS OPERABLE AND A ROVING FIRE WATCH IS ESTABLISHED. DOORS 643, 644, 659 AND 660 WERE BLOCKED OPEN USING AN EXISTING ROVING FIRE WATCH WITHOUT A FIRE DETECTION SYSTEM ON EITHER SIDE OF THE DOORS. A DECISION WAS MADE FOLLOWING A GENERAL DISQUALIFICATION OF ALL BFN FIRE BARRIERS IN NOVEMBER 1985 TO ESTABLISH ROVING FIRE WATCH PATROLS THROUGHOUT THE PLANT. AT THE TIME OF THIS DECISION THE FIRE HAZARD ANALYSIS WAS INADEQUATE AND NO WELL DEFINED FIRE BARRIER COMPARTMENTATION EXISTED. THESE FACTORS CONTRIBUTED TO THE INAPPROPRIATE DECISION AND SUBSEQUENT COMPENSATORY MEASURES. THE IMMEDIATE CORRECTIVE ACTION WAS TO CLOSE THESE DOORS AND COMPLETE THE APPROPRIATE ADMINISTRATIVE CONTROLS. THE PLANT'S FIRE PROTECTION TSS
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	03/01/1990	03/29/1990	FAILURE TO COMPLY WITH TECHNICAL SPECIFICATION DUE TO LOSS OF ALL THREE REACTOR BUILDING HOSE STATIONS Abstract: POWER LEVEL - 000%. ON MARCH 1, 1990, UNITS 1, 2, AND 3 REACTOR BUILDING AND TURBINE BUILDING HIGH-PRESSURE FIRE PROTECTION HOSE STATIONS WERE REMOVED FROM SERVICE WITHOUT PROVIDING APPROPRIATE COMPENSATORY MEASURES. THIS EVENT OCCURRED AS A RESULT OF ISOLATIONS MADE IN PREPARATION FOR MAJOR MAINTENANCE ACTIVITIES ON THE UNIT 1 AND 2 TURBINE BUILDING AND REACTOR BUILDING FIRE PROTECTION. THE CAUSE OF THE EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. THE ADMINISTRATIVE REQUIREMENTS ESTABLISHED DID NOT MEET THE LETTER OF TECHNICAL SPECIFICATION. THE ONSHIFT SHIFT OPERATIONS SUPERVISOR (SOS), SHIFT TECHNICAL ADVISOR, AND FIRE PROTECTION TECHNICIAN REVIEWED THE ADMINISTRATIVE REQUIREMENTS AND AGREED THAT THE COMPENSATORY MEASURES ESTABLISHED MET THE INTENT OF THE TECHNICAL SPECIFICATIONS. THE IMMEDIATE CORRECTIVE ACTION WAS TO MAKE THE NECESSARY REPAIRS TO THE UNIT 3 FIRE PROTECTION AND ESTABLISH COMPENSATORY MEASURES THAT COMPLY WITH TECHNICAL SPECIFICATIONS. FURTHER CORRECTIVE ACTIONS WILL INVOLVE REVIEWING THE FAILURE HISTORY AND DESIGN OF MAJOR BOUNDARY VALVES, COUNSELING THE PERSONNEL INVOLVED AND REVIEW OF THE FINAL EVENT REPORT, AND REVIEWING THE TRACKING AND REVIEWING OF THE CONTROL OF REMOVAL OF FIRE PROTECTION

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	11/22/1990	12/20/1990	A PROCEDURAL ERROR THAT DELAYED THE PERFORMANCE OF A FIRE WATCH TOUR IN ACCORDANCE WITH TECHNICAL SPECIFICATION REQUIREMENTS Abstract: POWER LEVEL - 000%. ON 11/22/90 AT 1351 HOURS, A 500-KILOVOLT (KV) RELAY LINE BREAKER BEGAN CYCLING FROM CLOSED TO OPEN CAUSING A VOLTAGE DISTURBANCE RESULTING IN THE SECURITY COMPUTER DROPPING OFFLINE, THEREBY LOCKING VITAL AREA DOORS IN THE CONTROL BAY BUILDING. THE SECURITY COMPUTER LOCKOUT DELAYED A COMPENSATORY HOURLY FIRE WATCH TOUR REQUIRED BY TECHNICAL SPECIFICATIONS (TS). THE ROOT CAUSE OF THIS EVENT WAS A PROCEDURAL DEFICIENCY. THE FIRE PROTECTION PROCEDURE DID NOT CONTAIN A STEP REQUIRING THE SHIFT OPERATIONS SUPERVISOR (SOS) TO CONTACT THE SECURITY SHIFT SUPERVISOR WHENEVER A SECURITY SYSTEM PROBLEM HAS THE POTENTIAL TO AFFECT A TECHNICAL SPECIFICATION REQUIREMENT. THE IMMEDIATE CORRECTIVE ACTIONS WERE: (1) OPERATIONS PERSONNEL STABILIZED THE 500-KV RELAY LINE, (2) SECURITY REPROGRAMMED THE SECURITY COMPUTER SYSTEM, AND (3) THE FIRE WATCH GAINED ENTRY INTO THE 'A' 4-KV SHUTDOWN BOARD ROOM DOOR TO SATISFY THE TS REQUIREMENT. THE CORRECTIVE ACTION IS TO REVISE THE PROCEDURE TO ADD A STEP REQUIRING THE SOS TO CONTACT THE SECURITY SHIFT SUPERVISOR WHEN A SECURITY SYSTEM PROBLEM HAS THE POTENTIAL TO AFFECT A TS REQUIREMENT. THIS PROCEDURAL CHANGE SHOULD PRECLUDE A RECURRENCE OF THIS Nine Firewatch Observations Were Performed Late Due to Personnel Error Thereby Exceeding Technical Specification Requirements Abstract: POWER LEVEL - 000%. ON DECEMBER 11, 1990 AT 2148, THE SECURITY MICRO ACCESS COMPUTER (MAC)-540 MALFUNCTIONED AND AUTOMATICALLY SHUTDOWN IN THE DEGRADE MODE. THIS RESULTED IN REQUIRING A SECURITY OFFICER TO BE DISPATCHED TO LOCK VITAL AREA DOORS FOR ENSURING UNAUTHORIZED ACCESS DID NOT OCCUR. THE LOCKING OF VITAL AREA DOORS DETAINED A FIRE WATCH FROM ENTERING BATTERY BOARD ROOM NUMBER 1 ELEVATION 593 IN THE CONTROL BAY BUILDING. THIS CONTRIBUTED TO A REQUIRED TECHNICAL SPECIFICATION (TS) HOURLY FIREWATCH TOUR FROM BEING PERFORMED ON TIME. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR DUE TO AN INADEQUATE JOB PLAN (I.E., INADEQUATE TIME SCHEDULED FOR FIREWATCH TOUR CONTINGENCIES). CONTRIBUTING CONTINGENCIES WERE: (1) TIME SPENT BY THE SECURITY OFFICER TO FIND THE FIREWATCH, (2) THE SECURITY OFFICER'S AND FIREWATCH'S COMMUNICATION WAS NOT PROACTIVE, (3) THE ATTEMPTS TO CONTACT THE SHIFT OPERATING SUPERVISOR WERE UNSUCCESSFUL, AND (4) THE CURRENT MAC-540 SYSTEM IS SUSCEPTIBLE TO ELECTRICAL SPIKES AND FAILURES DUE TO AGING OF THE ELECTRONIC COMPONENTS. THE IMMEDIATE CORRECTIVE ACTIONS WERE TO REPROGRAM THE MAC-540 COMPUTER. THE SECURITY OFFICER SEARCHED AND FOUND THE FIREWATCH TO ALLOW THE FIREWATCH TO CONTINUE THE
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	12/11/1990	02/13/1991	
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	12/12/1990	02/14/1991	Loss of Power on Instrument and Control Bus 1A Resulted in Loss of Various Fire Protection Panels Placing the Plant Outside Technical Specifications Abstract: POWER LEVEL - 000%. ON DECEMBER 12, 1990 AT 1245 HOURS, AN HOURLY FIRE WATCH WAS NOT ESTABLISHED WHEN INSTRUMENT AND CONTROL BUS 1A TRIPPED, RESULTING IN A LOSS OF POWER TO VARIOUS FIRE PROTECTION SYSTEM FIRE DETECTION PANELS. THE ROOT CAUSE OF THIS EVENT IS THAT THE PLANT PROCEDURE FOR LOSS OF INSTRUMENT AND CONTROL BUS 1A DID NOT GIVE CLEAR GUIDANCE FOR WATCH AREAS. THE CORRECTIVE ACTIONS TAKEN DURING THE EVENT INCLUDED THE RETURN OF INSTRUMENT AND CONTROL BUS 1A TO SERVICE AND AN ATTEMPT WAS MADE TO ESTABLISH COMPENSATORY ACTIONS TO MEET TECHNICAL SPECIFICATIONS FOR LOSS OF FIRE DETECTION EQUIPMENT. TO PREVENT RECURRENCE, OPERATIONS WILL CREATE A LIST THAT IDENTIFIES AREAS THAT WILL NEED A FIREWATCH UPON LOSS OF INSTRUMENT AND CONTROL BUS A.
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	07/24/1991	08/23/1991	Fire Wrap Removed During Unit 3 Integrated Walkdown Activities Without Establishing A Fire Watch Abstract: POWER LEVEL - 000%. ON 7/28/91, AT 1945 HOURS, AN NRC RESIDENT INSPECTOR INFORMED THE SHIFT OPERATION SUPERVISOR THAT FIRE WRAP WAS REMOVED FROM A JUNCTION BOX IN THE INTAKE STRUCTURE. A THAT TIME, THE UNIT 2 REACTOR WAS AT APPROX. 90% POWER AND UNIT 1 AND 3 WERE DEFUELED. ON INVESTIGATION, IT WAS DISCOVERED THAT FIRE WRAP HAD BEEN REMOVED FROM SEVERAL JUNCTION BOXES AND A PULL BOX AND A CONTINUOUS FIRE WATCH HAD NOT BEEN ESTABLISHED AS REQUIRED BY TECH SPECS. THE FIRE WRAP HAD BEEN REMOVED, BY AN APPROVED WORK ORDER, ON 7/24/91, TO SUPPORT UNIT 3 WALKDOWN ACTIVITIES. THE JUNCTION BOXES ARE ASSOCIATED WITH RESIDUAL HEAT REMOVAL SERVICE WATER SYSTEM (RHRSW) PUMPS, WHICH ARE REQUIRED FOR SAFE SHUTDOWN PER THE APPENDIX R SAFE SHUTDOWN ANALYSIS AS IMMEDIATE CORRECTIVE ACTION, A FIRE WATCH WAS ESTABLISHED AT 2050 HOURS ON 7/28/91, AND UNIT 3 WORK ACTIVITIES WERE STOPPED PENDING INVESTIGATION. THE ROOT CAUSE OF THIS EVENT IS MANAGEMENT FAILURE TO ENSURE THAT UNIT 3 PLANNING AND IMPLEMENTATION OF WORK WAS IN FULL COMPLIANCE WITH SITE PROCEDURES. THE FAILURE TO ESTABLISH THE REQUIRED FIRE WATCH WAS A DIRECT RESULT OF PERSONNEL NOT FOLLOWING PROCEDURES. THE DUTIES, RESPONSIBILITIES, AND ACCOUNTABILITIES OF FIELD SERVICES-MODIFICATIONS PERSONNEL Combustible Materials Not in Compliance with the 20-Foot Exclusion Zone Requirements Abstract: At Browns Ferry Nuclear Plant (BFN), exclusion red zones are established for compliance with 20-foot separation requirements of Appendix R Section III.G.2.b, i.e., separation of cables and equipment and associated non-safety circuits of redundant trains by a horizontal distance of more than 20 feet with no intervening combustible or fire hazards.
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	12/22/2011	07/13/2012	On December 22, 2011, during an extent of condition inspection of red floor areas, transient combustibles were identified in exclusion red zones of BFN Units 1, 2, and 3. Additionally, on February 3, 2012, during walkdown of the Reactor Buildings, more combustibles were identified in an exclusion red zone of BFN Unit 2. On March 28, 2012, it was determined that intervening combustible materials (i.e., cables and insulation) found in the 20-foot exclusion red zones were not in compliance with Appendix R Section III.G.2.b and the associated NRC approved exemption issued for BFN. As a result of the intervening combustible material found in the 20-foot exclusion red zones, the degree of separation is lacking for redundant Appendix R safe shutdown trains. The cause was the misclassification by Operations personnel of the combustible materials as "in-use materials" in the 20-foot exclusion red zones.
Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	06/01/2012	12/26/2012	Cable Routing Errors Found in the Appendix R Separation Analysis Abstract: On June 1, 2012, at 0900 hours Central Daylight Time (CDT), during the National Fire Protection Association (NFPA) 805 transition review, it was discovered that a cable routing error would result in failure of direct current control power to credited 4kV Shutdown Board 3EA during an Appendix R fire in Fire Area 23. On July 11, 2012, at 1520 hours CDT, during the NFPA 805 transition review, it was discovered that an Appendix R cable was routed in Fire Zone 03-02. However, the Appendix R computerized separation analysis does not recognize the Appendix R cable as being routed in Fire Zone 03-02. The root cause was determined to be the lack of an effective program for technical human performance tools during the performance of the Appendix R separation analysis. The corrective action to prevent recurrence is to implement a technical human performance procedure for knowledge worker human performance tools for all programs/calculations performed by engineering.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Browns Ferry 1, Browns Ferry 2, Browns Ferry 3	10/31/2012	12/28/2012	480 Volt Shutdown Board Breaker Actions in Safe Shutdown Instruction Procedures May Not Work as Written Due to Cable Fire Damage Abstract: On October 31, 2012, at approximately 1253 hours Central Daylight Time, it was determined that in the event of an Appendix R fire, the ability to provide power to equipment needed to achieve and maintain safe shutdown may be adversely impacted. Fire damage to the Main Control Room 480 Volt Shutdown Board transfer switch cables could cause the control circuit fuse for the credited breaker to clear prior to the use of the emergency switches used for backup control operation. This would inhibit the ability to isolate the breakers using the associated emergency transfer switches and thereby inhibit local operation of the breakers. Therefore, Safe Shutdown Instruction steps to use the emergency switches to perform local breaker operation to supply power to safe shutdown equipment may not work as written during a postulated Appendix R fire. The root cause was determined to be a legacy human performance error that occurred during the technical resolution of Appendix R fire protection analyses associated with cable separation and operator manual actions. The corrective action to prevent recurrence is to revise the human performance tools procedure to incorporate the five Institute of Nuclear Power Operations Technical Conscience Principles, focus technical task risk factors, mitigation strategies, and decision making.
Browns Ferry 2	07/04/1983	08/02/1983	Bent Fire Detector Alarms Spuriously Abstract: During Unit 1 refueling outage and normal operation of units 2 and 3, an alarm came in for reactor building elevation 593 fire protection panel 2-25-311, zone 2B, heat detector TE-39-46B. This alarm could have masked signals from other detectors which are required to be operable by Tech Spec 3.11.C.1. There are no redundant systems. The system was returned to service in approximately 4.25 hours. The continuous strip heat detector had apparently been stepped on and bent. The detector, Kidde part no. 897096 was straightened in the tray and the alarm cleared. The detector was functionally tested per SI 4.11.C.1 and .5.
Browns Ferry 2	08/21/1987	09/18/1987	Fire Watch Function was not Fulfilled while Grinding Activities were in Progress because of Personnel Error Abstract: POWER LEVEL - 000%. ON AUGUST 20, 1987, AND AUGUST 29, 1987, WITH ALL THREE UNITS DEFUELED, SIMILAR INCIDENTS OCCURRED INVOLVING GRINDING WITHOUT FIRE WATCHES AS REQUIRED BY TECH SPEC 3.11.H. THE FIRST EVENT WAS DISCOVERED AT 1440, ON AUGUST 21, 1987, DURING A WEEKLY FIRE PROTECTION TEAM INSPECTION. WITH GRINDING WORK IN PROGRESS THE TEAM DISCOVERED THE FIRE WATCH ASLEEP. THE FIRE WATCH WAS IMMEDIATELY AWAKENED. DISCIPLINARY ACTION HAS BEEN INITIATED. THE SECOND EVENT WAS DISCOVERED AT 1015, ON AUGUST 29, 1987, WHEN A FIRE PROTECTION ENGINEER ON ROUTINE ROUNDS NOTICED THAT GRINDING WORK WAS IN PROGRESS WITHOUT THE FIRE WATCH PRESENT. THE FIRE PROTECTION ENGINEER STOPPED THE GRINDING WORK AND THE SHIFT ENGINEER VOIDED THE WELDING PERMIT. THE FIRE WATCH HAD BEEN PRESENT AT THE WORK LOCATION DURING A LONG PREPARATION PERIOD, PRIOR TO THE BEGINNING OF THE GRINDING WORK. POOR COMMUNICATIONS BETWEEN THE FIRE WATCH, THE CRAFT PERSONNEL AND THE CRAFT FOREMAN IS ATTRIBUTED TO THE ERROR. CRAFT PERSONNEL AND THEIR SUPERVISORS HAVE BEEN COUNSELED ON THE REQUIREMENTS AND IMPORTANCE OF THE FIRE WATCH FUNCTION. A DESCRIPTION OF THESE EVENTS WILL BE PROVIDED TO PERSONNEL WHO MAY BE INVOLVED IN WORK REQUIRING FIRE WATCHES.
Browns Ferry 2	09/24/1987	10/23/1987	Fire Watch Function Was Not Fulfilled While Grinding Activities Were In Progress Because Laborer Was Sleeping On Duty Abstract: POWER LEVEL - 000%. ON SEPTEMBER 24, 1987, AT 1415, WITH UNIT 2 DEFUELED AND GRINDING WORK IN PROGRESS A GENERAL HOUSEKEEPING INSPECTION TEAM DISCOVERED A FIRE WATCH ASLEEP IN THE UNIT 2 DRYWELL. FIRE WATCHES ARE REQUIRED BY TECHNICAL SPECIFICATION 3.11.H FOR THIS TYPE OF WORK. THE FIRE WATCH WAS IMMEDIATELY AWAKENED. DISCIPLINARY ACTION HAS BEEN INITIATED AGAINST THE FIRE WATCH. A DESCRIPTION OF THIS EVENT WILL BE PROVIDED TO PERSONNEL WHO MAY BE INVOLVED IN WORK REQUIRING FIRE WATCHES.
Browns Ferry 2	04/12/1994	05/06/1994	Noncompliance with 10 CFR 50 Appendix R Results in Plant Being Outside Its Design Basis Abstract: On April 12, 1994, Browns Ferry Unit 2 was operating at approximately 100% power when TVA concluded that two errors in the Unit 2 Appendix R Program involving noncompliance with 10 CFR Part 50 Appendix R requirements were reportable as conditions outside the design basis of the plant. The errors were identified by TVA on October 28, 1993, and December 29, 1993, and initially determined to be not reportable. The first error involves power supply cables to redundant reactor water cleanup system valves being located in the same fire zones. The second error involves an associated circuit concern wherein the power supply cable to a spare Unit 1 raw cooling water pump was not adequately separated electrically from a Unit 2 4160-volt shutdown board needed for safe shutdown. Both errors were identified during the development of the Unit 3 Appendix R Program. The errors resulted from individual failures to correctly interpret/implement the applicable requirements of the calculations and/or design criteria used during the original development of the Unit 2 Appendix R Program. The program was developed from 1985 through Unit 2 restart in May 1991. Upon discovery of these events, the appropriate fire watches were posted. Modifications have been or will be implemented to correct these deficiencies. To address the root cause, the affected engineering department personnel will review the circumstances that led to these events. A previous event concerning noncompliance
Browns Ferry 2	07/10/2012	03/15/2013	480V Reactor Motor Operated Valve Board 2E Failed to Manually Transfer to Alternate Power Abstract: On July 10, 2012, the alternate power supply for the Browns Ferry Nuclear Plant, Unit 2, 480V reactor motor operated valve (RMOV) board 2E was declared inoperable for performance of preventive maintenance (PM) activities. During these PM activities, the alternate feeder breaker was racked in and out of the cubicle. When the alternate feeder breaker was racked in after performance of PM activities, the manual trip pushbutton remained in the depressed position. On July 19, 2012, while preparing to perform PM activities, the 480V RMOV board 2E failed to manually transfer to its alternate power supply. Operations discovered the alternate feeder breaker manual trip pushbutton in the depressed position. The alternate feeder breaker would not close with this manual trip pushbutton in the depressed position. As a result, the 480V RMOV board 2E would not manually transfer and would also not have automatically transferred to its alternate power supply. The root cause was a process failure to provide positive verification that the critical aspects of the alternate feeder breaker were acceptable before the alternate feeder breaker was returned to service. The corrective action to prevent recurrence was to revise the operating instruction to provide verification that the manual trip pushbutton returned from the depressed position after racking in the
Browns Ferry 2, Browns Ferry 3	07/07/2003	09/05/2003	Cable Separations Design Error Related to Appendix R Requirements Abstract: During review and validation of Appendix R-related calculations associated with the restart of BFN Unit 1, it was noted that some associated circuits of certain 4 kV electrical distribution boards and loads were not adequately evaluated in the Unit 2 and Unit 3 calculations. As physically configured, control power cables which affect power circuit breaker control are routed within 20 feet of the power cables being fed by these same breakers. The plant loads affected are the Unit 2 variable frequency drives and the Unit 3 recirculation motor-generator sets which provide power to drive the reactor recirculation pumps. As a result of this cable routing, fires in certain zones of the BFN plant could result in electrical faults on power cables which could not be de-energized by automatic breaker operation. Such faults could result in cable insulation fires being initiated in fire areas other than the area where the original fire occurred, thus creating an associated circuit of concern. The apparent cause was a historical design error. Compensatory measures were implemented in accordance with the fire protection plan. The plant will be modified to correct the condition.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Browns Ferry 2, Browns Ferry 3	10/18/2012	12/17/2012	Unanalyzed Conditions Discovered during National Fire Protection Association 805 Transition Affecting Division II of the Residual Heat Removal System Abstract: On October 18, 2012, at approximately 1314 hours Central Daylight Time, it was determined that in the event of an Appendix R fire, fire induced circuit damage could potentially create two conditions that would prevent Browns Ferry Nuclear Plant (BFN), Units 2 and 3, Division II of the Residual Heat Removal System, Low Pressure Coolant Injection (LPCI) inboard valves from opening. First, a potential open circuit, caused by fire damage in BFN, Unit 3, may prevent the LPCI injection valve open contactor from energizing and inhibit the ability to open the LPCI inboard valves. Second, a potential hot short, caused by fire damage in BFN, Unit 2 or 3, could spuriously close LPCI inboard valves in a way that by-passes the close limit switch or torque switch, meaning that the valve could continue to drive itself closed to the point of damaging the valve. This potential damage could result in the inability to open the valve electrically or mechanically. The root cause was determined to be legacy human performance errors that occurred during the resolution of Appendix R cable routing failures. The corrective actions to prevent recurrence are to implement a fleet wide technical human performance procedure and revise the human performance tools procedure to incorporate the five INPO Technical Conscience Principles, focus technical task risk factors, mitigation strategies, and decision making.
Browns Ferry 3	06/25/1980	07/24/1980	The Detector was Damaged Abstract: During normal operation a continuous strip heat detector was damaged and caused a false alarm. The alarm could have masked alarms from other detectors which are required to be operable by T.S. previous similar events/ BFRO-50-296/7904. The heat detector was apparently damaged accidentally by personnel performing modifications in the area. Detector, Kidde Model 897096, 0 feet continuous strip, was replaced. A fire watch was posted in the interim. Craftsmen have been cautioned about working around this type of detector.
Browns Ferry 3	06/16/1981	11/23/1981	Fire Protection Preaction Sprinkler Systems for Reactor Building Elevations Abstract: The fire protection preaction sprinkler systems for reactor building elevations 565, 593, and 621 were found isolated. Lack of familarity with the isolation valve operating characteristics caused personnel to believe valve was open. The Mueller type AWWA valve was opened and the systems were returned to normal. The operator involved has been instructed in the isolation valve characteristics. The event will also be covered in operator supplemental training by 12/1/81.
Browns Ferry 3	01/21/1982	02/18/1982	A Smoke Detector in Auxiliary Instrument Room 3 Would not Alarm Abstract: While performing SI 4.11.c.1 & 5 a smoke detector in auxiliary instrument room 3 would not alarm. Investigation revealed all 5 detectors in the room were intermittently inoperable. Operability is required by Tech. Spec. 3.11.c.1 & 5. An annunciator point card was loose, apparently because the card retainer bar for a group of cards had not been installed following previous maintenance. Card was pushed firmly in place and the retainer bar was replaced. To prevent recurrence, this event is being discussed with the electricians who maintain the annunciators.
Browns Ferry 3	08/10/1982	09/08/1982	Inoperablility of Automatic Initiation Logic for one Fire Protection Zone Abstract: While performing SI 4.11.c.3 & 4, heat detector panel 3-25-288 did not give alarm signal. Inoperability of this panel made the cable tray fixed spray automatic initiation circuit for zone 3l inoperable. Tech Spec 3.11.a.1.b requires automatic initiation logic to be inoperable. The system was returned to service in five and one-half hours. The single zone fire detector control card (assembly number 897559 manufactured by Walter Kidde & Co., Inc.) Failed. A patrolling fire watch was established. (Tech Spec 3.11.a.2) the circuit board was replaced.
Browns Ferry 3	07/14/1986	08/12/1986	Welded Blank in Fire Protection Line Abstract: POWER LEVEL - 000%. ON 7-14-86, A PIPE BLANK WAS DISCOVERED WELDED IN A UNIT 3 REACTOR BUILDING PREACTION FIRE PROTECTION WATER MAIN. THE BLANKED LINE MADE WATER UNAVAILABLE TO 19 SPRINKLER NOZZLES FED FROM IT. THE BLANKED SEGMENT OF PIPING WAS CUT OUT AND REPLACED. INVESTIGATION SUGGEST THAT THE PIPE BLANK WAS WELDED IN PLACE IN ORDER TO EXPEDITE TESTING AND INSTALLATION OF THE SYSTEM. PRESUMABLY, THE MODIFICATION WAS HYDROSTATICALLY TESTED BY PRESSURIZING IT THROUGH A BRANCH LINE, AND UPON SATISFACTORY COMPLETION, THE BLANK WAS FORGOTTEN. ALL CROSS MAINS IN THE REACTOR BUILDING PREACTION SYSTEMS HAVE BEEN FLUSHED AND NO ADDITIONAL OBSTRUCTIONS WERE FOUND. RELATED PREACTION SPRINKLER SYSTEMS WILL BE AIR TESTED TO VERIFY THAT THEY ARE NOT PLUGGED. ALL TESTING WILL BE COMPLETE BY 10-31-86.
Browns Ferry 3	02/09/1989	03/10/1989	Failure to Provide Required Continuous Fire Watch On Inoperable Fire Doors Caused By Personnel Error Due to Insufficient Training Abstract: POWER LEVEL - 000%. ON FEBRUARY 9, 1989, A FIRE PROTECTION ENGINEER DISCOVERED THAT A ROVING FIRE WATCH HAD BEEN COVERING TWO INOPERABLE FIRE BARRIERS RATHER THAN A CONTINUOUS WATCH AS REQUIRED BY TECHNICAL SPECIFICATION (TS) 3.11.E. A CONTINUOUS FIRE WATCH WAS ESTABLISHED IN THE AREA ON FEBRUARY 5, 1989 BECAUSE OF ANOTHER DEFICIENCY WHICH HAD BEEN IDENTIFIED ON ONE OF THE FIRE DOORS. UPON DISCOVERY OF THE INOPERABLE FIRE BARRIERS, ON JANUARY 29 AND JANUARY 31, 1989, RESPECTIVELY, THE FIRE PROTECTION CREW PERFORMING THE DAILY INSPECTION OF FIRE BARRIERS DID NOT PROPERLY IMPLEMENT THE TS REQUIRED COMPENSATORY MEASURES. THE CAUSE OF THIS ERROR HAS BEEN ATTRIBUTED TO INSUFFICIENT TRAINING OF FIRE PROTECTION PERSONNEL WITH REGARD TO TS REQUIRED COMPENSATORY MEASURES. A FIRE WATCH WILL REMAIN IN THE AREA UNTIL THE DOORS ARE ADJUSTED. CORRECTIVE MAINTENANCE HAS BEEN INITIATED FOR THE INOPERABLE FIRE DOORS. PERSONNEL PERFORMING THE FIRE BARRIER INSPECTIONS (EMERGENCY SERVICE TECHNICIANS (ESTS) WILL RECEIVE TRAINING ON THE FIRE PROTECTION PROGRAM SECTION 2, AND TS REQUIREMENTS FOR FIRE WATCHES. THIS TRAINING WILL BE REQUIRED FOR CURRENT AND FUTURE ESTS. ALL THREE UNITS WERE SHUTDOWN DURING THIS CONDITION. LICENSED
Browns Ferry 3, Browns Ferry 2	11/04/1992	12/04/1992	Chemical Release in Unit 3 Reactor Building Forced an Evacuation of Compensatory Action Fire Watches Leading to a Violation of Technical Specification Abstract: POWER LEVEL - 000%. On November 4, 1992, at 1900 hours, all compensatory action fire watches were temporarily evacuated from the Unit 3 Reactor Building due to a chemical release. This resulted in a violation of technical specifications. The chemical release was due to an unexpected exothermic chemical reaction that occurred during the use of an epoxy grout compound, Ceilcote 658N Grout, manufactured by Master Builders, Incorporated. The root cause of this event was lack of appropriate warning information and proper instructions for safe use of the epoxy grout compound. The information provided by the manufacturer did not caution the user that leaving the epoxy grout compound in a confining container would cause the compound to heat up producing smoke and vapors. Corrective action to prevent recurrence included hands on training by the manufacturer. A precaution will be added to the procedure governing the use of such epoxy compounds.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Browns Ferry 3, Browns Ferry 2	11/04/1992	12/04/1992	Compensatory Action Fire Watch Discovered a Compromising Position Resulting in a Violation of Technical Specifications. Abstract: POWER LEVEL - 000%. On November 4, 1992, at approximately 0940 hours a compensatory action fire watch for an inoperable fire barrier was found in a compromising position. This resulted in a violation of technical specifications. The root cause of this event was failure to fulfill the requirements of a fire watch due to inattentiveness. Fire Protection Program Plan-2, Attachment L, requires that a fire watch be on continuous alert for fire, signs of fire and/or any act that might result in a fire. Personnel corrective action was administered to the individual involved in this event. Corrective actions to prevent recurrence included training, rotation of continuous fire watches on an hourly basis, and requiring that fire watch foreman tour the fire watch stations.
Brunswick 1	10/21/1982	11/04/1982	Fire Watch Presumed a Fire Watch was Longer Required Abstract: While making preparations to perform postmaintenance testing on the isolation valve of the sprinkler system for No. 1 Diesel Generator, 2-FP-V278, it was discovered that the required continuous fire watch in the diesel room had been discontinued for less than one hour. See tech spec 3.7.7.2, 6.9.1.9b. The involved fire watch mistakenly presumed a fire watch was no longer required following cancellation of the involved equipment clearance and left the area. Upon this discovery, a fire watch was reestablished in the room until the sprinkler was returned to an operable status. The involved person and others in his work group were instructed concerning the return of fire protection system equipment to service following maintenance.
Brunswick 1	03/18/1983	04/01/1983	Deluge System to Both SBGT Trains Isolated Abstract: Performance of the weekly surveillance of Fire Suppression Sprinkler and Deluge Systems, PT-35.7, revealed the well water isolation valve to both SBGTS trains' deluge systems, 1-WW-V207, was closed, thereby rendering both deluge systems to each SBGTS train inoperable. It was then consequently determined that a required continuous fire watch with backup fire suppression equipment to each SBGTS train had not been established when V207 was closed. Tech specs 3.0.3, 3.7.7.2a, 6.9.1.8b. Affected deluge systems were unknowingly isolated by the intentional closing of V207 while attempting to isolate service water system vital header inleakage. Upon event determination, an appropriate LCO and fire watch were established and V207 reopened on 3/15/83. Disciplinary actions are in process for involved personnel. Additional corrective actions have been made or are in progress to preclude future similar occurrences.
Brunswick 1	06/30/1983	07/21/1983	Service Water Building hose Station Inoperable Abstract: During an ongoing unit refueling outage, a contract employee performing a fire watch in the Service Water Building discovered an approximate 1/8 cut in the fire hose of fire hose station SW-2, which is located on the 20' elevation of building. The hose station was therefore declared inoperable. Tech Specs 3.7.7.4, 6.9.1.9b. It could not be determined why or by whom the hose was cut. The hose was replaced within 45 minutes of the event discovery and the hose station was returned to service. On 7-1-83 the plant fire hose rack inspection, PT-35.11.1, was satisfactorily performed with no observed irregularities. As this event is considered isolated no further action regarding it is planned.
Brunswick 1	05/02/1985	06/21/1985	Primary Containment Group 6 Isolation, Reactor Building Ventilation Isolation, and Automatic Start of Reactor Building Standby Gas Treatnment System Train 1B Abstract: POWER LEVEL - 000%. DURING A UNIT 1 REFUEL/MAINTENANCE OUTAGE, ON 5-02-85, AT 1407, A PRIMARY CONTAINMENT GROUP 6 ISOLATION OCCURRED, THE REACTOR BUILDING VENTILATION SYSTEM AUTOMATICALLY ISOLATED, AND TRAIN 1B OF THE REACTOR BUILDING STANDBY GAS TREATMENT (SBGT) SYSTEM AUTOMATICALLY STARTED. A REACTOR BUILDING FIRE WATCH HAD OBSERVED SMOKE EMANATING FROM SBGT TRAIN 1A AND REPORTED THE DISCOVERY TO THE CONTROL ROOM. OPERATIONS PERSONNEL ASSESSED THE PROBLEM AND DEENERGIZED THE POWER SUPPLY (CIRCUIT BREAKER NO. 25 IN POWER SUPPLY PANEL 1C) TO THE TROUBLE START CONTROL RELAY CIRCUITRY OF SBGT TRAIN 1A, THEREBY RESULTING IN THE EVENT. RELAY CR-4, WHICH IS IN THE CIRCUITRY TO THE UNIT SBGT TRAINS' HIGH TEMPERATURE CONTROL ROOM ANNUNCIATOR, HAD OVERHEATED AND CAUGHT FIRE. THE FIRE WAS REPORTED OUT AT 1418. SBGT TRAIN 1B WAS SECURED AND RETURNED TO STANDBY, AND THE ISOLATION SIGNALS WERE RESET. THE INVOLVED SMOKE DID NOT AFFECT OPERABILITY OF SBGT TRAIN 1B. ON 5-07-85, CR-4 (ALLEN-BRADLEY PART NO. 700DC-N200Z1) TO SBGT 1A WAS REPLACED. THE FAILURE OF CR-4 IS ATTRIBUTED TO RELAY COIL INSULATION BREAKDOWN RESULTING FROM INDETERMINATE CAUSES. THE CR-4 RELAYS IN SBGT 1B AND UNIT 2 SBGTS 2A AND 2B WERE VISUALLY
Brunswick 1	01/02/1986	01/31/1986	ISOLATION OF REACTOR BUILDING FIRE HOSE STATIONS Abstract: POWER LEVEL - 100%. ON 01/02/86, AT 2100, THE UNIT 1 REACTOR BUILDING FIRE HOSE STATIONS WERE RENDERED INOPERABLE WHEN 1-FP-V322, DOWNSTREAM ISOLATION VALVE OF THE HOSE STATIONS' SUPPLY DELUGE VALVE, 1-FP-DV-319, WAS SHUT TO ISOLATE A GASKET LEAK OF APPROXIMATELY FIVE GPM AT THE LATCH ARM TRIP MECHANISM OF DV-319. TECH SPECS REQUIRED ACTION, TO ESTABLISH WITHIN ONE HOUR: (1) AN ALTERNATE MEANS OF FIRE SUPPRESSION FOR THE UNPROTECTED AREAS OR (2) ADDITIONAL EQUIVALENT CAPACITY FIRE HOSE TO THE UNPROTECTED AREAS FROM AN OPERABLE FIRE HOSE STATION, WAS NOT MET UNTIL 01/03/86, AT 1430. THE LEAKAGE OF DV-319 WAS DISCOVERED AND REPORTED TO THE UNIT 1 CONTROL OPERATOR BY A REACTOR BUILDING FIRE WATCH PERSON. THROUGHOUT THE EVENT UNIT 1 WAS AT 100%. A MECHANICAL JUMPER (A LENGTH OF 2 1/2' DIAMETER FIRE HOSE) WAS INSTALLED TO PROVIDE AN ALTERNATE SOURCE OF FIRE SUPPRESSION TO THE DOWNSTREAM PIPING OF 1-FP-V322. THE TECH SPEC REQUIRED ACTION TIME FRAME WAS NOT MET BECAUSE PROCEDURES DID NOT PROVIDE FOR TIMELY INSTALLATION OF AN ALTERATE SOURCE OF FIRE SUPPRESSION SUPPLY TO THE FIRE HOSE STATIONS. DV-319, AUTOMATIC SPRINKLER CORP. MODEL NO. C, WAS APPROPRIATELY REPAIRED AND RETURNED TO SERVICE ON 01/04/86, AT 1330. PROCEDURES TO MINIMIZE THE TIME FOR INSTALLATION OF REQUIRED ALTERNATE FIRE SUPPRESSION
Brunswick 1	02/24/1986	03/21/1986	AUTOMATIC STARTING OF CONTROL BUILDING EMERGENCY AIR FILTRATION SYSTEM Abstract: POWER LEVEL - 100%. ON 02/24/86, AT 1615, THE UNITS 1 AND 2 COMMON CONTROL BUILDING EMERGENCY AIR FILTRATION (CBEAF) SYSTEM TRAIN 2A AUTOMATICALLY STARTED DUE TO A CONTROL BUILDING FIRE ALARM. THE FIRE ALARM WAS RESET AND TRAIN 2A WAS RETURNED TO STANDBY FOLLOWING VERIFICATION THAT ACTUAL FIRE CONDITIONS DID NOT EXIST. UNIT 1 WAS AT POWER AND UNIT 2 WAS IN A REFUELING OUTAGE. THIS EVENT THROUGH APPROPRIATE CONTROL ROOM ALARM ANNUNCIATION. THE EVENT RESULTED FROM THE ACTUATION OF A FIRE DETECTOR IN THE UNITS' COMMON CONTROL ROOM KITCHEN DUE TO COOKING FUMES. AS A RESULT OF PRIOR SIMILAR EVENTS, THE INPUT OF SELECTED FIRE DETECTORS TO THE CBEAF SYSTEM INITIATION LOGIC HAS BEEN REMOVED IN ACCORDANCE WITH A PLANT MODIFICATION IN ORDER TO HELP REDUCE THE NUMBER OF CHALLENGES TO THE SYSTEM. PLANT ENGINEERING IS CURRENTLY EVALUATING OPERATION OF THE CONTROL ROOM FIRE DETECTORS AND WILL INITIATE CHANGES, AS REQUIRED, TO ENSURE OPTIMUM OPERATION OF THE CBEAF SYSTEM STARTING LOGIC. STARTING OF THE CBEAF SYSTEM PLACES IT IN ITS DESIGN MODE OF OPERATION.
Brunswick 1	06/14/1986	07/14/1986	LATE PERFORMANCE OF REQUIRED HOURLY FIRE WATCHES Abstract: POWER LEVEL - 100%. ON 6-14-86, A REQUIRED HOURLY FIRE WATCH OF THE 70' ELEVATION OF UNITS 1 AND 2 COMMON CONTROL BUILDING HEATING VENTILATING AIR CONDITIONING SYSTEM WAS PERFORMED 13 MINUTES LATE BECAUSE THE FIRE WATCH, WHO WAS MAKING HIS INITIAL SOLO CHECK OF THE AREA, WAS DENIED ACCESS TO THE VITAL AREA BY THE SECURITY SYSTEM. ON 6-16-86, REQUIRED HOURLY FIRE WATCHES IN AREAS OF THE UNITS' CONTROL BUILDING CABLE SPREAD ROOMS AND BATTERY ROOMS 1A AND 2A WERE PERFORMED 12 MINUTES LATE BECAUSE THE FIRE WATCH WAS TRAPPED IN THE BUILDING ELEVATOR. ON 6-22-86, REQUIRED HOURLY FIRE WATCHES OF AREAS ON THE 20'ELEVATION OF THE UNITS' COMMON SERVICE WATER BUILDING AND THE 20', 35', 37', AND 50' ELEVATIONS OF THE UNITS' COMMON AUGMENTED OFF-GAS BUILDING WERE PERFORMED 25 MINUTES LATE, DUE TO A CHLORINE LEAK IN THE IMMEDIATE AREA OF BOTH BUILDINGS. IN EACH CASE, UNIT 1 WAS AT 100%, WHILE ON UNIT 2, POSTREFUEL OUTAGE STARTUP TESTING WAS IN PROGRESS ON 6-14-86 AND 6-16-86, AND SHORT-TERM FORCED OUTAGE MAINTENANCE WAS IN PROGRESS ON 6/22. THE SUBJECT FIRE WATCHES WERE SPECIFIED BY TECH SPEC 3.7.8A. SEPARATE MEMORANDUMS WERE DISTRIBUTED ON 6-22-86 TO ADVISE RESPONSIBLE FIRE WATCH FOREMEN/LEAD PERSONNEL TO ENSURE NEW OR REHIRE FIRE WATCH PERSONS ARE CLEARED FOR SECURITY ACCESS AS REQUIRED PRIOR TO THEIR

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Brunswick 1	07/16/1986	08/15/1986	LATE PERFORMANCE OF REQUIRED HOURLY FIRE WATCHES Abstract: POWER LEVEL - 100%. ON 7/16/86 AND 8/6/86, REQUIRED HOURLY FIRE WATCHES ON THE 70 ELEVATION OF THE UNITS' COMMON CONTROL BUILDING HEATING VENTILATING AIR CONDITIONING SYSTEM AND THE 49' ELEVATION OF THE UNIT 2 CONTROL ROOM WERE PERFORMED 4, 15, AND 19 MINUTES LATE. DURING THESE EVENTS, UNIT 1 WAS AT 100% WHILE UNIT 2 WAS AT 83% ON 7/16/86 AND 100% ON 8/6/86. THE SUBJECT FIRE WATCHES WERE SPECIFIED BY TECHNICAL SPECIFICATION 3.7.8 A. THE EVENTS ON 7/16/86 ARE ATTRIBUTED TO INADEQUATE SUPERVISORY INSTRUCTION OF THE INVOLVED FIRE WATCH PERSON AND MISINTERPRETATION BY THE FIRE WATCH PERSON OF FIRE WATCH PROCEDURES. THE 8/6/86 EVENT RESULTED FROM DETENTION OF THE INVOLVED FIRE WATCH PERSON IN THE CONTROL BUILDING ELEVATOR. APPROPRIATE DISCIPLINARY ACTION WAS TAKEN REGARDING THE 7/16/86 EVENTS. AS A RESULT OF THE 8/6/86 EVENT, THE FIRE WATCH SCHEDULE WILL BE CHANGED TO HELP ENSURE TIMELY COMPLETION OF FIRE WATCHES.
Brunswick 1	10/29/1986	11/26/1986	INOPERABILITY OF REACTOR BUILDING FIRE HOSE STATIONS Abstract: POWER LEVEL - 100%. FROM APPROXIMATELY 0300 HOURS UNTIL 1700 HOURS ON 10/29/86, UNIT 1 REACTOR BUILDING FIRE HOSE STATIONS WERE RENDERED INOPERABLE DUE TO INADVERTENT ISOLATION OF THE STATIONS' SOURCE OF FIRE SUPPRESSION. UNIT 1 WAS ON LINE AT OR NEAR 100%. THIS EVENT RESULTED FROM A PROCEDURAL WEAKNESS INVOLVING INSTALLATION OF A MECHANICAL JUMPER AROUND THE HOSE STATIONS' SUPPLY DELUGE VALVE, 1-FP.DV.319, TO PERMIT MAINTENANCE. THE PROCEDURE (FPP-030) WHICH INSTALLED THE SUBJECT MECHANICAL JUMPER FAILED TO PROVIDE CONTROLS TO ENSURE ITS WATER SUPPLY REMAINED OPEN. DURING SUBSEQUENT PERIODIC TESTING (PT) OF THE RESIDUAL HEAT REMOVAL SERVICE WATER (RHRSW) SYSTEM. AN AUXILIARY OPERATOR (AO) FAILED TO RECOGNIZE THE SIGNIFICANCE OF FIRE SUPPRESSION DELUGE SUPPLY POST INDICATING VALVE, PIV-20, NOT IN ITS NORMALLY CLOSED POSITION WHILE PERFORMING THE PT. PER THE PT, HE CLOSED PIV.20 AT APPROXIMATELY 0300 HOURS. AT 1700 HOURS ON 10/29/86, PIV.20 WAS REOPENED AND PLACED UNDER A SHIFT FOREMAN'S CLEARANCE. THE INVOLVED AO WAS APPROPRIATELY COUNSELED. FPP- 030 WAS REVISED TO ENSURE VALVES REALIGNED FROM THEIR NORMAL POSITIONS ARE IDENTIFIED UNDER A SHIFT FOREMAN'S CLEARANCE. DV.319, AUTOMATIC SPRINKLER CORP. MODEL NO. C, WAS REPAIRED AND RETURNED TO SERVICE. TRAINING CONCERNING THIS EVENT WILL BE
Brunswick 1	11/15/1988	12/14/1988	Failure to Establish Fire Watch Following Intentional Opening of Units 1 Reactor Building Airlock Doors for Outage Passage Abstract: POWER LEVEL - 000%. UNIT 1 WAS IN DAY 6 OF A SCHEDULED 70-DAY REFUEL OUTAGE. ON 11/16/88, AT APPROXIMATELY 1530 IT WAS DISCOVERED THAT THE UNIT 1 REACTOR BUILDING 20 FT. ELEVATION AIRLOCK DOORS WERE TIED OPEN BUT DID NOT HAVE THE PROPER ASSOCIATED FIRE BARRIER PENETRATION LCO AND HOURLY FIREWATCH PER THE REQUIREMENTS OF TECH SPEC 3.7.8. THE PURPOSE OF AIDING ACCESS/EGRESS FROM THE REACTOR BUILDING AND PREVENTING EXCESSIVE WEAR ON THE DOORS DUE TO MULTIPLE ENTRIES. THE CAUSE OF THE EVENT WAS A COGNITIVE ERROR BY THE SENIOR REACTOR OPERATOR (SRO) INITIATING THE SECONDARY CONTAINMENT LCO AND OPENING OF THE AIRLOCK DOORS IN FAILING TO RECOGNIZE THAT THIS WAS A FIRE DOOR. INITIATION OF LCOS WITHOUT CONSIDERING OTHER POSSIBLE SYSTEM INTERACTIONS. THIS EVENT WILL BE REVIEWED WITH LICENSED PERSONNEL. THE SAFETY SIGNIFICANCE OF THIS EVENT WAS MINIMAL.
Brunswick 1	03/09/1989	04/05/1989	Failure to Establish Required Fire Watch Following Intentional Accessing of Unit 1 Reactor Building Airlock Doors for Outage-Related Passage and Reactor Building Ventilation Abstract: POWER LEVEL - 000%. DURING THE UNIT 1 1988-1989 REFUEL/MAINTENANCE OUTAGE, IT WAS DISCOVERED AT 2330 HOURS ON 3/9/89, THAT FIRE DOOR NO. 203 OF THE UNIT REACTOR BUILDING 20' ELEVATION PERSONNEL AIRLOCK WAS OPENED; HOWEVER, THE PROPER ASSOCIATED FIRE BARRIER PENETRATION LIMITING CONDITION FOR OPERATION (LCO) AND HOURLY FIREWATCH PER THE REQUIREMENTS OF TECHNICAL SPECIFICATION (TS) 3.7.8 WERE NOT IN EFFECT. INVESTIGATION DETERMINED THE DOOR HAD BEEN INTENTIONALLY OPENED, AT APPROXIMATELY 1430 HOURS ON 3/9/89, TO PROVIDE NATURAL VENTILATION TO THE BUILDING, AID IN ASSESS/EGRESS FROM THE BUILDING, AND PREVENT EXCESSIVE WEAR ON THE AIRLOCK DOORS. DURING THIS EVENT, A SECURITY GUARD WAS STATIONED AT THE TURBINE BUILDING SIDE OF THE AIRLOCK. THE CAUSE OF THE EVENT WAS PERSONNEL ERROR BY THE INVOLVED SHIFT FOREMAN AND SENIOR REACTOR OPERATOR WHO FAILED TO RECOGNIZE THE FIRE BARRIER TS APPLICABILITY OF THE DOOR DURING THE PLANS TO ACCESS THE AIRLOCK DOORS. INVOLVED PERSONNEL HAVE BEEN COUNSELED AND APPROPRIATE OPERATIONS REAL-TIME TRAINING WILL BE CONDUCTED DURING THE SECOND QUARTER OF 1989. BY 5/31/89, AN EVALUATION WILL BE PERFORMED CONCERNING THE MARKING OF SAFETY-RELATED TS DOORS.
Brunswick 1	03/21/1989	04/20/1989	Failure to Establish a Fire Watch as per Technical Specification Action Statement 3.7 8a Abstract: POWER LEVEL - 000%. ON MARCH 21, 1989, AT APPROXIMATELY 1000 HOURS, IT WAS DISCOVERED THAT A FIRE PROTECTION (FP) LIMITING CONDITION FOR OPERATION (LCO) HAD BEEN INITIATED ON MARCH 15, 1989, AT 1000 HOURS, WITHOUT ESTABLISHING THE FIRE WATCH REQUIRED BY THE LCO ACTION STATEMENT A FIRE WATCH WAS ESTABLISHED AND THE LCO WAS CANCELED AT 1615 HOURS. THE CAUSE OF THE EVENT WAS PERSONNEL ERROR ON THE PART OF THE FIRE PROTECTION AUXILIARY OPERATOR (FPAO) WHEN HE FAILED TO IDENTIFY AND INITIATE REQUIRED ACTIONS WHEN ESTABLISHING THE LCO. A CONTRIBUTING CAUSE IS THE SHARED RESPONSIBILITY FOR FP LCOS BETWEEN PLANT OPERATIONS AND RADWASTE (RW) OPERATIONS AND INADEQUATE TRAINING FOR PERSONNEL RESPONSIBLE FOR FP LCOS. A NEW PROCEDURE IS BEING DEVELOPED TO PLACE THE RESPONSIBILITY FOR FP LCOS WITH RW OPERATIONS. TRAINING FOR PERSONNEL WILL BE INITIATED. THE INVOLVED FPAO HAS BEEN COUNSELED. RW OPERATORS AND SHIFT FOREMAN WILL RECEIVE TRAINING ON THIS EVENT. OPERATING INSTRUCTION (OI) - 04.1 WILL INCLUDE THE DISTINCTION BETWEEN ROVING OR CONTINUOUS FIRE WATCH. THE SAFETY SIGNIFICANCE OF THIS EVENT IS MINIMAL AS THE FIRE EXPOSURES PRESENT IN THE AOG BUILDING ARE NOT SEVERE AND THE BUILDING DOES NOT CONTAIN COMPONENTS NECESSARY FOR THE SAFE SHUTDOWN OF THE UNITS.
Brunswick 1	05/14/1989	06/12/1989	Failure to Initiate Actions Required by Fire Protection Technical Specification 3.7.8. Due to poor Communications Abstract: POWER LEVEL - 100%. ON MAY 14, 1989, A UNIT 1 INNER AIR LOCK FIRE DOOR WAS REMOVED FROM ITS FRAME WITHOUT THE REQUIRED FIRE PROTECTION (FP) TECHNICAL SPECIFICATION (TS) LIMITING CONDITION FOR OPERATION ESTABLISHED. PRIOR TO AUTHORIZING WORK ON THE DOOR, OPERATIONS REQUESTED MAINTENANCE TO ASSIST IN ITS OPENING TO ALLOW A CLEARANCE TAG TO BE TRANSFERRED TO THE OUTER AIR LOCK DOOR. MAINTENANCE PERSONNEL TOOK THE ACTIONS NECESSARY TO ALLOW ACCESS TO THE OUTER DOOR AND REMOVED THE DOOR FROM THE FRAME. UPON LEARNING THAT THE DOOR HAD BEEN REMOVED, OPERATIONS PERSONNEL IMMEDIATELY INITIATED THE ACTIONS REQUIRED BY TS. THE DOOR WAS REMOVED FROM ITS FRAME FROM APPROXIMATELY 1000 TO 1330 HOURS. THE CAUSE OF THIS EVENT WAS POOR COMMUNICATIONS BETWEEN THE INVOLVED GROUPS. APPROPRIATE MAINTENANCE AND OPERATIONS PERSONNEL WILL RECEIVE TRAINING ON THIS EVENT. THIS EVENT HAD MINIMAL SAFETY SIGNIFICANCE. THE FIRE DETECTION INSTRUMENTATION AND FIRE SUPPRESSION EQUIPMENT IN THE AREA WERE OPERABLE TO PROVIDE WARNING AND FIRE FIGHTING CAPABILITY. THIS IS CONSIDERED AN ISOLATED EVENT.
Brunswick 1	12/03/1990	02/12/1991	SECONDARY CONTAINMENT MANUAL ISOLATION DURING A DRYWELL FIRE IN A TEMPORARY CABLE TRAY PENETRATING THROUGH THE PERSONNEL AIRLOCK. Abstract: POWER LEVEL - 000%. ON 12/3/90, UNIT 1 WAS IN A SCHEDULED OUTAGE. REACTOR WAS DRAINED DOWN FOR RECIRCULATION PIPING REPLACEMENT. DRYWELL 'PERSONNEL AIRLOCK' WAS BEING USED AS A TEMPORARY PENETRATION POINT. VENTILATION DUCT AND TRAY CONSTRUCTED OF FIRE RETARDANT PLAYWOOD AND SCAFFOLDING WERE ROUTED THROUGH THE AIRLOCK. THE TRAY ORGANIZED AND SUPPORTED TEMPORARY ELECTRICAL CABLES, HYDRAULIC LINES, AIR HOSES AND LEADS. EACH ITEM WAS INDIVIDUALLY WRAPPED IN A THIN PLASTIC. HEAT UP FOR POST WELD HEAT TREATMENT (PWHT) OF RECIRCULATION NOZZLE 'G' WAS IN PROGRESS. AT APPROX. 0400, INDICATIONS OF SMOKE WERE NOTED. BETWEEN 0415 AND 0419 AN ELECTRICAL FIRE IN THE PWHT CABLES ON THE TEMPORARY TRAY WAS DISCOVERED. CONTROL ROOM WAS NOTIFIED, FIRE BRIGADE WAS DISPATCHED, NON-ESSENTIAL PERSONNEL IN REACTOR BLDG. (RB) WERE EVACUATED AT 0420. AN UNSUAL EVENT (UE) WAS DECLARED AT 0429. RB VENTILATION SYSTEM WAS MANUALLY ISOLATED TO PREVENT VENTILATING THE FIRE. FIRE FIGHTING EFFORTS WERE FROM OUTSIDE OF THE PERSONNEL AIRLOCK WITH DRY CHEMICAL EXTINGUISHERS AND THEN WITH WATER AFTER THE TEMPORARY POWER WAS SECURED. 0552 UE WAS TERMINATED. CAUSE OF THE FIRE WAS UNDER SIZING OF THE PWHT CABLES FOR THE GIVEN

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Brunswick 1	09/20/1992	10/16/1992	SOUTH CORE SPRAY ROOM SPRINKLER SYSTEM WAS PLACED UNDER CLEARANCE WITHOUT THE REQUIRED FIRE WATCH BEING STATIONED Abstract: POWER LEVEL - 000%. At 1242, on September 20, 1992, Unit 1 was in Cold Shutdown as part of the dual unit outages started on April 21, 1992. The 'A' Core Spray Loop (North Room) was under clearance for Local Leak Rate Testing. When the Request for a clearance on the South Core Spray (CS) Room fire protection sprinkler system was processed to replace a sprinkler head, it was miscommunicated that the 'B' CS Loop (South Room), instead of the 'A' CS loop (North Room), was not Operable and therefore an Active Limiting Condition of Operation (LCO) requiring a fire watch was not initiated. At 1242 on September 20, 1992, the clearance was authorized to be hung and no fire watch was stationed. The next shift's fire protection/radwaste personnel discovered that no fire watch had been established and at 2030 initiated an Active LCO documenting the requirement for a continuous fire watch. This event is of minimal safety significance due to the relatively short duration (approx. 8 hours) that a fire watch was not in place. The fire detection instrumentation for the South CS room was operable during this event. Also, the South CS room overhead is open at the Reactor Building 20' elevation floor level, which is a heavily traveled area beside the main exit from the Reactor Building.
Brunswick 1	06/04/1993	07/02/1993	HOURLY FIRE WATCH TECHNICAL SPECIFICATION SURVEILLANCE MISSED DURING RADIOGRAPHY Abstract: POWER LEVEL - 000%. On June 4, 1993, Unit 1 was in a Refuel Outage. A Fire Protection Limiting Condition for Operation (LCO) was in effect for the Unit 1 Reactor Building South Residual Heat Removal (RHR) area. At 1225 hours, a briefing was held for the planned radiography in the South RHR area. The LCO requirement for an hourly firewatch in the South RHR area was discussed. Arrangements were made for the firewatch to notify the Health Physics (HP) Technician prior to entering the South RHR area so that the radiography job could be secured and the firewatch could be escorted through the area. At 1320 hours, the firewatch entered the HP field office and requested permission to make the required hourly surveillance. The HP attempted to contact the radiographers by way of the Public Address (PA) phone in the HP field office. When no contact was made, access was denied to the firewatch. The Fire Protection Auxiliary Operator and the Control Room were notified. At 1415 hours, Operations contacted the radiographers and the radiography job was secured. The firewatch then conducted the required inspection. During a post job briefing which was held with the involved individuals, it was determined that the HP office PA phone was malfunctioning. The cause of the event was the failure of the HP and Operations to establish other means of communication with the radiographers. Contributing factors to this event were the malfunctioning PA phone in the HP field office and
Brunswick 1, Brunswick 2	01/30/1987	02/27/1987	Hourly Fire Watch of Units 1 and 2 Common Control Building Ventilation Room Performed Late Abstract: POWER LEVEL - 081%. ON 1/30/87, A REQUIRED HOURLY FIRE WATCH ON THE 70' ELEVATION OF THE UNITS' 1 AND 2 COMMON CONTROL BUILDING HEATING VENTILATION AIR CONDITIONING (HVAC) SYSTEM SUPPLY/EXHAUST ROOM WAS PERFORMED 26 MINUTES LATE. UNIT 1 WAS ONLINE IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.8.A. REQUIRED HOURLY FIRE WATCHES OF THE SUBJECT ROOM WERE SATISFACTORILY COMPLETED PRIOR TO AND FOLLOWING THIS EVENT. THE EVENT RESULTED WHEN THE NORMAL ACCESS WAY TO THE ROOM WAS BLOCKED BY THE TURBINE BUILDING EQUIPMENT SERVICE GENTRY CRANE. THE FIRE WATCH WAS UNFAMILIAR WITH ALTERNATE ROUTES TO THE ROOM AND ALSO FAILED TO CONTACT THE FIRE WATCH FOREMAN IMMEDIATELY TO ELICIT SUPPORT IN REACHING THE ROOM. THE RESPONSIBLE FIRE WATCH PERSON FALSELY BELIEVED THAT ONLY ONE ACCESS ROUTE TO THE ROOM EXISTED. IN ACTUALITY, AT LEAST TWO ALTERNATE ACCESS ROUTES TO THE ROOM ARE AVAILABLE. FOLLOWING A DISCOVERY THAT THIS ACCESS ROUTE WAS BLOCKED, THE FIRE WATCH PERSON FAILED TO NOTIFY THE FIRE WATCH FOREMAN, AND THUS WAS NOT INFORMED OF ALTERNATE ROUTES. THE INVOLVED FIRE WATCH PERSON WAS APPROPRIATELY DISCIPLINED. FIRE WATCH GROUP PERSONNEL HAVE BEEN INSTRUCTED TO UTILIZE ALTERNATE ACCESS ROUTES TO THIS ROOM WHEN REQUIRED. APPROPRIATE CHANGES WILL BE
Brunswick 1, Brunswick 2	04/03/1989	04/24/1989	Auto Isolation of Unit 1 and 2 Common Control Building Heating, Ventilating, Air Conditioning System and Emergency Air Filtration System Due to Chlorinated Water Leakage Abstract: POWER LEVEL - 000%. AT 0814 HOURS ON 4/3/89, AUTOMATIC ISOLATION OF UNITS 1 AND 2 COMMON CONTROL BUILDING HEATING, VENTILATING, AIR CONDITIONING (CB HVAC) SYSTEM AND THE UNITS' COMMON CONTROL BUILDING EMERGENCY AIR FILTRATION (CBEAF) SYSTEM OCCURRED DUE TO CHLORINE LEAKAGE/ALARM CONDITIONS AT THE SITE CHLORINATION SYSTEM (CS) CHLORINE LOADING (RAILROAD TANK CAR STORAGE) AREA. THE ISOLATION WAS REVEALED THROUGH CONTROL ROOM ALARM ANNUNCIATION AND INDICATION. THE UNIT 1 1988-1989 REFUEL/MAINTENANCE OUTAGE WAS ONGOING AND UNIT 2 WAS ON-LINE AT 100% POWER. THIS EVENT DID NOT RESULT IN SIGNIFICANT PERSONNEL HAZARD AND HAD MINIMAL AFFECT UPON PLANT SAFETY. THE EVENT OCCURRED DUE TO ACTUATION OF ONE OR BOTH ON THE CS LOADING AREA CHLORINE DETECTORS, 1(2)-X-AT-2979, RESULTING FROM PRESENCE OF CHLORINATED SERVICE WATER (SW) AT A SW BUILDING STORM DRAIN AND/OR LEAKAGE FROM THE SW BUILDING SUMP PUMP DISCHARGE LINE, EACH LOCATED WITHIN THE IMMEDIATE VICINITY OF THE DETECTORS' RESPECTIVE SAMPLE INLETS. THE ALARM CONDITION SUBSEQUENTLY CLEARED AND THE SUBJECT AFFECTED SYSTEMS WERE RETURNED TO THEIR NORMAL CONFIGURATIONS. IN ADDITION, ACTION WILL BE TAKEN TO RESOLVE THE STORM DRAIN LEAKAGE
Brunswick 1, Brunswick 2	03/30/1990	04/27/1990	Isolation of Makeup Water Treatment Building Sprinkler System Abstract: POWER LEVEL - 100%. UNIT 1 AND UNIT 2 WERE OPERATING AT 100% POWER. AT 0330 ON 3/30/90, CLEARANCE F-2-90-F0096 WAS PLACED ON THE MAKEUP WATER TREATMENT (MWT) BUILDING SPRINKLER SYSTEM. A LCO WAS NOT ESTABLISHED PER TECHNICAL SPECIFICATION 3.7.7.2. THIS OVERSIGHT WAS CAUSED BY A PERSONNEL ERROR. LCO A2-90-F0136 WAS GENERATED AT 0745 AND A CONTINUOUS FIRE WATCH WAS STATIONED IN THE MWT BUILDING WITH BACKUP SUPPRESSION EQUIPMENT. THE FIRE PROTECTION PUMPS WERE CAPABLE OF SUPPLYING THE FIRE PROTECTION HEADER. FIRE DETECTION FOR THE AREA REMAINED OPERABLE THROUGHOUT THE TIME OF THE EVENT. THE SPRINKLER SYSTEM WAS RETURNED TO SERVICE AT 1400. THIS IS CONSIDERED TO BE AN ISOLATED EVENT WITH A MINIMAL SAFETY SIGNIFICANCE.
Brunswick 1, Brunswick 2	01/17/1992	02/17/1992	Automatic ESF Actuation of the Control Building Emergency Air Filtration System Due to Simultaneous Fire Alarms in Two Zones of the Control Room. Abstract: POWER LEVEL - 085%. ON 1/17/92, UNITS 1 AND 2 WERE OPERATING AT 100% AND 85% POWER, RESPECTIVELY. AT 0215 SIMULTANEOUS FIRE ALARMS IN 2 ZONES OF THE CONTROL ROOM RESULTED IN AN AUTOMATIC INITIATION OF THE CONTROL BUILDING EMERGENCY AIR FILTRATION (CBEAF) SYSTEM. THE ALARMS WERE CAUSED BY COOKING IN THE CONTROL ROOM KITCHEN AND A PERSON SMOKING IN THE SECONDARY ALARM STATION FOR SECURITY. THE KITCHEN AND THE ALARM STATION ARE RESPECTIVELY LOCATED IN THE ELECTRONIC EQUIPMENT ROOM FIRE DETECTION ZONES. AT 0219, AFTER VERIFICATION THAT AN ACTUAL FIRE DID NOT EXIST, THE ALARMS WERE RESET AND THE CONTROL BUILDING HEATING, VENTILATING, AND AIR CONDITIONING AND CBEAF SYSTEMS WERE RESTORED TO NORMAL LINE UP. AN INVESTIGATION REVEALED THAT PRIOR TO THE ACTUATION, ONE OF THE INVOLVED FIRE PROTECTION ZONES HAD BEEN PLACED IN A CONDITION REQUIRING AN LCO, BUT THE RESPONSIBLE GROUP HAD NOT BEEN NOTIFIED TO INITIATE THE LCO. HOWEVER, THE FIRE PROTECTION ANNUNCIATORS ARE IN THE MAIN CONTROL ROOM AND THE AFFECTED FIRE DETECTION ZONE IS LOCATED IN A FREQUENTLY TRAVELED AREA. ADDITIONALLY, THE AREA IS IN CLOSE PROXIMITY TO AND ENVIRONMENTALLY COMMUNICATES WITH THE CONTROL ROOM PROPER. IT IS THEREFORE REASONABLE THAT A FIRE WOULD
Brunswick 1, Brunswick 2	10/22/1992	11/20/1992	A REVIEW OF FIRE PROTECTION SURVEILLANCES FOUND TWO PERFORMANCE TESTS THAT DID NOT MEET THE TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENTS Abstract: POWER LEVEL - 000%. Both Units are in Cold Shutdown as part of the dual Unit outage started on April 21, 1992. On October 22, 1992, the ongoing Fire Protection Upgrade Project found that Periodic Test (PT) 34.4.1.4 'Diesel Generator Building Fire Detection Instrumentation Operability Test' did not demonstrate that the thermal fire detectors, added to the four Emergency Diesel Generator cells, were Operable per the Fire Protection Instrumentation Technical Specification 3/4.3.5.7 semiannual Channel Functional Test. The body of the PT provided no guidance that would direct the performance or document compliance with the acceptance criteria for thermal detectors. When thermal detectors were tested no problems were found. On October 27, 1992, the Fire Protection Upgrade Project found that PT 34.5.1.6 'Sprinkler and Valve Cycle Test,' which is used to meet Technical Specification 3/4.7.7.2, Spray and/or Sprinkler Systems, had not cycled all the Service Water Building sprinkler header isolation valves through at least one complete cycle of full travel. The two valves have since been cycled with no problems noted. The safety significance of these events is insignificant.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Brunswick 1, Brunswick 2	10/13/2011	12/08/2011	Fire Related Unanalyzed Condition That Could Impact Equipment Credited in Safe Shutdown Analysis Abstract: On October 13, 2011, in preparation for converting from 10 CFR 50, Appendix R, to NFPA 805, a review of the Brunswick Steam Electric Plant (BSEP) Safe Shutdown Analysis identified conditions that may not ensure a protected train of equipment remains available under certain postulated fire scenarios. The analysis determined that a postulated fire in specific fire areas could cause spurious actuation of critical components, potentially resulting in loss of equipment required for safe shutdown. A fire in one of the specified fire areas could potentially adversely affect the following: Suppression Pool level instrument 2-CAC-LT-2602, Residual Heat Removal net positive suction head (i.e., drywell containment overpressure), Reactor Core Isolation Cooling (RCIC), Emergency Bus E-1, and Emergency Bus E-3. The safety significance of this event is minimal. Fire watches were established for the affected portions of fire areas RB1-1, RB2-1, TB1, CB-2, CB-13, and CB-23. Additionally, fire detection and suppression equipment in the affected areas were fully functional. This was determined to be a historical condition and no root cause could be identified. Corrective actions include establishing an hourly fire watch in the affected fire areas, revision of alternative safe shutdown procedures, and completion of a new safe shutdown analysis.
Brunswick 2	01/11/1982	01/22/1982	Portions of the Fire Support Systems were Unknowingly been Isolated Abstract: It was determined that the Service Water Building south-side sprinkler and the building's entire Standpipe System had unknowingly been isolated while maintenance was being performed. Consequently, the required fire watch in the Service Water Building had not been stationed in accordance with tech. Spec. Applicable plant drawings, utilized when isolating portions of the fire support system to allow the maintenance, did not properly reflect the required position of one of the system's isolation valves. As a result, the system supply to the Service Water Building was unknowingly isolated. Prior to this discovery, the system supply to the building had been reestablished. Applicable plant drawings will be revised to correct the drawing error.
Brunswick 2	10/26/1982	11/23/1982	LCO and Fire Watch Requirements Abstract: A routine plant tour by the resident NRC inspector revealed that a posted fire watch patrol, required due to the removal of five fire barrier penetration seals in the Control Building, was not in effect. Subsequent investigation showed that applicable LCOs to remove the subject fire barrier seals had not been initiated prior to their removal. See Tech Spec 3.7.8, 6.9.1.9c. Due to an unfamiliarity with applicable LCO and fire watch requirements for the removal of the subject seals, the responsible construction foreman failed to obtain the required documentation and establish a fire watch. Following the event discovery, applicable LCOs and a fire watch were initiated for the subject seals. The involved construction foreman was counseled to be cognizant of applicable fire barrier LCO requirements.
Brunswick 2	04/05/1983	04/19/1983	Fire Watches in the Augmented Off-Gas Building not Established Abstract: An evaluation of currently active fire protection system LCOs revealed required continuous fire watches for inoperable fire detectors in the Augmented Off-Gas (AOG) building had not been established when the detectors were declared inoperable on 2-13-83. Instead, hourly fire watches, which had already been in effect prior to declaring the detectors inoperable, were maintained until the discovery of this event. Tech Specs 3.3.5.7, 3.7.8, 6.9.1.8.b. Responsible shift operations and fire protection group personnel failed to recognize the need for a continuous fire watch whenever fire detectors on both sides of a broken fire penetration seal are inoperable. Following this discovery, continuous fire watches in the affected areas of the AOG building on 4-5-83 were established.
Brunswick 2	12/11/1986	01/09/1987	Late Performance of Required Hourly Fire Watches Due to Radiological Spill in the Unit 2 Reactor Building Abstract: POWER LEVEL - 095%. FROM 1030 UNTIL 1145 HOURS ON 12/11/86, REQUIRED HOURLY FIRE WATCHES ON THE 50', 61', 80', 98' (EAST), AND 133' ELEVATIONS OF THE UNIT 2 REACTOR BUILDING WERE PERFORMED APPROXIMATELY 15 MINUTES LATE. DURING THESE EVENTS, UNIT 2 WAS ON LINE AT 95% POWER. THE SUBJECT FIRE WATCHES WERE SPECIFIED BY TECHNICAL SPECIFICATION 3.7.8A. THE LATE SURVEILLANCE PERFORMANCES RESULTED FROM RESTRICTED ACCESS TO THE AFFECTED FIRE WATCH AREAS DUE TO A RADIOLOGICAL SPILL ONTO THE 50' ELEVATION FLOOR. THE INCURRED SPILL OCCURRED DURING IMPROPER VENTING OF THE REACTOR WATER CLEANUP (RWCU) HEAT EXCHANGERS WHERE THE RWCU OPERATING PROCEDURE WAS NOT PROPERLY FOLLOWED. REQUIRED SURVEILLANCE OF THE SUBJECT FIRE WATCH AREAS WAS PERFORMED. APPROPRIATE DISCIPLINARY ACTION WAS TAKEN REGARDING THIS EVENT. BY 3/31/87, OPERATIONS REAL TIME TRAINING WILL BE CONDUCTED TO OUTLINE AND STRESS THE IMPORTANCE OF STRICT PROCEDURE ADHERENCE. THE UNCOVERED EQUIPMENT DRAIN HUB AND ANY OTHERS REQUIRING COVERS ON UNITS 1 AND 2 WILL BE COVERED. APPROPRIATE PROCEDURAL REVISIONS RELATIVE TO THIS EVENT WILL BE COMPLETED BY 6/30/87.
Brunswick 2	12/17/1989	01/16/1990	Loss of Reactor Protection System (RPS) Bus B Due to a Circuit Malfuction in the 1K Relay of the RPS B Motor Abstract: POWER LEVEL - 000%. ON DECEMBER 17, 1989, AT 1520, WITH THE UNIT 2 REACTOR DEFUELED DURING A SCHEDULED REFUEL OUTAGE, A RELAY IN THE REACTOR PROTECTION SYSTEM (RPS) 'B' MOTOR-GENERATOR (M-G) SET CONTROL PANEL BURNED UP CAUSING THE 'B' RPS M-G SET TO TRIP. THE TRIP RESULTED IN A LOGIC TRIP OF THE RPS 'B' BUS AND EXPECTED ACTUATION AND ISOLATIONS OF THE STANDBY GAS TRAINS AND PRIMARY CONTAINMENT ISOLATION SYSTEM, RESPECTIVELY. THE EVENT WAS CAUSED BY A CIRCUIT MALFUNCTION IN THE 1K RELAY OF THE RPS 'B' MOTOR. THE RELAY IS A GENERAL ELECTRIC INDUSTRIAL RELAY, CR120A01102AC, WHICH IS COMMONLY USED THROUGHOUT THE PLANT. THE MALFUNCTION WAS THE RESULT OF EITHER DUST ON CONTACTS 3 AND 4 OR LOOSE WIRES AT THE REFERENCED CONTACTS. THE EXACT CAUSE HAS NOT BEEN DETERMINED BECAUSE OF THE EXTENT OF DAMAGE AT THE RELAY CONTACTS. THE REFERENCED RELAY TYPE IS COMMONLY USED THROUGHOUT THE PLANT AND DOES NOT HAVE A HISTORY OF THIS TYPE OF FAILURE. THE INCIDENT IS CONSIDERED AN ISOLATED EVENT. THE RELAY WAS REPLACED AND THE 'B' RPS M-G SET WAS RETURNED TO SERVICE. THIS EVENT HAD NO SAFETY SIGNIFICANCE AS THE REACTOR WAS DEFUELED, THE FUEL POOL GATES WERE INSTALLED AND THE SYSTEM FUNCTIONED AS DESIGNED.
Brunswick 2	10/30/1992	11/30/1992	Technical Specification Required Continuous Fire Watch Was Not Established When A Diesel Generator Building Fire Door and Fire Detection System Were Inoperable Abstract: POWER LEVEL - 000%. Both units were in Cold Shutdown as part of the dual unit forced outage which was initiated on April 21, 1992. On October 30, 1992, at 1130 hours, the Diesel Generator Building Zone 9 fire detection system was declared inoperable due to continuous actuation from smoke resulting from welding in the area. Technical Specifications require a continuous fire watch when a breach of a fire barrier occurs coincidentally with the inoperability of that area's fire detection system. Not realizing that the Diesel Generator Building 23 foot elevation fire door #115 was also inoperable while the Zone 9 fire detection system was inoperable, Radwaste-Fire Protection (RWFP) personnel erroneously established an hourly fire watch. On October 30, 1992, at 2230 hours, following completion of the welding, the Zone 9 fire detection system was restored. The improper level of fire watch existed for approximately eleven hours. The RWFP operator did not comply with established procedural requirements for ensuring that all related simultaneous inoperative conditions are evaluated. Corrective action to prevent recurrence includes a review of the event with RWFP operators. This event is of minimal safety significance due to
Brunswick 2	10/29/2004	12/21/2004	Unanalyzed Condition due to Missing One-Hour Rated Fire Barrier -480 Volt Switchgear Room Abstract: On October 29, 2004, it was determined that two conduits, located in a BSEP Unit 2 480 volt switchgear room, were not properly protected as required by 10 CFR 50 Appendix R, Section III.G 2. The conduits in question contained Division II circuits and were located closer than 20 feet from the Division I switchgear. The cause of this event is attributed to the use of an inadequate plant drawing during the effort to determine plant changes needed to comply with 10 CFR 50 Appendix R requirements. This condition is being reported in accordance with 10 CFR 50.73(a)(2)(ii)(B) as an unanalyzed condition that significantly affected plant safety. Corrective actions include implementation of compensatory measures which remained in place until a one-hour rated fire barrier was installed on the conduits, review of other 480 volt switchgear rooms cable separation configurations, and a verification of the fire area designations for all conduits credited for safe shutdown.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Byron 1	10/31/1984	03/11/1985	UV Detector Failure Prior To License Abstract: POWER LEVEL - 000%. AN ULTRAVIOLET DETECTOR IN ZONE 38, FUEL HANDLING BLDG, FAILED TO ANNUNCIATE DURING THE PERFORMANCE OF A TECH SPEC SURVEILLANCE. THIS INCIDENT OCCURRED PRIOR TO ISSUANCE OF THE STATION'S OPERATING LICENSE. ALTHOUGH THE DETECTOR WAS REPLACED, THE REPLACEMENT WAS NOT PROVEN OPERABLE AS REQUIRED BY THE TECH SPECS UNTIL 2-8-85. THUS A VIOLATION OF THE TECH SPECS OCCURRED FROM THE DATE OF ISSUANCE OF THE OPERATING LICENSE, 10-31-84, UNTIL A FIRE WATCH WAS INITIATED IN THE AFFECTED AREA ON 12-21-84 FOR ANOTHER REASON. THE ELECTRICAL MAINTENANCE DEPT HAS BEEN INSTRUCTED TO INITIATE AN INDEPENDENT REVIEW OF FUTURE WORK PACKAGES PRIOR TO CONSIDERING A SURVEILLANCE COMPLETE AND SUCCESSFUL.
Byron 1	11/04/1984	07/31/1985	Failure of Security to Patrol Fire Watch For Penetration Seals Abstract: Due to a m° Inpower problem on the security staff, the hourly fire watch patrol was not'-executed on 11/4/84 between the hours of 0600 and 1700 in plant areas withs4egraded fire barriers . Additional instruction on the importance of staffing for fire-watches has been provided to security supervisors as a result of this event.
Byron 1	11/15/1984	12/13/1984	This revised LER is submitted to designate the cause code assigned this event. Diesel Oil Storage System Out Of Service Without A Fire Watch Abstract: The Fire Protection Foam System for the Diesel Oil Storage Tank Rooms was removed from service and a fire watch was established by the Construction Department . The fire watch was terminated prior to returning the foam system to service . When the Operating Department discovered the foam system was out of service with no fire watch they immediately established a fire watch and then returned the system to service.
Byron 1	12/21/1984	01/08/1985	Impaired Fire Barrier Abstract: POWER LEVEL - 000%. ON 12-21-84, WITH THE PLANT OPERATING IN MODE 5, A PENETRATION (WITH FOUR CONDUIT PIPES) ON A FIRE WALL WAS FOUND THAT WAS NOT PROPERLY SEALED. THE PENETRATION IS LOCATED IN THE FUEL HANDLING BLDG ON THE 401' -9' ELEVATION. THE PENETRATION WAS INITIALLY FOUND BY SECURITY AT 1126. FOLLOWING DISCOVERY, THE OPENING WAS PLUGGED WITH METAL, AND SUBSEQUENTLY, AN HOURLY FIRE WATCH WAS ESTABLISHED. THE PENETRATION IS LOCATED ABOVE A SECURITY BARRIER WHICH IS CHECKED BY SECURITY EVERY 2 HRS. ALSO, UNTIL 11-19-84, A 24 HR FIRE WATCH WAS IN EFFECT IN THE FUEL HANDLING BLDG UNTIL FUEL LOAD WAS COMPLETED ON UNIT 1. A NOTIFICATION OF FIRE BARRIER IMPAIRMENT WAS ISSUED TO COVER THIS PENETRATION. THE PENETRATION WAS SEALED ON 12-29-84. ALL AREAS ON UNIT 1 SIDE WERE REVIEWED TO SEE IF HOURLY FIRE WATCHES WERE ESTABLISHED TO COVER FIRE RATED ASSEMBLY IMPAIRMENTS. THERE HAVE BEEN NO PREVIOUS OCCURRENCES.
Byron 1	01/17/1985	04/11/1985	Missed CO2 Monthly Surveillance Abstract: POWER LEVEL - 000%. FROM 1-17-85 - 3-13-85, CO(2) FIRE PROTECTION SYSTEM VALVE ALIGNMENT WAS NOT VERIFIED PER TECH SPECS. THIS WAS BECAUSE THE SURVEILLANCE COORDINATOR ERRONEOUSLY BELIEVED THAT THE ACTIONS BEING TAKEN FOR A FAILED PORTION OF THE CO(2) SYSTEM COVERED ALL PORTIONS OF THE SYSTEM. HE HAS BEEN INSTRUCTED TO CHECK FAILED SURVEILLANCES AGAINST THE ACTIONS BEING TAKEN TO MEET THE TECH SPEC ACTION REQUIREMENTS TO DETERMINE IF PORTIONS OF SURVEILLANCES MUST CONTINUE TO BE PERFORMED.
Byron 1	02/04/1985	03/01/1985	Fire Protection Detectors Documentation Error Abstract: The number of fire detectors installed in the Fuel Handling Building, although acceptable for fire protection, was not consistent with the number in the effective revision of the Architect Engineer's (AE) detector layout prints and with the revision of the plant's Technical Specifications in force up to February 17, 1985 . Consequently the plant was in violation of the Tech . Specs from the license date of 10/31/84 through 12/21/84 when a fire watch was established per another LCO action requirement . The violation was discovered as a result of a fire protection surveillance on 2/4/84 . The applicable Tech . Spec . action statement was verified when the violation was noted . The AE's detector prints were revised to reflect actual detector layout, and the current revision of the Tech . Specs also reflects the actual layout.
Byron 1	02/17/1985	03/15/1985	Failure of an Hourly Fire Watch Abstract: On February 17, 1985, the security computer failed, preventing an hourly fire watch from security to go into his assigned area . In the future, a key will be issued to fire watch personnel when computer access cannot be obtained . Access keys for this purpose have been prepositioned in the Access Control Building.
Byron 1	04/10/1985	04/25/1985	Fire Watches Prevented Due to Aux Bldg Access Restrictions Abstract: On April 10, 1985 while in Mode 1 at 30% power, fire watches in the Auxiliary Building were suspended for a period of 3 hours due to a precautionary evacuation of the Auxiliary Building, Level 346' . The evacuation was declared due to ALARA concerns following the rupture of the OA Boric Acid Evaporator rupture disk. Upon completion of surveys by health physics personnel, access through the Auxiliary Building and normal fire watches were resumed .
Byron 1	05/17/1985	06/14/1985	Hourly Fire Watch Delayed Due to Security Computer Failure Abstract: POWER LEVEL - 000%. ON 5-17-85 A SECURITY COMPUTER FAILURE REQUIRED DUAL VERIFICATION THAT SECURITY DOORS WERE LEFT SHUT AND LOCKED BY THE FIRE WATCH PATROLS. TO PROVIDE THIS DUAL VERIFICATION AT 2210 HRS A SECURITY SUPERVISOR DIRECTED 2 FIRE WATCH PATROLS TO BE COMBINED AND THE 2 FIRE WATCHES TO WALK THE COMBINED ROUTE JOINTLY BELIEVING THE TIME CONSTRAINTS COULD BE MET IN PLACE OF ASSIGNING SEPARATE SECURITY OFFICERS. THIS RESULTED IN ONE OF THE TWO PATROL'S NORMAL ROUNDS BEING PERFORMED 36 MINS LATE. THE FIRE WATCH PATROL, HAD BEEN ESTABLISHED DUE TO PENETRATIONS IN THE PLANT'S FIRE BARRIERS DUE TO CONSTRUCTION WORK IN PROGRESS. TO PREVENT RECURRENCE, THE LOCKS ON THE SECURITY DOORS HAVE BEEN CHANGED TO A SELF-LOCKING VARIETY, ELIMINATING THE REQUIREMENT OF DUAL VERIFICATION ON A SECURITY COMPUTER OUTAGE. SECURITY SUPERVISORS HAVE BEEN DIRECTED AGAINST REVISING THE ESTABLISHED FIRE WATCH ROUTES WITHOUT APPROVAL OF THE STATION'S FIRE MARSHAL. THE INSTALLED FIRE DETECTION INSTRUMENTATION SYSTEMS FOR THE AFFECTED AREAS WERE OPERABLE, INSURING THAT PLANT SAFETY WAS NOT AFFECTED. THERE HAS BEEN 1 PRIOR INSTANCE OF FIRE WATCH PATROLS BEING DELAYED DUE TO A SECURITY COMPUTER FAILURE. THIS WAS REPORTED IN LER 85-021.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Byron 1	05/19/1985	06/14/1985	Missed Hourly Fire Watch Abstract: POWER LEVEL - 000%. ON MAY 19, 1985 AT 1410 WHILE IN MODE 3, ONE HOURLY FIRE WATCH PATROL WAS NOT CONDUCTED DUE TO A PERSONNEL ASSIGNMENT ERROR BY THE DUTY SECURITY SERGEANT. UPON SHIFT TURNOVER, AFTER DISMISSING THE OFF-GOING FIRE WATCH PATROLS ONE OF THE ON COMING FIRE WATCHES WAS INCORRECTLY ASSIGNED ALTERNATE DUTIES WITHOUT RELIEF ASSIGNED TO CONDUCT THE FIRE WATCH. WHEN THE FIRE WATCHES' LOGS WERE REVIEWED BETWEEN ROUNDS THE OMISSION WAS DETECTED AND ADDITIONAL PERSONNEL ASSIGNED. APPROPRIATE DISCIPLINARY ACTIONS WERE TAKEN AGAINST THE SERGEANT INVOLVED. ADDITIONALLY TO PRECLUDE RECURRENCE AN ADDITIONAL SECURITY SERGEANT HAS BEEN ASSIGNED TO SOLELY SUPERVISE AND INSURE PROPER FIRE WATCH PERFORMANCE. THE FIRE WATCHES WERE IN EFFECT DUE TO PENETRATIONS IN THE STATION'S FIRE BARRIERS FROM CONSTRUCTION WORK IN PROGRESS. ONE PRIOR OCCURRENCE OF A MISSED FIRE WATCH DUE TO A LACK OF PERSONNEL WAS REPORTED IN LER 84-001-00.
Byron 1	05/28/1985	06/17/1985	Missed Fire Watches Due to Aux Bldg Airborne Activity Abstract: On May 28 . 1985, power, fire watch patrols were restricted from performing their assigned rounds of the Auxiliary Building. The restrictions resulted from ALARA concerns due to a release of gaseous radiation while performing a venting of the Volume Control Tank of the Chemical and Volume Control System . Due to the airborne activity alarms received, personnel access to the Auxiliary Building was restricted to allow the short-lived activity to decay and the affected levels to be surveyed and released to normal usage. Upon restoration, normal fire watches were resumed.
Byron 1	09/02/1985	09/27/1985	Fire Watches Not Promptly Initiated on Surveillance Failure Abstract: POWER LEVEL - 050%. DURING THE PERFORMANCE OF TECH SPEC SURVEILLANCE OBOS 7.10.2.2.A-1 IT WAS NOTED THAT 4 SPRINKLER SYSTEMS IN THE AUX BLDG DID NOT ALARM AS REQUIRED WHEN TESTED. THE SURVEILLANCE WAS COMPLETED AT 1900 HRS ON 9-2-85, BUT THE LCO ACTION REQUIREMENTS WERE NOT INITIATED UNTIL 0515 HRS ON 9-3-85 WHEN THE MANAGEMENT REVIEW WAS PERFORMED. THEREFORE, A VIOLATION OF TECH SPECS OCCURRED IN THAT THE APPROPRIATE FIRE WATCH REQUIREMENTS OF THE TECH SPEC ACTION STATEMENT WERE NOT IN PLACE WITHIN THE REQUIRED INTERVAL. IT WAS LATER VERIFIED BY THE STATION FIRE PROTECTION ENGINEER THAT THE 4 ALARMS WHICH FAILED ON 9-2-85 WERE, INDEED, OPERABLE AND SURVEILLANCE SHOULD NOT HAVE FAILED. THE EQUIPMENT OPERATORS INVOLVED IN THE SURVEILLANCE HAVE BEEN INSTRUCTED TO IMMEDIATELY INFORM THE PROPER PERSONNEL OF ANY EQUIPMENT FAILURE.
Byron 1	09/24/1985	10/24/1985	Delayed Fire Watch Due to Key Stuck in Vital Area Door Lock Abstract: POWER LEVEL - 091%. ON 9-24-85 AT 0935 CDT, THE PERFORMANCE OF A FIRE WATCH'S HOURLY ROUNDS WAS DELAYED APPROX 25 MINS DUE TO SECURITY EQUIPMENT PROBLEMS. AN OUTAGE OF THE STATION'S SECURITY COMPUTER NECESSITATED THE ISSUANCE OF VITAL AREA KEYS TO FIRE WATCH PERSONNEL. UPON RESUMING HIS ROUNDS, THE FIRE WATCH'S KEY BECAME STUCK IN THE LOCK OF A VITAL AREA DOOR. AS IT WOULD HAVE VIOLATED THE STATION'S SECURITY PROGRAM TO LEAVE THE DOOR UNATTENDED WITH THE KEY IN THE LOCK, THE FIRE WATCH WAS UNABLE TO CONTINUE HIS ROUNDS UNTIL ANOTHER SECURITY PERSON COULD RELIEVE HIM AT THE DEGRADED DOOR. THE LACK OF STATION COMMUNICATIONS EQUIPMENT (PHONE OR PAGE) IN THE VICINITY OF THE DOOR PREVENTED THE SUMMONING OF ASSISTANCE UNTIL OTHER STATION PERSONNEL ENTERED THE AREA. ONCE A SECURITY RELIEF WAS ARRANGED AT THE DOOR, THE ROUND WAS RESUMED. PERMANENTLY INSTALLED FIRE DETECTION EQUIPMENT WAS OPERABLE. THE FIRE WATCH WAS IN EFFECT DUE TO BREACHED FIRE BARRIERS IN ACCORDANCE WITH TECH SPEC 3.7.11. THE FAULTY LOCK WAS REPAIRED. THERE HAVE BEEN NO PREVIOUS OCCURRENCES OF FIRE WATCHES BEING DELAYED DUE TO FAULTY LOCKS.
Byron 1	10/16/1985	11/15/1985	Delayed Fire Watch Due to Key Stuck in Vital Area Door Lock Abstract: POWER LEVEL - 092%. ON OCTOBER 16, 1985, AT 1542, WITH THE PLANT IN MODE 1 AT 92% POWER, A FIRE WATCH WAS DELAYED 20 MINUTES DUE TO A VITAL AREA DOOR KEY GETTING STUCK IN DOOR D348 DURING A SECURITY COMPUTER OUTAGE. THE STATION'S SECURITY PROGRAM REQUIRES THAT THE DOOR BE ATTENDED WHILE ITS LOCK IS INOPERABLE. THE FIRE WATCH ATTEMPTED TO SUMMON ASSISTANCE USING A NEARBY PAGE SYSTEM PHONE, BUT THE PAGE WAS OUT OF SERVICE. WHEN A SECURITY OFFICER ARRIVED AT THE DOOR THE FIRE WATCH WAS ABLE TO CONTINUE HIS ROUNDS. BEFORE THE NEXT ROUND WAS CONDUCTED, THE DOOR LOCK WAS REPAIRED. THE LOCK FAILURE RESULTED DUE TO A SET SCREW, WHICH MAINTAINS THE LOCK'S CYLINDER IN POSITION, LOOSENING AND ALLOWING THE CYLINDER TO TURN WHEN THE KEY WAS USED TO OPEN THE DOOR. THE ROTATION OF THE CYLINDER TRAPS THE KEY WITHIN THE LOCK WHICH RENDERS THE LOCK INOPERABLE. THIS MODEL OF LOCK IS BEING REPLACED BY A MORE SUITABLE MODEL UNDER WORK REQUEST NUMBER B99703. THE FIRE WATCHES CONDUCTING PATROLS IN ACCORDANCE WITH TECH SPEC REQUIREMENTS HAVE BEEN ISSUED RADIOS TO IMPROVE THEIR COMMUNICATIONS CAPABILITIES WITHIN THE PLANT.
Byron 1	05/27/1986	06/19/1986	INADEQUATE RIVER SCREEN HOUSE FIRE WATCH FOLLOWING PLANT MODIFICATION DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 073%. AT 1800 ON 5-27-86 FOLLOWING INSTALLATION OF A BACKUP ELECTRICAL POWER SUPPLY FOR THE RIVER SCREEN HOUSE CARBON DIOXIDE FIRE PROTECTION SYSTEM, THE CONTINUOUS FIRE WATCH REQUIRED BY TECH SPECS WAS INADVERTETNLY RELEASED FROM HIS POST BY THE SUPERVISING ENGINEER. ALTHOUGH THE SYSTEM WAS CAPABLE OF AUTOMATIC INITATION IN THE EVENT OF A FIRE, OPERABILITY TESTING AND FORMAL EXIT FROM THE LIMITING CONDITION FOR OPERATION ACTION REQUIREMENT (LCOAR) HAD NOT BEEN COMPLETED. UPON DISCOVERY OF THE EVENT AT 2100 ON 5-27-86, THE FIRE WATCH WAS IMMEDIATELY REESTABLISHED. THEREFORE, A VIOLATION OF TECH SPECS OCCURRED IN THAT APPROPRIATE FIRE WATCH REQUIREMENTS WERE NOT IN PLACE FOR A 3 HOUR PERIOD. THE ROOT CAUSE OF THE INADEQUATE FIRE WATCH WAS A COGNITIVE PERSONNEL ERROR ON THE PART OF THE SUPERVISING ENGINEER WHO INCORRECTLY ASSUMED SYSTEM OPERABILITY UPON COMPLETION OF EQUIPMENT INSTALLATION WITHOUT TESTING. THE ENGINEER WHO RELEASED THE FIRE WATCH HAS BEEN COUNSELED REGARDING HIS RESPONSIBILITIES AND INSTRUCTED ON PROCEDURES RELATING TO TECH SPEC FIRE WATCHES. FIRE PROTECTION TECH SPEC LCOAR PROCEDURES WILL BE REVISED TO PROVIDE INCREASED SUPERVISION OF FIRE WATCH STATUS. A PREVIOUS SIMILAR OCCURRENCE WAS REPORTED
Byron 1	12/29/1997	03/04/1998	1B Diesel Generator Control Power Wiring Discrepancy due to a Modification Installation Error and Programmatic Deficiencies Abstract: On December 29, 1997, during the performance of Special Procedure 97-033, it was discovered that the 1B Emergency Diesel Generator (DG) was wired in such a configuration that it may not have continued to operate if a fire had occurred in fire zones 11.5-0 or 11.6-0. A wiring error occurred in May of 1996 during the installation of a design change which re-powered vital components to the credited DC control power supply relied upon for the 1B DG. A normally connected wire was mistakenly removed and the intended wire which remained resulted in both DG DC control power supplies being cross-tied. A fire in zone 11.5-0 or 11.6-0 could have resulted in the loss of both control power circuits for the 1B DG. The DG control circuit was not impacted in any way by the incorrectly removed wire. The cause of the wiring problem was both an error on the part of the technician installing the design change and a programmatic deficiency in that the installation process did not provide for independent verification. The corrective actions include counseling the technician involved in the installation error by management and initiating programmatic changes to require independent verification for all Safety Related and Regulatory Related design changes which involve wiring termination/determinations. In addition, a comprehensive wiring verification was performed in all four DG local panels to confirm the as-built configuration of the wiring against design drawings. This event is reportable per 10CFR50.73(a)(2)(ii).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Byron 1, Byron 2	01/11/1987	02/13/1987	Technical Specification Required Continuous Fire Watch Not Established Due To Personnel Error Abstract: POWER LEVEL - 070%. AT APPROXIMATELY 0210 ON 01-11-87 DURING PERFORMANCE OF QUARTERLY FIRE PROTECTION SPRINKLER SYSTEM ALARM SURVEILLANCE THE FIRE ALARM FAILED TO ANNUNCIATE IN THE MAIN CONTROL ROOM WHEN FLOW WAS ESTABLISHED AT THE INSPECTOR'S TEST CONNECTION FOR THE UNIT 2 CONTAINMENT PENETRATION AREA. THIS WAS ONE OF THE ACCEPTANCE CRITERIA FOR THE SURVEILLANCE. THE EQUIPMENT ATTENDANT (NON-LICENSED) WHO WAS PERFORMING THE SURVEILLANCE RECORDED THE FAILURE ON THE PROCEDURE, BUT FAILED TO IMMEDIATELY NOTIFY THE SHIFT ENGINEER, AS REQUIRED BY THE SURVEILLANCE PROCEDURE, THAT THE ACCEPTANCE CRITERIA FOR THE AREA HAD NOT BEEN SATISFIED. THE LICENSED SUPERVISOR UPON DISCOVERING THE ERROR ON 01-16-87, IMMEDIATELY NOTIFIED THE SHIFT ENGINEER WHO DECLARED THE SYSTEM INOPERABLE AND ESTABLISHED A CONTINUOUS FIRE WATCH WITH BACKUP SUPPRESSION EQUIPMENT IN THE AREA IN ACCORDANCE WITH TECH SPEC LIMITING CONDITIONS OF OPERATION ACTION REQUIREMENTS. THE ROOT CAUSE OF THIS EVENT WAS A PROCEDURAL PERSONNEL ERROR ON THE PART OF THE EQUIPMENT ATTENDANT, IN THAT, CONTRARY TO AN APPROVED PROCEDURE, HE FAILED TO NOTIFY THE SHIFT ENGINEER THAT THE ACCEPTANCE CRITERIA HAD NOT BEEN SATISFIED. CORRECTIVE ACTIONS INCLUDE COUNSELING THE EQUIPMENT ATTENDANT AND ISSUING A DAILY
Byron 1, Byron 2	03/10/1987	04/08/1987	Technical Specification Required Fire Watch Improperly Established Due to a Procedural Deficiency Abstract: POWER LEVEL - 000%. AT ABOUT 0915, ON 3-10-87, CONTRACTOR PERSONNEL INADVERTENTLY DAMAGED A FIRE PROTECTON SPRINKLER HEAD IN THE AUX BLDG STAIRWAY AREA. THE SYSTEM WAS ISOLATED AND DECLARED INOPERABLE. THE WRONG TECH SPEC LCO ACTION REQUIREMENT WAS ENTERED. A HOURLY FIRE WATCH WAS ESTABLISHED WHEN A CONTINUOUS WAS REQUIRED. THIS WAS DUE TO A PROCEDURAL DEFICIENCY IN THAT THE INFORMATION NEEDED TO MAKE THE CORRECT DECISION WAS NOT INCORPORATED INTO THE LCOAR PROCEDURE. THE ERROR WAS DISCOVERED BY THE FIRE MARSHALL AT 0945 3-11-87 AND A CONTINUOUS FIRE WATCH WAS IMMEDIATELY ESTABLISHED. THE INFORMATION NEEDED TO MAKE THE CORRECT DECISIONS WAS IN A TECH SPEC INTERPRETATION SECTION. HOWEVER, THERE WAS NO REQUIREMENT FOR THIS INTERPRETATION TO BE CONSULTED. CORRECTIVE ACTIONS INCLUDE CHANGING THE LCOAR PROCEDURE AND TO PROVIDE FORMALIZED TRAINING TO LICENSED OPERATORS ON TECH SPEC INTERPRETATIONS. ADDITIONALLY EACH TECH SPEC THAT HAS AN ASSOCIATED INTERPRETATION WILL HAVE A RED DOT PLACED ON THE UPPER RIGHT CORNER OF THE PAGE. THIS WILL BE DONE ON THE SHIFT SUPERVISOR'S SHIFT CONTROL ROOM ENGINEER AND CONTROL ROOM OPERATOR'S COPIES OF THE TECH SPECS.
Byron 1, Byron 2	04/15/1987	07/20/1987	Fire Protection Carbon Dioxide System Inoperable Because of a Misaligned Valve Due to Personnel Error Abstract: POWER LEVEL - 000%. ON APRIL 15, DURING THE PERFORMANCE OF THE 18 MONTH SURVEILLANCE OF THE CARBON DIOXIDE (CO(2) SYSTEM IN THE DIESEL DRIVEN AUXILIARY FEEDWATER (AF) PUMP ROOM, IT WAS FOUND THAT CO(2) WAS ISOLATED TO THE ROOM. THE CO(2) TO THE AF PUMP ROOM WAS DECLARED INOPERABLE AND TROUBLESHOOTING TO FIND THE CAUSE BEGAN. ON APRIL 16, THE SYSTEM ENGINEER FOUND THE VAPOR PILOT VALVE WAS MISPOSITIONED CLOSED. THIS VALVE, WHICH IS NORMALLY OPEN, PROVIDES CO(2) AS A MOTIVE FORCE TO OPEN MAIN CO(2) HEADER VALVES. WITH THIS MOTIVE FORCE ISOLATED THE CO(2) SYSTEM CANNOT DISCHARGE AND IS INOPERABLE. THE VAPOR PILOT VALVE WAS IMMEDIATELY OPENED. THE LAST TIME IT CAN BE DEMONSTRATED THE VALVE WAS OPENED WAS ON APRIL 4 WHEN AN INADVERTENT CO(2) DISCHARGE OCCURRED. THE ROOT CAUSE IS TO HOW THIS VALVE BECAME CLOSED IS UNKNOWN. IT IS SUSPECTED THE VALVE WAS INADVERTENTLY CLOSED DURING THE RECHARGING OF THE TANK AFTER THE DISCHARGE ON APRIL 4. IN ADDITION, THIS VALVE WAS NOT ON ANY DESIGN DOCUMENTS AND CONSEQUENTLY NOT UNDER STATION CONTROL. THERE WERE EITHER HOURLY OR CONTINUOUS FIRE WATCHES ESTABLISHED IN ALL AREAS AFFECTED, THUS SATISFYING THE TECH SPEC REQUIREMENTS THAT CORRESPOND TO THE CO(2) SYSTEM BEING INOPERABLE. BASED ON THE SUPPLEMENTAL
Byron 1, Byron 2	09/02/1987	09/23/1987	Temporary Lack Of Continuous Fire Watch Due To Cognitive Personnel Error Abstract: POWER LEVEL - 086%. ON SEPTEMBER 2, 1987, AT 1235, WITH UNIT 1 AT 86% POWER AND UNIT 2 IN MODE 4, A CONTINUOUS FIRE WATCH IN THE UNIT 2 LOWER CABLE SPREADING ROOM (LCSR) LEFT HIS ASSIGNED AREA TO COMPLETE HIS WHOLE BODY COUNT PROCESSING. THE ACTION WAS TAKEN WITH THE CO(2) SYSTEM FOR THE UNIT 2 LCSR INOPERABLE. THE CONTRACTOR ASSIGNED AS THE FIRE WATCH WAS SCHEDULED FOR TERMINATION ON THE SAME DAY AS THE EVENT. AFTER HE RECEIVED THE EMPLOYMENT TERMINATION PROCESSING PAPER FROM HIS FOREMAN, HE LEFT HIS ASSIGNED POST TO COMPLETE THE PROCESSING, THINKING HE WAS IMMEDIATELY RELEASED FROM HIS JOB RESPONSIBILITIES. THE STATION FIRE MARSHAL REPORTED THE CONDITION TO THE SHIFT ENGINEER WHERE THE UNIT 2 LCSR WAS IMMEDIATELY POSTED WITH A QUALIFIED FIRE WATCH. THE AREA WAS WITHOUT AN OPERABLE CO(2) SUPPRESSION SYSTEM AND WITHOUT A CONTINUOUS FIRE WATCH FOR 1 HOUR AND 7 MINUTES. THE CAUSE OF THE EVENT WAS A COGNITIVIE PERSONNEL ERROR. THERE HAVE BEEN 3 PREVIOUS OCCURRENCES OF THIS NATURE.
Byron 1, Byron 2	03/04/2016	05/03/2016	Auxiliary Feedwater Diesel Intake Design Deficiency Related to Turbine Building High Energy Line Break Resulted in an Unanalyzed Condition due to Insufficient Validation of Vendor Analysis Inputs Abstract: On March 4, 2016, during the Braidwood NRC Component Design Basis Inspection, a concern was raised regarding why it was acceptable for the diesel driven Auxiliary Feedwater (AF) pump engine combustion air intake to be located in the turbine building, a non-safety related structure. On March 7, 2016, the additional evaluations that were completed for Byron determined that the existing configuration did not adequately support diesel engine operation with high energy line break (HELB) conditions in the turbine building, and at 0400 hours Operations entered Technical Specification Limiting Condition for Operation 3.7.5, "Auxiliary Feedwater (AF) System," Condition A, "One AF train inoperable," for one train (B-train) of AF inoperable for both Units 1 and 2. The AF trains were declared operable following a corrective action to install a temporary configuration change to provide an engine combustion air intake from the auxiliary building. The cause of the event was insufficient validation of vendor analysis inputs in 1993 while reviewing the AF diesel engine's ability to function during a turbine building HELB event. The corrective actions planned are to develop and install a permanent modification to re-route the AF diesel engine intakes for Unit 1 and 2.
Byron 2	02/19/1994	03/16/1994	ROOM TEMPERATURE READING TAKEN AT WRONG LOCATION CAUSING A MISSED TECH SPEC SURVEILLANCE DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 099%. While investigating the operability of 2TIC-VX03 following repair, operators discovered that a Technical Specification required temperature reading for the Division 22 Cable Spreading Room was not being taken from the correct location in the room. The temperature was obtained from the correct location on third shift on February 19, 1994 by using a Doric hand held temperature probe. The temperature had last been taken from the correct location on first shift on January 30, 1994. There was approximately 21 days between properly obtained temperature readings in this area. Technical Specifications require checking the temperature every 12 hours. The root cause of this event was an incorrect determination of the proper location for taking temperature readings during repair of 2TIC-VX03, due to confusion on the physical layout of the adjoining rooms and cable tunnel. This event is reportable per 10CFR 50.73(a)(2)(i)(B) as operation prohibited by Technical Specifications.
Callaway	06/12/1984	07/06/1984	Technical Specification Violation - Missed Hourly Fire Watch Abstract: POWER LEVEL - 000%. ON 6/12/84, FROM 1600 TO 1700 CDT, PRIOR TO INITIAL FUEL LOADING, HOURLY FIRE WATCH PATROLS FOR FOUR ROOMS IN THE CONTROL BUILDING WERE MISSED IN VIOLATION OF TECH SPEC ACTION STATEMENT 3.7.11.A. THE MISSED ROOMS RESULTED IN FIRE BARRIERS WITH INOPERABLE PENETRATION SEALS NOT BEING PATROLLED DURING THE 1700 HR PATROL. THE CAUSE OF THIS WAS DOOR LOCKS BEING CHANGED TO COINCIDE WITH RECEIPT OF THE OPERATING LICENSE AND NEW KEYS NOT BEING MADE PROMPTLY AVAILABLE TO FIRE WATCH PERSONNEL. APPROPRIATE KEYS WERE ISSUED AND PATROLS TO AT LEAST ONE SIDE OF THE INOPERABLE SEALS WERE RE-ESTABLISHED DURING THE 1800 HR PATROL. PATROLS TO BOTH SIDES OF THE INOPERABLE SEALS WERE REESTABLISHED DURING THE 1900 HR PATROL. THE REQUIRED ROOM FIRE DETECTION AND SUPPRESSION SYSTEMS WERE OPERABLE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Callaway	02/08/1985	04/29/1985	Technical Specification Violation Abstract: POWER LEVEL - 100%. ON 2-8-85 TECH SPEC FIRE DOOR 14031 WAS OPENED TO ALLOW EXTRA COOLING OF THE MOTOR GENERATOR SETS ROOM. IN ACCORDANCE WITH TECH SPEC 3.7.11, OPERATORS VERIFIED THE OPERABILITY OF FIRE DETECTORS ON 1 SIDE OF THE PENETRATION AND ALSO ENSURED THAT AN HOURLY FIRE WATCH WAS IN EFFECT. THE PLANT WAS IN MODE 1 AT 100% POWER WHEN FIRE DOOR 14031 WAS OPENED. ON 2-10-85 IT WAS DETERMINED THAT WITH FIRE DOOR 14031 OPEN THE HALON SUPPLY TO THE MG SETS ROOM WOULD NOT BE ABLE TO MAINTAIN THE PROPER CONCENTRATION IF CALLED UPON AND WAS THEREFORE INOPERABLE. WITH THE HALON SYSTEM INOPERABLE TECH SPEC 3.7.10.3 REQUIRES A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION WITHIN 1 HR. A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION WAS THEN ESTABLISHED AND MAINTAINED UNTIL FIRE DOOR 14031 WAS CLOSED. THIS EVENT WAS INITIALLY DETERMINED NONREPORTABLE BASED ON AN INTERPRETATION THAT ACTION STATEMENTS ARE NOT CASCADING. TECH SPEC 3.7.10.3 WOULD THEREFORE NOT APPLY BECAUSE THE FIRE DETECTION SYSTEM WAS CAPABLE OF DETECTING A FIRE, AND WOULD PROMPT OPERATOR ACTION. HOWEVER, DISCUSSIONS WITH THE RESIDENT INSPECTOR ON 4-4-85 HAVE CONCLUDED THAT TECH SPEC 3.7.10.3 DID APPLY AND A CONTINUOUS FIRE WATCH SHOULD HAVE BEEN ESTABLISHED WHEN FIRE DOOR 14031 WAS OPENED. THEREFORE, THIS EVENT IS
Callaway	06/24/1985	11/06/1985	Technical Specification Violation Abstract: POWER LEVEL - 100%. THIS LER CONSISTS OF SEVERAL RELATED INCIDENTS. EACH OCCURRED WITH THE PLANT IN MODE 1, AT 100% POWER. ON 6-24-85, NUCLEAR ENGINEERING PERSONNEL BECAME AWARE OF PARTIAL RESULTS OF A RACEWAY INSPECTION IDENTIFYING FIRE WRAP DEFICIENCIES, BUT FAILED TO RECOGNIZE THE APPLICABILITY OF TECH SPECS. THE RESULTS WERE FORWARDED TO PLANT PERSONNEL. FIRE WATCHES WERE ESTABLISHED IN THE AFFECTED AREAS ON 7-25-85. ON 7-26-85 FW PERSONNEL DISCOVERED THEY PATROLLED A WRONG AREA, FAILING TO MEET TECH SPEC IN 1 AREA. THE PATROL FOR THE CORRECT AREA WAS ESTABLISHED ON 7-26-85. ON 8-1-85 THE FW WAS INADVERTENTLY CANCELLED FOR 1 AREA, BECAUSE FIRE PROTECTION PERSONNEL HAD FAILED TO INITIATE THE PROPER DOCUMENTATION. THE PROPER FIRE WATCH WAS REESTABLISHED ON 8-2-85. THE RACEWAY INSPECTION HAS BEEN COMPLETED, EXCEPT FOR 1 LOCATION IN CONTAINMENT. FP PERSONNEL HAVE REVIEWED THE RESULTS AND ENSURED APPROPRIATE FW ARE IN PLACE. PAPERWORK HAS BEEN INITIATED TO CORRECT THE RACEWAY DEFICIENCIES. PROCEDURES WILL BE REVIEWED FOR POTENTIAL CLARIFICATION OF PERSONNEL RESPONSIBILITIES FOR REPORTING SIGNIFICANT ITEMS OF CONCERN TO APPROPRIATE PLANT MANAGEMENT. ADDITIONAL TRAINING RELATIVE TO APPLICABILITY OF TECH SPEC AND REPORTABILITY WILL BE CONDUCTED. WITH THE EXCEPTION OF 1 AREA, THE AREAS WITH DEFICIENT FIRE WRAP
Callaway	07/15/1985	08/09/1985	Technical Specification Violation Abstract: POWER LEVEL - 100%. AT 2123 CDT ON 7-15-85 OPERATORS ACKNOWLEDGED AN ALARM ON TECH SPEC 3.3.3.7 FIRE DETECTION ZONE 308 CAUSED BY COOKING IN THE CONTROL ROOM PANTRY, BUT OVERLOOKED RESETTING THE ALARM OR ESTABLISHING FIRE WATCHES WITHIN TECH SPEC 3.3.3.7 ACTION B TIME LIMITS. THIS ALARM CONDITION RENDERED THE REMAINING ZONE 308 FIRE DETECTORS INCAPABLE OF PROVIDING ALARM TO THE CONTROL ROOM IF NEEDED. AT 0158 CDT ON 7-16-85 THE CONDITION WAS DISCOVERED AND IMMEDIATE CORRECTIVE ACTION INVOLVED RESETTING THE ALARM TO RESTORE THE ZONE 308 DETECTORS TO AN OPERABLE STATUS. THE PLANT WAS IN MODE 1 AT 100% POWER AT THE TIME OF THE EVENT. TO PREVENT RECURRENCE, THE INCIDENT REPORT WAS ROUTED TO OPERATORS AND OPERATING SUPERVISORS FOR THEIR REVIEW. ADDITIONALLY, A CALLAWAY MODIFICATION REQUEST WAS INITIATED TO INVESTIGATE THE POSSIBILITY OF MODIFYING ZONE 308 OR REPLACING THE CONTROL ROOM PANTRY IONIZATION DETECTOR WITH A HEAT DETECTOR TO ELIMINATE FALSE ALARMS FROM COOKING. THIS EVENT DID NOT PRESENT A SIGNIFICANT SAFETY CONCERN. THE AREAS OF ZONE 308 WHICH WERE NOT BEING PATROLLED BY FIREWATCH PERSONNEL, ARE EITHER IN PROXIMITY TO THE CONTROL ROOM WHICH IS CONTINUOUSLY MANNED OR ARE PROTECTED BY AN AUTOMATIC SPRINKLER SYSTEM. ACTUATION OF THE SPRINKLER SYSTEM WOULD HAVE INITIATED A FLOW ALARM IN THE CONTROL
Callaway	10/03/1987	10/28/1987	Failure to Maintain Continuous Firewatch for Blocked Open Fire Door When Personnel Misinterpreted a Fire Alarm Abstract: POWER LEVEL - 000%. A TECHNICAL SPECIFICATION CONTINUOUS FIRE WATCH (FW) WAS POSTED IN THE ENGINEERED SAFETY FEATURES SWITCHGEAR ROOMS (3301 AND 3302) BECAUSE THE FIRE DOORS WERE BLOCKED OPEN TO RUN AN ELECTRICAL CABLE BETWEEN THE ROOMS FOR TESTING SWITCHGEAR EQUIPMENT. AT 1027 CDT ON 10/3/87, THE CONTROL ROOM PANTRY IONIZATION TYPE FIRE DETECTOR ACTUATED WHEN AN OPERATOR OVERCOOKED HIS LUNCH CAUSING AN AUDIBLE FIRE ALARM. BETWEEN 1028 AND 1030, PERSONNEL IN ROOMS 3301 AND 3302, INCLUDING THE FW, LEFT THE AREA, MISTAKENLY ASSUMING THAT THE HALON FIRE-SUPPRESSION SYSTEM WAS PREPARING TO DUMP. THE FW WAS RE-ESTABLISHED AT 1040. THE PLANT WAS IN MODE 6, REFUELING. THE FW FAILED TO CONTACT THE CONTROL ROOM PRIOR TO EVACUATING THE AREA. THE FW DID NOT KNOW THE DIFFERENCE BETWEEN THE FIRE ALARM AND THE HALON ALARM. ADDITIONALLY, HE WAS INFLUENCED BY THE OTHER PERSONNEL LEAVING THE AREA. TO PREVENT RECURRENCE, THE TRAINING PROGRAM FOR FW PERSONNEL WILL BE REVISED. ADDITIONAL INSTRUCTIONS ON FIRE ALARMS AND APPROPRIATE ACTIONS TO BE TAKEN WILL BE PROVIDED FOR USE BY ROVING AND CONTINUOUS FW PERSONNEL. TO PREVENT DOOR OBSTRUCTIONS IN THIS AREA, ELECTRICAL RECEPTACLES ARE TO BE INSTALLED IN ROOMS 3301 AND 3302 FOR FUTURE TESTING
Callaway	03/14/1990	07/20/1990	Both Trains of Class IE Air Conditioner Units Could Have Been Disabled By The Fire Protection System Due To A Design Error Abstract: POWER LEVEL - 100%. AT 1115 ON 3/14/90, UTILITY ENGINEERING PERSONNEL DETERMINED THAT, CONTRARY TO THE DESIGN REQUIREMENTS OF 10CFR50 APPENDIX A, THE FIRE PROTECTION HALON SYSTEM FOR EITHER OF THE ENGINEERED SAFETY FEATURE (ESF) SWITCHGEAR ROOMS COULD HAVE DISABLED BOTH TRAINS OF CLASS IE AIR CONDITIONER (A/C) UNITS AND THEREBY PREVENTED THE PROPER VENTILATION AND COOLING OF THE SAFETY SYSTEMS LOCATED WITHIN THOSE ROOMS. THE LONG TERM OPERATION OF THE AFFECTED SAFETY SYSTEMS COULD HAVE BEEN DEGRADED WITHOUT ASSURANCE OF THE FULFILLMENT OF THE ESF SYSTEMS' SAFETY FUNCTIONS. THESE SYSTEMS INCLUDED TWO REDUNDANT 4.16KV ESF BUSES AND FOUR 480V ESF BUSES WHICH SUPPLY POWER TO VARIOUS PLANT SAFETY SYSTEMS. OPERATOR ACTION WOULD HAVE BEEN REQUIRED TO RESET THE HALON PANEL. 100% REACTOR POWER, AT THE TIME OF DISCOVERY. THE ROOT CAUSE OF THIS EVENT IS ATTRIBUTABLE TO A DESIGN ERROR MADE DURING THE CONSTRUCTION OF THE PLANT. THE ARCHITECTURAL ENGINEER (BECHTEL) MADE WIRING CHANGES INSIDE THE VENDOR SUPPLIED FIRE PROTECTION PANEL SUCH THAT BOTH CLASS IE A/C UNITS WOULD BE TRIPPED BY A HALON ACTUATION SIGNAL FROM EITHER ESF SWITCHGEAR ROOM. AS CORRECTIVE ACTION, THE FIRE PROTECTION PANEL WAS DEACTIVATED AND A DESIGN MODIFICATION WAS
Callaway	06/07/2002	06/25/2004	Hot short issue reveals potential for draining RWST to Containment Sump Abstract: On 6/7/2002, Wolf Creek Nuclear Operating Corporation (WCNOC) contacted the Callaway Plant Fire Protection Engineer and informed the engineer of a potential hot short issue involving EJHV8811A, BNHV8812A, EJHV8811B, and BNHV8812B where it would be possible to drain the Refueling Water Storage Tank (RWST) to containment sumps if a fire were to occur in a location where the control circuit cables for these valves are run in the same electrical raceway. Callaway Engineering conducted extensive investigations and concluded that this was a credible threat. A GL 91-18 Operability Determination was performed, the on-shift Control Room Shift Supervisor was appraised of the situation, and hourly fire watches were instituted for the affected rooms. Long term corrective actions are under evaluation pending NRC endorsement of NEI guidance. Revision 1: Thus far, the NRC has not endorsed the NEI guidance for fire induced circuit failure issues. The NRC did issue RIS 2004-04 on March 2, 2004. This revision of the LER is in response to the NRC guidance documented in the RIS.
Callaway	07/17/2003	04/23/2004	Engineering Evaluations incorrectly approved leaving Health Physics Access doors open. Abstract: This revision of LER 2003-007-00 is being submitted to delete the reporting criteria for an event or condition that could have prevented fulfillment of a safety function. Other previously identified reporting criteria remain applicable. On 7/17/03, with Callaway Plant at 100 percent power, an error was found in Engineering Evaluations that approved having the Health Physics (HP) Access doors 32201 and Hot Lab door 32282 open. These doors are pressure boundary doors between the Control Building and Communication Corridor and are required to be closed during accident conditions. With the doors open, HP Access Control fan coil unit SGKO3 would cause air from outside the Control Building to enter the HP Access area and mix with Control Building atmosphere. The Control Building atmosphere is credited in post-accident Control Room radiological consequence analysis and an outside air source has potential for impacting dose received by Control Room staff. An evaluation determined 25 minutes to close these doors in an emergency, which could result in an exposure of approximately 31.5 REM to Control Room staff. This dose was above regulatory limits and the event was classified as reportable as an unanalyzed event and a violation of Technical Specifications. When the door issue was

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Callaway	07/20/2011	09/16/2011	Post-Fire Safe Shutdown Latent Design Issue with Essential Service Water (ESW) Flow Balance Abstract: On July 20, 2011, during a review of the post-fire safe shutdown analysis for valve EFHV0060, "ESW Return from CCW B Heat Exchanger," a condition was discovered where a fire in the control room could cause valve EFHV0060 to open. Valve EFHV0060 is required to be closed for post-fire safe shutdowr when operating the "B" essential service water (ESW) train. The opening of EFHV0060 would cause a flow imbalance in the ESW system and could reduce the ESW flow to other essential components. The direct cause is a latent design deficiency that did not ensure that valve EFHV0060 was isolated/protected from the potential effects of a Control Room fire. An hourly fire watch was put into place in the control room and will remain in place until this issue is resolved. Procedure OTO-ZZ-00001, "Control Room Inaccessibility," was revised to include interim compensatory actions to de-energize, and verify closed, valve EFFIV0060.
Callaway	11/09/2011	01/06/2012	Callaway Plant is in the process of transitioning its Fire Protection Program to NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," pursuant to 10 CFR 50.48(c). The request to transition to 10 CFR 50.48(c) was submitted to the NRC on August 29, 2011 via letter ULNRC-05781. Implementation of the provisions of NFPA 805 is Postulated Fire Could Damage High Density Polyethylene (HDPE) Essential Service Water Piping Abstract: On 11/09/2011, Callaway Plant staff determined that the effects of a postulated design basis fire hazard in Control Building Room 3101 could potentially damage High Density Polyethylene (HDPE) piping in the Essential Service Water (ESW) system. In this scenario, fire-induced damage to the HDPE sections of a single train of ESW piping could cause Room 3101 to flood in excess of previously analyzed flood levels. Such a flood could adversely affect valves in redundant trains that function to realign ESW during a fire and the assumed concurrent loss of offsite power. The root cause of this condition was attributed to human performance error during development of a modification to replace sections of steel piping with HDPE piping in the ESW system. Specifically, personnel developing this modification did not effectively evaluate the failure modes of the HDPE piping installed in Room 3101.
Callaway	10/09/2013	12/09/2013	Following identification of this condition, an hourly fire watch was implemented in accordance with the Callaway Plant fire protection program. Corrective actions include implementation of additional management oversight of the design process to ensure Failure Mode and Effects Analysis quality and effective use of subject matter experts. The configuration of HDPE piping described herein will be Appendix R Unanalyzed Condition - Direct Current Ammeter Circuits without Overcurrent Protection Abstract: On October 9, 2013, during a review of industry operating experience, Callaway Plant Engineering determined an unanalyzed condition exists related to Control Room fire analysis requirements (10 CFR 50 Appendix R). The original plant wiring design and associated analysis for the Class 1E Train B batteries and chargers (including the B swing charger) do not include overcurrent protection features to limit the fault current. It was identified that a postulated fire in the Control Room could cause a ground loop through unprotected (unfused) Direct Current (DC) ammeter wiring and potentially result in excessive current flow and heating to the point of causing a secondary fire outside of the Control Room in cable raceways. The postulated secondary fire could affect safe shutdown equipment and potentially cause the loss of ability to conduct a safe shutdown. This scenario has not been analyzed in accordance with 10 CFR 50 Appendix R, Section III.G. Compensatory fire watch measures have been implemented and remain in place for the affected fire areas in the plant. The cause is that the original design of the DC ammeter circuits did not include fuses to protect ammeter cables. This design has been in place since construction and has only recently been identified as an issue based on
Calvert Cliffs 1	03/14/1980	04/14/1980	A Fire Barrier Penetration Between U-1 Cable Spreading Room and the Turbine Building not Sealed Abstract: While operating at 98% power, the Fire Marshall discovered a fire barrier penetration between U-1 cable spreading room and the turbine building was not sealed with flamastic fire retardant material. The shift supervisor was notified and a fire watch was immediately assigned to the area. Approved temporary patches were installed. A maintenance request was submitted and permanent repairs were started on 3/18/80 at 0745. This is not a repetitive occurrence. The penetration is an area inaccessible to routine inspection and would not have been noted during routine operator tours of the cable spreading room. Subsequent investigation of each penetration indicated that each cable tray involved had been worked on since initial construction.
Calvert Cliffs 1	05/11/1981	05/22/1981	No Instructions of the New Fire System Isolation Valves Abstract: It was discovered that both Auxiliary Building minus 10 feet elevation fire hose stations were isolated and not provided with a water supply from an operable hose station (Tech Spec 3.7.11.4). The cause was due to an error in instructions provided to the operator and the operator's unfamiliarity with the location of new fire system isolation valves. Corrective action was to reinstruct the personnel of the importance for accuracy when altering system line-ups.
Calvert Cliffs 1	06/30/1989	07/31/1989	Missing Fire Protection Damper Abstract: POWER LEVEL - 000%. ON 6/30/89, WHILE PERFORMING AN INSPECTION OF FIRE BARRIER PENETRATIONS, WITH THE UNIT IN MODE 5 AT 0% POWER, THE FIRE PROTECTION DESIGN ENGINEER DISCOVERED A FIRE DAMPER WAS PHYSICALLY MISSING IN THE SPENT FUEL POOL VENTILATION SYSTEM. THE LOCATION OF THE DAMPER WAS IDENTIFIED ON MECHANICAL PRINTS PRIOR TO ATTEMPTING TO INSPECT IT PHYSICALLY. THE DAMPER SHOULD HAVE BEEN INSTALLED IN THE BARRIER ON ELEVATION 69FT BETWEEN THE ELECTRICAL EQUIPMENT ROOM AND THE SPENT FUEL POOL AREA THE CAUSE OF THE EVENT WAS AN ERROR IN THE FACILITIES CHANGE REQUEST (FCR) THAT INSTALLED FIRE PROTECTION DAMPERS. AS PART OF CALVERT CLIFF'S COMPLIANCE WITH APPENDIX A TO BRANCH TECHNICAL POSITION APCSB 9.5.1, THE DAMPER SHOULD HAVE BEEN IDENTIFIED AND INSTALLED. IMMEDIATE CORRECTIVE ACTION FOR THIS EVENT INCLUDED ENTERING THE ACTION STATEMENT FOR PENETRATION FIRE BARRIERS AND MAKING A ONE HOUR REPORT UNDER 10CFR72. LONG-TERM CORRECTIVE ACTION INCLUDES INSTALLING THE MISSING DAMPER, EVALUATING THE FIRE PROTECTION PROGRAM, AND IMPROVING THE FCR PROCESS.
Calvert Cliffs 1	07/20/1989	10/27/1989	Switchgear Room Halon System Inoperable Due to Lack of Procedure for Disabling Master Solenoids Resulting in Conditions Prohibited by Technical Specifications Abstract: POWER LEVEL - 000%. AT APPROXIMATELY 0200 HOURS ON JULY 20, 1989, WITH UNIT 1 SHUTDOWN, A TECHNICIAN DISCOVERED A MASTER SOLENOID TO THE SWITCHGEAR ROOM HALON SYSTEM TO BE DISCONNECTED. UPON DISCOVERY, THE HALON SYSTEM WAS IMMEDIATELY DECLARED INOPERABLE AND AN HOURLY FIRE WATCH WAS ESTABLISHED. THE SOLENOID WAS RECONNECTED AND THE SOLENOID WAS VERIFIED OPERABLE BY A FUNCTIONAL TEST. FURTHER INVESTIGATION INDICATES THAT THE SOLENOID WAS LAST TAKEN OUT-OF-SERVICE ON JUNE 29, 1989 AND THEN INADVERTENTLY LEFT DISCONNECTED. THE ROOT CAUSE OF THIS EVENT IS PERSONNEL ERROR RESULTING FROM THE LACK OF A WRITTEN PROCEDURE FOR PERFORMING THIS TASK. CONTRIBUTING CAUSES INCLUDE AN INADEQUATE PROCEDURE FOR ADDRESSING FIRE SYSTEM IMPAIRMENTS AND THE FAILURE TO APPLY TEMPORARY MODIFICATIONS AND SAFETY TAGGING PROCEDURES TO THIS TASK. CORRECTIVE ACTIONS INCLUDE: REVISING A PROCEDURE TO APPLY TEMPORARY MODIFICATIONS AND SAFETY TAGGING TO FIRE SYSTEMS; REVISING A SURVEILLANCE TEST PROCEDURE FOR VERIFYING PLACEMENT OF SOLENOIDS; INSTALLING IDENTIFICATION TAGS ON SOLENOIDS; INSTALLING WARNING SIGNS ON HALON SYSTEMS; CONDUCTING A QUALITY ASSURANCE SURVEILLANCE ON APPLICABILITY AND WORKING KNOWLEDGE OF

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Calvert Cliffs 1	12/11/1989	10/19/1990	Technical Specification Violation - Missed Fire Watch Tour Due to Personnel Error Abstract: POWER LEVEL - 000%. ON DECEMBER 8, 1989, THE ACTION STATEMENT FOR UNIT 1 TECHNICAL SPECIFICATION (TS) 3.7.12 WAS ENTERED AS A PRECAUTIONARY MEASURE. IT HAD BEEN DETERMINED THAT VENTILATION DUCTS PENETRATING A TS FIRE BARRIER COULD NOT BE ACCESSED TO DETERMINE IF FIRE DAMPERS WERE INSTALLED. FOR ONE BARRIER, THERE IS SMOKE DETECTION ON BOTH SIDES OF THE BARRIER, BUT AUTOMATIC SPRINKLERS ONLY ON ONE SIDE. THEREFORE, AN HOURLY FIRE WATCH TOUR WAS INITIATED. ON DECEMBER 11, 1989, THE HOURLY FIRE WATCH TOUR WAS MISSED AT MIDNIGHT. THE HOURLY TOUR AT 2300 ON DECEMBER 10, 1989 AND THE HOURLY TOUR AT 0100 ON DECEMBER 11, 1989 WERE PERFORMED. UNIT 1 WAS IN COLD SHUTDOWN (MODE 5) DURING THE INCIDENT. THE CAUSE OF THE EVENT HAS BEEN DETERMINED TO BE COGNITIVE PERSONNEL ERROR. LACK OF MANAGEMENT OVERSIGHT CONTRIBUTED TO THE EVENT. A CONTRACT FIRE BRIGADE MEMBER WAS ASSIGNED TO PERFORM THIS TOUR AT MIDNIGHT. THE TOUR WAS NOT PERFORMED. THERE WAS NO PROGRAM IN PLACE TO INSURE THAT THIS ASSIGNMENT WAS CARRIED OUT. TO PREVENT FUTURE EVENTS OF THIS TYPE, A SINGLE CONTRACT FIRE BRIGADE MEMBER IS ASSIGNED, AS THEIR PRIMARY RESPONSIBILITY, TO PERFORM ALL HOURLY FIRE WATCH TOURS ON HIS SHIFT.
Calvert Cliffs 1	02/24/1990	03/26/1990	Inoperable Fire Barrier Penetration Caused by Personnel Error Results in Violation of Plant's Technical Specifications Abstract: POWER LEVEL - 000%. ON 2/24/90, AT APPROXIMATELY 0700, AND AGAIN ON 3/9/90, AT APPROXIMATELY 0200, IT WAS DISCOVERED THAT CALVERT CLIFFS UNIT 1 FAILED TO MEET AN ACTION REQUIREMENT ASSOCIATED WITH TECHNICAL SPECIFICATION (TS) 3.7.12 'PENETRATION FIRE BARRIERS'. AT THE TIME OF DISCOVERY IN BOTH CASES, UNIT 1 WAS SHUTDOWN IN MODE 5, WITH A REACTOR COOLANT TEMPERATURE OF 130 DEGREES FAHRENHEIT. THE CAUSE OF THE EVENTS HAS BEEN DETERMINED TO BE PERSONNEL ERRORS. IN BOTH CASES PERSONNEL BLOCKED OPEN FIRE DOORS THAT ARE NORMALLY OPEN AND ARE HELD OPEN BY FUSIBLE LINK CLOSURE DEVICES. NO ADVERSE SAFETY CONSEQUENCES RESULTED FROM THIS EVENT. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO RESTORE BOTH DOORS TO OPERABLE STATUS. THIS PLACED THE UNIT IN COMPLIANCE WITH THE TSS. TO PREVENT RECURRENCE OF THESE EVENTS, SAFETY MEETINGS WERE HELD WITH PERSONNEL TO DISCUSS THE EVENTS. ADDITIONALLY, THE PLACARDS IDENTIFYING THE DOORS WILL BE RE-WRITTEN AND PLACED IN LOCATIONS THAT WILL CLEARLY INDICATE HOW THE DOORS WORK.
Calvert Cliffs 1	08/03/1990	10/03/1990	Failure to Test Fire Detection Circuit Supervision Due to Inadequate Controls Abstract: POWER LEVEL - 000%. ON 8/31/90 IT WAS DISCOVERED THAT SURVEILLANCE TEST PROCEDURE (STP) M- 496, 'SUPERVISORY TEST OF FIRE DETECTION INSTRUMENTS,' HAD NOT BEEN PERFORMED ON THE SMOKE DETECTION SYSTEMS IN THE SERVICE WATER AND COMPONENT COOLING WATER PUMP ROOMS PRIOR TO THE MAXIMUM SURVEILLANCE INTERVAL BEING EXCEEDED. BOTH SYSTEMS HAD BEEN DISABLED WHEN THE STP WAS DUE TO BE PERFORMED. ALTHOUGH ADMINISTRATIVE TAGS WERE HUNG TO ALERT PERSONNEL THAT THE STP NEEDED TO BE PERFORMED, IN SEPARATE INSTANCES, EACH SYSTEM WAS RETURNED TO SERVICE WITHOUT THE SURVEILLANCE CRITERIA BEING MET. THE ROOT CAUSE OF THE FIRST EVENT WAS SOLE RELIANCE ON THE ADMINISTRATIVE TAG TO ENSURE THE STP WAS PERFORMED PRIOR TO RESTORING THE EQUIPMENT TO OPERABLE STATUS. THE ROOT CAUSE OF THE SECOND EVENT WAS PERSONNEL ERROR. WE ARE CONDUCTING A REVIEW OF OUR ADMINISTRATIVE AND PROCEDURAL CONTROLS FOR ENSURING THAT SURVEILLANCE TESTS ARE NOT MISSED BECAUSE EQUIPMENT IS UNAVAILABLE DURING THE SCHEDULED STP PERFORMANCE. THE GOAL OF THIS REVIEW IS TO IDENTIFY AND IMPLEMENT APPROPRIATE ENHANCEMENTS TO THESE CONTROLS. THE DETAILS OF THIS EVENT WILL BE REVIEWED WITH ALL LICENSED OPERATIONS PERSONNEL.
Calvert Cliffs 1	04/10/1996	05/14/1996	Missed Fire Watch Due to Lack of Ownership Abstract: On April 10, 1996 at 0900 hours, a required hourly fire watch was missed. The fire watch had been previously combined with a required continuous fire watch. When the continuous fire watch was no longer needed, it was discontinued but the hourly fire watch was not resumed. The problem was found on April 15, 1996 and the hourly fire watch was immediately reinstituted. The root cause of this event was lack of fire watch ownership. The immediate cause was a miscommunication between Safety and Fire Protection Unit (SFPU) and the security contractor responsible for posting the fire watch. The Supervisor, SFPU has temporarily directed that fire watches may not be combined and reiterated his expectation that the security contractor will not revise or discontinue fire watches without formally documented authorization. We will revise the procedure governing compensatory fire watches to clarify ownership of fire watch responsibility and provide improved SFPU oversight. The circumstances of this event will be reviewed with the appropriate groups.
Calvert Cliffs 1	04/08/1998	01/08/1999	Missed Fire Watch Due to Personnel Error Abstract: On April 8, 1998 at 0200 hours, a required hourly fire watch was missed when a contractor maintenance worker failed to perform a fire watch patrol after a fire door between the 1B and 2A Emergency Diesel Generator rooms had been removed for maintenance in the area. The fire watch that was required at 0200 hours was performed 18 minutes late. It was not discovered that this issue was reportable until December 10, 1998. The root cause of this event was personnel error on the part of the contractor maintenance worker and the contractor maintenance worker's supervisor. Plant Management has reemphasized to contractor personnel the importance of and requirements for performing compensatory fire watches. Tailgate training on this event was provided to contractor personnel responsible for providing fire watches. Training on the lessons learned from this event will be provided to all site personnel. We are evaluating methods to remind personnel assigned hourly fire watch duties when the next fire watch patrol is required.
Calvert Cliffs 1, Calvert Cliffs 2	01/23/1990	02/22/1990	Technical Specification Violation Due to Open Fire Barrier Penetration Seal Caused by Personnel Error Abstract: POWER LEVEL - 000%. ON 1/23/90 AT 1840 HOURS, A CONDITION PROHIBITED BY CALVERT CLIFFS TECH SPEC (TS) 3.7.12.A WAS DISCOVERED. THE CONDITION WAS THE RESULT OF A FIRE BARRIER PENETRATION SEAL REMAINING OPEN FOR AN INDETERMINATE LENGTH OF TIME WITHOUT PERFORMING THE TS REQUIRED ACTIONS. AT THE TIME OF DISCOVERY, BOTH UNITS WERE IN COLD SHUTDOWN CONDITIONS. UNIT 1 WAS AT A PRESSURE OF 170 PSIA AND TEMPERATURE OF 170 F. UNIT 2 WAS AT ATMOSPHERIC PRESSURE AND AMBIENT TEMPERATURE WITH THE CORE OFF-LOADED. THE ROOT CAUSE OF THE EVENT WAS COGNITIVE PERSONNEL ERROR. THE PERSONNEL WHO OPENED THE PENETRATION FAILED TO OBTAIN A FIRE BARRIER/STOP REMOVAL REQUEST (FBSRR) IN ACCORDANCE WITH ESTABLISHED PLANT PROCEDURES. IMMEDIATE CORRECTIVE ACTION WAS TO SEAL THE PENETRATION WITH A TEMPORARY FIRE SEAL, THUS RETURNING THE FIRE BARRIER TO OPERABLE STATUS. THE PENETRATION IS CURRENTLY SCHEDULED TO BE PERMANENTLY SEALED BY A MAINTENANCE ORDER. THE NEED FOR INCREASED AWARENESS BY MAINTENANCE PERSONNEL REGARDING PLANT FIRE PROTECTION FEATURES HAS BEEN IDENTIFIED. THE ISSUE IS CURRENTLY BEING COVERED WITH MAINTENANCE PERSONNEL IN TAILGATE MEETINGS OR AWARENESS TRAINING. A NEW MAINTENANCE PLANNER GUIDELINE HAS RECENTLY BEEN APPROVED WHICH REQUIRES PLANNERS
Calvert Cliffs 1, Calvert Cliffs 2	02/09/1990	03/12/1990	Missing Fire Protection Damper Abstract: POWER LEVEL - 000%. ON FEBRUARY 9, 1990, WHILE PERFORMING AN INSPECTION OF TECHNICAL SPECIFICATION (TS) VENTILATION DUCT FIRE BARRIER DAMPERS, IT WAS DETERMINED THAT FOUR FIRE DAMPERS WERE MISSING. BOTH UNITS WERE SHUTDOWN AT THE TIME OF DISCOVERY. THE CAUSE OF THE EVENT IS THAT THE PENETRATIONS WERE NOT IDENTIFIED AS REQUIRING DAMPERS WHEN THE FIRE HAZARDS ANALYSIS OF THE PLANT WAS CONDUCTED. THE SAFETY SIGNIFICANCE OF THE MISSING DAMPERS IS LOW BASED ON OTHER AVAILABLE FIRE SAFETY FEATURES. FIRE DETECTION AND AUTOMATIC SPRINKLER SYSTEM OPERABILITY WERE VERIFIED AND AN HOURLY FIRE WATCH HAS CONTINUED. A FACILITY CHANGE REQUEST HAS BEEN INITIATED TO INSTALL THE MISSING DAMPERS. ALL TS VENTILATION DUCT FIRE BARRIER DAMPERS HAVE BEEN IDENTIFIED AND INSPECTED. THE SURVEILLANCE TEST PROCEDURE USED FOR INSPECTING VENTILATION DUCT FIRE BARRIER DAMPERS WILL BE REWRITTEN TO SPECIFY THE FIRE DAMPERS TO BE INSPECTED. THE FIRE PROTECTION/APPENDIX R DESIGN BASIS RECONSTITUTION IS AN ONGOING LONG-TERM EFFORT TO VERIFY THE FIRE HAZARDS ANALYSIS AND OTHER FIRE PROTECTION DOCUMENTS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Calvert Cliffs 1, Calvert Cliffs 2	02/16/1990	03/15/1990	Failure to Test Supervised Circuits Supervision Due to Omission of Circuits from the Surveillance Procedure Abstract: POWER LEVEL - 000%. ON 2/16/90, DURING A REVIEW OF SURVEILLANCE TEST PROCEDURES (STPS), A REVIEWER FOUND THAT SUPERVISED CIRCUITS ASSOCIATED WITH FIRE DETECTION INSTRUMENTS (EIIS IC-28) LOCATED IN THE REACTOR COOLANT PUMP (RCP) (EIIS AB-P) BAYS HAD NOT BEEN INCLUDED IN STP M-496-0, 'SUPERVISORY TEST OF SMOKE AND FLAME DETECTION CIRCUITS.' THE CAUSE OF THIS CONDITION WAS PERSONNEL ERROR IN FAILING TO INCLUDE THE CIRCUITS IN THE STP GOVERNING THE SUPERVISED TEST. THIS WAS CAUSED BY INADEQUATE PROCEDURAL CONTROLS. INADEQUATE REVIEWS OF THE STP WERE A CONTRIBUTING CAUSE OF THIS CONDITION. STP M-496-0 IS BEING REVISED TO INCLUDE THE MISSING CIRCUITS. THE REVISED CALVERT CLIFFS INSTRUCTION (CCI) 104, 'SURVEILLANCE TEST PROGRAM,' NOW INCLUDES MORE STRICT REVIEW GUIDELINES TO ENSURE STP COMPLIANCE WITH TECHNICAL SPECIFICATIONS. CCI-143, 'CALVERT CLIFFS ADMINISTRATIVE CONTROL OF LICENSE AMENDMENTS,' NOW REQUIRES THE LICENSING DEPARTMENT TO REVIEW THE ACTUAL PROCEDURE CHANGES IMPLEMENTING NEW OR REVISED TECHNICAL SPECIFICATIONS. THIS ITEM WAS DISCOVERED DURING A REVIEW CONDUCTED AS A PART OF OUR ONGOING PROCEDURE UPGRADE PROJECT. WE HAVE INSTITUTED A PERFORMANCE IMPROVEMENT PLANT ITEM REQUIRING THE REVIEW OF STPS FOR TECHNICAL ADEQUACY RELATIVE TO THE
Calvert Cliffs 1, Calvert Cliffs 2	06/15/1990	07/17/1990	Inoperable Fire Door Affects Halon System Operation Resulting in Violation of Plant Technical Specifications Abstract: POWER LEVEL - 000%. ON 6/18/90 AT 1830 HOURS, IT WAS DETERMINED THAT CALVERT CLIFFS UNIT 1 WAS IN A CONDITION PROHIBITED BY TECH SPEC (TS) 3.7.11.3. IT WAS DETERMINED THAT THE HALON SYSTEM IN THE 45 FT SWITCHGEAR ROOM HAD BEEN INOPERABLE FOR AT LEAST 30 DAYS WITHOUT PERFORMING THE APPROPRIATE ACTION REQUIREMENTS. HALON SYSTEM INOPERABILITY WAS CAUSED BY AN INOPERABLE EMERGENCY ESCAPE HATCH LATCH WHICH WOULD NOT HAVE MAINTAINED THE HATCH DOOR CLOSED DURING A HALON DISCHARGE IN THE SWITCHGEAR ROOM. IT COULD NOT BE ASSURED THAT A DESIGN CONCENTRATION OF HALON WOULD BE MAINTAINED IN THE ROOM DURING A FIRE. A SIMILAR SITUATION WAS DISCOVERED AT UNIT 2. AT THE TIME OF DISCOVERY THE UNIT WAS IN COLD SHUTDOWN WITH TEMPERATURE AT 113F AND ATMOSPHERIC PRESSURE. THE ROOT CAUSE OF THE EVENT WAS A FAILURE TO IMMEDIATELY RECOGNIZE THAT AN INOPERABLE FIRE DOOR EFFECTED THE 45 FT SWITCHGEAR ROOM HALON SYSTEM OPERABILITY. APPROPRIATE TS ACTION REQUIREMENTS WERE SATISFIED UNTIL A TEMPORARY LATCH WAS INSTALLED TO RETURN THE DOORS TO AN OPERABLE STATUS. REPLACEMENT DOORS HAVE BEEN ORDERED AND WILL BE INSTALLED AFTER THEY ARE RECEIVED. OTHER FIRE DOORS WERE INSPECTED FOR SIMILAR DEFICIENCIES AS PART OF AN ONGOING FIRE DOOR INSPECTION. OPERATIONS
Calvert Cliffs 1, Calvert Cliffs 2	05/18/1992	07/05/1995	Inoperable Fire Dampers Due to Conflicting Design Information Abstract: POWER LEVEL - 000%. On May 18, 1992, we found three of five Unit 1 45 foot Switchgear Room fire dampers had been INOPERABLE for a period greater than that allowed by Technical Specifications. The dampers failed to close during testing due to backfilled grout impinging on the damper frames. on October 6, 7, and 26, 1993 we found similar problems in that three Unit 1 fire dampers failed to completely close during testing. Testing of accessible dampers was completed in August 1994 with no additional failures. Additional installation problems have been corrected as appropriate. The root cause of this condition is inconsistent vendor drawings, some of which require an air gap around the dampers, others of which do not. We established fire watches for the INOPERABLE dampers in accordance with Technical Specifications. Dampers not correctly installed have been repaired or replaced. We have completed a design review and revised drawings as required.
Calvert Cliffs 1, Calvert Cliffs 2	07/01/1992	10/15/1992	Inoperable Fire Dampers Due to Surveillance Test Procedure Omission Abstract: POWER LEVEL - 000%. During testing on May 21, 1992, test personnel found the Unit 1 Main Steam Isolation Valve (MSIV) Pipe Tunnel Fire Damper 1FDTB255 INOPERABLE. Technical Specification (TS) 3.7.12 LIMITING CONDITION FOR OPERATION requires fire damper OPERABILITY. Later, we also found that the Surveillance Test Procedure (STP) for fire dampers did not visually inspect the Unit 1 or 2 MSIV Pipe Tunnel fire dampers. This inspection is required by TS SURVEILLANCE REQUIREMENTS 4.7.12(a) and (b). The STP omissions occurred when a nonspecific drawing reference resulted in personnel error during the STPs development. For corrective action, we repaired fire damper 1FDTB255 and verified its Unit 2 twin (2FDTB256) OPERABLE. Those personnel involved with Appendix R programs were made aware of the event. We have revised the STPs. We will also make the drawing more specific and update our TS equipment cross-reference database.
Calvert Cliffs 1, Calvert Cliffs 2	08/16/1995	09/15/1995	Discovery of Inoperable Fire Barrier Penetration Seal Abstract: On August 16, 1995, during a routine walkdown, a breach was found in a fire barrier. The breach was a 3/4 inch gap located between a ventilation duct and the wall it penetrates. The Control Room was immediately contacted and declared the fire barrier inoperable and entered the Technical Specification Action Statement for inoperable fire barrier penetration seals. A Fire Barrier Permit was initiated and appropriate fire watches were established within one hour of the discovery of the gap. The causes of the inoperable fire barrier were inadequate engineering oversight and a less than adequate surveillance procedure. This duct was not included as part of two separate projects, that together, were expected to verify that all fire barrier penetrations are properly sealed. The penetration seal was sealed and is now operable. Other ventilation ducts that could have similarly been overlooked during the separate projects have been identified and verified to be operable. The surveillance procedure is being upgraded.
Calvert Cliffs 1, Calvert Cliffs 2	04/28/1998	09/20/1999	Prematurely Released Fire Watch Due to Inadequate Cure Time Communications Abstract: During a routine review of industry operating experience, we identified four instances where a Technical Specification required fire watch was released before the Technical Specification penetration fire barrier was restored to an operable condition. The fire watches were released after two independent fire barrier inspections, but prior to the manufacturer's recommended 24-hour cure time of the silicone foam used to seal the penetrations. Releasing the fire watch before the penetration fire barrier was operable resulted in a condition prohibited by Technical Specifications. These occurrences were caused by inadequate communication of cure time information to maintenance craft personnel. Configuration control documents will be revised as appropriate to address the cure time of the foam. None of the past occurrences resulted in any safety consequences.
Calvert Cliffs 2	02/28/1989	11/10/1989	Inoperable Fire Barrier Penetration Caused by Lack of Adequate Administrative Work Controls Results in Condition Prohibited by Technical Specifications Abstract: POWER LEVEL - 100%. ON FEBRUARY 28, 1989 AT APPROXIMATELY 0900, IT WAS DISCOVERED THAT CALVERT CLIFFS UNIT 2 WAS IN AN ACTION STATEMENT ASSOCIATED WITH TECHNICAL SPECIFICATION (TS) 3.7.12 'PENETRATION FIRE BARRIERS'. IT WAS LATER DETERMINED THAT A FIRE BARRIER PENETRATION WAS INOPERABLE AND THE ACTION STATEMENT REQUIREMENTS WERE NOT BEING SATISFIED AND THAT THE UNIT WAS BEING OPERATED IN A CONDITION PROHIBITED BY THE PLANT'S TS. AT THE TIME OF DISCOVERY OF THE INCIDENT THE PLANT WAS OPERATING AT 100% RATED THERMAL POWER. THE CAUSE OF THE EVENT HAS BEEN DETERMINED TO BE INADEQUATE ADMINISTRATIVE CONTROLS TO ASSURE THAT INTERNAL CONDUIT FIRE SEALS ARE MAINTAINED INTACT DURING MAINTENANCE ACTIVITIES WHICH AFFECT OR COULD HAVE THE POTENTIAL TO AFFECT A FIRE SEAL. NO ADVERSE SAFETY CONSEQUENCES RESULTED FROM THIS EVENT. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO RETURN THE PENETRATION TO AN OPERABLE STATUS BY 0920 THAT SAME DAY. THIS PLACED THE UNIT IN COMPLIANCE WITH TS. TO PREVENT RECURRENCE A MEMO HAS BEEN ISSUED TO ALL SITE SUPERVISORS DISCUSSING INTERNAL CONDUIT SEALS AND REFERENCING ASSOCIATED SEALING REQUIREMENTS AS WELL AS APPLICABLE PROCEDURES TO FOLLOW TO ASSURE THAT COMPLIANCE IS MAINTAINED.
Calvert Cliffs 2	06/23/1989	07/21/1989	Missed Fire Protection Surveillance Abstract: POWER LEVEL - 000%. ON JUNE 23, 1989, WHILE PREPARING LER 89-09(DOCKET # 50-318), WITH THE PLANT AT 0% POWER AND IN MODE 6, IT WAS DETERMINED THAT TECHNICAL SPECIFICATION (TS) SURVEILLANCE 4.7.12A HAD NOT BEEN PERFORMED WITHIN THE REQUIRED TIME INTERVAL. UPON DISCOVERY, THE ACTION STATEMENT WAS ENTERED AND ALL PENETRATION FIRE BARRIERS WERE DECLARED INOPERABLE. BACKUP PROTECTION FOR THE BARRIERS WAS VERIFIED IN 3 HOURS, INSTEAD OF THE 1 HOUR REQUIRED BY THE ACTION STATEMENT, DUE TO THE LARGE NUMBER OF BARRIERS INVOLVED. THE ACTUAL SURVEILLANCE WAS STARTED ON THE EVENT DATE AND COMPLETED WITHIN 7 DAYS AS REQUIRED BY THE ACTION STATEMENT. IMMEDIATE CORRECTIVE ACTION FOR THIS EVENT INCLUDED PERFORMING THE OVERDUE SURVEILLANCE. LONG-TERM CORRECTIVE ACTIONS INCLUDE: 1. REVISING AND CLARIFYING THE SURVEILLANCE COORDINATION PROCEDURE; 2. DETERMINE IF THE SURVEILLANCE SYMBOL 'R' SHOULD BE ELIMINATED; 3. EVALUATE THE TRAINING GIVEN TO SURVEILLANCE COORDINATORS; 4. EVALUATE METHOD FOR CHANGING PROCEDURES DUE TO TECHNICAL SPECIFICATION AMENDMENTS; 5. REVISE AND UPDATE PROCEDURES LISTING SURVEILLANCE REQUIREMENTS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Calvert Cliffs 2	04/14/1995	05/15/1995	Fire in Wall Expansion Joint Abstract: On April 14, 1995, a fire occurred in a section of expansion joint material in the 'K' line wall that separates the Auxiliary Building from the Turbine Building. The fire was extinguished in about 15 minutes. Approximately three linear feet of cork expansion joint material was burned. Unit 2 was in Mode 6 'Refueling' with Reactor Coolant System temperature at 98 degrees Fahrenheit. The fire resulted when some welding sparks were pulled into contact with the expansion joint by air flow through the joint. The material in many of the expansion joints has degraded such that a tight bond no longer exists. An operability evaluation was performed for all expansion joints in the plant. Fire watches will be performed as required by Technical Specifications until all inoperable expansion joints are returned to operability.
Calvert Cliffs 2	05/22/1996	06/21/1996	Missed Fire Watch Due to Personnel Error Abstract:
Calvert Cliffs 2	06/19/1996	07/17/1996	Missed Fire Protection Compensatory Action Due to Personnel Error Abstract: On June 19, 1996 at approximately 1100 hours, it was discovered that fire detection equipment in the Unit 2 Component Cooling Room had been taken out of service with no compensatory fire protection action taken. The root cause of this event was personnel error on the part of the maintenance personnel involved in implementing the temporary alteration disabling the fire detection equipment, and insufficient management expectations for the Control Room Supervisor who approved the work. Appropriate personnel action has been taken. Awareness training has been provided to personnel concerning management's expectations for performing fire protection compensatory actions. A root cause investigation and independent review of this and similar recent events is under way.
Catawba 1	11/30/1984	12/28/1984	Required Fire Watches Not Performed Abstract: POWER LEVEL - 000%. FROM 11-30-84, AT 1930 HRS, TO 12-1-84, AT 0730 HRS, A FIRE WATCH WAS NOT PERFORMED ON CERTAIN FIRE ZONES WITH INOPERABLE FIRE DETECTORS. CATAWBA TECH SPECS, SECTION 3.3.3.8, REQUIRES A FIRE WATCH PATROL TO INSPECT ANY APPLICABLE FIRE ZONE WITH INOPERABLE FIRE DETECTION EQUIPMENT. THE MISSED FIRE WATCHES WERE DISCOVERED 12-1-84, AT 0730 HRS, DURING SHIFT CHANGE, AND WERE ESTABLISHED AT THAT TIME. THIS INCIDENT IS CLASSIFIED AS A PERSONNEL ERROR. THE REQUIRED FIRE WATCHES SHOULD HAVE BEEN ESTABLISHED DURING THE APPLICABLE SHIFT. CATAWBA UNIT 1 WAS IN MODE 3 (HOT STANDBY) AT THE TIME OF THIS INCIDENT. THIS INCIDENT IS REPORTABLE PURSUANT TO 10 CFR 50.73(A)(2)(I)(B).
Catawba 1	12/19/1984	06/03/1985	Inoperable Fire Barrier Penetrations Abstract: POWER LEVEL - 000%. DURING A SPOT INSPECTION ON 12-19-84, SEVEN INOPERABLE FIRE BARRIER PENETRATIONS WERE DISCOVERED. THE SHIFT SUPERVISOR WAS IMMEDIATELY NOTIFIED OF THE PROBLEM. THE PENETRATIONS WERE THEN RESEALED AND IDENTIFIED AS A NON-CONFORMING ITEM. IT IS LIKELY THAT THE PENETRATIONS WERE OPENED BY CABLE PULLING ACTIVITIES, AND WERE NOT REPAIRED BY RESEALING WITH FIRE-STOP MATERIAL. THE DATE THAT THE FIRE BARRIER PENETRATIONS WERE INITIALLY LEFT INOPERABLE COULD NOT BE DETERMINED. THEREFORE, THE DURATION OF INOPERABILITY IS UNKNOWN. IT IS APPARENT THAT FAILURE TO FOLLOW ESTABLISHED PROCEDURES OCCURRED. THEREFORE, THIS INCIDENT IS CLASSIFIED AS A PERSONNEL ERROR. THE AFFECTED FIRE BARRIERS ARE REQUIRED TO BE OPERABLE PER TECH SPEC 3.7.11, AND THIS INCIDENT IS REPORTABLE PURSUANT TO 10 CFR 50.73(A)(2)(I)(B). UNIT 1 WAS IN MODE 6 AT THE TIME OF DISCOVERY OF THIS INCIDENT.
Catawba 1	02/20/1985	05/01/1985	Conduit Firestop Seals Not Installed Abstract: POWER LEVEL - 000%. DURING A RANDOM INSPECTION ON 2-20-85 CONDUITS PENETRATING FIRE BARRIERS WHICH DID NOT HAVE THEIR ENDS SEALED FOR FIRE PROTECTION WERE DISCOVERED. THIS WAS DETERMINED TO BE A GENERIC PROBLEM, AND A NONCONFORMING ITEM REPORT WAS WRITTEN. AFTER A SUBSEQUENT DETERMINATION OF INOPERABILITY, ALL CONDUITS THAT PENETRATE FIRE BARRIERS WERE TRACED DOWN, AND SEALS INSTALLED IN THEIR ENDS AS REQUIRED. THE APPLICABLE CONSTRUCTION PROCEDURE, CP469, DID NOT REQUIRE BUILDER CRAFT TO SEAL CONDUIT ENDS AS REQUIRED IN INSTALLATION SPECS. THEREFORE, THIS INCIDENT IS CLASSIFIED AS A PROCEDURAL DEFICIENCY. ALSO, A CONTRIBUTING CAUSE OF PERSONNEL ERROR, IS ASSIGNED TO THIS INCIDENT DUE TO THE FAILURE OF CONSTRUCTION QA TO ADEQUATELY REVIEW WORK AGAINST APPLICABLE SPECS. CATAWBA UNIT 1 WAS IN MODE 5, COLD SHUTDOWN, AT THE TIME OF THE INCIDENT. THIS INCIDENT IS REPORTABLE PURSUANT TO 10 CFR 50.73(A)(2)(I)(B).
Catawba 1	07/23/1985	08/22/1985	Inoperable Fire Barrier Penetration Abstract: POWER LEVEL - 100%. ON 7-23-85 AT AROUND 1330 HRS, FIRE BARRIER PENETRATION C-AX-228-W-9 WAS DETERMINED TO BE INOPERABLE DUE TO THE UNSEALED INSTALLATION OF 2 TEMPORARY CABLES WHICH PENETRATED THE FIRE BARRIER. UPON DISCOVERY OF THE INOPERABLE PENETRATION, STATION SECURITY WAS IMMEDIATELY NOTIFIED AND AN HOURLY FIRE WATCH WAS ESTABLISHED. THE TEMPORARY CABLES WERE SUBSEQUENTLY REMOVED AND THE FIRE BARRIER WAS RESEALED. CONSTRUCTION DOCUMENTATION INDICATES THAT THE TEMPORARY CABLES WERE ROUTED THROUGH THE PENETRATION ON 4-10-84, WHICH WAS PRIOR TO TURNOVER OF ALL UNIT 1 FIRE BARRIER PENETRATIONS TO NUCLEAR PRODUCTION AND THE APPLICABILITY OF TECH SPECS. SUBSEQUENT INSPECTIONS WERE PERFORMED ON ALL UNIT 1 FIRE BARRIER PENETRATIONS, HOWEVER, THE INOPERABLE PENETRATION WAS NOT DISCOVERED AT THESE TIMES. THEREFORE, THIS INCIDENT IS CLASSIFIED AS A PERSONNEL ERROR. THIS INCIDENT IS REPORTABLE PURSUANT TO 10 CFR 50.73 (A)(2)(I)(B).
Catawba 1	10/08/1985	11/07/1985	Fire Watches Not Maintained on an Hourly Basis Abstract: POWER LEVEL - 100%. ON 10-8-85 FROM 1512 TO 1536 HRS, THE HOURLY FIRE WATCHES FOR NINE FIRE DETECTION ZONES WERE PERFORMED APPROX 30 MINS LATE. TECH SPECS REQUIRE THAT HOURLY FIRE WATCHES BE MADE IN THESE AREAS BECAUSE OF INOPERABLE FIRE DETECTION DEVICES, FIRE BARRIER PENETRATIONS, OR FIRE SUPPRESSION EQUIPMENT. SINCE A FORMALIZED PROGRAM DID NOT EXIST TO DOCUMENT THE POST ASSIGNMENTS OR CHANGES IN ASSIGNMENTS FOR SECURITY PERSONNEL, THESE FIRE WATCH ASSIGNMENTS WERE OVERLOOKED DUE TO THE REASSIGNMENT OF SECURITY PERSONNEL DURING THE SHIFT. THEREFORE THIS INCIDENT IS CLASSIFIED AS A MANAGEMENT DEFICIENCY. 50.73, SECTION (A)(2)(I)(B).
Catawba 1	11/05/1985	12/05/1985	Continuous Fire Watch Not Performed Due to Miscommunication Abstract: POWER LEVEL - 000%. FROM NOVEMBER 4, 1985, AT 1715 HOURS, TO NOVEMBER 5, 1985, AT 1500 HOURS, A CONTINUOUS FIRE WATCH WAS NOT CONDUCTED ON DIESEL GENERATOR (D/G) 1B WHILE THE LOW PRESSURE CARDOX FIRE PROTECTION SYSTEM FOR D/G 1B WAS DISABLED. THIS WAS DISCOVERED AT ABOUT 1215 HOURS ON NOVEMBER 5, 1985, AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED AT 1500 HOURS. CATAWBA UNIT 1 WAS IN MODE 5, COLD SHUTDOWN, AT THE TIME THIS INCIDENT OCCURRED. THIS INCIDENT RESULTED FROM MISCOMMUNICATION BETWEEN SECURITY AND MAINTENANCE PERSONNEL. THEREFORE, THIS INCIDENT IS CLASSIFIED AS A PERSONNEL ERROR.
Catawba 1	11/07/1985	12/06/1985	Certain Fire Detection Zone Not Being Scanned By Computer Abstract: POWER LEVEL - 000%. ON NOVEMBER 7, 1985, WHILE ON ROUTINE SURVEILLANCE, A FIRE PROTECTION ENGINEER NOTICED AN ACTUATED FIRE ALARM IN FIRE DETECTION ZONE 9, THE AUXILIARY FEEDWATER PUMP ROOM. THROUGH SUBSEQUENT INVESTIGATION AT THE FIRE PROTECTION CONSOLE (FPC), IT WAS DETERMINED BY A TECHNICIAN THAT THE ALARM POINTS FOR ZONES 9 THROUGH 12 WERE NOT BEING SCANNED BY THE CENTRAL PROCESSING UNIT (CPU). THIS RENDERED THE ZONES INCAPABLE OF ALARMING AT THE FPC, AND THEREFORE, INOPERABLE. THE ALARM POINTS WERE IMMEDIATELY RE-ENTERED INTO THE SCAN PROGRAM. UNIT 1 WAS IN MODE 5, COLD SHUTDOWN, AT THE TIME OF THIS INCIDENT. AFTER A REVIEW OF THIS INCIDENT AND THE CPU PRINTOUTS, THE REASON FOR THE ALARM POINTS NOT BEING SCANNED BY THE CPU COULD NOT BE DETERMINED. THEREFORE, THIS INCIDENT IS ASSIGNED CAUSE CATEGORY X, OTHER. THIS INCIDENT IS REPORTABLE PURSUANT TO 10 CFR 50.73, SECTION (A)(2)(I)(B).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Catawba 1	11/07/1985	12/06/1985	Required Fire Watches Not Performed Due to Miscommunication Abstract: POWER LEVEL - 000%. ON NOVEMBER 7, 1985, AT 1500 HOURS, THE REQUIRED FIRE WATCHES FOR TWO FIRE ZONES, WITH INOPERABLE FIRE DETECTION EQUIPMENT, AND TWO INOPERABLE FIRE BARRIERS, WERE PERFORMED AFTER EXCEEDING THE ONE HOUR LIMIT SPECIFIED IN THE TECH SPECS. THE UNIT WAS IN MODE 5, COLD SHUTDOWN, AT THE TIME OF THIS INCIDENT. THIS INCIDENT IS CLASSIFIED AS A PERSONNEL ERROR. THE FIRE DETECTION RESPONSE OFFICER (FDRO) ON DUTY WAS GRANTED LEAVE IN ORDER TO GO TO THE DOCTOR ON A NON-EMERGENCY VISIT. DUE TO MISCOMMUNICATION BETWEEN THE SECURITY SERGEANT AND THE CENTRAL ALARM STATION (CAS) OFFICER, A REASSIGNMENT OF PERSONNEL WAS NOT MADE TO ENSURE THAT THE FDRO POST WAS MANNED. A CONTRIBUTING CAUSE OF THIS INCIDENT IS CLASSIFIED AS A MANAGEMENT DEFICIENCY. CAS OFFICER DOES NOT HAVE A PROCEDURE OUTLINING ITS FUNCTION NOR THE MANNER IN WHICH THE SHEET IS TO BE EFFECTIVELY USED. THE ONCOMING FDRO VERIFIED THAT NO FIRES EXISTED. THIS INCIDENT IS REPORTABLE PER 10 CFR 50.73, SECTION (A)(2)(I)(B).
Catawba 1	12/17/1985	01/16/1986	Missed Firewatch Due to Malfunction of Security Computer Abstract: POWER LEVEL - 065%. ON 12-17-85, AN HOURLY FIRE WATCH FOR DG ROOM 1B WAS PERFORMED 51 MINS LATE WHILE THE CO(2) FIRE SUPPRESSION SYSTEM FOR THE AREA WAS OUT OF SERVICE. THE FIRE DETECTION RESPONSE OFFICER ON DUTY MADE AN ATTEMPT TO CHECK THE AREA ON TIME AT 1304 HRS, BUT WAS UNABLE TO ACCESS THE AREA BECAUSE OF A MALFUNCTION IN THE COMPUTER SYSTEM THAT CONTROLS THE CAD KEY SECURITY DOORS. THE UNIT WAS AT 65% POWER AT THE TIME OF THE INCIDENT. THE INCIDENT IS ASSIGNED CAUSE CODE X, OTHER, DUE TO THE EQUIPMENT MALFUNCTION IN THE SECURITY COMPUTER MULTIPLEXER. THIS EVENT IS REPORTABLE PER TO 10 CFR 50.73 (A)(2)(I)(B).
Catawba 1	01/06/1986	10/17/1986	EMERGENCY HATCH NOT INSPECTED DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 000%. ON JANUARY 6, 1986, AT 0306 HOURS, THE EMERGENCY HATCH BETWEEN UPPER AND LOWER CONTAINMENT WAS DECLARED INOPERABLE DUE TO THE TAMPER SEAL BEING FOUND BROKEN. THE BROKEN TAMPER SEAL WAS SUBSEQUENTLY REPLACED BUT THE HATCH SEAL AND SEALING SURFACES WERE NOT INSPECTED AS REQUIRED BY TECHNICAL SPECIFICATIONS. AT 0401 HOURS, THE HATCH HAD BEEN RESEALED AND WAS DECLARED OPERABLE. THE MISSED INSPECTION WAS NOT DISCOVERED UNTIL THE FINAL APPROVAL REVIEW OF THE WORK REQUEST USED TO PERFORM THE JOB. THE UNIT WAS IN MODE 6, REFUELING, WHEN THE MISSED INSPECTION WAS DISCOVERED, HOWEVER, THE UNIT OPERATED IN MODE 1, POWER OPERATION, MODE 2, START UP, AND MODE 3, HOT STANDBY, WHILE THE EMERGENCY HATCH SEALS WERE UNINSPECTED. THIS INCIDENT IS ASSIGNED CAUSE CODE A, PERSONNEL ERROR. THE TECHNICIANS FAILED TO FOLLOW THE WORK REQUEST AND ASSOCIATED INSPECTION PROCEDURE. THE HATCH WAS TECHNICALLY INOPERABLE FROM JANUARY 6, 1986, TO MAY 12, 1986, WHEN THE HATCH WAS SUCCESSFULLY INSPECTED. THIS INCIDENT IS REPORTABLE PURSUANT TO 10 CFR 50.73, SECTION (A)(2)(I)(B).
Catawba 1	09/23/1986	10/23/1986	Missed Fire Watches Due to Personnel Error Abstract: POWER LEVEL - 000%. ON SEPTEMBER 23, 1986, FROM 0745 HOURS UNTIL 0930 HOURS, HOURLY FIRE WATCHES WERE MISSED FOR THE FLOOR HATCHES TO SEAL WATER INJECTION 1A AND 1B FILTERS. THE HATCHES HAD BEEN PREVIOUSLY REMOVED AND AN HOURLY FIRE WATCH WAS REQUIRED PER TECHNICAL SPECIFICATIONS. THE UNIT WAS IN MODE 6, REFUELING, AT THE TIME OF THIS INCIDENT. THIS INCIDENT IS ASSIGNED CAUSE CODE A, PERSONNEL ERROR. DURING SHIFT TURNOVER, THE ONCOMING SHIFT WAS NOT NOTIFIED BY THE ON-DUTY SHIFT THAT THE FIRE WATCHES WERE REQUIRED. THIS INCIDENT IS REPORTABLE PURSUANT TO 1OCFR 50.73, SECTION (A)(2)(I)(B).
Catawba 1	02/17/1987	04/09/1987	Fire Watches Not Established Due To Personnel Error Abstract: POWER LEVEL - 100%. ON FEBRUARY 17, 1987, AT 0138 HOURS, PERSONNEL DISCOVERED TWO FIRE DOORS PROPPED OPEN NEAR THE DIESEL GENERATOR 1A ROOM. NO HOURLY FIRE WATCH HAD BEEN ESTABLISHED AS REQUIRED PER TECHNICAL SPECIFICATIONS. THE DOORS WERE CLOSED AT 0200 HOURS, WHICH RETURNED THEM TO AN OPERABLE STATUS. UNIT 1 WAS AT APPROXIMATELY 100% POWER AT THE TIME OF THIS INCIDENT. THIS INCIDENT IS ASSIGNED CAUSE CODE A, PERSONNEL ERROR, BECAUSE THE DOORS WERE PROPPED OPEN BY PERSONNEL. THE RESPONSIBLE PERSONNEL COULD NOT BE DETERMINED. IN ADDITION TO THIS INCIDENT, ANOTHER FIRE DOOR WAS FOUND PROPPED OPEN ON MARCH 10, 1987, AT APPROXIMATELY 1920 HOURS LEADING INTO DIESEL GENERATOR 1B ROOM. NO ONE WAS FOUND IN THE AREA. A REVISION TO THIS REPORT WILL BE FORTHCOMING WHICH WILL ADDRESS THIS PARTICULAR INCIDENT IN MORE DETAIL. THIS INCIDENT IS REPORTABLE PURSUANT TO 1OCFR 50.73, SECTION (A)(2)(I)(B).
Catawba 1	01/13/1988	04/01/1988	Inoperable Fire Barrier In Violation Of Technical Specifications Due To The Installation Of Telephone Wire Because Of A Management Deficiency Abstract: POWER LEVEL - 100%. ON JANUARY 13, 1988, CATAWBA CONSTRUCTION AND MAINTENANCE DEPARTMENT (CMD) ELECTRICIANS IMPROPERLY INSTALLED A TELEPHONE IN THE AUXILIARY FEEDWATER PUMP TURBINE CONTROL PANEL ROOM. THE METHOD USED FOR THE INSTALLATION DID NOT COMPLY WITH THE ELECTRICAL INSTALLATION SPECIFICATION FOR PENETRATION OF A FIRE BARRIER AND UNKNOWINGLY RENDERED A FIREWALL TECHNICALLY INOPERABLE. THE ERROR WAS DISCOVERED AT 1105 HOURS, ON MARCH 2, 1988, DURING A FIRE PROTECTION AUDIT. THE PENETRATION WAS PROPERLY SEALED AT APPROXIMATELY 1145 HOURS, WHICH ENDED THE INOPERABILITY. THE UNIT HAD OPERATED IN ALL MODES EXCEPT MODE 6, REFUELING, DURING THIS PERIOD OF TIME. THIS INCIDENT HAS BEEN ATTRIBUTED TO A MANAGEMENT DEFICIENCY DUE TO A BREAKDOWN IN THE REVIEW PROCESS. CMD SCHEDULING PERSONNEL HAVE NOT ROUTED CERTAIN TELEPHONE RELATED WORK ITEMS TO CMD TECHNICAL SUPPORT FOR REVIEW OF THEIR QUALITY ASSURANCE CONDITION AS REQUIRED BY STATION DIRECTIVES. FURTHERMORE, THE REQUIRED REVIEW BY CMD TECHNICAL SUPPORT HAS NOT BEEN CONSISTENTLY IMPLEMENTED AS REQUIRED BY STATION DIRECTIVES. CMD RECALLED ALL AFFECTED ITEMS IN PROGRESS WHICH HAD NOT RECEIVED A TECHNICAL SUPPORT REVIEW, AND THE REVIEWS
Catawba 1	06/23/1988	07/25/1988	Firewatch Established on Incorrect Zone Due to Inaccurate Information on Fire Protection Graphic Display Abstract: POWER LEVEL - 100%. ON 6/23/88, AT 1450 HOURS, AN HOURLY FIREWATCH WAS INITIATED DUE TO FIRE DETECTION ZONE 31 IN THE AUX. BUILDING BEING IN CONTINUOUS ALARM. AFTER REVIEWING THE GRAPHICS FOR ZONE 31, THE FIRE PROTECTION CONSOLE OPERATOR (FPCO) ERRONEOUSLY INITIATED AN HOURLY FIREWATCH FOR THE UNIT 1 INTERIOR DOGHOUSE. THIS ERROR WAS CAUSED BY THE MISLEADING DEPICTION OF THE GRAPHIC FOR THIS FIRE ZONE. THE GRAPHIC DISPLAYS ZONE 31 AS A COMBINED AREA OF THE MAIN STEAM DOGHOUSE AND ROOM 333, PIPE CHASE. HOWEVER, THIS ZONE ACTUALLY CONSISTS OF THE MECHANICAL PENETRATION ROOM DIRECTLY BENEATH THE INTERIOR DOGHOUSE AND THE ADJACENT ROOM 333. AT APPROX. 2100 HOURS, ON 6/25/88, ANOTHER FPCO, PERFORMING THE WEEKLY AUDIT OF THE FIRE PROTECTION CONSOLE ANNUNCIATOR STATUS, SUSPECTED THAT THE ZONE WAS ERRONEOUSLY ESTABLISHED. AFTER CONSULTING WITH THE UNIT SUPERVISOR, THE SHIFT SUPERVISOR, AND SECURITY PERSONNEL, IT WAS DETERMINED THAT THE FIREWATCH ESTABLISHED WAS INCORRECT. AT 2130 HOURS, THE HOURLY FIREWATCH WAS REESTABLISHED FOR THE CORRECT AREAS. THE FPCO SENT A MEMORANDUM TO THE RESPONSIBLE OPERATIONS SUPERVISOR DESCRIBING THIS INCIDENT AND PLACED A COPY OF THE MEMO AT THE FIRE PROTECTION CONSOLE TO ALERT OTHER OPERATORS. UNIT 1 WAS OPERATING IN
Catawba 1	01/31/1989	05/12/1989	Technical Specification Violation For Lower Containment Temperature Compensatory Action Not Being Performed Due to Not Notifying Appropriate Personnel Abstract: POWER LEVEL - 000%. FROM JANUARY 31, TO APRIL 13, 1989, THE TECHNICAL SPECIFICATION 3.3.3.8 COMPENSATORY ACTION REQUIRING LOWER CONTAINMENT TEMPERATURE MONITORING, WAS NOT PERFORMED DUE TO APPROPRIATE UNIT 1 OPERATING PERSONNEL NOT BEING NOTIFIED OF THE INOPERABILITY OF THE IONIZATION SMOKE DETECTORS. UNIT 1 LOWER CONTAINMENT DETECTORS HAD BEEN PREVIOUSLY IDENTIFIED ON A PROBLEM INVESTIGATION REPORT (PIR) AS HAVING AN OPERABILITY PROBLEM. IN REVIEW OF THE PIR, DESIGN ENGINEERING DETERMINED THAT BOTH UNITS' LOWER CONTAINMENT DETECTORS SHOULD BE CONSIDERED INOPERABLE AND NOTIFIED COMPLIANCE PERSONNEL. UNIT 2 OPERATING PERSONNEL WERE NOTIFIED BY COMPLIANCE AND THE HOURLY TEMPERATURE COMPENSATORY ACTION WAS ESTABLISHED. HOWEVER, NOTIFICATION TO UNIT 1 0PERATING PERSONNEL WAS NOT MADE. ON APRIL 13, 1989, 0PERATING PERSONNEL QUESTIONED CONTINUANCE OF THE COMPENSATORY ACTION AS UNIT 2 WAS BEING SHUTDOWN. THE NEED FOR THE UNIT 1 SURVEILLANCE WAS RECOGNIZED AND THEN ESTABLISHED. THE IONIZATION SMOKE DETECTORS ARE SCHEDULED TO BE REPLACED WITH A MORE RELIABLE PHOTOELECTRIC SMOKE DETECTOR ON BOTH UNITS. COMPLIANCE WILL REEMPHASIZE THE NEED TO NOTIFY ALL APPROPRIATE PERSONNEL IN THE

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Catawba 1	09/20/1989	10/20/1989	Technical Specification Violation for inoperable Fire Door Due to Latch Failure and Inadequate Policy Regarding Controlled Access Fire Doors Abstract: POWER LEVEL - 049%. ON SEPTEMBER 20, 1989, AT 1530 HOURS, WITH UNITS 1 AND 2 IN MODE 1, POWER OPERATION, A CATAWBA SAFETY REVIEW GROUP STAFF MEMBER EN ROUTE TO THE DIESEL GENERATOR ROOMS IDENTIFIED COMMITTED FIRE DOOR S102A AS BEING A POSSIBLY INADEQUATE FIRE BOUNDARY DOOR. THIS DOOR IS EQUIPPED WITH A MANUAL LATCHBOLT (WHICH WAS FOUND BROKEN), A KEY OPERATED LOCK, AND A CONTROLLED ACCESS DOOR (CAD) MECHANISM WHICH IS ACTUATED BY A SECURITY BADGE ACCESS KEY. A FIRE WATCH WAS ESTABLISHED, PENDING A DESIGN ENGINEERING (DE) OPERABILITY EVALUATION. ON SEPTEMBER 21, DE DETERMINED THAT THE CAD MECHANISM FOR THIS DOOR WAS INADEQUATE AS A FIRE PROTECTION LATCHING DEVICE. DOOR S102A WAS REPAIRED ON OCTOBER 4, AND THE FIRE WATCH WAS TERMINATED. THE LATCH IS KNOWN TO HAVE BEEN IN A FAILED CONDITION BETWEEN APRIL 27, 1988 AND SEPTEMBER 20, 1989, WITH NO FIRE WATCH POSTED, THEREBY VIOLATING TECHNICAL SPECIFICATIONS. THIS INCIDENT IS ATTRIBUTED TO A DESIGN DEFICIENCY, FOR THE SELECTION OF A DOOR NOT CAPABLE OF WITHSTANDING FREQUENT USE, RESULTING IN A FAILED LATCH, AND TO AN INADEQUATE POLICY REGARDING CONTROLLED ACCESS FIRE DOORS, RESULTING IN THE BELIEF THAT THE CAD MECHANISM WOULD MEET THE INTENT OF TECHNICAL
Catawba 1	01/27/1990	03/13/1990	Technical Specification 3.0.3 Entered For Both Trains Of Annulus Ventilation System Inoperable Due To Inappropriate Action Abstract: POWER LEVEL - 000%. 0N 1/27/90, AT 0730 HOURS, UNIT 1 WAS IN MODE 3, HOT STANDBY. CONTROLLED ACCESS DOOR (CAD) 311, LOWER CONTAINMENT PERSONNEL AIR LOCK, HAD BEEN PLACED ON A CONTINUOUS FIRE WATCH. AT APPROX. 2205 HOURS, THE CENTRAL ALARM STATION (CAS) OPERATOR NOTED THAT CAD 311 WAS NOT CLOSED. THE SECURITY LIEUTENANT DIRECTED THE OPERATOR TO IMMEDIATELY NOTIFY THE SECURITY OFFICER AT THE HATCH AREA. AN OPERATIONS (OPS) CONTROL ROOM OPERATOR (CRO) WAS NOTIFIED AND TECH SPEC 3.0.3 WAS ENTERED DUE TO THE INOPERABILITY OF THE ANNULUS VENTILATION (VE) SYSTEM. THE DOOR WAS CLOSED AT 2215 HOURS, AND THE OPS CRO EXITED TECH SPEC 3.0.3 AT THAT TIME. SEVERAL INDIVIDUALS WERE INTERVIEWED REGARDING THE STATUS OF THE DOOR DURING THEIR TRANSITS, AND SECURITY DOOR ALARM TYPERS WERE REVIEWED. IT WAS CONCLUDED THAT THE DOOR HAD BEEN TIED TO THE ADJACENT RAILING WITH A ROPE FROM APPROX. 2110 TO 2130 HOURS, AND AGAIN FROM APPROX. 2150 TO 2215 HOURS. THE CAUSE OF THIS INCIDENT IS ATTRIBUTED TO INAPPROPRIATE ACTION TAKEN WHICH WAS UNAUTHORIZED. PERSONNEL ENTERING CONTAINMENT WERE INSTRUCTED NOT TO LEAVE THE DOOR OPEN. A REVIEW OF CAD DOORS CRITICAL TO VENTILATION SYSTEM OPERABILITY WILL BE COMPLETED, AS WELL AS DISTRIBUTION OF INFORMATION TO ALL
Catawba 1	02/03/1990	03/09/1990	Technical Specification Violation For Inoperability Of A Fire Barrier Penetration Due To Design Oversight Abstract: POWER LEVEL - 000%. ON FEBRUARY 3, 1990, AT 1130 HOURS, MECHANICAL MAINTENANCE FIRESTOP TECHNICIANS NOTICED THAT INSULATION HAD BEEN REMOVED FROM THE MAIN STEAM TO AUXILIARY EQUIPMENT (SA) PIPING TO THE AUXILIARY FEEDWATER PUMP TURBINE (CAPT). A 3/4 INCH ANNULAR GAP BETWEEN THE SA PIPE AND THE CALCIUM SILICATE INSULATION INSTALLED THROUGH FIRESTOP C-AX-217-F-26 WAS ALSO NOTED. THE FIRESTOP TECHNICIANS RECOGNIZED THAT THE FIRESTOP WAS RENDERED INOPERABLE AND PROMPTLY INSTALLED CERAFIBER BULK MATERIAL IN THE OPENING TO RETURN THE FIRE BARRIER TO OPERABLE STATUS PER WORK REQUEST 4859 SWR. THE FIRESTOP WAS RENDERED INOPERABLE WHEN INSULATION REMOVAL BEGAN ON JANUARY 31, 1990, TO SUPPORT REPLACEMENT OF THE ELECTRICAL HEAT TRACING ON THE SA PIPE. UNIT 1 WAS IN MODE 5, COLD SHUTDOWN, FROM THE TIME OF OCCURRENCE OF THE DEGRADED FIRESTOP UNTIL THE FIRESTOP WAS DISCOVERED TO BE INOPERABLE. PREVIOUS REPAIR AND ALTERATION OF THE FIRESTOP ALLOWED THE PENETRATION TO BE RENDERED INOPERABLE BY REMOVAL OF INSULATION ADJACENT TO THE FIRESTOP PENETRATION. THIS INCIDENT IS ATTRIBUTED TO DESIGN OVERSIGHT DUE TO UNANTICIPATED INTERACTION OF SYSTEMS AND COMPONENTS. THE FIRESTOP INSTALLATION SPECIFICATION AND/OR MAINTENANCE PROCEDURE WILL BE REVISED TO
Catawba 1	03/24/1990	04/23/1990	Technical Specification Violation Due to a Missed Fire Watch Abstract: POWER LEVEL - 000%. ON MARCH 24, 1990, AT 0111 HOURS, WITH UNIT 1 IN MODE 5, COLD SHUTDOWN, A NON-LICENSED OPERATOR (NLO), DURING PERFORMANCE OF TURBINE BUILDING ROUNDS, NOTED A LOW PRESSURE INDICATION ON THE CARDOX CARBON DIOXIDE (C02) STORAGE UNIT. THIS UNIT PROVIDES FIRE PROTECTION FOR BOTH UNIT 1 DIESEL GENERATORS (D/GS). THE NLO IMMEDIATELY CONTACTED THE SECURITY SHIFT LIEUTENANT (SSL) TO INITIATE THE FIRE WATCH REQUIRED BY TECHNICAL SPECIFICATIONS. THE NLO ALSO IMMEDIATELY INITIATED A HIGH PRIORITY WORK REQUEST TO INVESTIGATE THE INDICATION. THE SSL INSTRUCTED A SECURITY SHIFT SERGEANT (SSS) TO INITIATE A CONTINUOUS FIRE WATCH ON D/G 1A, WHICH WAS REQUIRED TO BE ESTABLISHED BY 0211 HOURS. THIS FIRE WATCH WAS NOT ESTABLISHED UNTIL APPROXIMATELY 0315 HOURS. FURTHER INVESTIGATION ON MARCH 24 REVEALED THAT THE C02 STORAGE UNIT HAD BEEN FILLED AT APPROXIMATELY 1710 HOURS ON MARCH 23. RE-ESTABLISHING NORMAL PRESSURE USUALLY TAKES SEVERAL HOURS. THIS INCIDENT IS ATTRIBUTED TO AN INAPPROPRIATE ACTION, BECAUSE THE SSS DID NOT ESTABLISH THE REQUIRED FIRE WATCH. THE IMPORTANCE OF ESTABLISHING TIMELY FIRE WATCHES WILL BE DISCUSSED DURING CREW MEETINGS FOR ALL SECURITY SHIFTS. THIS INCIDENT IS ALSO ATTRIBUTED TO A DEFECTIVE PROCEDURE, WHICH DID NOT ENSURE THAT ADEQUATE C02
Catawba 1	12/08/1990	01/07/1991	Failure to Perform Technical Specification Surveillance Within the Required Interval Abstract: POWER LEVEL - 100%. ON DECEMBER 7, 1990, AT 1128 HOURS, RADIATION MONITOR EMF58 FAILED HIGH RANGE AUTOMATIC SOURCE CHECK. ON DECEMBER 8, AT APPROXIMATELY 1645 HOURS, WITH UNIT 1 IN MODE 1, 100% POWER OPERATION, AND UNIT 2 IN MODE 1, 98% POWER OPERATION, A CHEMISTRY SUPERVISOR WAS DISCUSSING THE OPERABILITY OF EMF58 WITH THE CHEMISTRY SYSTEM EXPERT. THE INTERVAL BETWEEN REQUIRED DAILY CHANNEL CHECK SURVEILLANCES WAS QUESTIONED DURING THIS DISCUSSION. THE CHEMISTRY SUPERVISOR CONSULTED THE TECHNICAL SPECIFICATION (T/S) AND DETERMINED THAT DAILY MEANT ONCE PER 24 HOURS. THE CHEMISTRY SUPERVISOR THEN DETERMINED THAT THE LAST CHANNEL CHECK FREQUENCY FOR SEVERAL EFFLUENT MONITORING INSTRUMENTS HAD BEEN 36 HOURS AND 25 MINUTES. TECHNICAL SPECIFICATIONS WERE VIOLATED DUE TO EXCEEDING THE 24 HOUR SURVEILLANCE INTERVAL FOR CNOAMP5000. THIS INCIDENT IS ATTRIBUTED TO A MANAGEMENT DEFICIENCY. CORRECTIVE ACTIONS INCLUDE CHANGING THE FREQUENCY OF DAILY T/S RELATED SURVEILLANCES TO ONCE PER SHIFT. PROCEDURES WHICH INVOLVE DAILY SURVEILLANCES WILL BE REVISED. TRAINING WILL BE PROVIDED TO CHEMISTRY PERSONNEL ON T/S REQUIREMENTS.
Catawba 1, Catawba 2	04/04/1987	08/20/1987	Inoperable Fire Barrier Penetration Due To Defective Procedure Abstract: POWER LEVEL - 100%. ON APRIL 4, 1987, AT 0600 HOURS, A DUKE POWER TECHNICIAN REMOVED A HATCH PLUG IN THE FLOOR ON ELEVATION 577 OF THE AUXILIARY BUILDING TO ALLOW ACCESS TO THE BORIC ACID BATCHING TANK. THE TECHNICIAN ADDED BORIC ACID CRYSTALS TO THE TANK PER THE CHEMISTRY PROCEDURE FOR IHE PREPARATION OF BORIC ACID. HE LEFT THE ACID MIXING PER THE PROCEDURE AND TURNED OVER THE SAMPLING ACTIVITIES TO THE ON-COMING SHIFT. HOWEVER, THE PLUG WAS NOT REPLACED PRIOR TO TURNOVER. THE BORIC ACID SAMPLE WAS LATER TAKEN ON ELEVATION 560 OF THE AUXILIARY BUILDING. THE CONCENTRATION OF THE SAMPLE WAS WITHIN ITS SPECIFICATION. ON APRIL 8, 1987, AT APPROXIMATELY 1400 HOURS, THE REMOVED HATCH PLUG WAS DISCOVERED. APPROPRIATE DUKE POWER PERSONNEL WERE NOTIFIED. A TECH SPEC VIOLATION OCCURRED WHEN THE HATCH PLUG WAS NOT REPLACED WITHIN ONE HOUR AND NO FIRE WATCH WAS ESTABLISHED. UNIT 1 WAS IN MODE 1, POWER OPERATION, AND UNIT 2 WAS IN MODE 4, HOT SHUTDOWN, MODE 3, HOT STANDBY, MODE 2, STARTUP, AND MODE 1 DURING THIS INCIDENT. THIS INCIDENT HAS BEEN CLASSIFIED AS EVENT CAUSE CODE D, DEFECTIVE PROCEDURE. THE CHEMISTRY PROCEDURE FOR THE PREPARATION OF BORIC ACID DID NOT REFERENCE THE APPLICABLE TECH SPEC OR THAT THE FLOOR ABOVE THE BORIC ACID BATCHING TANK IS A FIRE BARRIER. THE PROCEDURE HAS BEEN REVISED
Catawba 1, Catawba 2	05/14/1987	06/12/1987	Technical Specification Violation Because Of Missed Weekly Fire Door Inspection Due To A Personnel Error Abstract: POWER LEVEL - 100%. ON MAY 14, 1987, AT APPROXIMATELY 1430 HOURS, DUKE POWER PERSONNEL DETERMINED THAT THE WEEKLY FIRE DOOR INSPECTIONS, PER TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENTS, HAD NOT BEEN PERFORMED ON MAY 8, 1987. THIS RESULTED IN A TECHNICAL SPECIFICATION VIOLATION. SUSPECTING THAT THE INSPECTIONS HAD BEEN MISSED, PERSONNEL HAD THE INSPECTION PROCEDURE ISSUED AT APPROXIMATELY 1315 HOURS, WHILE THE VIOLATION WAS CONFIRMED. UNIT 1 WAS AT 100% POWER AND UNIT 2 WAS IN MODE 3, HOT STANDBY, AT THE TIME OF THIS INCIDENT. BOTH UNITS WERE AT 100% POWER AT THE TIME OF DISCOVERY. THIS INCIDENT IS CLASSIFIED AS EVENT CAUSE CODE A, PERSONNEL ERROR, BECAUSE THE RESPONSIBLE PERSONNEL DID NOT ENSURE THAT THE INSPECTIONS WERE PERFORMED WITHIN THE REQUIRED TIME INTERVAL. THE WEEKLY FIRE DOOR INSPECTIONS WERE IMMEDIATELY PERFORMED WHEN IT WAS DETERMINED THAT THE INSPECTIONS HAD BEEN MISSED. A TRAINING MEMO WAS ISSUED TO REMIND APPROPRIATE PERSONNEL THAT FIRE DOOR INSPECTIONS ARE TO BE PERFORMED AS REQUIRED. THE HEALTH AND SAFETY OF THE PUBLIC WERE NOT AFFECTED BY THIS INCIDENT.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Catawba 1, Catawba 2	10/12/1987	11/11/1987	Missed Hourly Fire Watches Result in Technical Specification Violation Due to a Personnel Error Abstract: POWER LEVEL - 000%. ON OCTOBER 12, 1987, AT 1940 HOURS, A SECURITY OFFICER PERFORMING A FIRE WATCH PATROL VERIFICATION DISCOVERED THAT A TECHNICAL SPECIFICATION REQUIRED HOURLY FIRE WATCH HAD NOT BEEN PERFORMED FOR ROOM 428 (FLOOR DRAIN TANK PRIMARY DEMINERALIZER ROOM) SINCE 1715 HOURS. THE HOURLY FIRE WATCH REQUIREMENT WAS IN EFFECT DUE TO THE CONCRETE HATCH COVERS BEING REMOVED EARLIER IN THE DAY. THE CONCRETE HATCH COVERS SERVE AS RADIATION SHIELDING AND FIRE BOUNDARIES BETWEEN ROOM 427 (MECHANICAL PENETRATION ROOM) AND ROOM 428. FOLLOWING THE DISCOVERY, THE REQUIRED HOURLY FIRE WATCHES WERE PERFORMED UNTIL THE HATCH COVERS WERE REINSTALLED AT 2040 HOURS. AT THE TIME OF THIS EVENT, UNIT 1 WAS IN MODE 5, COLD SHUTDOWN, AND UNIT 2 WAS IN MODE 1, POWER OPERATION, AT 95% POWER. THIS INCIDENT IS ATTRIBUTED TO A PERSONNEL ERROR. THE RADWASTE CHEMISTRY (RDW) TECHNICIAN WHO HAD ASSUMED THE HOURLY FIRE WATCH RESPONSIBILITY, FAILED TO EITHER ENSURE THAT THE HATCH COVERS WERE REINSTALLED OR TO CONTINUE THE HOURLY FIRE WATCH AS REQUIRED. THIS INCIDENT HAS BEEN REVIEWED WITH THE RDW TECHNICIAN INVOLVED. THE IMPORTANCE OF EFFECTIVE COMMUNICATIONS TO ACCOMPLISH REQUIRED TASKS WAS STRESSED. APPROPRIATE MANAGEMENT PERSONNEL WILL BE ISSUED A TECHNICAL
Catawba 1, Catawba 2	01/12/1988	02/11/1988	Missed Hourly Fire Watches Resulting In Technical Specification Violations Due To Personnel Error And Management Deficiencies Abstract: POWER LEVEL - 100%. ON JANUARY 12, 1988, AND ON JANUARY 18, 1988, HOURLY FIRE WATCHES WERE NOT PERFORMED AT 0800 HOURS AND 0900 HOURS FOR ROOM 107, CONTAINMENT SPRAY PUMP 2A. THE HOURLY FIRE WATCH WAS ALSO NOT PERFORMED ON JANUARY 26, 1988, AT 0700 HOURS. THE HOURLY FIRE WATCH WAS REQUIRED DUE TO CONCRETE HATCH COVERS BEING REMOVED TO ALLOW MAINTENANCE WORK. FOLLOWING EACH DISCOVERY, THE REQUIRED HOURLY FIRE WATCHES WERE RESUMED. UNIT 2 WAS IN MODE 6, REFUELING, THROUGHOUT THIS EVENT. UNIT 1 WAS IN MODE 1, POWER OPERATION, AT 100% POWER ON JANUARY 12, AND JANUARY 26, AND MODE 5, COLD SHUTDOWN, ON JANUARY 18, 1988. THE JANUARY 12, 1988 OCCURRENCE IS ATTRIBUTED TO A MANAGEMENT DEFICIENCY. THE APPROPRIATE SUPERVISOR RESPONSIBLE FOR ASSIGNMENT OF THE HOURLY FIRE WATCH DID NOT ASSIGN ANYONE TO PERFORM THE TASK UNTIL APPROXIMATELY 0945 HOURS AFTER TWO HOURLY FIRE WATCHES HAD BEEN MISSED. THE OCCURRENCE ON JANUARY 18, 1988, IS ATTRIBUTED TO A PERSONNEL ERROR. THE TECHNICIAN RESPONSIBLE FOR ENSURING THE HOURLY FIRE WATCH WAS CONDUCTED DID NOT ASSIGN ANYONE TO PERFORM THE TASK UNTIL HE WAS INFORMED THAT TWO FIRE WATCHES HAD ALREADY BEEN MISSED. THE OCCURRENCE ON JANUARY 26, 1988 IS ATTRIBUTED TO A DEFICIENCY. THERE
Catawba 1, Catawba 2	02/01/1989	03/02/1989	Technical Specification Violation Because of Inoperable Fire Barrier Penetration Seals Due To a Design Oversight Abstract: POWER LEVEL - 000%. ON FEBRUARY 1, 1989, AT 1330 HOURS, MAINTENANCE STAFF PERSONNEL DECLARED FLOOR ELEVATIONS 543 THROUGH 594 FEET OF THE AUXILIARY BUILDING INOPERABLE AS FIRE BOUNDARY SEALS. AT THIS TIME, UNIT 1 WAS IN MODE 3, HOT STANDBY, AND UNIT 2 WAS IN MODE 1, POWER OPERATION. THE PLUGS INSTALLED ON TOP OF PIPE SLEEVES PROTRUDING FROM SEVERAL SPARE FLOOR PENETRATIONS DID NOT HAVE SUFFICIENT DEPTH TO PROVIDE AN ACCEPTABLE FIRE SEAL. BOTH UNITS HAD OPERATED IN ALL MODES WITHOUT OPERABLE FIRE SEAL PLUGS. THIS INCIDENT IS CLASSIFIED AS A DESIGN OVERSIGHT, DUE TO AN INSTALLATION SPECIFICATION WHICH DID NOT ENSURE THAT THE ENTIRE LENGTH OF THE PIPE SLEEVES EXTENDING ABOVE THE FLOOR WERE SEALED BY THE PLUGS. ON JANUARY 20, 1989 , DESIGN ENGINEERING HAD NOTIFIED MAINTENANCE ENGINEERING SERVICES (MES) OF A POTENTIAL PLUG PROBLEM. DURING A WALKDOWN OF PENETRATIONS ON JANUARY 20 AND 21, 1989, IT WAS FOUND THAT PLUGS WERE NOT OF SUFFICIENT DEPTH IN SEVERAL CASES. AT THIS TIME, UNIT 1 WAS IN MODE 5, COLD SHUTDOWN, AND UNIT 2 WAS IN MODE 1, POWER OPERATION. CORRECTIVE ACTIONS INCLUDED STARTING A FIRE WATCH FOR ALL REQUIRED LEVELS OF THE AUXILIARY BUILDING, INSPECTING AFFECTED AREAS AS REQUIRED, AND UPGRADING AFFECTED FIRE SEAL PENETRATIONS.
Catawba 1, Catawba 2	09/15/1989	12/06/1989	Technical Specification 3.0.3 Entered As A Result of Both Trains Of Control Room Area Ventilation Being Inoperable Due To An Incomplete Testing Procedure And Damper Malfunctions Abstract: POWER LEVEL - 100%. ON SEPTEMBER 15, 1989, AT 1315 HOURS, WITH UN1TS 1 AND 2 IN MODE 1, POWER OPERATION, TECHNICAL SPECIFICATION 3.0.3 WAS ENTERED DUE TO BOTH TRAINS OF THE CONTROL ROOM AREA VENTILATION (VC) SYSTEM BEING INOPERABLE. TRAIN 'B' OF THE VC SYSTEM WAS ALREADY INOPERABLE FOR MAINTENANCE. TRAIN 'A' OF VC WAS DECLARED INOPERABLE FOLLOWING THE UNSATISFACTORY PERFORMANCE OF A CONTROL ROOM POSITIVE PRESSURE TEST WITH ONLY ONE OF THE TWO OUTSIDE AIR INTAKES OPEN. THE CONTROL ROOM RETURN AIR DAMPER WAS ADJUSTED ON TRAIN 'A' AND THE CONTROL ROOM POSITIVE PRESSURE TEST WAS PERFORMED WITH ACCEPTABLE RESULTS IN ALL ALIGNMENTS. BOTH TRAINS WERE RETURNED TO OPERABILITY ON SEPTEMBER 16, FOLLOWING SUCCESSFUL TESTING. ON OCTOBER 10, WITH TRAIN 'A' OF VC OPERABLE AND UNITS 1 AND 2 IN MODE 1, TRAIN 'B' FAILED TO SATISFACTORILY PRESSURIZE THE CONTROL ROOM WITH ONLY ONE INTAKE OPEN, DURING THE PERFORMANCE OF A VC FLOW BALANCE TEST. FOLLOWING DAMPER ADJUSTMENTS, TRAIN 'B' SATISFACTORILY PRESSURIZED THE CONTROL ROOM. IT WAS FOUND THAT SEVERAL VC DAMPERS WERE LEAKING BY. THESE INCIDENTS ARE ATTRIBUTED TO INCOMPLETE TESTING DURING PRE-OPERATIONAL TESTING OF THE VC SYSTEM, AND TO VENTILATION DAMPER
Catawba 1, Catawba 2	02/12/1990	04/19/1990	Violation of Technical Specification 3.7.11 Due to Fire Watch Interval Exceeding Sixty Minutes Abstract: POWER LEVEL - 000%. ON 2/12/90, UNIT 1 WAS IN MODE 6, REFUELING, WITH UNIT 2 IN MODE 1, POWER OPERATION. FIRE DOORS WERE DECLARED INOPERABLE TO PERMIT THE ROUTING OF A HOSE REQUIRED FOR DRAINING THE UNIT 1 COMPONENT COOLING SYSTEM EQUIPMENT. AN HOURLY FIRE WATCH PATROL WAS IN PROGRESS AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.11. AN AUDITOR REVIEWING FIRE WATCH VERIFICATION FORMS ATTACHED TO TWO COMMITTED FIRE DOORS NOTED THAT THE RECORDED SURVEILLANCE TIME (1430 HOURS) WAS NOT THE ACTUAL TIME (1415 HOURS). SUBSEQUENT REVIEW OF FIRE WATCH VERIFICATION FORMS REVEALED THAT NOT RECORDING THE ACTUAL TIME IS A COMMON PRACTICE FOR PERSONNEL PERFORMING THE HOURLY FIRE WATCH. SURVEILLANCE INTERVALS EXCEEDING 60 MINUTES WERE ALSO DISCOVERED. THIS EVENT IS ATTRIBUTED TO A MANAGEMENT DEFICIENCY IN THAT IMPLEMENTATION OF THE FIRE WATCH PROGRAM ALLOWED INCORRECT INTERPRETATIONS OF POLICY TO OCCUR; NOT RECORDING ACTUAL TIMES WHEN PERFORMING FIRE WATCH PATROLS AND APPLICATION OF GRACE PERIODS WITHOUT PROPER JUSTIFICATION. THIS EVENT IS ALSO ATTRIBUTED TO INSUFFICIENT SUPERVISION WHICH RESULTED IN THE RECORDING OF SURVEILLANCE TIMES THAT WERE NOT THE ACTUAL TIMES. STATION DIRECTIVE 2.12.7, FIRE DETECTION AND PROTECTION, WILL BE REVISED AND TRAINING FOR
Catawba 2	10/09/1986	11/07/1986	Inoperable Fire Barrier Due To Personnel Error Abstract: POWER LEVEL - 000%. ON OCTOBER 9, 1986, AT APPROXIMATELY 1030 HOURS, TWO UNSEALED 4 INCH CORE DRILL HOLE PENETRATIONS WERE DISCOVERED IN A FIRE BOUNDARY WALL. THE PENETRATIONS WERE DECLARED INOPERABLE AND AN HOURLY FIRE WATCH WAS ESTABLISHED. THE CORE DRILL HOLES WERE PART OF A NUCLEAR STATION MODIFICATION (NSM) BUT THE CORE DRILL HOLE REQUEST SHEET AND SHUTDOWN REQUEST LOCATED THE HOLES INCORRECTLY. A SUBSEQUENT SHUTDOWN REQUEST FOR THE NSM PLACED THE TWO HOLES AT THE PROPER LOCATION. THE MISPLACED HOLES WERE DRILLED ON MAY 3, 1985. THE UNIT OPERATED IN ALL MODES OF OPERATION WHILE THE PENETRATIONS WERE UNSEALED. THIS INCIDENT IS ASSIGNED EVENT CAUSE CODE A, PERSONNEL ERROR. THE TECHNICIAN WHO INITIATED THE SHUTDOWN REQUEST, INDICATED THE INCORRECT LOCATION FOR THESE TWO CORE DRILL HOLES ON THAT REQUEST. THIS INCIDENT IS REPORTABLE PURSUANT TO 1OCFR 50.73, SECTION (A)(2)(I)(B).
Catawba 2	05/09/1989	06/09/1989	Missed Hourly Fire Watches Due to Inappropriate Action Resulting In A Technical Specification Violation Abstract: POWER LEVEL - 000%. FROM MAY 9, 1989 AT 2200 HOURS, THROUGH MAY 10, 1989 AT 0900 HOURS, HOURLY FIRE WATCHES WERE NOT PERFORMED ON UNIT 2 MECHANICAL PENETRATION AREA, ELEVATION 560, ZONE 44, RESULTING IN A TECHNICAL SPECIFICATION VIOLATION. HOURLY FIRE WATCHES WERE REQUIRED BECAUSE PENETRATION F-AX391-W-6 IN THE AUXILIARY BUILDING WAS INOPERABLE DUE TO A TEMPORARILY INSTALLED HOSE BEING REMOVED WITHOUT RESEALING THE PENETRATION. UNIT 2 WAS IN MODE 6, REFUELING, AT THE TIME OF THE INCIDENT. THIS INCIDENT HAS BEEN ATTRIBUTED TO INAPPROPRIATE ACTION. CONSTRUCTION MAINTENANCE DIVISION (CMD) CRAFT PERSONNEL UNDER THE DIRECTION OF CMD TECHNICAL SUPPORT REMOVED THE HOSE FROM THE PENETRATION WITHOUT A PROCEDURE OR THE PROPER AUTHORITY TO DO SO. THE PENETRATION WAS INOPERABLE FOR APPROXIMATELY ELEVEN HOURS WITHOUT A FIRE WATCH BEING PERFORMED. THE UNSEALED PENETRATION WAS DISCOVERED BY ANOTHER CREW PREPARING TO REMOVE THE HOSE AND RESEAL THE PENETRATION. UPON DISCOVERY, THE OPEN PENETRATION WAS RESEALED. THROUGHOUT THE INCIDENT, THE FIRE DETECTION SYSTEM WAS OPERABLE. AS A RESULT OF THIS INCIDENT, CMD MANAGEMENT RECOMMUNICATED AND EMPHASIZED TO THE APPROPRIATE PERSONNEL THE NEED TO CONTACT THE PROPER INDIVIDUAL(S) AND/OR USE APPROVED

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Catawba 2	04/30/1990	06/14/1990	Degraded Auxiliary Feedwater Fire Protection System Due to Construction/Installation Deficiency During Initial Installation and A Deficient Pre-Operational Test Procedure Abstract: POWER LEVEL - 097%. ON APRIL 21, 1990, AT 1430 HOURS, WITH UNIT 2 IN MODE 1, POWER OPERATION, A HIGH PRESSURE CARBON DIOXIDE (C02) DISCHARGE OCCURRED ON THE AUXILIARY FEEDWATER (CA) FIRE PROTECTION (RF) SYSTEM. THE C02 DISCHARGE OCCURRED AS A RESULT OF AN UNEXPECTED STEAM RELEASE IN THE TURBINE DRIVEN PUMP PIT DURING EFFORTS TO BLOW OUT CLOGGED DRAIN LINES. WITH THE TURBINE DRIVEN PUMP PIT C02 DISCHARGE HEADER MANUALLY ISOLATED, THE C02 DISCHARGED INTO BOTH MOTOR DRIVEN PUMP PITS. HOWEVER, SYSTEM DESIGN IS FOR DISCHARGE INTO ONLY ONE PIT. DURING INVESTIGATION THE SOLENOIDS ON THE THREE PILOT VALVES WERE FOUND TO BE INSTALLED BACKWARDS, WHICH CAUSED ALL THREE PIT SELECTOR VALVES TO OPEN. THIS INCIDENT IS ATTRIBUTED TO A CONSTRUCTION/INSTALLATION DEFICIENCY IN THAT THE SOLENOIDS WERE INSTALLED BACKWARDS AND THAT INSPECTIONS DID NOT IDENTIFY THIS CONDITION. THIS INCIDENT IS ALSO ATTRIBUTED TO A DEFICIENT PROCEDURE IN THAT THE PRE-OPERATIONAL TEST PROCEDURE DID NOT IDENTIFY FAILED PILOT VALVE SOLENOIDS. THE UNIT 2 PILOT VALVE SOLENOIDS' ORIENTATION WAS CORRECTED. THE SIMILAR SOLENOIDS ON UNIT 1 WERE INSPECTED AND FOUND TO BE INSTALLED CORRECTLY. POST-MAINTENANCE TESTING OF THE UNIT 2 SOLENOIDS WAS
Catawba 2	03/12/1998	04/16/1998	Tech Spec 3.0.3 Entry due to an Inoperable Annulus Ventilation System Abstract: On March 12, 1998, with both Units in Mode 1, Power Operation at 100% power, both trains of the Unit 2 Annulus Ventilation System became inoperable. The Lower Airlock Enclosure Door was open for five and one half hours during implementation of a Station Modification which involved change out of security related switches on the door. Station documents do not allow this door to be open while the Unit is in Modes 1-4 without compensatory measures in place. Therefore the Annulus Ventilation System could not have performed its intended function and the design basis function of reducing radiation levels in an accident would have been degraded. The root cause of the event was determined to be an inadequate process for determining what compensatory actions were needed in order to perform work on the door. Corrective actions included several steps to improve the Compensatory Action Program. Projected improvements to the program are clarification of roles and responsibilities of those involved in the program, and development of a more effective training program.
Clinton 1	05/17/1988	06/17/1988	Failure to Recognize the Location and Extent of a Penetration Seal Repair Results in a Violation of Secondary Containment Integrity Abstract: POWER LEVEL - 100%. ON MAY 18, 1988, WITH THE PLANT IN MODE 1 (POWER OPERATION), SECONDARY CONTAINMENT WAS DETERMINED TO BE INOPERABLE, BECAUSE A PENETRATION SEAL HAD BEEN REMOVED. THE SEAL HAD PREVIOUSLY BEEN DAMAGED AND HAD TO BE REPLACED IN ORDER TO MEET DESIGN REQUIREMENTS. IMMEDIATE ACTIONS INCLUDED POSTING A FIRE WATCH, PERFORMING A SECONDARY CONTAINMENT INTEGRITY TEST AND REPLACING THE SEAL. THE CAUSE OF THIS EVENT IS ATTRIBUTED TO THE FAILURE OF SHIFT SUPERVISORS TO RECOGNIZE THAT THE SEAL WAS TO BE REMOVED AND THAT IT WAS PART OF THE SECONDARY CONTAINMENT BOUNDARY. CONTRIBUTING TO THE EVENT WAS THE USE OF AN IMPROPER DOCUMENT TO DETERMINE SECONDARY CONTAINMENT BOUNDARIES AND FAILURE OF PERSONNEL TO IDENTIFY WHAT EFFECT THE SEAL'S REMOVAL WOULD HAVE ON SECONDARY CONTAINMENT. CORRECTIVE ACTIONS INCLUDE COUNSELLING THE PERSONNEL INVOLVED IN THE EVENT, IDENTIFYING THE PROPER DOCUMENTS TO BE UTILIZED IN DETERMINING CONTAINMENT BOUNDARIES, AND TRAINING PERSONNEL ON THEIR USE. THE MAINTENANCE WORK REQUEST PROCEDURE WILL BE CHANGED TO REQUIRE THAT, WHEN SEALS/PENETRATIONS ARE WORKED, A JOB STEP BE INCLUDED FOR DETERMINING IF THE SEALS/PENETRATIONS ARE PART OF CONTAINMENT BOUNDARIES. THE
Clinton 1	02/20/1998	08/18/1998	Cracks in Medium and High Density Silicone Penetration Seals Not Per Design Basis Due to Failure of Seal Design to Incorporate the Thermal Expansion and Contraction Coefficient of the Sealant Material Abstract: With the plant in COLD SHUTDOWN cracks were discovered in a penetration seal located in the Division 3 Diesel Generator Room Heating, Ventilating and Air Conditioning (HVAC) Fan Room intake plenum during a NUREG 1552 walkdown of penetration seals. Some cracks extended completely through the seal. The seal could not be substantiated as a three-hour rated fire seal as required per design. Investigation found that the elastomer sealant materials are temperature sensitive, and manufacturer literature identifies the thermal expansion and contraction characteristics. Seals using these materials expand and contract when exposed to fire or heat or cold (as the temperature increases and decreases). However, the penetration seal designer failed to incorporate the thermal expansion and contraction coefficient in the seal design. Therefore, seals experiencing large temperature changes expand and contract, resulting in cracks in the seal when its temperature is colder and no cracks in the seal when its temperature is warmer. This is a generic issue. The cause of this event is attributed to a design error. Corrective action for this event includes inspecting potentially affected seals and
Clinton 1	12/08/2011	01/27/2012	Unfused DC Ammeter Circuits Result in Unanalyzed Condition Abstract: During a Clinton Power Station (CPS) review of an event at the Browns Ferry Station (ENS 47374), CPS determined that the original plant wiring design for the station battery ammeter circuits contains a shunt in the current flow from each direct current (DC) battery. Bolted onto the shunt bar are two Institute of Electrical and Electronics Engineers (IEEE) IEEE-383 qualified leads to an ammeter in the main control room (MCR). The small difference in voltage between the two taps on the shunt is enough to deflect the current meter in the MCR when current flows from the battery through the shunt. The ammeter wiring attached to the shunt does not have fuses, and if one of the ammeter wires shorts to ground at the same time another DC wire from the opposite polarity on the same battery also shorts to ground, a ground loop through the unfused ammeter cable could occur. With enough current going through the cable, the potential exists that the overloaded ammeter wiring could damage safe shutdown wiring in direct physical contact with the cable resulting in a loss of the associated safe shutdown function/capability. The cause of this deficiency is the original design criteria not specify protection for shunt fed ammeter circuits. A modification is planned to correct the deficiency. Compensatory measures have been established until the modification has been installed.
Columbia	12/22/1983	03/28/1984	Dampers Fail to Meet Ul Standards Abstract: A walkdown was performed on fire dampers and those listed below were found which did not meet ul fire rating requirements, thus violating Tech Spec 3/4.7.7. The system remained fully functional even though the dampers were not in compliance with ul standards. Thus potential consequences were minimal. Damper identification: WMA-FD-1, -2, -3, -6, -7, -8, -9, -10, -11, -14, and DRA-FD-34-1.
Columbia	04/12/1984	03/03/1986	10CFR56 Appendix 'R' Cable Fire Protection Abstract: POWER LEVEL - 001%. WHILE PERFORMING A REVIEW AND UPDATE OF THE WNP-2 APPENDIX 'R' SAFE SHUTDOWN ANALYSIS, TEN (10) CABLES REQUIRED FOR SAFE PLANT SHUTDOWN FOLLOWING A FIRE WERE IDENTIFIED ON 4/12/84 AS UNPROTECTED FROM FIRE I.E., NO THERMOLAG FIRE PROTECTION MATERIAL HAD BEEN APPLIED TO THESE CABLES. FOLLOWING THE 4/12/84 EVENT, A SECOND INDEPENDENT REVIEW WAS INITIATED AND HAS IDENTIFIED OTHER APPENDIX 'R' INFRACTIONS ON THE FOLLOWING DATES: 4/12/84, 11/6/84, 12/5/84, 12/21/84, 1/31/85, 5/2/85, 6/24/85, 11/8/85, 11/18/85, AND 1/15/86.
Columbia	05/25/1984	01/25/1985	Significant Design Deficiency Abstract: POWER LEVEL - 000%. DURING A CROSS-DISCIPLINE REVIEW OF RADIATION SHIELDING FOR PENETRATIONS THROUGH THE BIOLOGICAL SHIELD WALL, IT WAS DETERMINED THAT THE PREVIOUS DESIGN DID NOT CONSIDER RADIANT HEAT FROM ADJACENT FIRE ZONES TO POSSIBLY IGNITE THE UREATHANE FOAM SEPARATING THE BIOLOGICAL SHIELD WALL AND PRIMARY CONTAINMENT VESSEL. THE RESULTANT FIRE COULD INCAPACITATE THE ELECTRICAL PENETRATIONS REQUIRED FOR SAFE SHUTDOWN. THE WNP-2 FSAR COMMITTED THAT THE BIOLOGICAL SHIELD WALL PENETRATIONS MUST BE SEALED TO MAINTAIN THE 3 HR MARGIN REQUIRED BY 10CFR50, APPENDIX R. ALL BUT 1 OF THE PENETRATIONS DETERMINED TO NEED SEALS (122) WERE SEALED WITH A MINIMUM OF 4 INCHES OF APPROVEDSEALING MEDIA WHICH PROVIDED NOT LESS THAN 3 HRS OF FIRE PROTECTION OF THE CONTAINMENT PRESSURE VESSEL. ENGINEERING DIRECTION TO SEAL THE REMAINING ONE PENETRATION HAS BEEN IMPLEMENTED AND RESULTED IN 100% SEALING. WITHIN THE PLANT HAVE BEEN REVIEWED FOR THIS CONDITION AND IT HAS BEEN DETERMINED NO FURTHER SEALING IS REQUIRED. THIS EVENT IS CONSIDERED TO BE UNIQUE TO THE BIOLOGICAL SHIELD WALL AND THE RESULT OF A SPECIFIC DESIGN DEFICIENCY.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Columbia	06/14/1984	07/26/1984	Breached Fire Barrier Abstract: POWER LEVEL - 010%. REV 0 OF LER 84-061 REPORTED AN OPEN FLOOR DRAIN WHICH WAS DISCOVERED IN THE REACTOR BLDG AND CONSTITUTED A VIOLATION OF THE FIRE BARRIER SEPARATING THE ROOM FROM OTHER FIRE ZONES. AS A RESULT, AN HOURLY FIRE WATCH WAS INSTITUTED (TSAS 3.7.7) AND AN INVESTIGATION INTO THE CAUSE OF THE CONDITION WAS INITIATED. THE ENGINEERING REVIEW OF THIS CONDITION HAS BEEN COMPLETED ALONG WITH A WALKDOWN OF OTHER AREAS IN THE PLANT. DUE TO THIS EFFORT, 2 ADDITIONAL DRAINS PENETRATING FIRE ZONES IN THE REACTOR BLDG WERE DISCOVERED.
Columbia	07/28/1984	08/08/1984	Missed Fire Watch During Unusual Event Abstract: POWER LEVEL - 000%. DURING THE DECLARATION OF AN UNUSUAL EVENT SUBSEQUENT TO FINDING A POSSIBLE BOMB, AN HOURLY FIRE WATCH TOUR WAS NOT PERFORMED. THE UNUSUAL EVENT STATUS AND ONLY ONE TOUR WAS OMITTED.
Columbia	11/23/1984	12/20/1984	Fire Door Supervision Alarm Inoperable Abstract: POWER LEVEL - 072%. ON 10-2-84, DUE TO A DRAWING ERROR IN THE DESIGN CHANGE PACKAGE, ELECTRICIANS TERMINATED THE FIRE DOOR SUPERVISORY ALARM CIRCUIT ON THE DOOR TO THE DG NO. 1 FUEL OIL PUMP ROOM; DOOR D111. THIS ACTION RENDERED THE FIRE DOOR SUPERVISORY ALARM CIRCUIT INOPERABLE AND THIS CONDITION WENT UNDETECTED UNTIL 10-26-84. HOWEVER, FROM A SAFETY SIGNIFICANCE ASPECT, IT SHOULD BE POINTED OUT THAT BOTH THE FIRE DETECTION AND FIRE SUPPRESSION SYSTEMS WERE OPERABLE IN THE ABOVE STATED ROOM. ON 10-26-84 WHEN DOOR D111 WAS DISCOVERED INOPERABLE, DURING THE MONTHLY FIRE DOOR SURVEILLANCE PROCEDURE, THE SHIFT MANAGER INITIATED AN HOURLY FIRE WATCH (TECH SPEC ACTION STATEMENT 3.7.7.A) AND INITIATED A MAINTENANCE WORK REQUEST TO REPAIR THE DOOR SUPERVISORY ALARM. 10CFR73 ON 11-23-84.
Columbia	02/13/1985	03/14/1985	Incorrect Fire Detector Installation Abstract: POWER LEVEL - 100%. DURING THE IMPLEMENTATION OF A PLANT MODIFICATION, THE FIRE DETECTION INSTRUMENT FOR THE RHR VALVE ROOM WAS ERRONEOUSLY REMOVED. A MAINTENANCE WORK REQUEST DIRECTING A CHANGE IN LOCATION FOR FIRE PROTECTION DETECTOR NUMBER 16/14 WAS IMPLEMENTED. THE CRAFTSMEN PERFORMING THE WORK REMOVED AND RELOCATED FP DETECTOR 16/12 IN ERROR. THUS FROM 9-9-84 UNTIL 2-13-85, WHEN THIS CONDITION WAS DISCOVERED, THE RHR VALVE ROOM HAD NO INSTALLED FIRE DETECTION INSTRUMENT AND WAS NOT MONITORED BY A FIRE WATCH PATROL. THIS DOES NOT MEET PLANT TECH SPEC REQUIREMENTS.
Columbia	03/18/1985	09/09/1985	10CFR50 Appendix "R" Cable Fire Protection and Electrical Separation Abstract: POWER LEVEL - 100%. IN 2-85 FOUR CABLES WERE DISCOVERED WHICH APPEARED TO BE INFRACTIONS OF THE ELECTRICAL SEPARATION CRITERIA OR APPENDIX R. A WALKDOWN WAS MADE ON 3-18-85 TO OBSERVE ANY ADDITIONAL INSTANCES SIMILAR TO THE CABLE SPREADING/CABLE CHASE ROOMS CONDITIONS. A TOTAL OF 28 ITEMS OF CONCERN WERE FOUND WHICH WERE POTENTIAL VIOLATIONS OF SEPARATION CRITERIA AND CAN BE CATEGORIZED AS FOLLOWS: SPARED CABLES HANGING OUT OF CONDUITS/RACEWAYS; TEMPORARY CABLES, I.E., EXTENSION CORDS, COMMUNICATION CABLES; CABLES WHICH RUN OUT OF AND BACK INTO RACEWAYS; SPATIAL SEPARATION INVOLVING RACEWAYS CARRYING PRIME CIRCUITS (NON-CLASS 1E CIRCUITS CONNECTED TO CLASS 1E POWER SUPPLY). ALL 28 ITEMS WERE PUT ON THE FIRE WATCH UNTIL THE PROBLEM COULD BE ALLEVIATED. TWENTY-THREE ITEMS WERE ELIMINATED AS ELECTRICAL SEPARATION CONCERNS BY REMOVING NON-PERMANENT INSTALLATIONS AND VERIFYING THAT SPARED CABLES WERE COILED BACK, STORED IN THE RACEWAY AND HAD NO POWER SUPPLY SOURCE CONNECTED. NONE OF THE 28 ITEMS WERE APPENDIX R INFRACTIONS. THE PRIME RACEWAY SEPARATION EVALUATION RESULTED IN ADDITIONAL CONCERNS BEING IDENTIFIED, NAMELY: A TOTAL OF 10,000 FT OF CABLE TRAY COVERS NOT INSTALLED. THESE TRAY COVERS ARE REQUIRED IN ORDER TO MEET CURRENT WNP-2 COMMITMENTS FOR
Columbia	04/26/1985	05/16/1985	Unsealed Penetration Through Fire Barrier In Floor of Reactor Building Abstract: POWER LEVEL - NG %. DURING A REVEIW OF CONSTRUCTION TURNOVER MATERIAL AN UNSEALED PENETRATION WAS FOUND IN A FIRE BARRIER FLOOR IN THE REACTOR BLDG BY PLANT TECHNICAL STAFF PERSONNEL. THIS FIRE SEAL HAD NOT BEEN COMPLETED DURING CONSTRUCTION, AND HAD GONE UNNOTICED. FAILURE TO COMPLETE THIS SEAL RESULTED IN THE FIRE BARRIER FLOOR IN THE REACTOR BLDG BEING INOPERABLE DURING THE TIME BETWEEN CONSTRUCTION AND DISCOVERY ON 4-26-85. AN OPERABLE FIRE DETECTION SYSTEM HAS BEEN IN CONTINUOUS OPERATION ON AT LEAST ONE SIDE OF THIS BARRIER. IMMEDIATE ACTION, WAS TO PLACE AN HOURLY FIRE WATCH PATROL ON THIS PENETRATION AND INSPECT FLOOR FOR ANY OTHER UNSEALED PENETRATIONS OR OTHER DEFICIENCIES.
Columbia	06/19/1985	07/22/1985	Missing Reactor Building Thermolagging for Cable Tray Fire Protection Abstract: POWER LEVEL - 000%. DURING PERFORMANCE OF A TECH SPEC REQUIRED 18 MONTH FIRE BARRIER SURVEILLANCE, TWO CABLES, ONE CONDUIT, AND A CONNECTION BOX WERE DISCOVERED AS MISSING THERMOLAG FIRE PROTECTIVE COATING. THE DESIGN CONFIGURATION PER 10CFR50 APPENDIX 'R', REQUIRES THESE AREAS TO BE PROTECTED, BUT DURING CONSTRUCTION THE THERMOLAG COATING WAS NOT INSTALLED. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO PLACE THESE ITEMS ON HOURLY FIRE WATCH. SIMILAR EVENT: 397/85-028.
Columbia	07/23/1985	08/19/1985	Fire Protection System Inoperable In Cable Spreading Room Abstract: POWER LEVEL - 056%. WHILE PERFORMING AN 18 MONTH SURVEILLANCE ON THE CABLE SPREADING ROOM PRE-ACTION FIRE PROTECTION SPRINKLER ON 7-23-85, IT WAS DETERMINED THAT THE SOLENOID VALVE CONTROLLING FLOW TO THE SPRINKLER HEADER WOULD NOT OPEN. THE VALVE WAS DISASSEMBLED AND IT WAS DISCOVERED THAT THE VALVE BONNET HAD BEEN INSTALLED BACKWARDS, THUS RENDERING THE VALVE INOPERABLE. THIS VALVE HAD BEEN PREVIOUSLY WORKED ON IN APRIL (4-5-85) WHEN THE BONNET WAS REMOVED AND THE DIAPHRAGM AND VALVE SEAT WERE REPLACED TO STOP LEAKAGE FROM THE VALVE (MWR-AX-4065). FOLLOWING THE REPAIR, AN INSPECTION FOR LEAKAGE WAS COMPLETED BUT THE VALVE WAS NOT STROKE TESTED. HAVE IDENTIFIED THIS PROBLEM. A CONTINUOUS FIRE WATCH WAS INITIATED. THE VALVE WAS REPAIRED AND RETURNED TO OPERABLE STATUS THAT SAME DAY.
Columbia	10/11/1985	11/08/1985	Reactor Building Ventilation Fire Damper Not Installed Abstract: POWER LEVEL - 072%. ON 10-11-85, DURING PERFORMANCE OF THE FIRE DAMPER INSPECTION SURVEILLANCE, IT WAS DISCOVERED THAT ROA-FD-12 (REACTOR BLDG OUTSIDE AIR FIRE DAMPER NUMBER 12) HAD NOT BEEN INSTALLED. THE 'B' RHR HEAT EXCHANGER PASSAGEWAY AREA WAS IMMEDIATELY PLACED ON THE FIRE WATCH TOUR. PROCUREMENT OF THE FIRE DAMPER WAS INITIATED. THE INSPECTION WAS CONTINUED TO VERIFY THE PRESENCE OF ALL FIRE DAMPERS REQUIRED BY DESIGN. THE AREA WILL REMAIN ON THE FIRE WATCH TOUR UNTIL THE DAMPER IS INSTALLED AND IS OPERATIONAL OR UNTIL A TEMPORARY 3 HR FIRE BARRIER IS INSTALLED IN THE DUCT AS AN INTERIM CORRECTIVE ACTION.
Columbia	08/19/1986	10/03/1986	Potential flooding of Control Room and other plant areas not analyzed Abstract: POWER LEVEL - 092%. AN EVALUATION OF THE A/E DESIGN CRITERIA CONDUCTED BY GENERATION ENGINEERING DETERMINED THAT 1) A FLOODING ANALYSIS WAS NOT CONDUCTED DURING THE DESIGN OF A WET-SPRINKLER SYSTEM ADDED TO THE WNP-2 CONTROL ROOM AND 2) THAT THE A/E FLOODING ANALYSES REQUIREMENTS INCLUDED ONLY THE REACTOR BUILDING AND NOT OTHER AREAS OF THE PLANT THAT CONTAIN SAFETY-RELATED EQUIPMENT. IMMEDIATE CORRECTIVE ACTIONS WERE TAKEN TO ISOLATE THE CONTROL ROOM AND ACTIVATE AN HOURLY FIRE WATCH PATROL. THE CONTROL SAFETY-RELATED EQUIPMENT AND FLOODING SOURCES ARE BEING EVALUATED FOR THE EFFECTS OF FLOODING. THIS IS ALSO A SPECIAL REPORT FILED PER THE REQUIREMENTS OF 10CFR PART 21.
Columbia	09/14/1989	10/13/1989	Inadequate Electrical Separation and Non-Failsafe Design of Reactor Building Exhaust Air Radiation Monitoring System Abstract: POWER LEVEL - 100%. ON SEPTEMBER 14, 1989 AN ELECTRICAL DESIGN ENGINEER IDENTIFIED THREE DISCREPANCIES WITH THE CURRENT CONFIGURATION OF THE REACTOR BUILDING EXHAUST AIR (REA) RADIATION MONITORING SYSTEM THAT DO NOT SATISFY THE DESIGN BASIS REQUIREMENTS. THEY CONSISTED OF INADEQUATE ELECTRICAL SEPARATION IN CONTROL ROOM CABINETS, ROUTING OF FAILSAFE CABLE IN NON- FAILSAFE RACEWAYS OUTSIDE OF THE POWER GENERATION CONTROL COMPLEX (PGCC), AND A NON-FAILSAFE DESIGN RESPONSE OF THE RADIATION MONITORS TO INOPERATIVE/DOWNSCALE CONDITIONS. THESE CONDITIONS WERE DISCOVERED BY THE ENGINEER DURING PREPARATION OF A POWER SUPPLY MODIFICATION TO THE REA RADIATION MONITORING SYSTEM. THE IMMEDIATE CORRECTIVE ACTIONS INCLUDE: 1) THE FAILSAFE CIRCUITS ROUTED IN NONFAILSAFE RACEWAYS WERE PLACED ON AN HOURLY FIRE TOUR TO MINIMIZE THE PROBABILITY OF A FIRE THAT COULD CAUSE A CIRCUIT FAULT, AND 2) THE REA RADIATION MONITOR DOWNSCALE ANNUNCIATOR RESPONSE PROCEDURE WAS REVISED TO REQUIRE OPERATOR ACTION TO PLACE THE AFFECTED TRIP MONITOR (REA-RIS-609A, -609B, -609C, AND/OR -609D) IN A TRIPPED CONDITION UPON RECEIPT OF A VALID DOWNSCALE CONDITION. THE ROOT CAUSES OF THE REA RADIATION MONITORING SYSTEM BEING OUTSIDE OF THE PLANT DESIGN BASIS INCLUDE: 1) EQUIPMENT

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Columbia	03/08/1990	04/09/1990	10CFR50 Appendix "R" Cable Fire Protection Abstract: POWER LEVEL - 099%. ON MARCH 8, 1990 THE EXPANDED 10CFR50 APPENDIX R ANALYSIS WAS COMPLETED WHICH SYSTEMATICALLY EVALUATED SHUTDOWN PATH COMPONENTS AND THEIR ELECTRICAL CIRCUITS. THIS ANALYSIS IDENTIFIED TWELVE PROBLEM CABLES THAT COULD PREVENT AN ORDERLY PLANT SHUTDOWN IN THE UNLIKELY EVENT OF A DESIGN BASIS FIRE. THE ROOT CAUSE OF THIS EVENT WAS EQUIPMENT DESIGN DEFICIENCY CAUSED BY THE ARCHITECT-ENGINEER/SUPPLY SYSTEM WHO FAILED TO THOROUGHLY IMPLEMENT APPENDIX R REQUIREMENTS. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO PLACE THESE ITEMS ON AN HOURLY FIRE WATCH. PLANT PROCEDURES WERE CHANGED TO ELIMINATE THE PROBLEM ASSOCIATED WITH TWO CABLES. IN ADDITION, AN URGENT PLANT MODIFICATION REQUEST WAS ISSUED TO PROVIDE DESIGN FOR A PERMANENT CORRECTION OF THE REMAINING ITEMS. THE EVENT POSED NO THREAT TO THE HEALTH AND SAFETY OF EITHER THE PUBLIC OR PLANT PERSONNEL.
Columbia	03/28/1991	04/28/1991	INADEQUATE FIRE PROTECTION (THERMOLAG) OF DIVISION II SAFE SHUTDOWN CABLES DUE TO INADEQUATE INSTALLATION AND INSPECTION Abstract: POWER LEVEL - 100%. ON MARCH 28, 1991, AS PART OF A SCHEDULED ANNUAL INSPECTION, TWO DEFICIENCIES IN THE THERMOLAG APPLICATION ON A CRITICAL DIVISION II CABLE TRAY RUNNING THROUGH A DIVISION I AREA WERE DISCOVERED. (THERMOLAG IS A FIRE PROTECTIVE COATING.) AT 1615 HOURS ON MARCH 29, 1991, AFTER EVALUATION OF THE LOCATION AND NATURE OF THE DEFECTS, THE DEFICIENCIES WERE DETERMINED TO BE REPORTABLE AS CONDITIONS WHICH ARE OUTSIDE OF PLANT DESIGN BASIS. IT WAS DETERMINED THAT A DESIGN BASIS FIRE IN THE DIVISION I AREA COULD POTENTIALLY ALSO COMPROMISE CRITICAL DIVISION II EQUIPMENT DUE TO INSUFFICIENT FIRE PROTECTOR OF THE CABLE TRAY. THE NRC OPERATIONS CENTER WAS NOTIFIED AT 1640 HOURS ON MARCH 29, 1991, WITHIN THE REQUIRED ONE HOUR NOTIFICATION TIME. IMMEDIATELY AFTER DISCOVERY, THE DEFICIENCIES WERE ADDED TO THE CABLE SPREADING ROOM FIRE IMPAIRMENT LIST AND INCLUDED AS PART OF THE FIRE TOUR. THE DEFECTS, THOUGH ON THE SAME CABLE TRAY SECTION, ARE DISTINCT AND INDEPENDENT. THE ROOT CAUSES FOR THE DEFECTS IS INADEQUATE INSTALLATION OF THE THERMOLAG AND INADEQUATE WORK PRACTICES RELATING TO INSPECTION TECHNIQUES. THE DEFECTS WILL BE REPAIRED AND INSPECTION PERSONNEL WILL BE INSTRUCTED REGARDING THE IMPORTANCE OF CHECKING ALL CABLE
Columbia	03/18/1992	05/14/1992	ACCESS PLUGS OVER BOTH RHR PUMP ROOMS "A" AND "B" NOT INSTALLED WHEN THE SYSTEMS WERE CONSIDERED OPERABLE Abstract: POWER LEVEL - 000%. ON MARCH 18, 1992, A DESIGN ENGINEER DETERMINED THAT REMOVAL OF THE ACCESS PLUGS OVER THE RESIDUAL HEAT REMOVAL (RHR) PUMP ROOMS 'A' AND 'B' EXPOSED BOTH ROOMS TO POTENTIAL FLOODING FROM A COMMON SOURCE. HENCE, THE EQUIPMENT SHOULD HAVE BEEN CONSIDERED INOPERABLE WHILE THE PLUGS WERE REMOVED. THE ACCESS PLUGS OVER THE 'A' AND 'B' RHR PUMP ROOMS HAD BEEN REMOVED DURING SHUTDOWN TO SUPPORT PLANT MODIFICATIONS. REACTOR STARTUP HAD BEGUN AT 0415 HOURS ON MARCH 18, 1992. THE ACCESS PLUGS WERE STILL REMOVED OVER BOTH PUMP ROOMS DURING STARTUP. THE ACCESS PLUGS WERE REINSTALLED OVER RHR PUMP ROOMS BY 1100 HOURS ON MARCH 18, 1992. THE NRC WAS VERBALLY NOTIFIED AT 1643 HOURS PST ON MARCH 18, 1992, PER 10 CFR 50.72(B)(2)(III)(B) WHEN IT WAS CONCLUDED THE CONDITION WAS REPORTABLE. THE ROOT CAUSE OF THIS CONDITION IS THAT MANAGEMENT METHODS FOR JOB SCOPING DID NOT IDENTIFY THE IMPACT OF REMOVING THE FLOOR PLUGS ON THE OPERABILITY OF THE ASSOCIATED SAFETY-RELATED EQUIPMENT. THE CORRECTIVE ACTIONS INCLUDE IDENTIFYING THE BARRIERS THAT, WHEN OPENED OR BREACHED, AFFECT THE OPERABILITY OF SAFETY-RELATED EQUIPMENT. ADDITIONAL ADMINISTRATIVE CONTROLS WILL BE PROVIDED TO ENSURE BARRIERS ARE IN PLACE WHEN SAFETY-RELATED
Columbia	11/11/1994	12/12/1994	POTENTIAL OF SPURIOUS ACTUATION OF PNEUMATIC SUPPLY VALVE TO IMPAIR OPERATION OF MAIN STEAM SAFETY RELIEF VALVES Abstract: POWER LEVEL - 100%. On November 11, 1994, WNP-2 was operating at 100% power in Mode 1. An engineer postulated that a Main Control Room fire could induce a hot short that could result in spurious closure of motor-operated containment isolation valve CIA V-20. This might result in depletion of pneumatic supplies for Main Steam Relief Valves during the interval between evacuation of the Control Room and assumption of plant control from remote shutdown panels. No fire actually occurred. The NRC was notified of this event at 1726 (PST) pursuant to 10CFR50.72(b)(2)(iii)(A). Subsequent analysis revealed that the event was due to inadequate analysis rather than a condition that would have prevented maintaining the reactor safely shut down in event of a Control Room fire and should be reported only under 10CFR50.73(a)(2)(iii)(A). The cause of the event was a design deficiency due to lack of adequate consideration of the plant response during the interval between Control Room evacuation due to a fire and assumption of plant control from the remote shutdown panels. A continuous fire watch was established for the area, and a procedure revised to assure an operator would be immediately prestaged at a remote shutdown panel to transfer control of certain Main Steam Relief Valves from the Control Room to a remote shutdown panel in event of a Control Room fire. A design change will be implemented to eliminate the problem, and a
Columbia	01/13/1995	02/07/1995	Inability to Satisfy Single Failure Criteria for Containment Isolation Function Due to Missing Electrical Separation Plate in Control Panel Abstract: At 1215 hours on December 19, 1994, with WNP-2 at 100% power, an engineering supervisor performing a control panel walkdown discovered a missing electrical separation barrier plate inside the control room Reactor Core Isolation Cooling (RCIC) control panel. With the barrier missing a short or fire in the panel could disable the isolation capability of the system. The loss of electrical separation was initially believed to be limited to two steam trap drain line valves. On January 13, 1995, further review revealed that other valves in the system were affected, including the redundant steam supply isolation valves. The loss of the ability to isolate the RCIC system with an assumed single failure was initially evaluated as rendering the isolation function inoperable. This event was accordingly reported per 10 CFR 50.72. Further investigation, including a review of Generic Letter 91-18, revealed that the actual status of the isolation function was operable but degraded. This event is being reported voluntarily due to potential NRC interest. Corrective actions included replacement of the missing barrier and a walkdown of other panels. No additional similar problems were found. The cause of the missing plate could not be determined. The event had negligible safety
Columbia	03/11/2014	05/02/2014	Unnanalyzed Condition Resulting from Direct Current (DC) Ammeter Circuits Without Overcurrent Protection Abstract: On March 11, 2014, with the plant operating in Mode 1 at 100 percent power, an extent of condition evaluation, resulting from a review of nuclear industry operational experience, identified areas in the plant that may be susceptible to secondary fires due to hot shorts from unfused ammeters in the Direct Current distribution system. In the postulated event, a fire in the station cable raceway, cable spreading room, or Control Room could cause a ground loop through unprotected ammeter wiring or control circuit wiring and potentially result in excessive current flow and heating to the point of causing a secondary fire. The postulated secondary fire could affect the availability of equipment needed to place the plant in a safe shutdown condition. This scenario has not been analyzed in accordance with 10 CFR 50 Appendix R commitments. Compensatory hourly fire watch measures have been put In place and will remain in place for the affected areas of the plant until analyses are completed and modifications are put in place to eliminate the concern. The condition affects 14 Class 1E DC ammeters and 2 non-Class 1E DC ammeters in 3 plant divisions. The cause of the unfused DC ammeter circuits is that the original plant design did not include overcurrent protection features to isolate
Comanche Peak 1	06/18/1992	07/02/1992	FAILURE OF THERMO-LAG FIRE BARRIER ENDURANCE TESTS RESULTS IN SOME RACEWAYS DECLARED INOPERABLE Abstract: POWER LEVEL - 100%. A FIRE ENDURANCE TESTING PROGRAM WAS ESTABLISHED TO QUALIFY THERMO-LAG 330 ELECTRICAL RACEWAY FIRE BARRIER SYSTEMS FOR COMANCHE PEAK STEAM ELECTRIC STATION (CPSES). THE TESTING CONSISTED OF A SERIES OF 1-HOUR FIRE ENDURANCE TESTS ON A VARIETY OF CABLE TRAY AND CONDUIT MOCK-UP TEST SPECIMENS. TEST FAILURES OCCURRED ON SMALL CONDUIT AND WIDE CABLE TRAYS. THE CONCLUSION WAS THAT SOME THERMO-LAG FIRE BARRIER CONFIGURATIONS DO NOT PROVIDE THE LEVEL OF SAFETY AS REQUIRED BY THE CPSES FIRE PROTECTION PLAN. THE ROOT CAUSE OF THE FIRE BARRIER MATERIAL FAILURE WAS INADEQUATE VENDOR INSTALLATION SPECIFICATIONS AND PROCEDURES. FIRE WATCH ROUTES WERE ADJUSTED TO COVER THE AFFECTED AREAS PER THE CPSES FIRE PROTECTION PLAN. ADDITIONAL TESTS WILL BE PERFORMED. THESE TESTS WILL INCLUDE MODIFICATION TECHNIQUES TO INCREASE THE THERMO-LAG THICKNESS ON SMALL CONDUITS AND ENHANCE THE STRUCTURAL INTEGRITY OF THERMO-LAG INSTALLED ON WIDE CABLE TRAYS. MODIFICATIONS OF INSTALLED THERMO-LAG CONFIGURATIONS ON SMALL CONDUITS AND WIDE CABLE TRAYS WILL BE IMPLEMENTED BASED ON THE RESULTS OF THESE TESTS. THIS LICENSEE EVENT REPORT IS SUBMITTED AS A VOLUNTARY REPORT.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Comanche Peak 1, Comanche Peak 2	03/01/2012	04/30/2012	Unanalyzed Condition Discovered for the Normally Open Battery Room Fire and Cable Spread Room Doors Close on Momentary Loss of Power Abstract: On 3/1/2012, at 1353 hours, an issue was identified with the doors for the safety related battery rooms and their normal position. Several doors to the battery rooms are held open via electromagnetic door devices. At the time, it was thought that there was no uninterruptible power to the door mechanisms, and that all the doors are expected to close in the event of a loss of offsite power (LOOP). Inadvertent closure of the doors following a momentary loss of power prevents their design function of venting hydrogen from the battery rooms and providing tornado venting pathways in the building. Compensatory measures were taken to secure the doors open to maintain the hydrogen purging and tornado venting functions. A roving fire watch was implemented to comply with the fire protection function of the doors. As an extent of condition on 3/12/12, the cable spread room (CSR) doors were also identified to utilize the same design and electrical supply configuration as the battery room doors. The CSR is located above the battery rooms in the Electric and Control (E&C) Building. Contingency actions were put in place to secure the CSR doors open and implement a fire impairment in the event of a tornado risk. On 4/11/12, it was discovered that the battery room and CSR doors have small battery backup units which could sustain the doors with adequate power to maintain their position for 45 seconds sufficient to allow AC power to be restored through the
Comanche Peak 1, Comanche Peak 2	10/08/2013	12/09/2013	Unanalyzed Condition Under 10cfr50 Appendix R, Secondary Fires from Unprotected Ammeter Wiring Abstract: On October 8, 2013, during a review of industry operating experience OE 305419 regarding the impact of non-fused, Direct Current (DC) ammeter circuits in the control room, it was determined that the described condition was applicable to Comanche Peak Nuclear Power Plant. This resulted in a potentially unanalyzed condition with respect to 10CFR50 Appendix R analysis requirements. The original plant wiring and associated analysis for the Class 1 E batteries control room ampere indications do not include overcurrent protection features to limit the fault current. Comanche Peak Nuclear Power Plant (CPNPP) Units 1 and 2 were in Mode 1 operating at 100% power. The cause of this event was the original design of the DC ammeter circuits did not adequately address fire protection program requirements. Immediate corrective actions were to develop and implement compensatory measures to maintain requirements of 10CFR50 Appendix R. As a part of the CPNPP Corrective Action Program, a design change to include circuit protection for the cables routed from the Safety Related batteries to the control room DC ammeters will be developed and implemented. All times in this report are approximate and Central Time unless noted otherwise.
Cook 1	02/12/1981	03/13/1981	Requirements of Fire Watch by Personnel Involved With Penetration Sealing Abstract: Maintenance personnel were preparing to seal an electrical penetration in the control room cable vault. They were asked by other utility personnel to allow a brief ventilation test requiring sealing of the access door. The maintenance men left the vault for approximately one hour; during which time no fire watch was posted. Application of the one hour time allowance of Tech. Specs. Was misunderstood. The fire watch requirements have been discussed with maintenance personnel involved with penetration sealing. Penetration sealing procedure has been revised to specifically address fire watch requirements.
Cook 1	05/07/1982	06/04/1982	A Defective Transistor and Capacitor Abstract: On 5-7-82 and 5-10-82 the fire detector instrumentation for the 1-HV-ACRF charcoal filter was declared inoperable to troubleshoot and repair the automatic reset function on the fire detection actuation system. These events were non-conservative in respect to Tech Specs 3.3.3.7 Table 3.3-10. Troubleshooting of the automatic reset function on the fire detection actuation system revealed a defective transistor and capacitor. The defective components were replaced, system was tested for correct operation and returned to service.
Cook 1	05/14/1982	06/14/1982	Discovery of a Recently Installed Fire Door had no Latching or Closure Device Abstract: While on a routine plant tour an assistant shift supervisor discovered a recently installed fire door had no latching or closure device. It had been secured in the closed position but was not operable pursuant to Tech Spec 3.7.10. Also the subsequently posted fire watch was removed prematurely when the fire watch on another door in the immediate vicinity was released. This was the first occurrence of this type and no probable consequences resulted. Construction Dept. Failed to recognize door did not meet code requirements and therefore did not request fire watch. When a watch was established confusion about what doors were included resulted in it being released early. And maintained until hardware was installed and door declared operable.
Cook 1	05/20/1982	06/11/1982	Emergency Diesel Generator Room Cardox System was Found Isolated with no Names on the Entry Board Abstract: Unit one Emergency Diesel Generator room cardox system was found isolated with no names on the entry board. This is contrary to Tech Spec 3.7.9.3 as no fire watch was posted within one hour of isolation. Fire detection system (Thermistors) remained operable at all times. Two operators were reviewing the local shutdown procedures for the diesel generators and each thought the other had returned to the system to normal. Appropriate administrative action was taken. This incident will be reviewed by all operations department personnel to emphasize the seriousness of the event.
Cook 1	05/26/1982	06/23/1982	Failure to return the CO(sub 2) Isolate Switch to Normal. Abstract: While conducting a routine tour security personnel discovered AB emergency diesel generator CO(sub 2) System isolated no names on entry board, and no personnel in room. A security computer check revealed the last exit made by an operator 1 hr. 49 minutes earlier. This is contrary to Tech Spec 3.7.9.3 as not fire watch was established within 1 hour. Previous occurrences of this type were reported via 50-315/82-037. The auxiliary equipment operator had erased his name from the board but failed to return the CO(sub 2) isolate switch to normal. Appropriate administrative action was taken. Signs are being procured for installation on inside of CO(sub 2) protected area doors cautioning personnel to restore CO(2) system normal when leaving.
Cook 1	05/28/1982	06/23/1982	The CO(sub 2) System was Apparently Left Isolated Abstract: During a routine tour, a security officer discovered the low pressure CO(sub 2) System for the auxiliary cable vault isolated while no one was in the vault and no fire watch posted contrary to Tech Spec 3.7.9.3. The control room was notified and the CO(sub 2) system was unisolated. The CO(sub 2) system was apparently left isolated following a previous exit from the vault. The responsible individual could not be conclusively determined. This event was discussed with individuals who had been in the area prior to the event. The need for full compliance with fire protection requirements was emphasized. Caution signs will be posted.
Cook 1	06/17/1982	07/16/1982	Increase Personnel Awareness of Fire Protection System Requirements Abstract: An operator conducting a routine turbine building inspection tour discovered the 4 kv switch gear CO2 system isolated without personnel listed on entry board and no personnel in room. A security computer transaction log revealed this condition existed for 9 min. This is contrary to tech spec 3.7.9.3 as no attempt to establish a fire watch probably would have been made in one hour. Previous occurrences were reported via 50-315/82-037, 82-044. Frequenty entry/exit by several different groups possibly lead to confusion as to which party was responsible for unisolating the CO2 system. To increase personnel awareness of fire protection system requirements, a video film has been prepared which will be shown to all appropriate personnel.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 1	08/03/1982	09/01/1982	Fire Doors #460 and 462 of the 4kv Switch Gear Room found Blocked by an Air Hose Abstract: Fire doors #460 and 462 of the 4kv switch gear room were found open with the doors blocked by an air hose. This constituted an inoperable penetration fire barrier contrary to Tech Spec 3.7.10. Similar occurrences were reported as ro 315/82-026, ro 316/82-049 and ro 316/82-052. The hose was immediately removed. A fire watch had been posted but left for a short period of time to obtain tools: instructions from his supervisor were to call for the tools - this resulted in a communication failure. Training was conducted and the need to comply with posted requirements was emphasized.
Cook 1	08/17/1982	09/01/1982	Failure to Return the CO(sub 2) Isolate Switch to Normal Abstract: 4kv switchgear room cardox system isolated with no names on entry board, and no personnel in room. This is contrary to Tech Spec 3.7.9.3 as no fire watch was established within 1 hour. The condition existed for nineteen minutes. The fire detection system was operable. Previous occurrences of this type were reported via 315/82-037, 315/82-044, 315/82-045, 315/82-049 and 316/82-054. The technician involved had erased his name from the board but failed to return the CO(sub 2) isolate switch to normal. Appropriate administrative action was taken. The need for full compliance with fire protection requirements was emphasized.
Cook 1	09/08/1982	10/08/1982	The CO(2) System was Apparently Left Isolated Following a Previous Exit Abstract: During a routine tour during unit shutdown, an operator discovered the low pressure CO(2) system for the AB diesel generator room isolated with no fire watch posted, contrary to Tech Spec 3.7.9.3. Fire detection systems remained operable. The control room was notified and the CO(2) system was unisolated. Previous occurrences: 050/315-82-037, 044, 045, and 068; 50/316-82-054 and 076. The CO(2) system was apparently left isolated following a previous exit. The responsible individual could not be conclusively determined. Since this event, all plant and construction personnel have been trained in fire door and CO(2) isolation requirements and procedures.
Cook 1	10/27/1982	11/10/1982	A Pyralarm Detector Alarming for no Apparent Reason Abstract: The fire detection system alarm for zone 2 in the Aux Building was received in the control room. Investigation found a pyralarm detector alarming for no apparent reason. A fire watch was established in the area of the malfunctioning detector until the situation was corrected. Subsequent investigation disclosed system design to be such that this condition would have prevented another detector in the zone from alarming in the control room and the fire watch therefore should have been established for the entire zone per Tech Spec 3.3.3.7. Investigation revealed that the alarm setpoint on the pyralarm was low. The alarm setpoint was adjusted to the proper value, the detector verified to be operable, and the detection system was returned to service. Annunciator response procedures were changed and administrative controls imposed to ensure restoration of the detector system to operable status or posting of proper fire watch within the one-hour Tech Spec limit.
Cook 1	11/08/1982	11/22/1982	Cause Misinterpretation of Tech Spec Requirements Abstract: During investigation of C/R 2-10-82-623 (CO2 system pipebreaks) it was determined that the plant practice of designating one person as the fire watch in the 4 kv room complexes and the reactor cable tunnels when the CO2 system is isolated for all of the zones within each area is not in accordance with Tech Spec 3.7.9.3, which requires one fire watch for each zone. The cause of this event has been attributed to misinterpretation of Tech Spec requirements, which resulted in improper procedures. Procedures have been revised to reflect tech spec requirements. A Tech Spec change has been requested to change fire watch requirements.
Cook 1	11/18/1982	12/08/1982	Investigation Found a Pyralarm Detector Alarming for no Apparent Reason Abstract: The fire detection system alarm for zone 2 in the aux building was received in the control room. Investigation found a pyralarm detector alarming for no apparent reason. A fire watch was established in the area of the alarming detector until the situation was corrected. This condition removed any further capability for the fire detection system to alarm in the control room if any additional pyralarms within this zone alarmed. RO-050/315-096. This event was non-conservative with respect to Tech Spec 3.3.3.7. Investigation found that the alarm setpoint on the pyralarm detector was low. The detector assembly was cleaned and the alarm setpoint was adjusted to the proper value. The detector was verified to be operating correctly and the system was returned to service. Further action to minimize detector inoperability time is explained in RO-050/315-096.
Cook 1	12/06/1982	12/28/1982	Abstract: FIRE DOOR #385 WAS FOUND UNLATCHED. SECURITY PERSONNEL REPAIRED THE DOOR AND RELEASED THE FIRE WATCH. AS THEY WERE NOT AWARE OF NEW SURVEILLANCE REQUIREMENTS, THE FIRE WATCH WAS RELEASED APPROXIMATELY 3 HOURS BEFORE THE REQUIRED OPERABILITY INSPECTION. THIS CONSTITUTED AN INOPERABLE PENETRATION FIRE BARRIER WHICH IS NON-CONSERVATIVE WITH RESPECT TO TECH SPEC 3.7.10. LOOSE SCREWS IN THE LATCH BOLT COVER PLATE PREVENTED LATCHING OF THE DOOR. THE SCREWS WERE TIGHTENED AND STAKED PER THE INSPECTION PROCEDURE. ADVISING THEM OF THE INSPECTION REQUIRED PRIOR TO DECLARING A FIRE DOOR OPERABLE. A PLANT MANAGERS INSTRUCTION IS BEING PREPARED WHICH OUTLINES THIS REQUIREMENT.
Cook 1	12/09/1982	01/06/1983	Abstract: DURING NORMAL OPERATIONS, AN OPERATOR ON TOUR DISCOVERED THAT FIRE DOOR #455 WAS BLOCKED OPEN WITH NO FIRE WATCH ESTABLISHED. THIS CONSTITUTED AN INOPERABLE PENETRATION FIRE BARRIER AND WAS NON-CONSERVATIVE WITH RESPECT TO TECH SPEC 3.7.10. IMMEDIATELY CLOSED UPON DISCOVERY. A THOROUGH INVESTIGATION BY PLANT PERSONNEL WAS UNSUCCESSFUL IN DETERMINING THE PERSON RESPONSIBLE FOR THE DOOR BEING BLOCKED OPEN. ALL PERSONNEL THAT WERE CONTACTED DURING THIS INVESTIGATION WERE REMINDED OF THEIR RESPONSIBILITY REGARDING FIRE DOORS.
Cook 1	03/07/1983	04/05/1983	Abstract: DURING NORMAL PLANT OPERATIONS, A RAD WASTE HANDLING SUPERVISOR DISCOVERED THE DOOR TO DRUMMING ROOM BLOCKED OPEN WITH A WHEELED CART AND NO FIRE WATCH ESTABLISHED. THIS CONSTITUTED AN INOPERABLE PENETRATION FIRE BARRIER CONTRARY TO TECH SPEC 3.7.10. ACTION REQUIREMENTS WERE MET. PREVIOUS SIMILAR EVENTS INCLUDE: 315/82-026, 315/82-053, 315/82-064, 315/82-103, 315/82-106, 315/83-012, 316/83-052, 316/82-053, AND 316/82-095. INSULATION CONTRACT PERSONNEL WERE WORKING IN WEBST ROOM. A WORKING FIRE WATCH WAS PREVIOUSLY ESTABLISHED. THROUGH CARELESSNESS HE LEFT SIGHT OF THE DOOR; UPON DISCOVERY, THE RAD WASTE HANDLING SUPV. REMAINED AS FIRE WATCH UNTIL CONTRACT INSULATORS ENTERED DRUMMING ROOM. SINCE THIS EVENT, RESPONSIBLE INDIVIDUAL HAS LEFT JOB SITE. FIRE DOOR POLICY WAS REITERATED TO REMAINING INSUL. CONTR. PERSONNEL.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 1	04/13/1983	05/13/1983	Zone of Fire Detectors Inoperable Abstract: During normal operations a Pyralarm Detector alarmed and was found unplugged which rendered fire zone 4 detector inoperable. A fire watch was immediately posted upon discovery. This condition removed any further capability for the fire detection system to alarm in the control room if any additional Pyralarms within the zone alarmed. This design feature was explained in detail in RO 50-315/82-096. This event was nonconservative with respect to tech spec 3.3.3.7. Investigation found the detector had been unplugged during conduit installation for a design change by maintenance personnel. The Pyralarm was reinstalled, and the system was verified operable and returned to service within 1 hour and five min. Training has been conducted with maintenance department electrical personnel regarding pyralarms and their operability requirements.
Cook 1	07/09/1983	08/08/1983	Fire Barrier Seals Missing on Spray Additive Tank Room Abstract: On 7/9/83, the QC Dept. Was asked to investigate why a fire barrier seal was being installed in the spray additive tank room when numerous other unsealed penetrations were noted within the same room. Investigation revealed that the spray additive tank and nuclear sampling rooms were recently added to an AEPSC fire protection spec. However, appropriate revision to plant procedures had not been accomplished. Nonfunctional penetration fire barriers are nonconservative regarding Tech Spec 3.7.10. This is the first occurrence of this type. The event occurred following a Rev. to a Corp. Fire Barrier Spec. Which resulted in addition of the spray additive and nuclear sampling rooms as safety related fire zones. These additions were not communicated to appropriate plant personnel. Immediate corrective action taken was to post fire watches and seal the penetration. Efforts to improve communication to prevent similar events have been initiated. Fire watches will remain in this area until all actions have been completed relative to the installation of fire barrier seals. To prevent a similar event from occurring, the plant qc superintendent issued a memo to the AEPSC Corporate QA Manager advising him of the event. This memo requested that no DCC plant specification should be issued which could impact compliance to
Cook 1	08/07/1983	08/31/1983	A Pyralarm Detector Alarming for no Apparent Reason Abstract: During refueling shutdown, the Fire Detection System Alarm for Zone 3 in the auxiliary building was received in the control room. Investigation found a Pyralarm Detector alarming for no apparent reason. A fire watch was established in the area of the alarming detector until the situation was corrected. The alarming detector removed any further capability for the fire detection system to alarm in the control room if any additional Pyralarms within the zone alarmed. This event was non-conservative with respect to Tech Spec 3.3.3.7. This design feature was explained in detail in RO-050-315/82-096. The action requirements were met. Previous occurrences of a similar nature include: 50-315/83-034, 82-106, 096 and 316/83-062, 82-092.
Cook 1	08/29/1983	09/28/1983	Hinges on Fire Door Broken Abstract: During refueling outage, Mode 6, the fire door leading to the contractor access area was inadvertently damaged when the door was closed with a piece of steel between the door jam and the edge of the door. The two bottom hinges broke. The door had been propped open for ventilation purposes and was under continuous fire watch by a security officer. The fire watch continued until the door was repaired. The individuals involved did not notice the door block. They were admonished to use greater caution. The door was immediately repaired and returned to operable status.
Cook 1	09/24/1983	10/18/1983	Fire Door Fails to Properly Latch Abstract: During a refueling outage, the fire door between the contractor access control building and the Auxiliary Building, door 517, would not latch properly. This condition was nonconservative with respect to Tech Spec 3.7.10. The action requirements were met. A fire watch was posted until the door was repaired. The repairs were completed and the door was tested and returned to service. This was the first occurrence of this type for door 517. The latching mechanism for the active leaf had become loose. The mechanism was tightened. Also, the closer was adjusted on the inactive leaf. Problems with door 517 are not totally preventable due to the extensive use of the door, especially during outage periods.
Cook 1	11/13/1983	12/13/1983	Auxiliary Feed Pumps Fire Door Came of it's Rail Abstract: Operator on tour attempted to enter the auxiliary feedpump room when the sliding door came off the rail. The operators put the door back on the track. A fire watch was posted for the half hour the door was inoperable. This is non-conservative with respect to Tech Spec 3.7.10. This is the first occurrence for Door #292. The rollers on the sliding door are notched and the track is ribbed. One of the rollers was riding on top of the rib and out of the notch when the operator attempted to open the door. The other roller fell out of the track when an attempt was made to fix the door. Door was placed in the track and has had no further problems. A retainer will be installed to prevent recurrence.
Cook 1	12/17/1983	01/10/1984	Pyralarm Detector Found for no Apparent Reason Abstract: With the RCS in Mode 3, the fire detection system alarm for zone 14 in the Auxiliary Building was received in the control room. Investigation found a Pyralarm detector alarming for no apparent reason. A fire watch was established in the area of the alarming detector until the situation was corrected. The alarming detector removed any further capability for the detection system to alarm in the control room if any additional pyralarms within the zone alarmed. This event was nonconservative with respect to Tech Spec 3.3.3.7. 82-092. Investigation found the detector alarming with no adverse conditions in the area to cause the detector to alarm. The detector was tested and found to be bad. A new detector, manufactured by Pyratronics, was installed, verified to be operating correctly and the zone was returned to service. Further action to minimize detector inoperability time is explained in ro 50-315/82-096.
Cook 1	04/07/1984	05/07/1984	Failing to Maintain a Continuous Fire Watch Abstract: POWER LEVEL - 077%. ON APR 7, 1984 AT 0940 HRS, WHILE IN MODE 1, FIRE DOOR #227 TO THE TURBINE DRIVEN AUXILIARY FEED PUMP ROOM WAS OBSERVED TO BE INOPERABLE DUE TO ELECTRICAL CORDS BEING PLACED THROUGH THE PENETRATION OBSTRUCTING COMPLETE CLOSURE OF THE DOOR. A FIRE WATCH WAS IMMEDIATELY ESTABLISHED. THE CORDS HAD BEEN PLACED TO FACILITATE REPAIRS BEING PERFORMED ON THE TURBINE DRIVEN AUXILIARY FEED PUMP TRIP AND THROTTLE VALVE, AND WERE REMOVED UPON WORK COMPLETION. A CONTINUOUS FIRE WATCH WAS NOT MAINTAINED FOR SHORT PERIODS OF TIME WHILE WORK ON THE TRIP AND THROTTLE VALVE WAS CEASED. THIS WAS NONCONSERVATIVE WITH RESPECT TO THE ACTION STATEMENT OF TECH SPEC 3.7.10. MAINTENANCE PERSONNEL INVOLVED WITH EVENT HAVE BEEN REINSTRUCTED AS TO THE RULES WHICH GOVERN TECHNICAL AND NONTECHNICAL SPECIFICATION RELATED FIRE DOORS.
Cook 1	07/06/1984	07/31/1984	Failure to Maintain Fire Watch Abstract: POWER LEVEL - 100%. ON 7/6/84 AT 1000 HRS, IT WAS DISCOVERED THAT A FIRE WATCH HAD NOT BEEN MAINTAINED IN AN AREA WHERE FIRE RETARDANT MATERIALS HAD BEEN REMOVED FROM A PREVIOUSLY PROTECTED CONDUIT CONTAINING SAFETY RELATED CABLES. THIS CONDUIT, LOCATED IN THE NORTHWEST CORNER OF AUX. BLDG 573' ELEVATION, HAD BEEN PROTECTED PER THE REQUIREMENTS OF APPENDIX R. A FIRE WATCH HAD BEEN STATIONED IN THE AREA FROM 1320 HRS ON 7/5/84 UNTIL APPROX 0520 HRS ON 7/6/84. UPON DISCOVERY THAT THE FIRE WATCH WAS NO LONGER POSTED, THE UNIT ONE CONTROL ROOM WAS CONTACTED TO VERIFY OPERABILITY OF FIRE DETECTORS IN THE AREA, AND A FIRE WATCH PATROL WAS INITIATED PER THE REQUIREMENTS OF TECH SPECS 3.7.10. A LETTER WAS SENT TO ALL DEPARTMENT HEADS REMINDING THEM THAT CABLE TRAY AND CONDUIT FIRE PROTECTION MATERIALS APPLIED AS REQUIRED UNDER APPENDIX R FALL UNDER THE PROVISIONS OF TECH SPEC 3.7.10 WHEN THE FIRE PROTECTIVE MATERIAL IS REMOVED.
Cook 1	11/11/1984	12/07/1984	Missed Hourly Inspection of an Inoperable Fire Door Abstract: POWER LEVEL - 100%. ON 11-11-84, AT 0325 HRS, WITH UNIT 1 OPERATING AT 100% REACTOR THERMAL POWER, A FIRE WATCH WAS 25 MINS LATE IN CONDUCTING THE HOURLY INSPECTION OF INOPERABLE FIRE DOOR (IEEE COMPONENT FUNCTION IDENTIFIER - DR) NO. 333 PROTECTING THE UNIT 1 REACTOR CABLE TUNNEL QUADRANT NO. 1 AS REQUIRED BY TECH SPEC 3.7.10. THIS FIRE DOOR HAD BEEN DECLARED INOPERABLE ON 11-8-84. INVESTIGATION INTO THIS INCIDENT REVEALED THAT DUE TO AN INADEQUATE JOB BRIEFING AND THE FIRE WATCH'S GENERAL UNFAMILIARITY WITH THE PLANT LAYOUT THE FIRE WATCH ENTERED THE WRONG AREA TO INSPECT FIRE DOOR NO. 333. UPON REALIZING HIS MISTAKE AND GOING TO THE CORRECT AREA THE REQUIRED INSPECTION WAS COMPLETED 25 MINS LATE. TO PREVENT RECURRENCE THE FIRE WATCH SUPERVISORS HAVE BEEN DIRECTED TO IMPROVE THE COMPLETENESS OF JOB BRIEFINGS AND TO ENSURE THE FIRE WATCHES ARE FAMILIAR WITH AREAS TO BE INSPECTED. THERE WERE NO ADVERSE CONSEQUENCES FROM THIS EVENT.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 1	11/15/1984	12/11/1984	Missed Hourly Inspection of an Inoperable Fire Door Abstract: POWER LEVEL - 100%. ON 11-15-84, WITH UNITS 1 AND 2 OPERATING AT 100% POWER A FIRE WATCH FAILED TO MAKE THE 0600 HOURLY INSPECTION OF INOPERABLE FIRE DOORS (IEEE FUNCTION IDENTIFIER - DR). THESE DOORS (UNIT 1, NO. 323, 333, 339 - UNIT 2, NO. 324, 326, 340) PROTECTED THE REACTOR CABLE TUNNELS IN BOTH UNITS AND ARE REQUIRED BY TECH SPECS 3.7.10. INVESTIGATION INTO THIS INCIDENT REVEALED THAT THE FIRE WATCH IN QUESTION HAD MADE THE REQUIRED DOOR INSPECTIONS COMMENCING AT 2400 HRS (11-14-84) UNTIL 0500 HRS (11-15-84). PRIOR TO THE 0600 INSPECTION THE FIRE WATCH BECAME INVOLVED IN OTHER DUTIES AND LOST TRACK OF TIME. THE MISSED INSPECTIONS WERE NOT REALIZED UNTIL IT WAS TIME TO PERFORM THE 0700 HR INSPECTIONS. THE DOOR INSPECTIONS WERE COMPLETED FOR THE REQUIRED 0700 INSPECTION. TO PREVENT RECURRENCE THE INDICENT WAS DISCUSSED WITH THE FIRE WATCH BY THE FIRE WATCH DISPATCHER AND THE CONTRACTOR'S ON SITE SUPERVISOR. THE FIRE WATCH ALSO RECEIVED A WRITTEN REPRIMAND. PREVIOUS OCCURRENCES OF A SIMILAR NATURE INCLUDE: LER 84-027.
Cook 1	01/05/1985	01/30/1985	Missed Hourly Inspection of Inoperable Fire Barrier Penetrations Abstract: POWER LEVEL - 055%. ON 1-5-85, WITH UNIT 1 AT 55% POWER AND UNIT 2 AT COLD SHUTDOWN (MODE 5), A FIRE WATCH FAILED TO CONDUCT THE 2330 HOURLY INSPECTION OF INOPERABLE FIRE BARRIER PENETRATION SEALS AND DAMPERS (IEEE IDENTIFIERS - SEAL AND DMP) IN BOTH UNIT 1 AND 2 CHARGING PUMP ROOMS AS REQUIRED BY TECH SPEC 3.7.10. INVESTIGATION INTO THIS INCIDENT REVEALED THAT THE INSPECTION WAS MISSED BECAUSE OF AN INADEQUATE TURNOVER OF TOUR ASSIGNMENTS DURING SHIFT CHANGE. TO PREVENT RECURRENCE THE SITE SUPERVISOR FOR THE CONTRACTOR PROVIDING FIRE WATCH SERVICES HAS TAKEN THE FOLLOWING ACTION: 1) REVIEWED THE IMPORTANCE OF PROPER TURNOVERS WITH HIS DISPATCHERS; 2) ESTABLISHED THE POLICY THAT FIRE WATCHES ARE RESPONSIBLE FOR THEIR TOUR ASSIGNMENTS UNTIL PROPERLY RELIEVED.
Cook 1	02/06/1985	02/07/1986	Improperly Classified Fire Dampers Abstract: POWER LEVEL - 070%. THIS IS A REVISION TO LER 85-006 PREVIOUSLY SUBMITTED ON 03-08-85. THE PURPOSE OF THIS REVISION IS TO INCLUDE THE SAFETY ASSESSMENT OF THE EVENT. ON 02-06-85 AT 1300 HOURS WITH UNIT 1 REACTOR IN MODE 1 OPERATING AT 70 PERCENT POWER AND UNIT 2 IN MODE 1 AT 100 PERCENT POWER, AN AUXILIARY BUILDING ACCESS CONTROL VENTILATION DUCT FIRE DAMPER (IEEE/BDMP) WAS FOUND CLOSED DURING THE PERFORMANCE OF MAINTENANCE ACTIVITIES IN THE AREA. INITIAL INVESTIGATION OF THE CONDITION DETERMINED THAT THE FIRE DAMPER WAS DESIGNED TO PERFORM A SAFETY FUNCTION BUT HAD BEEN MISIDENTIFIED AS NON-SAFETY RELATED DURING THE SAFETY RELATED FIRE DAMPER IDENTIFICATION PROGRAM OF 1982. ON RECOGNITION THAT THE DAMPER HAD BEEN IMPROPERLY CLASSIFIED THE DAMPER WAS RESET AND SURVEILLANCE TESTED PURSUANT TO TECHNICAL SPECIFICATION 4.7.10.3 AT 0817 HOURS ON 02- 07-85. A CONTINUING INVESTIGATION INTO THIS EVENT HAS INDICATED THAT FOUR ADDITIONAL FIRE DAMPERS WERE NOT INCLUDED IN THE TABULATION OF SAFETY RELATED FIRE DAMPERS. ALL FIVE (5) FIRE DAMPERS HAVE BEEN ADDED TO THE FIRE DAMPER SURVEILLANCE TEST SCHEDULE. THE HEALTH AND SAFETY OF THE PUBLIC WAS NOT AFFECTED.
Cook 1	03/14/1985	04/12/1985	Inoperable Low Pressure Carbon Dioxide Systems Abstract: POWER LEVEL - 100%. ON MARCH 14, 1985 AT APPROXIMATELY 1615 HOURS, WITH UNIT 1 AT 100 PERCENT REACTOR THERMAL POWER, IT WAS DISCOVERED THAT THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS FOR THE U-1 AB AND CD EMERGENCY DIESEL GENERATOR ROOMS WERE REMOVED FROM SERVICE WITHOUT PROPER FIRE WATCH COVERAGE. THE FIRE WATCH COVERAGE EMPLOYED CONSISTED OF A ROVING INSPECTION AT A FREQUENCY OF ONCE EVERY THIRTY MINUTES. IN ADDITION, A SECURITY GUARD WAS POSTED IN THE AREA THROUGHOUT THE ENTIRE INCIDENT. A CONTINUOUS FIRE WATCH, HOWEVER, WAS NOT ESTABLISHED AS REQUIRED BY TECH SPEC 3.7.9.3.B. ON MARCH 13, 1985 AT 0900 HOURS THE ENTRANCE DOORS TO THE UNIT 1 AB AND CD EMERGENCY DIESEL GENERATOR ROOMS WERE REMOVED TO ALLOW INSTALLATION OF NEW DOORS. THE REMOVAL OF THESE DOORS RENDERED THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS INOPERABLE FOR THE AREAS INVOLVED. THE ERROR WAS RECONGIZED AT APPROXIMATELY 1615 HOURS ON MARCH 14, 1985. THE CAUSE OF THIS INCIDENT WAS PERSONNEL ERROR. IT WAS NOT RECOGNIZED THAT REMOVAL OF THE DOORS MADE THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS INOPERABLE. THOSE INDIVIDUALS INVOLVED ARE NOW AWARE OF THE REQUIREMENTS OF TECH SPEC 3.7.9.3 AND HAVE BEEN COUNSELED ON THE NECESSITY TO ACCURATELY DEFINE TECH SPEC
Cook 1	04/07/1985	05/07/1985	Fire Door Blocked Open Abstract: POWER LEVEL - 000%. ON 4-7-85, AT 1800 HRS, WITH THE RCS IN MODE 3 (HOT STANDBY), THE SPRAY ADDITIVE TANK ROOM FIRE DOOR (IEEE/DR), NO. 529, WAS FOUND BLOCKED OPEN WITHOUT FIRE WATCH COVERAGE AS REQUIRED BY TECH SPEC 3.7.10.A. THE BLOCKAGE CONSISTED OF A LEAD BRICK POSITIONED ON THE FLOOR PREVENTING DOOR CLOSURE. IT WAS PROMPTLY REMOVED UPON DISCOVERY AND THE DOOR RETURNED TO OPERABLE STATUS. THE FIRE DETECTION SYSTEM IN THE AREA WAS OPERATIONAL AT ALL TIMES. PERSONNEL RESPONSIBLE FOR POSITIONING THE BLOCKAGE COULD NOT BE DETERMINED. CONSEQUENTLY, NO PREVENTATIVE ACTION WAS TAKEN. THERE WERE NO ADVERSE CONSEQUENCES DUE TO THIS INCIDENT.
Cook 1	04/07/1985	05/07/1985	Missed Hourly Inpsections of Inoperable Fire Seals Abstract: POWER LEVEL - 000%. ON 4-7-85, AT 1730 HRS, WITH THE RCS IN MODE 3 (HOT STANDBY), A FIRE WATCH WAS UNABLE TO CONDUCT INSPECTIONS OF SEISMIC GAP FIRE BARRIER SEALS AS REQUIRED BY TECH SPEC 3.7.10. THE INCIDENT OCCURRED DUE TO A BROKEN LOCKING MECHANISM OF FIRE DOOR NO. 325 (IEEE/DR). ENTRY WAS GAINED TO THE AREA AND THE REQUIRED INSPECTIONS STARTED AT 2230 HRS, 4-7-85. THE FIRE DETECTION SYSTEM IN THE AREA WAS OPERATIONAL AT ALL TIMES. THERE WERE NO ADVERSE CONSEQUENCES DUE TO THIS INCIDENT.
Cook 1	04/16/1985	05/13/1985	Inoperable Fire Barrier Abstract: POWER LEVEL - 000%. ON 4-16-85 AT 1146 HRS WITH UNIT 1 IN MODE 5 (COLD SHUTDOWN) AND UNIT 2 IN MODE 1 AT 95% REACTOR THERMAL POWER, IT WAS DISCOVERED DURING SYSTEM WALKDOWNS FOR FLOW DIAGRAM VERIFICATIONS THAT THE FIRE SEALANT MATERIAL WAS ABSENT FROM 2 FLOOR PENETRATIONS (IEEE/SEAL). THE LACK OF SEAL MATERIAL CONSTITUTES AN INOPERABLE FIRE BARRIER AS ADDRESSED IN TECH SPEC 3.7.10. A FIRE WATCH WAS IMMEDIATELY POSTED IN THE AFFECTED AREAS. THE PENETRATIONS WERE BOTH 8 INCH PIPE SLEEVES, LOCATED IN EACH OF THE TURBINE-DRIVEN AUX FEED PUMP (TDAFP) ROOMS. THE OPEN PENETRATIONS WERE SEALED AND DECLARED OPERABLE ON 4-17-85, AND WERE ADDED TO THE SURVEILLANCE PROGRAM. THE SUBJECT PENETRATIONS WERE NOT PREVIOUSLY IDENTIFIED DURING INSPECTIONS OF THE PENETRATIONS IN THE TDAFP ROOMS. THESE OPEN PENETRATIONS DID NOT AFFECT THE OPERABILITY OF THE FIRE SUPPRESSION SYSTEM, AS THE TDAFP ROOMS ARE PROTECTED BY A WATER SUPPRESSION SYSTEM. THE LIKELIHOOD OF A FIRE PROPAGATING THROUGH THE OPEN PENETRATIONS WAS MINIMAL DUE TO A LOW COMBUSTIBLE MATERIALS LOADING IN THE AREA BELOW THE AFFECTED FIRE ZONE. PREVIOUS SIMILAR EVENTS INCLUDE 316/85-06.
Cook 1	04/29/1985	05/24/1985	Inadvertent Isolation of Low Pressure Carbon Dioxide System Abstract: POWER LEVEL - 000%. ON 4-29-85 AT 0825 HRS, WITH THE RCS IN MODE 6 (REFUELING), THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEM (IEEE/KQ) FOR QUADRANT ONE OF THE REACTOR CABLE TUNNEL, WAS ISOLATED WITHOUT FIRE WATCH COVERAGE AS REQUIRED BY TECH SPEC 3.7.9.3. THE SYSTEM WAS RETURNED TO NORMAL AT 1120 HRS, 4-29-85 AFTER IT WAS DISCOVERED TO HAVE BEEN INADVERTENTLY ISOLATED. THE INCIDENT OCCURRED DUE TO PERSONNEL ERROR. IT WAS THE RESULT OF; 1) UNFAMILIARITY WITH THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEM ISOLATION POINTS, AND 2) INADEQUATE COMMUNICATIONS BETWEEN CRAFT PERSONNEL REQUESTING THE ISOLATION AND SECURITY PERSONNEL WHO CARRIED OUT THE REQUEST. WHILE THE FIRE PROTECTION SYSTEM WAS ISOLATED FOR APPROX 3 HRS, THE FIRE DETECTION SYSTEM REMAINED OPERABLE. CONSEQUENTLY, IT IS CONCLUDED THAT THERE WAS NO SUBSTANTIAL DEGRADATION OF FIRE PROTECTION CAPABILITY DUE TO THIS EVENT. THOSE INDIVIDUALS INVOLVED ARE NOW AWARE OF CORRECT ISOLATION POINTS FOR AREAS WITHIN THE REACTOR CABLE TUNNEL AND HAVE BEEN COUNSELLED ON THE IMPORTANCE OF PROPER CONTROL OF THE LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEM. PREVIOUS OCCURRENCES OF A SIMILAR NATURE INCLUDE: 316/84-009 AND 316/84-027.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 1	05/07/1985	06/06/1985	Use of Incorrect Sample Point in Obtaining Technical Specification Required Samples Abstract: POWER LEVEL - 000%. ON 5-7-85 AT 1039 HRS WITH UNIT 1 IN MODE 5, OPERATIONS PERSONNEL DISCOVERED A DEFECTIVE FIRE SEAL IN THE CEILING OF THE CONTROL ROOM CABLE VAULT. THE DEFECTIVE FIRE SEAL CONSTITUTED AN INOPERABLE FIRE BARRIER AS ADDRESSED IN TECH SPEC 3.7.10. CONTINUOUS FIRE WATCH COVERAGE WAS ESTABLISHED AT 1039 HRS, 5-7-85. THE SEAL WAS DECLARED OPERABLE AT 1334 HRS FOLLOWING TEMPORARY REPAIRS. PERMANENT REPAIRS WERE COMPLETED ON 5-17-85. THE DEFECT CONSISTED OF AN UNSEALED HOLE, OF APPROX 0.75 INCHES IN DIAMETER. DISCUSSIONS WITH ALL GROUPS WHO WERE WORKING IN THIS AREA AND A REVIEW OF SELECTIVE DOCUMENTATION COULD NOT POSITIVELY IDENTIFY THE GROUP RESPONSIBLE FOR BREACHING THIS PENETRATION. HOWEVER, AN 4-18-85, INSPECTION OF THE PENETRATIONS IN THIS FIRE ZONE DID NOT IDENTIFY THIS DEFICIENCY. TO PREVENT RECURRENCE, THE MANAGEMENT OF BOTH CONSTRUCTION AND MAINTENANCE DEPARTMENTS HAVE BEEN REQUESTED TO REVIEW THIS EVENT WITH SUPERVISORY PERSONNEL RESPONSIBLE FOR PERFORMING SIMILAR WORK. SINCE THE OPEN PENETRATION WAS LOCATED IN THE CEILING OF THE PROTECTED AREA AND WOULD HAVE HAD A MINIMAL EFFECT ON THE CO2 CONCENTRATION WITHIN THAT AREA AND THE FIRE DETECTION SYSTEM WAS OPERABLE THROUGHOUT THE PERIOD IN QUESTION, IT IS CONCLUDED THAT THERE WAS NO
Cook 1	05/15/1985	06/24/1985	Failure to Meet Fire Watch Requirements Abstract: POWER LEVEL - 000%. ON 5-15-85 AT 1730 HRS, A LOW PRESSURE CARBON DIOXIDE FIRE PROTECTION VALVE OPERATOR (CARDOX, MODEL 2009154-IEEE/FCO) FAILED CLOSED DURING SURVEILLANCE TESTING. THIS RENDERED THE LOW PRESSURE CARBON DIOXIDE SYSTEMS INOPERABLE IN THE 16 AREAS LISTED IN TECH SPEC TABLE 3.7-6. DUE TO THE EXTENSIVE NUMBER OF FIRE WATCH PERSONNEL REQUIRED, CONTINUOUS FIRE WATCH COVERAGE WAS NOT PROVIDED WITHIN THE 1 HR TIME LIMIT DESIGNATED IN TECH SPEC 3.7.9.3.B. CONTINUOUS COVERAGE WAS ESTABLISHED AT 1850 HRS (1 HR AND 20 MINS AFTER THE VALVE FAILURE) AND WAS MAINTAINED UNTIL OPERABILITY WAS RESTORED AT 1221 HRS, 5-17-85. CONSIDERING THE SHORT DELAY UNTIL CONTINUOUS FIRE WATCH COVERAGE COULD BE PROVIDED, ALONG WITH THE FACT THAT THE FIRE DETECTION SYSTEMS WITHIN THE INVOLVED AREAS WERE OPERABLE THROUGHOUT THE PERIOD IN QUESTION, IT IS CONCLUDED THAT THERE WERE NO ADVERSE SAFETY CONSEQUENCES DUE TO THIS EVENT.
Cook 1	05/30/1985	11/21/1985	Inoperable Fire Barrier Abstract: POWER LEVEL - 000%. AT 0800 HOURS WITH UNIT 1 IN MODE 6 AND NO FUEL IN THE CORE, A TECHNICIAN DISCOVERED A DEFECTIVE FIRE SEAL (IEEE/SEAL) IN THE UNIT 1 CONTROL ROOM CABLE VAULT CEILING. THIS CONSTITUTED AN INOPERABLE FIRE BARRIER PER TECH SPEC 3.7.10. THIS EVENT WAS DETERMINED TO BE REPORTABLE ON OCTOBER 22, 1985, WHILE INVESTIGATING CONCERNS RAISED DURING THE ASSOCIATED CONDITION REPORT CLOSEOUT REVIEW. CONTINUOUS FIRE WATER COVERAGE WAS ESTABLISHED AT 0820 HOURS, MAY 30, 1985. THE SEAL WAS REPAIRED AND DECLARED OPERABLE ON MAY 30, 1985, AT 1557 HOURS. THE DEFECT CONSISTED OF AN UNSEALED HOLE OF 3 INCHES BY 4 INCHES BEHIND A CONTROL ROOM PANEL. THIS PENETRATION IS ON THE 18 MONTH SURVEILLANCE PROGRAM AND WAS CHECKED LAST ON APRIL 18, 1985. THIS PENETRATION WAS SATISFACTORY AT THAT TIME. IT COULD NOT BE DETERMINED WHEN OR WHO REMOVED THIS SEAL. A SAFETY EVALUATION REVEALED THAT: THE UNIT 1 CONTROL ROOM VENTILATION SYSTEM (CRVS) WOULD HAVE MAINTAINED A POSITIVE PRESSURE IN THE UNIT 1 CONTROL ROOM; AND THE UNIT 2 CRVS WOULD HAVE OPERATED AT A LOWER POSITIVE PRESSURE, BUT CAPABLE OF MEETING OPERABILITY REQUIREMENTS. SINCE THE OPEN PENETRATION WAS LOCATED IN THE CEILING OF THE PROTECTED AREA AND WOULD HAVE A MINIMAL EFFECT ON THE CARBON DIOXIDE OR HALON CONCENTRATION WITHIN THE AREA, IT IS CONCLUDED THAT THERE WAS
Cook 1	06/04/1985	07/03/1985	Inoperable Fire Barriers Abstract: POWER LEVEL - 000%. ON JUNE 4, 1985, AT 0630 HOURS, WITH THE UNIT SHUTDOWN FOR REFUELING AND FUEL REMOVED FROM THE CORE, THREE EIGHT-INCH DIAMETER FIRE PENETRATIONS WERE FOUND TO BE NONFUNCTIONAL (I.E., THE SILICONE FOAM HAD BEEN REMOVED). THE PENETRATIONS WERE LOCATED IN THE BORON INJECTION TANK ROOM (FIRE ZONES 38 AND 44N) AND CONSTITUTED INOPERABLE FIRE BARRIERS AS ADDRESSED IN TECH SPEC 3.7.10. THE UNACCEPTABLE PENETRATION SEALS WERE DISCOVERED DURING HYDROSTATIC TESTING. A FIRE WATCH WAS ESTABLISHED WITHIN ONE HOUR AND THE OPENINGS SEALED ON JUNE 4, 1985, AT 1450 HOURS. THESE SEALS WERE LAST INSPECTED ON APRIL 24, 1985, BY THE PLANT QC DEPARTMENT AS REQUIRED BY THE EIGHTEEN MONTH TECH SPEC INSPECTION. INVESTIGATION COULD NOT ASCERTAIN WHY THE SILICONE SEALS HAD BEEN REMOVED SUBSEQUENT TO THIS DATE. A SAFETY EVALUATION WAS PERFORMED FOR THIS EVENT AND CONCLUDED THAT THESE DEFICIENT PENETRATIONS DID NOT HAVE A SIGNIFICANT IMPACT ON THE SAFE SHUTDOWN OF THE PLANT OR ON EXISTING FIRE PROTECTION MEASURES. THE UNIT NO. 2 BIT TANK ROOM WAS INSPECTED. SIMILAR OPENINGS DID NOT EXIST.
Cook 1	06/13/1985	07/12/1985	Inoperable Fire Barriers Abstract: POWER LEVEL - 000%. ON 6-13-85 AT 1300 HRS WITH UNIT 1 SHUTDOWN FOR REFUELING AND FUEL REMOVED FROM THE CORE, IT WAS DISCOVERED (DURING FIRE SEAL REPAIR ACTIVITIES) THAT THE FIRE BARRIER SEALS LOCATED ABOVE THE WALLS SEPARATING THE CONTROL ROOM CABLE VAULT (CRCV) AND THE HOT SHUTDOWN PANEL CABLE (HSDPC) ROOM WERE NOT INSTALLED IN ACCORDANCE WITH DESIGN SPECS. AN INSPECTION OF THE UNIT 2 HSDPC ROOM WALLS CONDUCTED ON 6-14-85, AT 1400 HRS, REVEALED A SIMILAR SEAL CONFIGURATION. IN BOTH CASES THE UNAPPROVED PENETRATION SEALS CONSTITUTED AN INOPERABLE FIRE BARRIER AS ADDRESSED IN TECH SPEC 3.7.10. CONTINUOUS FIRE WATCH COVERAGE WAS ESTABLISHED AT THE TIME OF DISCOVERY AND WAS MAINTAINED UNTIL THE OPENINGS WERE TEMPORARILY SEALED ON JUN 19 AND 20, 1985 (UNITS 2 AND 1, RESPECTIVELY). A PERMANENT SEAL WILL BE IN PLACE WITHIN 90 DAYS AS REQUIRED BY SPEC DCC-FP101-QCN. THE HSDPC ROOM AND CRCV AREA EACH CONTAIN SAFE SHUTDOWN CABLES. A SINGLE FIRE RESULTING IN THE LOSS OF A HSDPC ROOM AND/OR THE OPPOSITE UNIT'S CRCV AREA HAS BEEN PREVIOUSLY EVALUATED BY THE PLANT'S RESPONSE TO APPENDIX A TO B.T.P.9.5-1, AND ADMINISTRATIVE CONTROLS ARE IN PLACE TO BRING THE PLANT TO A SAFE SHUTDOWN FROM EQUIPMENT LOCATED OUTSIDE OF THESE FIRE AREAS. THEREFORE, NO SIGNIFICANT IMPACT ON SAFE SHUTDOWN WOULD HAVE RESULTED FROM THE INSTALLATION OF THE
Cook 1	08/09/1985	08/26/1985	Missed Hourly Inspection of Inoperable Fire Dampers Abstract: POWER LEVEL - 000%. ON 8-9-85, WITH UNIT 1 IN MODE 6 AND UNIT 2 IN MODE 5, A FIRE WATCH FAILED TO CONDUCT THE HOURLY INSPECTION OF INOPERABLE FIRE DAMPERS FOR VARIOUS AREAS OF THE AUX BLDG AS REQUIRED BY TECH SPEC 3.7.10. THESE INSPECTIONS ARE BEING CONDUCTED AS COMPENSATORY MEASURES PENDING REVIEW OF AN APPENDIX R EXEMPTION REQUEST. THE FIRE WATCH COMPLETED HIS REQUIRED 0730 INSPECTION TOUR AND THEN LEFT THE AREA FAILING TO FOLLOW ESTABLISHED TURNOVER PROCEDURES. THE FIRE WATCH DISPATCHER, UPON REALIZING THAT THE FIRE WATCH HAD LEFT HIS POST WITHOUT BEING PROPERLY RELIEVED, ASSIGNED ANOTHER FIRE WATCH TO THE POST AND THE TOUR WAS COMPLETED AT 0930. THE FIRE DETECTION AND SUPPRESSION SYSTEMS IN THE AUX BLDG REMAINED OPERABLE AT ALL TIMES. TO PREVENT RECURRENCE THE INCIDENT WAS DISCUSSED WITH THE FIRE WATCH BY THE FIRE WATCH SUPERVISOR. APPROPRIATE ADMINISTRATIVE ACTION WAS TAKEN WITH THE INDIVIDUAL INVOLVED. PREVIOUS OCCURRENCES OF A SIMILAR NATURE: 84-027, 84-028, 85-001.
Cook 1	10/04/1985	11/04/1985	Untended Inoperable Fire Door Abstract: POWER LEVEL - 000%. ON 10-4-85, AT 0030 HRS WITH UNIT 1 IN MODE 5, DURING A TOUR OF THE 4KV SWITCHGEAR ROOM BY AN OPERATOR, IT WAS DISCOVERED THAT FIRE DOOR NO. 345 WAS OPEN WITHOUT A FIRE WATCH STATIONED WHILE IN AN INOPERABLE CONDITION FOR APPROX 4 HRS. FIRE DOOR NO. 345 PROVIDES A FIRE BARRIER SEPARATION BETWEEN FIRE AREA 42 (TRANSFORMER, CONTROL ROD DRIVE, MOTOR CONTROL CENTER AND BATTERY ROOM UNIT 1) AND FIRE AREA 41 (ENGINEERED SAFETY SYSTEMS AND MOTOR CONTROL CENTER ROOM UNIT 1). THE DOOR HAD BEEN DECLARED INOPERABLE ON 7-24-85, DUE TO A FAILURE TO PROPERLY CLOSE. THE DOOR WOULD DROP AFTER AN AUTOMATIC RELEASE BUT WOULD REBOUND AND REMAIN APPROX 2 1/2 INCHES OPEN. THE FIRE DOOR HAD BEEN SHUT AND A CLEARANCE TAG PLACED ON THE CONTROL SWITCH, BREAKER AND MANUAL CHAIN OPERATOR TO PREVENT OPERATION OF THE DOOR WITHOUT THE SHIFT SUPERVISORS PERMISSION. ALSO, A CAUTION TAG WAS PLACED ON THE FIRE DOOR STATING THAT A FIRE WATCH MUST BE STATIONED PRIOR TO OPENING THE DOOR. A 1 HR FIRE TOUR WAS NOT ESTABLISHED AS PLANT PERSONNEL BELIEVED HAVING THE DOOR TAGGED SHUT MET THE INTENT OF THE TECH SPEC ACTION STATEMENT. THIS IS CONTRARY TO TECH SPEC 3/4.7.10. THE INDIVIDUAL RESPONSIBLE FOR OPENING THE FIRE DOOR COULD NOT BE DETERMINED. TO PREVENT RECURRENCE; 1) THE CLEARANCE WILL REMAIN IN EFFECT

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 1	11/16/1985	12/12/1985	Missed Fire Watch Tour Abstract: POWER LEVEL - 003%. ON 11-16-85 A FIRE WATCH MISSED A HALF HOUR INSPECTION OF FIRE HATCHES IN THE UNIT 1 4KV COMPLEX. THE MISSING OF THIS TOUR SUBSEQUENTLY LED TO COMPLETING THE REQUIRED TECH SPEC 3.7.10 HOURLY TOUR 3 MINS LATE. THIS EVENT WAS CAUSED BY A LACK OF COMMUNICATION WITHIN THE SECURITY AND FIRE WATCH ORGANIZATIONS (CONTRACT PERSONNEL) IN THAT A SECURITY OFFICER WHO HAD THE RESPONSIBILITY TO ISOLATE THE CO2 FIRE SUPPRESSION SYSTEM FOR THE 4KV COMPLEX FAILED TO VERIFY THE FIRE WATCH TOUR START TIME DURING POST TURNOVER, AND THE FIRE WATCH FAILED TO CONTACT HIS SUPERVISOR OR THE SECURITY DEPARTMENT FOR DIRECTION WHEN THE SECURITY OFFICER FAILED TO SHOW UP AT THE START OF THE TOUR. THE FIRE WATCH FAILING TO REALIZE THE SERIOUSNESS OF THE TOUR SKIPPED THIS AREA ON THE HALF HOUR TOUR. THIS AREA WAS INSPECTED APPROX 3 MINS LATE ON THE HOURLY TOUR. THE FIRE DETECTION AND SUPPRESSION SYSTEMS IN THIS AREA REMAINED OPERABLE AT ALL TIMES. ACTIONS TAKEN TO PREVENT A SIMILAR OCCURRENCE CONSISTED OF DIRECTING EACH ORGANIZATION TO REVIEW THE IMPORTANCE OF COMPLETING THE REQUIRED INSPECTIONS ON TIME AND TO STRESS THE IMPORTANCE OF COMMUNICATIONS BOTH WITHIN THEIR OWN ORGANIZATION AND BETWEEN ORGANIZATIONS WITH ALL OF THEIR PERSONNEL.
Cook 1	12/19/1985	01/17/1986	Suspended Fire Watch Tour Abstract: POWER LEVEL - 090%. ON 12-19-85 ROUTINE TESTING OF THE PLANT CARBON DIOXIDE FIRE PROTECTION SYSTEMS RESULTED IN AN ACCIDENTAL SYSTEM ACTUATION AND SUSPECTED CARBON DIOXIDE DISCHARGE. HOURLY FIRE WATCH PATROLS OF THE 573' ELEVATION OF THE AUX BLDG WERE REQUIRED, PER TECH SPEC 3.7.10 FOR THE INSPECTION OF INOPERABLE FIRE BARRIER PENETRATION SEALS THAT HAD BEEN IDENTIFIED AS BEING REQUIRED FOR APPENDIX R COMPLIANCE. FIRE WATCH TOURS WERE SUSPENDED FOR REASONS OF PERSONNEL SAFETY UNTIL IT WAS DETERMINED THAT IT WAS SAFE FOR PERSONNEL TO DESCEND TO THIS ELEVATION. THIS ACTION RESULTED IN THE INABILITY TO PERFORM ONE OF THE REQUIRED HOURLY FIRE WATCH TOURS. THE FIRE DETECTION SYSTEM FOR THIS AREA REMAINED OPERABLE AT ALL TIMES.
Cook 1	07/05/1988	08/04/1988	Isolation of CO2 Fire Protection System, Without Compensatory Action Due To Personnel Error/Procedural NonCompliance Abstract: POWER LEVEL - 090%. ON JULY 5, 1988 DURING ISOLATION/NORMALIZATION OF THE CARDOX CO2 FIRE PROTECTION SYSTEM FOR QUADRANTS (QUADS) 3 AND 4 OF THE REACTOR CABLE TUNNEL, PERSONNEL ERROR/PROCEDURAL NONCOMPLIANCE RESULTED IN THE ISOLATION OF TWO OF THE CO2 PROTECTED AREAS (ONE AREA FOR 1 HOUR AND 51 MINUTES AND THE OTHER FOR 2 HOURS AND 33 MINUTES) WITHOUT COMPENSATORY ACTION AS REQUIRED BY TECH SPEC 3.7.9.3, ACTION A. IT HAS BEEN CONCLUDED THAT IN THE UNLIKELY EVENT OF A FIRE (IN EITHER OF THE AREAS INVOLVED), PERSONNEL WOULD HAVE BEEN PROMPTLY AWARE OF ITS PRESENCE AND BEEN ABLE TO CONTROL AND EXTINGUISH THE FIRE WITHOUT SIGNIFICANT PROPAGATION OR EQUIPMENT DAMAGE. TO PREVENT RECURRENCE; 1) APPROPRIATE ADMINISTRATIVE ACTIONS WERE TKEN CONCERNING THE INDIVIDUALS INVOLVED, 2) ALL SECURITY OFFICERS ATTENDED COMPENSATORY TRAINING STRESSING CONTROL OF THE CARDOX CO2 ISOLATION SWITCHES, AND 3) SECURITY POST ORDER SPO.016 WAS REVISED TO PLACE ADDITIONAL EMPHASIS ON THE NECESSITY TO LOG THE REPOSITIONING OF EACH SWITCH USED TO ISOLATE A CO2 PROTECTED AREA. BASED ON THE RESULTS OF THE INVESTIGATION OF A SIMILAR EVENT (WHICH OCCURRED ON 8/3/88) ADDITIONAL ADMINISTRATIIVE CONTROLS MAY BE ADOPTED. IF PREVENTIVE MEASURES ARE REVISED, A
Cook 1	08/03/1988	09/02/1988	Isolation of CO2 Fire Protection System, Without Compensatory Action Due to Personnel Error Abstract: POWER LEVEL - 090%. ON AUGUST 3, 1988 DURING ISOLATION/NORMALIZATION OF THE CARDOX C02 FIRE PROTECTION SYSTEM FOR THE 4KV SWITCHGEAR CABLE VAULT, PERSONNEL ERROR RESULTED IN THE ISOLATION OF THE FIRE PROTECTION SYSTEM, FOR A PERIOD OF 50 MINUTES, WITHOUT COMPENSATORY ACTION AS REQUIRED BY TECH SPEC 3.7.9.3, ACTION A. IT HAS BEEN CONCLUDED THAT IN THE UNLIKELY EVENT OF A FIRE, PERSONNEL WOULD HAVE BEEN PROMPTLY AWARE OF ITS PRESENCE AND BEEN ABLE TO CONTROL AND EXTINGUISH THE FIRE WITHOUT SIGNIFICANT PROPOGATION OR EQUIPMENT DAMAGE. TO PREVENT RECURRENCE APPROPRIATE ADMINISTRATIVE ACTIONS WERE TAKEN CONCERNING THE INDIVIDUALS INVOLVED.
Cook 1	11/28/1989	12/28/1989	Pyralarm Fire Detection Zone Inoperable Without Required Roving Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 100%. ON 11-28-89 AT 1140, THE PYRALARM FIRE DETECTION ZONE 3 FOR THE 609' ELEVATION OF THE AUXILIARY BUILDING WAS MADE INOPERABLE WHEN WELDING IN THE LAUNDRY ROOM CAUSED A STANDING ALARM. DUE TO AN OPERATOR ERROR, A FIRE WATCH PATROL WAS NOT ASSIGNED WITHIN ONE HOUR TO TOUR THE ZONE EACH HOUR WHILE THE ZONE WAS INOPERABLE. AT 1400 ON 11-28-89, THE ZONE 3 PYRALARM FIRE DETECTION BECAME OPERABLE. WHEN THE UNIT SUPERVISOR NOTIFIED THE FIRE WATCH DISPATCH TO RELEASE THE 609' ELEVATION OF THE AUXILIARY BUILDING FROM THE ROVING FIRE WATCH TOUR, THE UNIT SUPERVISOR WAS INFORMED THAT NO FIRE WATCH HAD BEEN ASSIGNED. THIS EVENT WAS DISCUSSED WITH THE INVOLVED CONTROL ROOM OPERATORS. THE OPERATORS ARE FULLY AWARE OF THEIR RESPONSIBILITIES TO CORRECTLY READ COMPONENTS LABELS AND TO MAINTAIN GOOD COMMUNICATIONS IN THE CONTROL ROOM.
Cook 1	04/10/1990	05/10/1990	Pyralarm Fire Detection Zone Inoperable Without REquired Roving FIre Watch Due to Personnel Error Abstract: POWER LEVEL - 100%. ON 04-10-90 AT ABOUT 1310, A PYRALARM FIRE DETECTION ZONE WAS RENDERED INOPERABLE WHEN THE DETECTION CONTROL PANEL WAS PERMEATED BY STEAM AND WATER FROM A STEAM GENERATOR BLOWDOWN SYSTEM SAFETY VALVE. THE UNIT SUPERVISOR FAILED TO DECLARE THE ZONE INOPERABLE AND POST A ROVING FIRE WATCH. AT ABOUT 1645, THE ERROR WAS NOTED. THE ZONE WAS DECLARED INOPERABLE AND A ROVING FIRE WATCH WAS POSTED TO SATISFY THE TECHNICAL SPECIFICATION ACTION STATEMENT. THE ZONE WAS INOPERABLE WITHOUT THE REQUIRED ROVING FIRE WATCH FOR 3 HOURS 35 MINUTES. THIS EVENT WAS REVIEWED WITH THE INVOLVED PERSONNEL AND AN OPERATIONS STANDING ORDER WAS WRITTEN TO PROVIDE GUIDELINES FOR THE POSTING OF FIRE WATCHES.
Cook 1	09/27/1991	10/25/1991	Inoperable Fire Damper Not Properly Compensated for Due to Personnel Error Abstract: POWER LEVEL - 099%. ON 9/27/91, WHILE CONDUCTING TESTING OF THE UNIT ONE REACTOR CABLE TUNNEL (RCT) C02 SYSTEM, A PERFORMANCE TECHNICIAN DISCOVERED THAT THE C02 POP-OFF CHAIN FOR A FIRE DAMPER HAD BEEN WIRED TO THE C02 PIPING, THUS RENDERING THE FIRE DAMPER INOPERABLE AND IN NON-COMPLIANCE WITH TECHNICAL SPECIFICATIONS. IT WAS DETERMINED THAT A FIRE WOULD NOT PROPAGATE DUE TO THE INOPERABLE DAMPER BECAUSE: 1) THE COMBUSTIBLE LOADING IN THE FIRE ZONE IS LOW; 2) ANY FIRE IN THESE AREAS WOULD BE DETECTED BY AVAILABLE IONIZATION TYPE DETECTORS WHILE THE FIRE IS IN AN INCIPIENT STAGE; 3) MANUAL FIRE FIGHTING EQUIPMENT IS READILY AVAILABLE FOR USE BY THE FIRE BRIGADE; 4) THE SUBJECT FIRE DAMPER WOULD PERFORM AS DESIGNED PROVIDED THE C02 POP-OFF WAS REMOVED, WHICH COULD HAVE BEEN DONE EITHER MANUALLY BY THE FIRE BRIGADE, IF CONDITIONS PERMITTED, OR BY THE MELTING OF A FUSIBLE LINK IN THE CHAIN; 5) THE LOW PRESSURE C02 SYSTEMS PROTECTION ZONES HAVE THE CAPABILITY OF PROVIDING MULTIPLE DUMPS OF C02 IF THE FIRE BRIGADE DEEMED IT NECESSARY; 6) THE LOW COMBUSTIBLE LOADINGS IN SUBJECT ZONES, COUPLED WITH THE LOCATION OF ALL COMBUSTIBLES WOULD MAKE IGNITION OF COMBUSTIBLES LOCATED IN THE ADJACENT FIRE ZONE BY HEAT CONVECTION AND/OR RADIATION UNLIKELY. THE WIRING OPEN OF THE FIRE DAMPER WAS DETERMINED TO
Cook 1	03/30/1993	04/29/1993	Fuel Handling Exhaust Fan Charcoal Filter Bed Fire Alarm Inoperable Due To Moving Alarm to New Annunciator Location Abstract: POWER LEVEL - 100%. On March 30, 1993 new annunciators for the new Dedicated Fire Protection System (RFC-DC-12-3065) were installed in the Unit 1 Control Room. Several existing annunciators were required to be relocated in order to install the new annunciators and human factor the panels. The 'Fuel Handling Exhaust Fan Charcoal Filter Fire or Abnormal' annunciator was moved as part of this process to a previously spared annunciator window. The design change planning process did not identify that the annunciator was associated with Technical Specification (TS) 3.3.3.7. Even though the annunciator's electrical leads had been moved within the TS Limiting Condition for Operation (LCO) Action Statement one hour time limit, the new window's logic card was not installed, effectively, leaving the alarm function inoperable. At the subsequent operations turnover, the oncoming shift identified that two annunciator windows, one TS related and one non-TS related, did not light as expected when tested. The operators determined the problem was within the circuitry and placed the plant in the TS LCO Action Statement which requires the stationing of an hourly fire watch patrol for the area associated with the inoperable fire detection system. It was

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 1	07/02/1993	09/02/1993	Fire Watch Patrols not Established per Plant Technical Specifications Due to Personnel Error Abstract: POWER LEVEL - 100%. On July 2, 1993 at approximately 1800 hours, the Unit 1 fire detection monitor alarm switch was placed and left in the 'off' position. The fire detection monitor alarm switch is a cut out switch for the pyrotronics fire detection system installed throughout the unit and within various site office buildings, In the 'off' position, visual and audible alarms associated with the pyrotronic fire detection zones will not alarm in the control room. However, in the event of a fire, a fire system actuation or CO sub 2 header pressurized alarm would still annunciate in the control room for the areas provided with fire suppression capabilities. Spurious fire alarms had been received and reset throughout the day. The fire system is reset by turning the fire detection system control switch to 'off' and then back to the 'on' position. At approximately 1800 hours while resetting the fire detection system, the fire detection system control switch was inadvertently left in the 'off' position. Compensatory actions required by Technical Specifications were not taken due to the control room operators being unaware of the switch being mispositioned. The cause of this event is personnel error. Administrative actions have been taken with the involved personnel.
Cook 1	12/28/1993	06/09/1994	Failure of Fire Watch Personnel to Perform Assigned Duties Resulting in Missed TS Required Surveillance Abstract: On 6/1/92, the fire protection for multiple areas of the Plant was declared inoperable due to the uncertainties regarding the fire proofing material used to protect components and cabling within those areas. Compensatory actions required by the Technical Specifications (TS) were established. On 2/11/94, a routine review of completed Fire Watch (FW) patrol records identified three (3) discrepancies in which an hourly FW patrol on the Essential Service Water (ESW) pump room was not conducted for a period of 1 hour 29 minutes on 12/28/93, 1 hour 38 minutes on 12/30/93 and 1 hour 29 minutes on 12/31/93. Additional reviews were conducted and identified one (1) additional discrepancy in which an hourly FW patrol was not conducted on the U-1 CD Emergency Diesel Generator (EDG) room for 1 hour 22 minutes on 2/24/94. A random monitoring program has been developed to review FW tours. These events, lessons learned from these events, and management expectations were conveyed to Plant Protection personnel. FW patrol training and implementing procedures are being revised to incorporate the lessons learned from these events.
Cook 1	07/12/1994	08/05/1994	Required Continuous Fire Watch Post Not Established Due To Inadequate Administrative Controls Abstract: On July 12, 1994 at 0000 hours, with Unit 1 in Mode 1 at 100% power, the Unit 1 Turbine Building Fire Protection header between 1-FP-183 and 1-FP-196 was found to have been isolated. Two clearances supporting maintenance evolutions for fire protection header system component repairs were placed into effect concurrently without appropriate compensatory actions being initiated. Fire Zone #105, the Contractor Access Control area which gives access to the Auxiliary Building, is required to be under a continuous fire watch patrol when the fire suppression system for this area is inoperable. Contrary to Technical Specification 3.7.9.2.b, a continuous fire watch patrol was not established. When discovered, a continuous fire watch post was established in accordance with Technical Specifications, and remained in effect until the clearances had been lifted and the system restored. This event was determined not to have safety significance and did not represent a hazard to the safety and health of the public.
Cook 1, Cook 2	02/25/1990	03/22/1990	Pyralarm Fire Detection Zone Inoperable, Roving FW on Inoperable Fire Rated Assemblies Not Upgraded to Continuous Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 100%. ON 02-25-90 AT 1015 THE PYRALARM FIRE DETECTION ZONE 2 FOR THE 587' ELEVATION OF THE AUXILIARY (AUX.) BUILDING (BLDG.) (EFR ZN 2) WAS DECLARED INOPERABLE. THE UNIT SUPERVISOR (US) NOTIFIED THE FIRE WATCH (FW) DISPATCH AND A ROVING FW WAS ESTABLISHED TO PATROL THE 587' ELEVATION OF THE AUX. BLDG. TO SATISFY TECHNICAL SPECIFICATION (TS). THE US DID NOT NOTE THAT THE TS ACTION STATEMENT PREVIOUSLY IN AFFECT FOR INOPERABLE COOLANT CHARGING PUMP ROOM WALL FIRE RATED ASSEMBLIES LOCATED WITHIN THE FIRE DETECTION ZONE CHANGED WHEN EFR ZN 2 BECAME INOPERABLE AND THEREFORE, FAILED TO UPGRADE A ROVING FW TO A CONTINUOUS FW. A CONTINUOUS FW WAS NOT ESTABLISHED FOR THE INOPERABLE ASSEMBLIES UNTIL 02-26-90 AT 1620. ALSO, WHILE EFR ZN 2 WAS INOPERABLE, FIRE DOOR 368 WAS INOPERABLE FROM 0635 TO 1532 ON 02-26-90, AND FIRE DOOR 364 WAS INOPERABLE FROM 0740 TO 1517 ON 02-26-90. THE US ESTABLISHED A ROVING FW PATROL ON THE INOPERABLE FIRE DOORS. WITH EFR ZN 2 INOPERABLE, A CONTINUOUS FW SHOULD HAVE BEEN ESTABLISHED TO SATISFY THE TS ACTION STATEMENT. A REFERENCE TO THE FIRE RATED ASSEMBLY TS HAS BEEN ADDED TO THE SURVEILLANCE PROCEDURE FOR A STANDING FIRE DETECTION ALARM. IN ADDITION, THIS EVENT WAS REVIEWED WITH
Cook 1, Cook 2	03/27/1990	04/26/1990	Two Fire Doors Blocked From Closing Without Taking Compensatory Actions Required by Plant Technical Specification Due to Personnel Error Abstract: POWER LEVEL - 100%. ON MARCH 27, 1990, WITH BOTH UNITS OPERATING AT 100 PERCENT REACTOR THERMAL POWER, AN OPERATOR ON TOUR FOUND THAT FIRE DOORS LEADING TO THE TURBINE DRIVEN AUXILIARY FEEDWATER PUMP ROOMS FOR BOTH UNITS HAD BEEN MADE INOPERABLE DUE TO WOODEN PLANKS BEING PLACED THROUGH THE ENTRIES. APPROXIMATELY FIVE HOURS EARLIER, A PAINTER HAD PUT THE PLANKS THROUGH THE DOORWAYS TO PROVIDE ACCESS WITHOUT DAMAGE TO FRESH PAINT. THE INDIVIDUAL HAD ASSUMED THAT THIS WAS ACCEPTABLE, AS THE DOORS ARE NORMALLY OPEN, THOUGH MUST BE CLOSED IN THE EVENT OF A FIRE. UPON DISCOVERY, THE ACTION STATEMENT OF TECHNICAL SPECIFICATION 3.7.10 WAS ENTERED. THE DOORS WERE DECLARED INOPERABLE, A FIRE WATCH POSTED, AND THE SEVEN DAY CLOCK FOR RESTORATION TO OPERABLE STATUS STARTED. FOLLOWING THE INCIDENT, THE INDIVIDUAL AND ALL OTHER MEMBERS OF THE CONTRACT UTILITY CREW WERE RETRAINED BY THEIR SUPERVISOR ON THE CORRECT STEPS TO BE TAKEN WHEN A FIRE DOOR IS MADE INOPERABLE AND THE ASPECTS OF THE GOVERNING TECHNICAL SPECIFICATION 3.7.10.
Cook 1, Cook 2	10/15/1990	11/14/1990	Failure to Comply with Plant Technical Specifications When Fire Watch Posting Requirements were Miscommunicated Abstract: POWER LEVEL - 070%. ON 10/15/90 BETWEEN 0207 AND 2210, AND AGAIN ON 10/20/90 BETWEEN 1100 AND 1200, TECH SPEC REQUIRED FIRE WATCH TOURS WERE MISSED DUE TO A MISCOMMUNICATION. THE FIRST OCCURRENCE WAS THE INCORRECT POSITIONING OF A FIRE WATCH DUE TO A MISUNDERSTANDING IN THE ESTABLISHMENT OF THE REQUIRED FIRE WATCH POSTING WHEN A TECH SPEC SPRINKLER SYSTEM WAS REMOVED FROM SERVICE. THE SECOND OCCURRENCE WAS THE NONPERFORMANCE OF A REQUIRED TURBINE BUILDING FIRE PROTECTION TOUR DUE TO A MISUNDERSTANDING IN THE ESTABLISHMENT OF THE REQUIRED FIRE WATCH POSTING. CORRECTIVE ACTION INVOLVED THE ESTABLISHMENT OF THE REQUIRED FIRE WATCHES AND STRESSING TO THE INVOLVED PERSONNEL THE IMPORTANCE OF CLEAR COMMUNICATIONS. IN BOTH CASES, THE HEALTH AND SAFETY OF THE PUBLIC WAS NOT AT RISK DUE TO THE DEFENSE-IN-DEPTH FIRE PROTECTION PROVIDED AT THE PLANT.
Cook 1, Cook 2	06/09/1993	07/09/1993	Assumptions for High Energy Line Break Not Met Due to Use of Low Temperature Thermal Links to Maintain Required Vent Area Abstract: POWER LEVEL - 100%. On June 9, 1993, during a review of assumptions used in environmental qualification related analyses, it was discovered that the doors to the turbine-driven auxiliary feedwater pump (TDAFP) room and the adjacent hallway, which are purposely maintained open to prevent a pressurization of the room following a postulated break of the four-inch steam supply line to the TDAFP, a High Energy Line Break (HELB), might close. The subject doors have thermal links, which could melt as the accident progressed, allowing pressurization of the TDAFP room. This situation is contrary to the assumptions used in the HELB analysis as stated in the FSAR. Immediate corrective action was to block open the subject doors to ensure the design criteria venting area for a HELB was met. Long-term corrective action involves the installation of fusible links of higher temperature ratings on a selected group of fire doors. The fusible links will allow these fire doors to remain open during a potential HELB and will allow the doors to close during a fire.
Cook 1, Cook 2	09/13/1995	10/13/1995	Fire Protection Compensatory Actions Incorrectly Established Due To Personnel Error Abstract: On September 13, 1995, with Unit 2 at 100 percent power the fire detection system for the Unit 2 Pressurizer Heater Transformer Room and Diesel Generator Ramp/Corridor Areas, Detection Zone #31, was declared inoperable. An hourly fire watch patrol was established to patrol these areas at 1530 hours as required by Technical Specification (TS) 3.3.3.8. Prior to Detection Zone #31 being declared inoperable, fire watch patrols had been established in Unit 2 for the planned removal of Unit 1 shutdown support capabilities for the Reactivity Control System/Charging Pump and Auxiliary Feedwater Systems, TS 3.1.2.3 and 3.7.1.2, respectively. The action statements require equivalent shutdown capability be established in the form of fire watch patrols. The patrol frequency is dependent on the operability of the fire detection systems in the affected areas. The Unit 2 Pressurizer Heater Transformer Room was an affected area. With the loss of detection in the area, a continuous patrol was required in this area. A continuous post was not established until sixteen hours after Detection Zone #31 was declared inoperable. The event was caused by Fire Protection Section personnel error. During this sixteen hour period the affected area was toured approximately every half hour. During that time Unit 2

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 1, Cook 2	11/07/1997	12/08/1997	Failure to Comply with 10CFR50, Appendix R Requirements Results in Unanalyzed Condition Abstract: 10 CFR 50, Appendix R, Section III G.2.(b) requires a twenty foot separation between trains with no intervening combustible materials with fire detection and suppression installed. At Cook Nuclear Plant, fire stops were being used to prevent the possible spread of fire across the twenty foot separation space at two locations in the Auxiliary Building (el. 587' and 609') where there are intervening combustibles (open cable trays) inside the twenty foot separation space. However, an exemption to 10 CFR 50, Appendix R, Section III G.2.(b) had not been requested. Our configuration had been described to the NRC in submittals dating back to 1983. However, the deviation from Appendix R described above was not specifically noted in applicable Appendix R SERs. On May 21, 1997, we submitted a letter to the NRC which responded to NRC questions dated March 26, 1997, regarding this configuration, and provided our basis for why we did not believe an exemption to Appendix R was necessary. During a conversation with the NRR staff on November 6, 1997, we were informed that a specific exemption to Appendix R is required for this deviation or the intervening combustibles must be eliminated. Because our configuration differs from the requirements of 10 CFR 50, Appendix R, Section III G.2.(b), it is
Cook 1, Cook 2	02/06/2008	04/01/2008	250 Volt DC Cable Separation Criteria For 10 CFR 50 Appendix R Not Met Abstract: On February 6, 2008, during verification performed as part of preparation for fire protection analysis compliance transition to NFPA 805, Donald C. Cook Nuclear Plant personnel identified an error in the original, and subsequent, Appendix R analyses for the Train B 4 kV switchgear room fire analysis area in both units. The error involved a failure to identify a short section of Train A 250 VDC conduit enclosed cable passing through the Train B 4 kV switchgear room. This cable run connects the Train A battery charger transfer switch cabinet to the shunt cabinet. The routing of this unprotected Train A 250 VDC cabling in the Train B 4 kV switchgear room presented the possibility of a fire in the Train B 4 kV switchgear room disabling the Train B switchgear as well as remote control to the Train A 4 kV switchgear as a result of fire damage to the conduit enclosed cable. This failure to identify and correct the error in the analyses has been determined to be human error. Compensatory fire watch tours of the affected fire zones were established and remained until permanent corrective action was implemented. Permanent corrective action included wrapping the conduit with a fire retardant material, and converting the CO2 Suppression System from manual to automatic in accordance with the requirements of Appendix R,
Cook 2	05/06/1982	06/04/1982	Abstract: AN OPERATOR ON TOUR NOTED THAT FIRE BARRIER DOOR #388 WOULD NOT LATCH PROPERLY WHEN CLOSED BY THE DOOR CLOSURE. THE DOOR WOULD CLOSE PROPERLY WHEN MANUALLY SECURED. THIS CONSTITUTED AN INOPERABLE PENETRATION FIRE BARRIER CONTRARY TO TECH SPEC 3.7.10. ACTION REQUIREMENTS WERE MET BY POSTING A CONTINUOUS FIRE WATCH. THE CAUSE OF THE FAILURE COULD NOT BE DETERMINED, BUT APPEARS TO BE DUE TO NORMAL USAGE. THE LATCH WAS DISASSEMBLED, LUBRICATED AND REINSTALLED AND THE DOOR ADJUSTED. PROPER DOOR OPERATION WAS VERIFIED.
Cook 2	06/29/1982	07/28/1982	Abstract: THE CO2 SYSTEM FOR THE QUADRANT 2 REACTOR CABLE TUNNEL AREA WAS FOUND ISOLATED WITHOUT A FIRE WATCH POSTED, CONTRARY TO TECH SPEC 3.7.9.3, AND A FIRE DOOR WAS BLOCKED OPEN WITHOUT A FIRE WATCH POSTED, CONTRARY TO TECH SPEC 3.7.10. SIMILAR OCCURRENCES FOR DOCKET 050/315 AS : RO 81-003, RO 82-026, RO 82-044 AND RO 82-045. APPARENTLY THE CO2 WAS LEFT ISOLATED AND THE FIRE DOOR BLOCKED AT THE CONCLUSION OF WORK IN THE AREA. THE RESPONSIBLE INDIVIDUALS COULD NOT BE CONCLUSIVELY DETERMINED. THIS EVENT WAS DISCUSSED WITH INDIVIDUALS WHO HAD BEEN IN THE AREA PRIOR TO THE EVENT. THE NEED FOR COMPLIANCE WITH FIRE PROTECTION REQUIREMENTS WAS EMPHASIZED.
Cook 2	08/10/1982	09/08/1982	Abstract: WHILE PERFORMING A Q.A. TOUR OF THE AUXILIARY BUILDING, A HOLE WAS NOTICED IN FIRE SEAL W-7292, RENDERING IT NONFUNCTIONAL. A FIRE WATCH WAS IMMEDIATELY POSTED PURSUANT TO TECH SPEC 3.7.10. PREVIOUS SIMILAR EVENTS INCLUDE: 315/79-044, 315/79-055, 315/81-051, 316/81-051, 315/81-055 AND 315/82-055. THE CAUSE OF THE BREACHED FIRE SEAL COULD NOT BE SPECIFICALLY DETERMINED. THE SEAL HAS BEEN RESTORED TO FUNCTIONAL STATUS IN ACCORDANCE WITH APPROVED PROCEDURES. A VIDEO TAPE HAS BEEN PREPARED BY THE TRAINING DEPARTMENT CONCERNING TECH SPEC 3.8.10 AND WILL BE SHOWN TO APPROPRIATE PLANT AND CONSTRUCTION PERSONNEL.
Cook 2	08/23/1982	09/16/1982	Abstract: A CONTRACTOR CRAFTSMAN CONDUCTING AN INSPECTION OF MASONARY WALLS IN THE EMERGENCY DIESEL GENERATOR ROOMS FAILED TO RETURN THE CO(SUB 2) ISOLATION SWITCH TO NORMAL UPON EXITING THE LAST ROOM. THIS CONSTITUTED AN INOPERABLE FIRE PROTECTION SYSTEM CONTRARY TO TECH SPEC 3.7.9.3 AS NO FIRE WATCH WAS ESTABLISHED WITHIN ONE HOUR. THE FIRE DETECTION SYSTEM WAS OPERABLE. A PLANT OPERATOR ASSIGNED TO INVESTIGATE RETURNED THE SYSTEM TO NORMAL WITHIN FIFTEEN MINUTES OF OCCURRENCE. TO INCREASE THE AWARENESS OF FIRE PROTECTION SYSTEM REQUIREMENTS, THE INDIVIDUAL REVIEWED THE PLANT PROCEDURE FOR ENTRY/EXIT OF CO(SUB 2) AREAS AND ATTENDED A VIDEO FILM SESSION ON FIRE PROTECTION SYSTEMS WHICH IS BEING ADMINISTERED TO ALL APPROPRIATE PERSONNEL.
Cook 2	09/15/1982	09/29/1982	Abstract: DURING A ROUTINE TURBINE BUILDING TOUR A SECURITY OFFICER DISCOVERED AB DIESEL ROOM CO(SUB 2) SYSTEM ISOLATED WITH NO PERSONNEL IN ROOM. THIS IS CONTRARY TO TECH SPEC 3.7.9.3 AS NO FIRE WATCH WAS POSTED WITHIN 1 HOUR. PREVIOUS OCCURRENCES WERE REPORTED VIA 315/82-037, 044, 045, 068 AND 316/82-054. FIRE DETECTION SYSTEM (THERMISTORS) REMAINED OPERABLE. THE RESPONSIBLE AUXILIARY EQUIPMENT OPERATOR WAS CONTACTED AND THE SYSTEM WAS RETURNED TO NORMAL. APPROPRIATE ADMINISTRATIVE ACTION WAS TAKEN. SIGNS HAVE BEEN POSTED IN DESIGNATED AREAS CAUTIONING PERSONNEL TO RESTORE THE CO(SUB 2) SYSTEM WHEN LEAVING. A VIDEO FILM ON THE SUBJECT IS IN THE PROCESS OF BEING VIEWED BY ALL PLANT PERSONNEL.
Cook 2	10/12/1982	11/11/1982	The Isolation Switch for the Low Pressure CO2 System was in the Isolated Position Abstract: On October 12, 1982, and October 15, 1982, the isolation switch for the low pressure CO2 system in the penetration cable tunnel, quadrant 2, was discovered to be in the isolated position without a posted continuous fire watch. These events are contrary to Tech Spec 3.7.9.3. Previous events of a similar nature include: docket no. 315/82-037, 82-044, 82-045, 82-049, 82-081, 82-082, 82-068; docket no. 316/82-054, 82-062, 82-074, 82-076. The cause of both events has been attributed to noncompliance with the established procedure. Personnel whose involvement was determined have been reprimanded. Due to the repetitive nature of this event, a design change has been generated and the applicable procedure has been revised. See attached supplement.
Cook 2	11/09/1982	12/08/1982	A Pyralarm Detector Alarming for no Apparent Reason Abstract: The auxiliary cable vault (zone 11) experienced an inadvertent CO(2) discharge. Investigation found a pyralarm detector alarming for no apparent reason. A fire watch was established in the area of the alarming detector until the situation was corrected. This condition removed any further capability for the fire detection system to alarm in the control room if any additional pyralarms within the zone alarmed. This design feature was explained in detail in RO-050/315/096. This event was non-conservative with respect to Tech Spec 3.3.3.8. Investigation found the detector alarming due to water that had entered the base, causing the detector to become shorted. The detector and base, manufactured by pyratronics, were replaced and the system was returned to service. Further action to minimize detector inoperability time is explained in ro-50-315/096.
Cook 2	01/18/1983	02/17/1983	The Auxiliary Cable Vault Experienced an Inadequate CO2 Discharge Abstract: During normal operation, the Auxiliary Cable Vault (Zone 11) experienced an inadvertent CO(sub 2) discharge. Investigation found a Pyralarm detector alarming for no apparent reason. A fire watch was established until the situation was corrected. This condition removed any further capability for the fire detection system to alarm in the control room if any additional Pyralarms within the zone alarmed (ref: 50-315/82-096). This event was non-conservative with respect to technical specification 3.3.3.8. Investigation found moisture in the base, causing the detector to alarm. The moisture was removed from the base, and the system was verified to operate correctly and returned to service. This event is not expected to recur since the water that caused the problem has been directed to a drain. Further action to minimize detector inoperability time is explained in 50-315/82-096.

Cook 2	02/24/1983	03/10/1983	Containment Fire Detection System Surveillance Not Performed Abstract: During the process of updating the Nuclear Test Scheduling (NTS) computer, it was identified that the containment fire detection system surveillance had not been performed within the required allowable time period. This event was non-conservative in respect to Tech Spec 4.3.3.8.1. In addition, the action requirement to establish a fire watch within one hour was not satisfied as the fire watch was not established until one hour and twenty minutes had elapsed after notification that the surveillance had not been performed. Investigation revealed that the cause of the missed surveillance was due to personnel error, in that the responsible supervisor did not insure the testing was completed as assigned. On February 24, 1983, the surveillance test was satisfactorily completed and the fire detection system was returned to service.
Cook 2	03/04/1983	03/31/1983	Fire Barrier Seal Found in a Degraded Condition Rendering it Nonfunctional Abstract: While in operational Mode 1, a Unit Supervisor on a tour behind the control room panels discovered a floor penetration F-6922 fire barrier seal in a degraded condition, rendering it nonfunctional. A fire watch was immediately posted pursuant to Tech Spec 3.7.10. Previous similar events include 315/82-053, 315/82-055, 316/82-070, 316/82-103 and 316/83-008. The responsible individual interpreted the wording of the procedure to allow one hour for posting of a fire watch. The individual was replacing temporary seals with permanent seals. At lunch break the individual left the open penetration with assumption he had one hour to return or post a fire watch. The responsible individual has been re-trained.
Cook 2	04/28/1983	05/27/1983	Auxiliary Building Fire Detectors Declared Inoperable Abstract: During normal operations, the N-Train Battery Room Pyro Alarm Detector R-33A, alarmed rendering the 633 Aux. Bldg. Detectors inoperable. A fire watch was posted immediately upon discovery. This condition removed any further capability for the fire detection system to alarm in the control room if any additional pyro alarms within the zone alarmed. This event was nonconservative with respect to Tech Spec 3.3.3.8. Previous occurrences: RO 50-315/82-096, 83-034, and RO 50-316/83-019. Rain leaking through the roof shorted out the detector, thus causing the alarm. The Pyro alarm terminal block was replaced, and the system was verified operable and returned to service in 4 hours and 57 minutes. The roof has been repaired to prevent further leakage.
Cook 2	07/14/1983	08/11/1983	Fire Door No. 386 Improperly Latched Abstract: During normal operations, Fire Door No. 386 between the NESW Valve Gallery and Reactor Cable Tunnel Quad 2 would not properly latch. This constituted an inoperable penetration fire barrier, nonconservative with respect to Tech Spec 3.7.10. The action requirements were met. Previous occurrences include: 83-054, 83-037. The door latch plate was found bent. The latch assembly was removed and cleaned. The latch plate was straightened and the latch assembly was reinstalled. The door was satisfactorily tested following repair.
Cook 2	04/05/1984	09/13/1984	Improperly Isolated Cardox Fire Protection System Abstract: POWER LEVEL - 000%. ON 4-5-84, AT 1235 HRS, WITH UNIT 2 IN REFUELING MODE, SECURITY PERSONNEL DISCOVERED THAT THE CARDOX FIRE PROTECTION SYSTEM ON THE UNIT 2 REACTOR CABLE TUNNEL WAS ISOLATED WITH NO FIRE WATCH PRESENT. THE DURATION THIS AREA WAS ISOLATED WITH NO FIRE WATCH PRESENT WAS CALCULATED TO BE 2 HRS AND 40 MINS. THIS IS VIOLATION OF TECH SPEC 3.7.9.3 LCO VALUE OF 1 HR. THIS EVENT WAS ORIGINALLY CLASSIFIED AS NON-REPORTABLE. DURING THE PLANT NUCLEAR SAFETY REVIEW COMMITTEE CLOSEOUT REVIEW, ON 8-27-84, OF THIS EVENT IT WAS DETERMINED THAT THE LCO HAD BEEN EXCEEDED.
Cook 2	09/28/1984	10/26/1984	Cardox Fire Protection System Isolated without a Fire Watch Begin Present Abstract: POWER LEVEL - 100%. ON 9-28-84, AT 2214 HRS, WITH UNIT 2 IN MODE 1 OPERATING AT 100% REACTOR THERMAL POWER, A SECURITY OFFICER DISCOVERED THE CARDOX FIRE PROTECTION SYSTEM ON THE UNIT 2 AUX CABLE VAULT WAS ISOLATED WITH NO FIRE WATCH PRESENT. FIRE WATCH DUTIES ARE PERFORMED BY CONTRACT PERSONNEL, AND IT IS THEIR RESPONSIBILITY UNDER PLANT PROCEDURES TO RETURN THE CARDOX FIRE PROTECTION SYSTEM TO NORMAL WHEN PERSONNEL LEAVE THE AREA. THE DURATION THIS AREA WAS ISOLATED WITH NO FIRE WATCH PRESENT WAS CALCULATED TO BE 8 HRS AND 13 MINS. THIS IS IN VIOLATION OF TECH SPEC 3.7.9.3. PREVENTIVE ACTIONS INCLUDED DISCUSSION OF THIS EVENT WITH FIRE WATCH SUPERVISOR AND DISCUSSION OF THE INCIDENT AT SUBSEQUENT FIRE WATCH SAFETY MEETINGS.
Cook 2	02/04/1985	03/06/1985	Inoperable Fire Barrier Abstract: POWER LEVEL - 100%. ON FEBRUARY 4, 1985, AT 1610 HOURS, AN EIGHT INCH BY SIXTEEN INCH OPENING WAS FOUND IN A WALL IN QUADRANT 1 OF THE UNIT 2 REACTOR CABLE TUNNEL DURING THE PERFORMANCE OF SYSTEM WALKDOWNS TO VERIFY FLOW DIAGRAMS. THIS OPENING CONSTITUTED AN INOPERABLE FIRE BARRIER, AS ADDRESSED IN TECH SPEC 3.7.10. THE OPENING IS BELIEVED TO HAVE EXISTED SINCE INITIAL PLANT CONSTRUCTION. A FIRE WATCH WAS ESTABLISHED WITHIN ONE HOUR AND THE OPENING WAS REPAIRED WITHIN SEVEN DAYS (FEBRUARY 11, 1985), THUS FULFILLING TECH SPEC ACTION REQUIREMENT 3.7.10.A. THE OPENING IS IN AN OBSCURE AREA OF THE ROOM AND WAS NOT DETECTED DURING THE EIGHTEEN MONTH SURVEILLANCE. THE UNIT 1 REACTOR CABLE TUNNEL (QUADRANT 1) WAS CHECKED AND VERIFIED THAT A SIMILAR OPENING DID NOT EXIST IN UNIT 1.
Cook 2	03/27/1985	04/26/1985	Missed Fire Watch Inspection Abstract: POWER LEVEL - 100%. ON 3-27-85, AT 2341 HRS A FIRE WATCH FAILED TO INSPECT THE 4KV AB BUS ROOM AS REQUIRED BY TECH SPEC 3.7.9.3. THE ROOM WAS NOT INSPECTED DUE TO PERSONNEL ERROR. THE FIRE WATCH FOUND THE ACCESS DOOR NO. 348 (IEEE, COMPONENT FUNCTION - DR) LOCKED AND DID NOT ATTEMPT TO GAIN ACCESS. THE AREA WAS ENTERED, AND THE REQUIRED INSPECTION COMPLETED AT 0100 HRS ON 3-28-85. THE FIRE DETECTION SYSTEM INSIDE THE AREA WAS OPERABLE AT ALL TIMES. PREVENTIVE ACTION CONSISTED OF REINSTRUCTING THE FIRE WATCH IN HIS RESPONSIBILITY TO ENTER ALL AREAS ASSIGNED AS PART OF HIS FIRE WATCH DUTIES.
Cook 2	09/11/1985	10/10/1985	Inoperable Fire Barrier Penetrations Abstract: POWER LEVEL - 000%. ON 9-11-85 AT 1800 HRS, WITH BOTH UNITS 1 AND 2 IN MODE 5, IT WAS DETERMINED THAT THE FIRE RATING OF THE WALL SEPARATING THE UNIT 1 AND 2 ESSENTIAL SERVICE WATER (ESW) PUMP ROOMS WAS NOT CONSISTENT WITH CURRENT APPENDIX R REQUIREMENTS. THE INCONSISTENCY WAS BASED ON THE FACT THAT OPEN (UNSEALED) PENETRATIONS EXISTED. A CONTINUOUS FIRE WATCH WAS PROMPTLY ESTABLISHED AND A WORK ORDER INITIATED TO SEAL THE SUBJECT PENETRATIONS. ON 9-12-85, THE OPEN PENETRATIONS WERE PERMANENTLY SEALED. SINCE THE ESW PUMP ROOMS, FOR BOTH UNITS 1 AND 2, CONTAINED FIRE DETECTORS, AND A FIRE, IF IT HAD OCCURRED, WOULD HAVE BEEN IMMEDIATELY BROUGHT TO THE ATTENTION OF CONTROL ROOM PERSONNEL, IT IS CONCLUDED THAT THERE WAS NO SIGNIFICANT DEGRADATION OF FIRE PROTECTION CAPABILITY DUE TO THIS INCIDENT.
Cook 2	10/30/1985	11/27/1985	Improperly Isolated Cardox Fire Protection System Abstract: POWER LEVEL - 000%. ON 10-30-85 AT 0610 HRS WITH UNIT 2 IN MODE 3, A SECURITY OFFICER DISCOVERED THE CARDOX FIRE PROTECTION SYSTEM FOR THE AB EMERGENCY DG ROOM ISOLATED WITHOUT FIRE WATCH COVERAGE AS REQUIRED BY TECH SPEC 3.7.9.3.A. THE SYSTEM WAS RETURNED TO NORMAL AT 0620 HRS FOLLOWING VERIFICATION THAT THE PROTECTED AREA WAS UNOCCUPIED. INVESTIGATION REVEALED THAT THE AFFECTED AREA WAS ISOLATED FOR A ROUTINE TOUR ON 10-30 AT 0311 HRS. FOLLOWING COMPLETION OF THE TOUR, AT 0317 HRS, INVOLVED PERSONNEL (NON-LICENSED OPERATOR AND SECURITY OFFICER) LEFT THE AREA. IN REVIEWING THE APPLICABLE SIGNOFF SHEET (REQUIRED BY PROCEDURE TO VERIFY SYSTEM RESTORATION) IT WAS NOTED THAT: 1) THE SECURITY OFFICER DOCUMENTED RETURNING THE ISOLATION SWITCH TO NORMAL, AND 2) THE OPERATOR DOCUMENTED WITNESSING THE RESTORATION. HOWEVER, IT WAS ALSO DETERMINED THAT THE OPERATOR PROVIDED HIS SIGNATURE OF THE SIGNOFF SHEET WITHOUT ACTUALLY WITNESSING THE RESTORATION OF THE SYSTEM. SINCE THE TOUR OF THE AFFECTED AREA IS CONDUCTED APPROX ONCE EVERY 8 HRS, AND FIRE DETECTION SYSTEMS WITHIN THE DG ROOM WOULD HAVE ALERTED CONTROL ROOM PERSONNEL HAD A FIRE OCCURRED, IT IS CONCLUDED THAT THERE WAS NO APPRECIABLE DEGRADATION OF FIRE PROTECTION CAPABILITY DUE TO THIS INCIDENT. TO PREVENT RECURRENCE

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 2	12/23/1985	01/16/1986	Missed Hourly Inspection of Inoperable Fire Barrier Abstract: POWER LEVEL - 055%. ON 12-23-85 AT 2038 HRS THE FAILURE OF A GATE LATCHING MECHANISM (IEEE-GATE) PREVENTED FIRE WATCH PERSONNEL FROM COMPLETING AN HOURLY PATROL OF THE CHARGING PUMP ROOMS AS SCHEDULED. THE MISSED INSPECTION WAS CONDUCTED WITHIN 3 MINS OF THE REQUIRED HOURLY CHECK. THE HOURLY INSPECTION WAS REQUIRED, PER TECH SPEC 3.7.10, AS A RESULT OF DECLARING SEVERAL FIRE BARRIERS INOPERABLE FOR MODIFICATION. DUE TO THE SHORT DELAY OF THE INSPECTION AND THE FACT THAT THE ROOMS CONTAINED OPERABLE FIRE DETECTION AND SUPPRESSION SYSTEMS, IT WAS CONCLUDED THAT THERE WAS NO DEGRADATION OF FIRE PROTECTION CAPABILITY DUE TO THIS INCIDENT. THE CAUSE OF THE MOMENTARY LATCH MALFUNCTION COULD NOT BE DETERMINED, CONSEQUENTLY, NO CORRECTIVE ACTION WAS TAKEN.
Cook 2	01/29/1986	02/27/1986	INOPERABLE FIRE BARRIERS Abstract: POWER LEVEL - 080%. ON 1-29-86, AT 1215 HOURS, A DEFECTIVE FIRE PENETRATION (IEEE/SEAL) WAS DISCOVERED IN THE CONTROL ROOM CABLE VAULT. THE LACK OF SILICONE SEALANT IN THIS PENETRATION CONSTITUTES AN INOPERABLE FIRE BARRIER PER TECH SPEC 3.7.10. THE ACTION STATEMENT WAS FULFILLED AS A FIRE WATCH WAS POSTED WITHIN ONE HOUR, AND A PERMANENT SEAL WAS INSTALLED AND ACCEPTED ON 1-31-86. INVESTIGATION REVEALED THAT THE SILICONE SEAL WAS NOT INSTALLED WHEN THE PENETRATION WAS MADE AS PART OF A 1979 DESIGN CHANGE. SINCE THIS TIME THE PLANT HAS DEVELOPED A FIRE SEAL INSTALLATION PROGRAM WHICH WILL PREVENT THIS TYPE OF EVENT FROM RECURRING. A SAFETY EVALUATION WAS PERFORMED. THE RESULTS OF THIS EVALUATION CONCLUDED THAT ANY DETECTABLE FIRE WOULD NOT SPREAD THROUGH THE SUBJECT PENETRATION. THIS EVALUATION IS BASED ON: 1) INSTALLED FIRE DETECTION AND PROTECTION SYSTEMS, 2) THE LIMITED COMBUSTIBLES IN THE AFFECTED AREAS, AND 3) THE PARTIAL SEAL AFFORDED BY THE CERAMIC FIBER IN PLACE. PREVIOUS OCCURRENCES INCLUDE: 315/85-70, 315/85-56, 315/85-24, 315/85-18, AND 316/85-6.
Cook 2	03/03/1986	04/02/1986	Inoperable Fire Door Due to Procedure Inadequacy Abstract: POWER LEVEL - 000%. ON 3-3-86, WITH UNIT 2 IN MODE 5 (COLD SHUTDOWN) AT APPROXIMATELY 0015 HOURS THE FIRE WATCH SUPERVISOR ON HIS ROUTINE TOUR OF THE PLANT DISCOVERED THAT THE SAFETY PINS IN FIRE DOOR (IEEE/DR) 314 PROTECTING THE PRESSURIZER HEATER TRANSFORMER ROOM WERE IN PLACE WITH NO PERSONNEL IN THE AREA THUS MAKING THE FIRE DOOR INOPERABLE. IN THIS MODE NO SAFETY RELATED EQUIPMENT IN THE ZONE WAS REQUIRED TO BE OPERABLE. REVIEW OF THE SITUATION REVEALED THAT CONTRACTOR PERSONNEL HAD BEEN WORKING IN THE AREA UNTIL APPROXIMATELY 1920 HOURS ON 3-2-86, AND HAD FAILED TO REMOVE THE SAFETY PINS WHEN EXITING THE AREA. THE SAFETY PINS WERE ORIGINALLY INSTALLED TO PREVENT THE DOOR FROM CLOSING FULLY IN THE EVENT OF EMERGENCY TRAPPING PERSONNEL INSIDE THE ROOM. NO PROVISIONS EXIST TO OPEN THE DOOR FROM THE OUTSIDE AFTER IT HAS CLOSED IN AN EMERGENCY SITUATION. FIRE PROTECTION REVIEW OF THIS AREA INDICATED THAT THERE ARE NEGLIGIBLE COMBUSTIBLES IN THE AREA. THE AREA IS EQUIPPED WITH IONIZATION FIRE DETECTION WHICH WILL ANNUNCIATE IN THE CONTROL ROOM. ADJACENT AREAS ARE EQUIPPED WITH EITHER CO2 FIRE SUPPRESSION OR WET PIPE SPRINKLER SYSTEMS WHICH WOULD PREVENT A FIRE FROM SPREADING TO ADJACENT AREAS. PREVENTIVE ACTIONS INCLUDED REVISING PLANT PROCEDURES TO ASSIGN RESPONSIBILITY FOR REMOVING THE
Cook 2	03/17/1986	04/10/1986	Inoperable Fire seal Due to Missing Sealent. Abstract: POWER LEVEL - 000%. ON 3-17-86, AT 1145 HOURS WITH UNIT 2 IN MODE 5 (COLD SHUTDOWN), IT WAS DISCOVERED THAT FIRE SEAL F-6801 (IEEE/SEAL) IN UNIT 2 CONTROL ROOM WAS FOUND TO BE MISSING APPROXIMATELY 9 SQUARE INCHES OF SEALING FOAM. THE FIRE SEAL WAS DECLARED INOPERABLE AND A FIRE WATCH WAS STATIONED AT 1155 HOURS. A TEMPORARY REPAIR WAS COMPLETED ON 3-17-86, AND A PERMANENT REPAIR WAS COMPLETED ON 4-3-86. THE CONDITION WAS DISCOVERED BY A TECHNICIAN WORKING IN THE AREA. THE CAUSE FOR THE MISSING FIRE SEALANT COULD NOT BE DETERMINED. THE FIRE SEAL WAS LAST INSPECTED ON 7-17-85, DURING A NORMAL 18 MONTH SURVEILLANCE. SEAL F 6801. THE OVERALL INTEGRITY OF THE FIRE BARRIER WAS NOT COMPROMISED AS THE FIRE DETECTION AND SUPPRESSION EQUIPMENT IN THE AREA REMAINED OPERABLE AND THE SIZE OF THE DEGRADED SEAL WAS SMALL. PREVIOUS OCCURRENCES OF A SIMILAR NATURE INCLUDE: 50-315/85-056 AND 315/85-027.
Cook 2	04/08/1986	06/06/1986	Inoperable Fire Seals, Not Identified During Prior Inspections Abstract: POWER LEVEL - 000%. DURING THE PERIOD OF 4-8-86 TO 5-1-86, A CONTRACTOR PERFORMED A WALKDOWN OF PLANT FIRE BARRIERS TO REVIEW THE IMPLEMENTATION OF 10 CFR 50 APPENDIX R REQUIREMENTS. DURING THIS WALKDOWN, WITH UNIT 1 AT 90% REACTOR THERMAL POWER AND UNIT 2 IN MODE 6 (REFUELING), IT WAS DISCOVERED THAT 24 FIRE SEALS WERE INOPERABLE. TWENTY-TWO OF THESE PENETRATIONS HAD NOT BEEN PREVIOUSLY IDENTIFIED AS FIRE BARRIERS AS DEFINED IN TECH SPEC 3.7.10 WHILE 2 SEALS WERE PART OF THE PLANT'S SURVEILLANCE PROGRAM. FIRE WATCHES WERE POSTED UPON DISCOVERY AND MAINTAINED UNTIL THE FIRE SEALS WERE INSTALLED. THE PENETRATIONS HAVE BEEN ANALYZED FROM AN ENGINEERING AND SAFETY STANDPOINT. THE EVALUATION CONCLUDED THAT THERE WAS NOT SIGNIFICANT DEGRADATION OF THE FIRE BARRIERS NOR DID THEY CONSTITUTE AN UNREVIEWED SAFETY QUESTION AS DEFINED IN 10 CFR 50.59. THE PENETRATIONS ESCAPED IDENTIFICATION DURING PRIOR INSPECTIONS. THE PENETRATIONS HAVE BEEN ADDED TO THE PLANT'S FIRE SEAL SURVEILLANCE DATA BASE TO INSURE THE SEALS WILL BE INSPECTED DURING FUTURE SURVEILLANCES.
Cook 2	05/06/1986	06/05/1986	Degraded Fire Seal Caused by Personnel Error Abstract: This is an interim report pending completion of the safety assessment. On May 6, 1986, with Unit 2 in Mode 6 (Refueling Mode), contract personnel noticed that the Fire Seal W-9095 (EIIS/Seal), located in the Unit 2 Reactor Cable Tunnel, had foam removed. Plant personnel were notified and upon inspection, the fire seal was declared inoperable (1515 hours). A fire watch was posted immediately and the fire seal was repaired on May 7, 1986. This constituted an inoperable fire seal per Technical Specification Action 3.7.10. The immediate actions fulfilled the Technical Specification Action Requirements. The cause for the missing sealant material is attributed to personnel error. It could not be determined who degraded the fire seal. The fire seal was last inspected on July 14, 1985, during an 18 month surveillance. To prevent recurrence, a letter was sent to all Department Heads and the Construction Manager to review the importance of maintaining operable fire seals/barriers with their personnel.
Cook 2	06/05/1986	07/03/1986	Missed Fire Inspection of Inoperable Fire Door due to Personnel Error Abstract: POWER LEVEL - 000%. ON JUNE 5, 1986, UNIT 2 WAS IN MODE 5 (COLD SHUTDOWN). FIRE DOOR #470, WHICH SEPARATES FIRE ZONE 22 (QUADRANT 2 PIPE CHASE) AND FIRE ZONE 39 (BLOWDOWN DEMINERALIZER TANK AREA), HAD BEEN DECLARED INOPERABLE AT 1000 HOURS AND A ROVING FIRE WATCH PATROL HAD BEEN ESTABLISHED PER THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.10. WHILE CONDUCTING A ROUTINE TOUR OF FIRE WATCH ACTIVITIES AT APPROXIMATELY 1726 HOURS, THE CONTRACT FIRE WATCH SUPERVISOR OBSERVED A FIRE WATCH EXITING THE UNIT 1 BORON INJECTION TANK (BIT) ROOM. AFTER QUESTIONING THE FIRE WATCH, IT WAS DETERMINED THAT HE HAD BEEN INSPECTING FIRE DOOR #469 IN THE UNIT 1 BIT ROOM, INSTEAD OF FIRE DOOR #470 IN THE UNIT 2 BIT ROOM. FIRE DOOR #470 HAD NOT BEEN INSPECTED FOR A PERIOD OF ONE HOUR AND 53 MINUTES. THIS EVENT WAS CAUSED BY PERSONNEL ERROR. A CONTRACTED FIRE WATCH INSPECTED THE DOOR TO THE UNIT 1 BIT ROOM RATHER THAN THE BIT ROOM DOOR IN UNIT 2. CONTRIBUTING FACTORS INCLUDE: 1) POOR LOG SHEET ENTRY (DID NOT DESIGNATE UNIT NUMBER); 2) POOR SHIFT TURNOVER, AND 3) LACK OF IDENTIFICATION MARKING (DOOR #) ON DOOR. TO PREVENT RECURRENCE, 1) APPROPRIATE ADMINISTRATIVE ACTIONS WERE TAKEN CONCERNING THE INDIVIDUALS INVOLVED, AND 2) ACTION HAS BEEN INITIATED TO RESTORE IDENTIFICATION NUMBERS TO

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cook 2	03/11/1989	09/28/1990	Reactor Cable Tunnel CO sub 2 for Quadrants 1, 3, and 4 Inoperable Without Required Firewatch Due to False Indication of Status Caused by WOrn Isolation Switch Key Abstract: POWER LEVEL - 000%. ON 3/11/89, AT 0821 HOURS, IT WAS IDENTIFIED THAT AUTOMATIC CARBON DIOXIDE (C02) ACTUATION SYSTEM FOR REACTOR CABLE TUNNEL QUADRANTS 1, 3, AND 4, HAD BEEN ISOLATED SINCE 0403 HOURS WITHOUT THE REQUIRED FIREWATCH. C02 AUTOMATIC ACTUATION WAS ISOLATED VIA LOCAL KEY LOCK ISOLATION SWITCH AT 0357 TO ALLOW PERSONNEL ENTRY. AFTER PERSONNEL EXITED THE AREA, KEY LOCK SWITCH WAS RESTORED TO WHAT WAS THOUGHT TO BE NORMAL POSITION. THIS WAS VERIFIED BY THE LOCAL INDICATING LIGHT EXTINGUISHING WHEN THE KEY LOCK SWITCH WAS TURNED. A SECOND PERSON VERIFIED BY VISUAL OBSERVATION THAT THE SWITCH HAD BEEN RESTORED TO THE NORMAL POSITION. AT 0831, PERMISSION WAS REQUESTED TO ISOLATE THE REACTOR CABLE TUNNEL C02 SYSTEM. CONTROL ROOM OPERATOR IDENTIFIED THAT ASSOCIATED 'C02 ISOLATED' ANNUNCIATOR ALARM WAS ALREADY IN. IT WAS IDENTIFIED THAT THE KEY LOCK SWITCH WAS NOT FULLY IN THE NORMAL POSITION. ROOT CAUSE OF THIS WAS AN EXCESSIVELY WORN KEY WHICH ALLOWED THE KEY TO BE REMOVED PRIOR TO THE SWITCH BEING FULLY IN THE NORMAL POSITION AND WITH ONLY ONE OF THE TWO SWITCH CONTACTS MADE UP (ONE SET OF CONTACTS IS FOR THE LOCAL INDICATING LIGHT, THE OTHER SET IS FOR THE C02 ISOLATION AND
Cook 2	02/02/1993	03/04/1993	Technical Specification Compensatory Action not Met Due to Personnel Error After the Blocking Open of a Fire Door Abstract: POWER LEVEL - 100%. On February 2, 1993, with Unit 2 in Mode 1 (Power Operation), at approximately 1935 hours an employee noted that the fire door to the Pressurizer Heater Transformer Room was standing open with the safety pins installed in the door tracks. This condition makes the fire door inoperable. It was verified that there was no one in the area and the Pressurizer Heater Transformer Room was not being toured by fire watch personnel. The last time that the fire door was known to be closed was at 1422 hours on February 2, 1993, at which time the Pressurizer Heater Transformer Room was removed from a fire watch tour after some work was completed in the area. The exact time when the fire door was left open could not be determined, therefore it must be assumed that the door could have been inoperable for approximately 5 hours with no compensatory measures in place. For immediate corrective action, the safety pins were pulled and the fire door was closed. A technical evaluation of the condition concluded that defense-in-depth fire protection adequately protected the fire safety of the plant.
Cook 2	09/28/1993	10/28/1993	Technical Specification Fire Door Made Inoperable Without Proper Compensatory Action Being Taken Due to Personnel Error Abstract: POWER LEVEL - 075%. On September 28, 1993, with Unit 2 in Mode 1 (Power Operation), at approximately 1315 hours, an employee noted that the fire door to the Unit 2 NESW Valve Area was standing open with a stanchion installed between the door and the door frame (in the doorway). This condition makes the fire door inoperable. It was verified that there was no one in the area and the NESW Valve Area was not being toured by fire watch personnel. The last time that the fire door was known to be unobstructed was at 0715 hours on September 28, 1993, at which time the Fire Brigade was in the area and performing their daily fire door tours. The exact time when the fire door was blocked open could not be determined; therefore, it must be assumed that the door could have been inoperable for approximately 6 hours with no compensatory measures in place. For immediate corrective action, the stanchion was removed from the doorway. A technical evaluation of the condition concluded that defense-in-depth fire protection would have mitigated any fire spread between the affected fire zones.
Cook 2	04/30/1994	05/31/1994	Fire Watch Tour Omitted Due To Personnel Error Abstract: On 01-21-94 at 1015, Fire Door 2-DR-AUX344 for the 609' elevation (elev.) of the Turbine (Tur.) Building (Bldg.) was declared inoperable (which rendered the CO sub 2 suppression system for Fire Zones 46A, 46B 46C and 46D inoperable) Technical Specifications (TS) 3.7.9.3 and 3.7.10 required Action items were established. On 04-29-94 at 2308 an hourly FW toured the above described area. A shift turnover occurred at 2315 in which the tour point was omitted from the newly created tour sheet. The TS (3.7.9.3 and 3.7.10) required tour did not occur again until recognized and questioned by FW personnel to the FW Supervisor on 04-30-94 at 0030. The FW Supervisor recognized that the TS 3.7.9.3 and 3.7.10 action statements were not being met and contacted FW personnel and had the tour point added to the tour. A tour of the area was conducted on 04-30-94 at 0037. The U-2 4Kv CO sub 2 system for Fire Zones (FZ) 46A, 46B, 46C and 46D, and Fire Door 2-DR-AUX344 were inoperable without a hourly FW for 1 hour 26 minutes. The policy for implementing fire watch tour sheets has been revised to require a review and then an independent review prior to use. This event was discussed and reviewed with the personnel involved.
Cook 2	03/12/1996	04/11/1996	Fire Seal Found To Have Been Inoperable For Extended Period of Time Without Compensatory Actions Abstract: On March 12, 1996, with Unit Two in Mode 1, at approximately 1330 hours, an employee noted that fire seal W9197, located in the wall which separates the Unit 2 CD Diesel Generator Room from the Diesel Generator Corridor, was damaged. It was determined that the amount of foam missing rendered the seal inoperable. Based on the condition of the wall penetration it was also determined that the damage to the seal was a pre-existing condition, which meant that the seal had been inoperable for an unknown length of time without the Technical Specification required compensatory actions established. This is reportable under 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications. Upon discovering that seal W9197 was in an inoperable configuration, compensatory actions were established in the form of an hourly fire watch patrol. The seal was repaired and returned to operable status at 0940 hours on March 15, 1996. The cause of this event could not be determined. A technical evaluation of the condition concluded that defense-in-depth fire protection adequately protected the fire safety of the plant. At no time was the health or safety of the public in jeopardy.
Cook 2, Cook 1	07/19/1988	08/05/1988	Fire Door Inoperable Without Required Continuous Fire Watch Due to Labeling Problem and Personnel Error Abstract: POWER LEVEL - 000%. ON 07/19/88 AT APPROXIMATELY 1500, THE ROLL UP FIRE DOOR TO THE WEST MOTOR DRIVEN AUXILIARY FEEDWATER PUMP (WMDAFP) ROOM WAS MADE INOPERABLE WHEN A HOSE WAS PLACED THROUGH THE DOORWAY FOR A HYDROSTATIC TEST. THE DOOR WAS THEN CLOSED DOWN ON THE HOSE AND THE SLIDING MISSILE DOOR (UNINHIBITED BY THE HOSE) WAS CLOSED OVER THE HOSE. DUE TO INADEQUATE LABELING OF THE FIRE DOOR AND THE FACT THAT THE MISSILE DOOR WAS PREVIOUSLY THE FIRE DOOR UNTIL A DESIGN CHANGE INSTALLED THE ROLL UP DOOR; THE INVOLVED PERSONS DID NOT RECOGNIZE THE INOPERABILITY AND NO FIRE WATCH WAS POSTED. AT 1715 ON 07/19/88, A ROUTINE FIRE PROTECTION TOUR IDENTIFIED THE HOSE THROUGH THE DOORWAY OF THE WMDAFP ROLL UP FIRE DOOR AND A ROVING FIRE WATCH WAS SUBSEQUENTLY ESTABLISHED. THE FIRE DOOR WAS RESTORED TO AN OPERABLE STATUS AT 1206 ON 07/21/88 WHEN THE HOSE WAS REMOVED. IT WAS SUBSEQUENTLY IDENTIFIED THAT A CONTINUOUS FIRE WATCH SHOULD HAVE BEEN POSTED. THE FAILURE TO POST A CONTINUOUS FIRE WATCH WAS CAUSED BY PERSONNEL ERROR. THE DOOR LABELING PROBLEM HAS BEEN CORRECTED. A GUIDANCE LETTER WAS ISSUED TO PERSONS INVOLVED WITH FIRE WATCH POSTINGS TO STRESS THE IMPORTANCE OF POSITIVELY IDENTIFYING WHETHER A ROVING OR CONTINUOUS FIRE WATCH IS
Cook 2, Cook 1	09/21/1990	10/19/1990	Potential Loss of Control Room HVAC during Postulated Fire, Without Compensatory Action, due to Oversight in Appendix R Loss of HVAC Study Abstract: POWER LEVEL - 000%. ON 9/21/90 DURING AN INVESTIGATION CONCERNING THE NEED FOR CONTROL ROOM HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM FOR SAFE SHUTDOWN OF EITHER UNIT, IT WAS DETERMINED THAT A SINGLE FIRE IN FIRE ZONES 44N/44S, 51/52 OR 69 COULD CAUSE A LOSS OF BOTH PRIMARY AND REDUNDANT HVAC SYSTEMS FOR BOTH CONTROL ROOMS WHICH IS NOT CURRENTLY COVERED BY PLANT PROCEDURES. IMMEDIATELY UPON DETERMINATION THAT THE PROBLEM EXISTED, FIRE WATCHES WERE POSTED FOR THE AFFECTED AREAS. THE LONG-TERM CORRECTIVE ACTION IS TO INSTITUTE PROCEDURES TO COPE WITH FIRE-INDUCED LOSS OF NORMAL CONTROL ROOM HVAC. THE PRIMARY CAUSE OF THE CONDITION WAS AN OVERSIGHT IN THE HVAC SYSTEMS EVALUATED FOR THE APPENDIX R LOSS OF HVAC STUDY. WITHOUT IN-PLACE PROCEDURES AND TRAINING, THE EXACT COURSE OF EVENTS FOR THE POSTULATED FIRE CANNOT BE DETERMINED. HOWEVER, IF REASONABLE OPERATOR ACTIONS ARE TAKEN TO MITIGATE A RISE IN CONTROL ROOM TEMPERATURE FOLLOWING A FIRE, THE CONTROL ROOM(S) WOULD NOT REQUIRE EVACUATION DUE TO HABITABILITY OR EQUIPMENT OPERABILITY CONCERNS FOR A NUMBER OF HOURS. BASED ON THIS, WE BELIEVE THIS CONDITION DOES NOT REPRESENT A SIGNIFICANT HAZARD TO THE HEALTH AND SAFETY OF THE
Cook 2, Cook 1	09/12/1995	10/25/1995	Firewatch Tour Not Conducted Due To Personnel Error Abstract: On September 12, 1995, with Unit 2 in Mode 1 at 7 percent rated thermal power, the required hourly firewatch tour for the Unit Two 4Kv Switchgear Complex was not completed. This tour had been established in support of equivalent shutdown capability for Appendix R on August 24, 1995. It was determined that from 051 0 to 0713 hours no firewatch tour was conducted for the area. As this time period of 123 minutes is in excess of the required hourly tour, the Technical Specification Action Statement was not met. On September 27, 1995 this event was determined to be reportable in accordance with 10CFR50.73(a)(2)(i)(B), as operation prohibited by Technical Specifications. This event is attributable to personnel error. A failure to communicate information needed to perform the required tour was identified. The Shift Security Supervisor was directed to include active fire watch tours in the pre-shift briefings. Previously tracked separately, Appendix R tours have been added to the normal fire watch tours and programmed into the hand carried electronic wand system used by firewatch personnel. In the event of a fire in this area, the fire detection system in the complex, which was operable, would have alarmed in the Control Room. The switchgear complex is protected by a manually operated low pressure CO sub 2 fire

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cooper Station	06/17/1990	07/19/1990	Inoperability of the Service Water Pump Room Halon Fire Suppression System Due to a Malfunctioning Control Board Apparently Caused by a Nearby Lightning Strike Abstract: POWER LEVEL - 100%. ON 6/20/90 AT APPROXIMATELY 3:00 PM, FUNCTIONAL TESTING OF THE SERVICE WATER PUMP ROOM HALON FIRE SUPPRESSION SYSTEM REVEALED THAT NEITHER THE MAIN NOR THE RESERVE TANK WOULD ACTUATE IN THE AUTOMATIC MODE OF OPERATION DUE TO A FAILED CONTROL BOARD. THE FUNCTIONAL TEST WAS BEING PERFORMED FOLLOWING REINSTALLATION OF THE MAIN TANK, WHICH HAD BEEN REMOVED FROM THE SYSTEM ON JUNE 19 AND REFILLED BY THE SUPPRESSION SYSTEM SUPPLIER. REFILLING OF THE MAIN TANK HAD BEEN REQUIRED AS A RESULT OF ITS BEING SPURIOUSLY DISCHARGED DURING A SEVERE LIGHTNING STORM IN THE VICINITY OF THE PLANT ON JUNE 17. THE PLANT WAS OPERATING AT 100% POWER WHEN THIS CONDITION WAS DISCOVERED. TWO ROOT CAUSES HAVE BEEN ESTABLISHED FOR THIS EVENT; AN ACT OF NATURE AND A PROCEDURAL INADEQUACY. UNTIL PERFORMANCE OF THE FUNCTIONAL TEST ON JUNE 20, THERE WERE NO INDICATIONS OF THE DEFECTIVE CONTROL BOARD THAT COULD BE DETERMINED THROUGH OBSERVATION OF THE HALON SYSTEM CONTROL PANEL OR THROUGH PERFORMANCE OF NORMAL FRONT PANEL CHECKS. HAD THE SYSTEM FUNCTIONAL TEST BEEN CONDUCTED AFTER PLACING THE RESERVE TANK IN SERVICE ON JUNE 17, IT IS REASONABLE TO CONCLUDE THAT THE DEFECTIVE CONTROL
Cooper Station	10/18/1991	11/18/1991	Failure To Establish A Continuous Fire Watch for An Obstructed Fire Door As Required By Technical Specifications Due To Personnel Error And Procedural Deficiencies Abstract: POWER LEVEL - 000%. ON OCTOBER 25, 1991, DURING A REVIEW OF SURVEILLANCE PROCEDURE (SP) 6.4.5.1, FIRE PROTECTION SYSTEM MONTHLY EXAMINATION, THE FIRE PROTECTION ENGINEER NOTED THAT THE DOOR TO THE STEAM TUNNEL HAD BEEN RECORDED AS BEING OPEN AND OBSTRUCTED FOR WORK IN THE STEAM TUNNEL. SP 6.4.5.1 HAD BEEN CONDUCTED ON OCTOBER 18, 1991. THE STEAM TUNNEL DOOR, A FIRE DOOR WHICH IS A REQUIRED FIRE BARRIER AS SPECIFIED IN TECHNICAL SPECIFICATIONS, IS SUBJECT TO SPECIFIC PROCEDURAL CONTROLS PRESCRIBED IN CNS PROCEDURE 0.16, CONTROL OF FIRE DOORS. THE FIRE PROTECTION ENGINEER CONDUCTED A FOLLOW-UP INSPECTION TO DETERMINE IF THE DOOR WAS STILL OBSTRUCTED, AND IF SO, TO ENSURE A FIRE WATCH WAS POSTED. THE DOOR WAS FOUND TO STILL BE OBSTRUCTED. HOWEVER, NO FIRE WATCH WAS POSTED, CONTRARY TO THE REQUIREMENTS OF CNS PROCEDURE 0.39, FIRE WATCH/FIRE WATCH PATROL ACTIVITIES. AT THE TIME, THE PLANT WAS IN COLD SHUTDOWN FOR THE 1991 REFUELING OUTAGE. TWO ROOT CAUSES CONTRIBUTED TO THIS SITUATION. PERSONNEL ERROR HAS BEEN ASSIGNED DUE TO FAILURE TO FOLLOW PROCEDURAL REQUIREMENTS FOR FIRE WATCHES. PROCEDURE DEFICIENCY HAS BEEN ASSIGNED BECAUSE PROCEDURE 0.39 WAS NOT REFERENCED IN PROCEDURE 0.16, CAUSING CONFUSION AS TO THE
Cooper Station	06/25/1992	03/29/1993	Inoperability Of Thermo-Lag Barriers Based Upon The Results of Testing Reported In NRC Bulletin 92-01 Abstract: POWER LEVEL - 100%. In June 1992, upon receipt of NRC Bulletin No. 92-01, two Thermo-Lag installations in the Control Building basement constructed of Thermo-Lag 330 Fire Barrier material were declared inoperable because they could not be qualified. A Fire Watch was posted. Upon discovery of the condition, the plant was operating at full power. Subsequently, during a February 1993 NRC inspection of the Fire Protection program, NPPD was advised that two radiant energy shields located in the Cable Spreading Room constructed of Thermo-Lag material should have been declared inoperable pursuant to NRC Bulletin No. 92-01, Supplement 1. In response to the concern raised by the inspector, a Fire Watch was posted. However, due to there having been no assigned Fire Watch, a Notice of Violation was issued. At the time of the inspection, the plant was operating at approximately 95 percent power on end of cycle coastdown. As specified in NRC Bulletin No. 92-01, testing of Thermo-Lag fire barrier material revealed that the qualification of both the one-hour and three-hour preformed assemblies installed on small conduits and wide cable trays was indeterminate. Additional testing discussed in Supplement 1 to the Bulletin brought into question any rated
Cooper Station	02/02/1993	03/29/1993	Violation of Technical Specifications Due to Lack of Fire Watch Awareness of a Thermo-Lag Fire Barrier Abstract: POWER LEVEL - 095%. On February 2, 1993, an NRC Inspector, conducting a Fire Protection inspection, interviewed a Security officer assigned as a Fire Watch in the Control Building Basement (El. 882' 6') where Thermo-Lag material is installed. When questioned about assigned duties, the Fire Watch was unaware of one of the Thermo-Lag fire barriers in the area that had been declared inoperable on June 25, 1992, in response to NRC Bulletin 92-01. As a consequence, a Notice of Violation (NOV) was issued indicating that because the Fire Watch was not in a position to monitor the inoperable Thermo-Lag fire barrier, compliance with Technical Specification requirements for a Fire Watch was not achieved. At the time, the plant was operating at approximately 95 percent power, at nearly 760 MWe, on end of cycle coastdown with all rods fully withdrawn. This event occurred due to a lapse in personnel attention induced by a procedural deficiency. While supplemental information identifying the Thermo-Lag areas of concern was provided for the benefit of Fire Watch personnel, it was not specified or referred to on the Fire Watch Log. Therefore, over time, the Fire Watch who was interviewed did not maintain an awareness of the subject barrier. Assigned Fire Watch personnel were re-
Cooper Station	03/06/1993	04/02/1993	Failure to Properly Establish a Fire Seal Penetration Barrier Due to Procedural Inadequacies Abstract: POWER LEVEL - 000%. On March 8, at approximately 12:30 am, it was discovered that visual inspection documentation for the installation of temporary seals in two 2-inch Reactor Building exterior wall penetration conduits through which temporary power cables had been installed on March 6, was incomplete. A Fire Watch was established at 1:24 am, and the temporary seals were replaced. In accordance with procedural requirements, visual inspections of seal re-installation were performed and, at 3:07 am, the Fire Watch was secured. At the time, the reactor was in Cold Shutdown for the 1993 Refueling Outage. The cause of this event is procedural deficiencies. The engineer involved on March 6 understood the procedural requirements for seal installation were applicable only to permanent seals. The maintenance and engineering procedures associated with fire barrier seals did not clearly identify the documentation requirements for temporary seals. The procedural requirements associated with temporary seal installations were reviewed with the engineer involved to ensure his understanding of fire protection requirements. The procedures will be revised to ensure guidance regarding temporary seal installation is more clearly defined.
Cooper Station	03/16/1993	04/15/1993	Fire Barrier Doors Discovered Open and Obstructed Without a Continuous Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 000%. On March 16, 1993, at 11:00 pm, two Fire Barrier doors that provide passage from a stairwell into two safety-related pump rooms located below grade in the Southwest corner of the Reactor Building were found open and obstructed with no Fire Watch assigned. On April 10, 1993, at approximately 8:20 pm, a Fire Barrier door to the Service Water (SW) Pump Room in the Intake Structure was found open and obstructed without a Fire Watch. At the time of these events, the plant was in Cold Shutdown for the 1993 Refueling Outage. The root cause for these Technical Specification violations is personnel error. Health Physics (HP) personnel blocked open one of the doors in the Reactor Building stairwell with a temporary ventilation duct. They were focused on the radiological concerns of the job in progress and failed to notice the red dot marking on the door signifying that the door was to remain in the closed position or a Fire Watch was to be stationed. The other two events were the result of lapses in attention to Fire Barrier door requirements by the involved personnel. Upon finding the two Reactor Building doors open and obstructed, the obstructions were removed and the doors were closed. The situation was reviewed at the outage coordination
Cooper Station	04/28/1993	05/28/1993	Technical Specification Violation For Missed Fire Watch Patrols Abstract: POWER LEVEL - 000%. On April 28, 1993, at 3:08 pm, it was discovered that the hourly fire watch patrol for the Reactor Building as required by the Technical Specifications had not been performed during the period from 2:00 to 3:00 pm. The fire watch patrol was required because fire detection Zones 20 and 21 were inoperable due to the thermal detectors being relocated. The affected areas contain the Residual Heat Removal (RHR) system pumps and fan coil units, and the High Pressure Coolant Injection (HPCI) system pump. The fire watch patrol was being performed by temporary personnel hired for fire protection duties during the refueling outage. On May 20, while investigating this event, it was determined that the fire watch patrol also did not include the HPCI pump room. The detector in this room was also inoperable due to the relocation efforts for the detectors noted above. At the time of these events, the plant was in Cold Shutdown for the 1993 Refueling Outage. The root causes for these Technical Specification violations are personnel error and an inadequate procedure. The fire watch patrol duties were being rotated between three individuals. The individual responsible for the 2:00 to 3:00 pm watch period believed the fire watch patrol was being performed by another individual. A contributing factor was the
Cooper Station	11/14/1993	01/03/1994	Inoperable Technical Specification Fire Doors Without Appropriate Fire Watches Resulting From Personnel Error, Training, and Procedure and Administrative Control Deficiencies Abstract: POWER LEVEL - 100%. From November 14 through November 23, 1993, 34 Technical Specification fire doors were found to be inoperable due to industry fire protection standards for fire door installations not being met. Upon determining the doors were inoperable, fire watches were posted as required by Technical Specifications with the exceptions listed below. The necessary repairs were made or the conditions evaluated in accordance with NRC Generic Letter 86-10, inspections re-performed, and the doors declared operable. On November 15, upon identifying a fire door discrepancy, a Quality Assessment Engineer and the Fire Protection Engineer did not communicate the condition to the Shift Supervisor. Watch posted at 9:47 am on November 16. During a tour by plant management personnel on November 17, one screw was observed to be missing from the frames of two doors at approximately 2:00 pm. The screws were replaced within the hour, however the doors were not declared inoperable and a fire watch was not established. It was subsequently determined that the door should have been inspected following screw replacement for post maintenance testing. The inspection was satisfactorily completed at 12:23 am on November 18. One individual posted as a fire watch on November 17 was subsequently determined to be not fully trained as a fire watch. The causes of these

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cooper Station	11/18/1993	12/20/1993	Failure to Declare the Control Room Emergency Filter System Inoperable Prior to Initiating Maintenance on a Fire Door Abstract: POWER LEVEL - 100%. On November 18, 1993, at 3:56 pm, a Fire Door was declared inoperable and a Fire Watch was posted in compliance with Technical Specification requirements. Subsequently, the door was removed from its hinges for maintenance without recognition of its additional function in the Control Room envelope boundary. On the next day, following completion of maintenance, the Contro l Room Envelope Pressurization Test was performed as part of post-maint enance testing but was unsatisfactory. At 5:20 pm on November 19, upon recognizing that the envelope was degraded, the Control Room Emergency Filter System, a single train safety system, was declared inoperable. Investigation revealed air leakage around seals on the subject door as well as two additional envelope doors. Repairs were made to the three doors on November 20, and at approximately 10:00 am the surveillance test was satisfactorily performed. Following further engineering evaluation of conditions found during the test, the system was declared operable at 2: 17 pm on November 22. At the time of this event, the plant was operatin g at full power. The cause of this event is a programmatic deficiency , in that it was not evident to Fire Protection and Maintenance personn
Cooper Station	04/19/1994	10/21/1997	Inoperable Appendix A Fire Barrier Penetration Seal Resulting From Inadequate Initial Installation Abstract: On April 19, 1994, at approximately 1300, an inadequate fire barrier penetration seal in an Appendix A (to Branch Technical Position 9.5-1) fire barrier was discovered while penetration seals associated with the Control Room pressurization envelope boundary were being inspected. The barrier was declared inoperable and a Fire Watch posted in accordance with Technical Specification requirements. The opening was subsequently sealed, and the fire barrier declared operable at 1936 on April 21. Subsequent reviews and inspections revealed additional inadequate fire barriers seals and missed surveillances. These deficiencies were considered to be symptomatic of a lack of fire protection program oversight. Inadequate resources were dedicated to implementation of the Appendix A program, resulting in insufficient authority and technical knowledge to adequately implement an effective program, inadequate coordination of program activities, and a lack of sensitivity to changing requirements, with the net result that the program did not ensure full compliance with regulatory requirements. The deficient fire barriers penetration seals were restored and the fire barriers subsequently declared operable. Fire barrier inspection procedures were reviewed and revised to ensure appropriate inspection criteria and methods are defined. The surveillance procedure for fire dampers has been revised to incorporate the required fire dampers. Appendix A fire barriers have been "as-built" and associated
Cooper Station	10/02/1994	10/31/1994	Inoperable Condition of the Halon System in Service Water Pump Room Abstract: On October 2, 1994, at 9:30 am while performing an inspection of the Service Water Pump Room, it was discovered that Service Water Pump 'B' casing was not seated to the floor due to ongoing maintenance. If the Halon System is activated in the room in case of a fire, Halon would be discharged and escape to the area below the Service Water Pump Room, thereby diluting the extinguishing agent. At 9:30 am per Technical Specification 3.17.B, the Service Water Pump Room Halon System was declared inoperable and a fire watch was stationed within one hour. Per NUREG-1022, the root cause of this event is inadequate procedures to address sufficient details for declaring the Halon System operable.
Cooper Station	10/07/1994	11/07/1994	Design error that allows spurious DG Room HVAC isolation during a fire or seismic event Abstract: On October 7, 1994, a design flaw was discovered that could cause both Diesel Generators (DGs) to be rendered inoperable during a fire in the Turbine Building or a design basis earthquake. During either of these events the High Pressure Carbon Dioxide Extinguishing System (HPCDES), which protects the DG Rooms from fire, may erroneously isolate HVAC to both DG Rooms, thereby threatening DG operability. The root cause of both design vulnerabilities is an inadequate HPCDES design change which relocated two essential components to the same fire area within a non-seismic structure [CAUSE CODE B]. Corrective actions include disabling the HPCDES input to the DG Room HVAC auto-isolation logic and stationing fire watches until a design change can be implemented that addresses the seismic and Appendix R concerns. This LER also fulfills the Technical Specification 3.17.C requirement for a Special Report following HPCDES inoperability that exceeds 14 days.
Cooper Station	10/10/1994	12/12/1994	Failure to properly satisfy Technical Specification requirement for fire barrier inspection due to inspection by an uncertain inspector Abstract: On October 10, 1994, the ceiling plugs in the Service Water (SW) pump room were reinstalled as part of maintenance activities. Technical Specifications require a visual inspection to verify fire barriers are functional following maintenance. A utility person signed the inspection procedure which subsequently led to securing the fire watch in the room (established because the Halon system is inoperable with the ceiling plugs removed). About twelve hours later it was determined that the inspection was invalid since the person was not QC certified for this inspection. The ceiling plugs were inspected by a QC certified inspector and signed-off as functional. No additional work on the ceiling plugs was performed during that twelve hour period. Because the barrier was subsequently shown to be functional this event was not originally determined to be reportable. Upon review of this event on November 11, 1994, it was determined to be reportable due to the non-QC certified inspection not satisfying Technical Specification requirements. The cause of this event was personnel error (NUREG-1022, Cause Code A) due to inadequate interface between the Control Room and maintenance supervision in identifying the QC certification of the person doing the original
Cooper Station	01/07/1995	02/06/1995	Surveillance Testing of Detection System Supervisory Circuits Abstract: During installation of design change (DC) 94-0302, three Diesel Generator (DG) carbon dioxide (CO_2) photoelectric detector supervisory circuits failed to annunciate when deenergized. The failure to annunciate was due to sticking contacts which were cleaned and retested satisfactorily. An investigation into the incident determined that the supervisory circuits were not being tested every six months as required by Technical Specification 4.14.B. The CO_2 photoelectric detectors are part of a non-proprietary in-house system design which contains loss of power relays. These relays were not included in the surveillance procedures when the system was originally installed in 1979. On February 1, 1995, during the ongoing review of other potentially missed surveillances on supervisory circuits, it was discovered that the supervisory circuits associated with the fire detectors serving the Service Water Pump (SWP) room Halon systems were also not being tested every six months per the Technical Specifications. This review is continuing. Per NUREG-1022, the cause of this event is attributed to Defective Procedure, NUREG-1022 code D, specifically an inadequate Design Change Process. This also satisfies the Special Report requirement of Technical Specification 3.14.B.2.
Cooper Station	05/09/1995	06/08/1995	Fire Detection System Jumpers Abstract: As part of the surveillance testing validation program, as discussed in LER 95-001, Special Test Procedure (STP) 95-005 was performed to validate the adequacy of the current test methodology and to confirm that the fire detection circuits were properly wired since adequate drawings do not exist. on May 9, 1995, while performing the STP, three out of four fire detectors in the Diesel Generator (DG) rooms did not give a trouble alarm when removed from their bases. The detectors did alarm when tested with canned smoke indicating that the alarm circuitry functioned. Actuation of the test switch, that tests supervisory circuit continuity, did give a trouble alarm as designed indicating operability of the annunciation function. Upon investigation, it was found that the detector bases had hard wired jumpers between terminals 1 and 2 which simulated the continuity of the circuit even when the detector was removed. This prevented the circuit supervisory function from indicating a missing detector head. Technical Specification Surveillance 4.14.B states 'The NFPA Standard 72.D Class A or B supervised circuits associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.' Per NUREG-1022, the cause of this event is attributed to Design, Manufacturing,
Cooper Station	01/11/2000	02/10/2000	Appendix R Safe Shutdown Analysis Vulnerability due to Potential Conductor to Conductor Hot Shorts Abstract: On January 11, 2000, at 1752 hours Central Standard Time, Cooper Nuclear Station (CNS) discovered that a vulnerability to a fire induced hot short associated with the diesel fire pump control circuitry exists that could inhibit the ability of CNS to safely shutdown following a fire. During a postulated fire scenario in the Cable Spreading Room (CSR) fire area, the three sources of water to the service water (SW) pump gland seals would be lost due to Appendix R assumptions. The SW pumps are required to operate to supply the cooling water to the essential systems. A loss of the SW system [EIIS Code: BI) due to loss of the three sources of water for the gland seals would prevent the plant from achieving and maintaining safe shutdown following a postulated Appendix R fire. This condition, therefore, does not meet the 10CFR50, Appendix R, Section III.L requirements. The cause of this event is attributed to a human error. The risk significance evaluation determined this condition to be risk insignificant. Upon discovery of this condition, a continuous fire watch was instituted in the CSR as a compensatory measure. A plant modification will be installed to address the vulnerability of the diesel fire pump control circuitry to the fire induced hot short.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Cooper Station	05/09/2001	07/06/2001	Failure to Adequately Revise Procedures Resulted in Inadequate Fire Watches Under Certain Battery/Battery Charger Configurations and an Unanalyzed Condition Abstract: The station's direct current (DC) electrical system (EIIS:EJ) consists of two independent banks of 125 volt and 250 volt batteries (Division I, "A" and Division II, "B" trains) with associated battery chargers. When a battery charger(s) is removed from service for maintenance, a substitute charger(s) ("C") is then connected so that both independent banks of batteries can remain in service. The "B" charger(s), with qualified repair procedures, support post-fire 10CFR50, Appendix R safe shutdown requirements in certain fire zones. The station is required to post a fire watch whenever the "C" charger(s) is used in lieu of the "B" charger(s) because equivalent repair procedures do not exist for the "C" charger(s). On May 9, 2001, it was determined that inadequate compensatory fire watches were posted after placing the 125/250 volt "C" battery charger(s) in service on three separate occasions during the time frame from December 1998 to July 2000. The lack of a fire watch was not analyzed in the station's fire protection safe shutdown analysis.
Cooper Station	10/30/2013	12/20/2013	The cause was determined to be human error resulting in a failure to incorporate all the required compensatory fire watches in station procedures when they were revised in 1992. Immediate corrective actions included the generation of a Standing Order to address the necessary fire watches and then revision of the appropriate plant procedures to require fire watches in all the necessary fire zones Unfused Direct Current Ammeter Circuits Result in Unanalyzed Condition Abstract: During a review of Operating Experience for unfused remote Direct Current (DC) Ammeter Circuits that could result in a secondary fire due to multiple fire induced faults, Cooper Nuclear Station determined susceptibility to the same condition. In a postulated event, a fire in the area of the shunt conductor's route could cause one of the ammeter wires to short to the ground plane. Simultaneously, the event could cause another DC wire from the opposite polarity on the same battery to short to the ground plane. This would cause a ground loop through the unprotected ammeter wire. Since this circuit is not protected, this event could result in excessive current flow in the ammeter wiring causing a secondary fire in a separate fire area. The cause of the unfused ammeter circuits is that the original design criteria had not factored in the potential of the multiple shorts to ground failure mode and therefore, did not require overcurrent protection for remote shunt fed ammeter circuits. Compensatory fire watch measures have been implemented until an analysis is performed demonstrating that remote circuits can meet fire protection requirements without fuses. If an analysis cannot demonstrate meeting fire protection requirements with the existing circuit design, then a modification to correct the remote ammeter circuits
Crystal River 3	12/14/1980	12/26/1980	Failure to have the Deluge and Sprinkler Systems operable Abstract: While isolating a leak in the fire service system, FSV-107 was shut, isolating fire service from the auxiliary building deluge, sprinkler and hose stations. No backup fire suppression system was available or established for the affected area. The cause is failure to recognize the design function of FSV-107. When the system was discovered to be isolated, FSV-107 was opened and operability was restored. The cause of the leak was determined to be a partially open hydrant. It was closed. Personnel involved have critiqued the event and will present lessons learned training to all operational shifts.
Crystal River 3	10/12/1981	12/02/1981	The Interface Module Failed the Functional Test Abstract: During review of data for SP-501, Halon system Functional Test, it was discovered that on 10/1/81, the interface module failed the functional test, rendering the system inoperable contrary to t.s. 3.7.11.3. Maintenance was initiated. Redundancy was provided by establishing a fire watch with backup equipment. Operability was restored on 10/8/81. The cause of this event is attributed to a defective interface module (Part #30-191023-001). The module provides firing current to Halon actuators. The module was replaced. No further corrective action is deemed necessary. This revision supplies the report date.
Crystal River 3	03/05/1983	04/04/1983	Holes Discovered in Firewall Abstract: At 1500 on March5, 1983,during normal operation, two (2) holes were dis- covered in a safety-related fire wall (T.S .3 .7 .12) . Additional investigation revealed two (2) more holes in the fire wall. Fire Watches were established , (in the area upon discovery. This is the first report of holes in a fire wall and the second event reported under T.S. 3.7.12 .
Crystal River 3	06/13/1983	11/15/1985	Update Inadequate Fire Barriers Abstract: On 6-13-83, personnel discovered a fire damper (FD-86) was missing. Subsequent investigation by FPC revealed the following errors in the 1977 FPR:(1) 55 fire dampers had 1 1/2 hr fire ratings rather than 3 hrs; 2) 21 of these fire dampers were installed in the duct work not at the fire barriers; and 3) a control complex hvac duct chase was not a 3 hr fire barrier. Nevertheless, cr-3 still has adequate fire protection against the fire loads stated in the 1977 FPPR. This is the 3rd event reported under Tech Spec 3.7.12. The principal cause of this event is personnel error. Failure to verify installation of a field change notice resulted in the missing fire damper. Personnel error during the walk down for the FPPR. Florida power corporation failed to identify these errors in the FPPR prior to submittal to the NRC. The supplement outlines corrective action.
Crystal River 3	04/28/1988	05/27/1988	Design Error Leads to Inadequate Isolation Between Instruments in the Control Room and Remote Shutdown Panel Abstract: POWER LEVEL - 100%. ON APRIL 28, 1988, CRYSTAL RIVER UNIT 3 WAS OPERATING IN MODE 1 (POWER OPERATION) GENERATING 882 MWE. THE ENGINEERING DEPARTMENT WAS REVIEWING PLANT INSTRUMENT DRAWINGS AS PART OF THE B&W OWNER'S GROUP SAFETY AND RELIABILITY IMPROVEMENT PROGRAM. DURING THIS REVIEW, IT WAS DISCOVERED THAT 10 CFR 50, APPENDIX R ELECTRICAL ISOLATION REQUIREMENTS FOR BOTH TRAINS OF REACTOR COOLANT SYSTEM HOT LEG TEMPERATURE INSTRUMENTATION IN THE REMOTE SHUTDOWN PANEL AND CONTROL ROOM WAS COMPROMISED BY A RECENT INSTRUMENTATION INSTALLATION. THIS EVENT WAS CAUSED BY A DESIGN ERROR IN THE DEVELOPMENT OF CONTROL ROOM INSTRUMENT MODIFICATIONS TO SATISFY FLORIDA POWER CORPORATION COMMITMENTS TO REGULATORY GUIDE 1.97. BASED ON A PRELIMINARY CHECK OF OTHER SIMILAR CIRCUITS, THIS APPEARS TO BE AN ISOLATED OCCURRENCE. A ROVING FIRE WATCH, PERFORMING AN HOURLY CHECK OF THE CABLE SPREADING ROOM WAS ESTABLISHED. DESIGN CHANGES TO PROVIDE THE REQUIRED ISOLATION BETWEEN THE CONTROL ROOM AND REMOTE SHUTDOWN PANEL T(HOT) INSTRUMENTATION WERE DEVELOPED AND THEN INSTALLED ON MAY 27, 1988.
Crystal River 3	02/02/1989	03/06/1989	Fire Barrier Deficiency Caused by Construction Personnel Failing to Build Masonry Fire Barriers in Accordance With All Design Requirements Abstract: POWER LEVEL - 070%. ON 11/10/88 CRYSTAL RIVER UNIT 3 WAS IN MODE 1 (POWER OPERATION) AND OPERATING AT 99% RATED THERMAL POWER. ON THIS DATE SMALL CRACKS IN A MASONRY FIRE BARRIER WERE IDENTIFIED. THE CAUSE COULD NOT BE CONCLUSIVELY DETERMINED AND A FIELD PROBLEM REPORT (FPR) WAS GENERATED. THE FPR EVALUATION DETERMINED ONE OTHER PENETRATION WAS ALSO INVOLVED AND PROVIDED DATA AND INFORMATION INDICATING THE FIRE BARRIERS WERE NOT CONSTRUCTED IN ACCORDANCE WITH SPECIFIED DESIGN REQUIREMENTS AND DID NOT MEET THE REQUIRED 3 HOUR FIRE RATING. ON 2/2/89 THE PLANT RISK ASSESSMENT TEAM DETERMINED THE EVENT TO BE A DESIGN BASIS ISSUE AND A ONE HOUR VERBAL REPORT WAS MADE IN ACCORDANCE WITH 10 CFR 50.72.B.II.B. AFFECTED BARRIERS WILL BE MODIFIED TO MEET THE REQUIRED 3 HOUR RATING CRITERIA AND AFFECTED DOCUMENTATION WILL BE UPDATED AND CORRECTED. PROGRAMMATIC ASPECTS FOR MODIFYING PLANT SYSTEMS AND DOCUMENTING THE DESIGN HAVE BEEN IMPROVED SINCE ORIGINAL CONSTRUCTION WHEN THESE DOORS WERE INSTALLED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Crystal River 3	11/07/1989	04/30/1990	Personnel Error Results in Operation Outside the 10 CFR 50 Appendix R Separation Design Basis Abstract: POWER LEVEL - 000%. ON 11/7/89, CRYSTAL RIVER UNIT 3 WAS IN MODE 1, POWER OPERATION. AT 1515, IT WAS DETERMINED CONTROL CIRCUITS FOR 2 MAKE-UP VALVES DID NOT MEET THE SEPARATION CRITERIA REQUIRED BY 10CFR50 APPENDIX R. THIS EVENT WAS CAUSED BY COGNITIVE PERSONNEL ERROR. THE VALVES AND CONTROL CIRCUITS WERE OPERABLE AT THE TIME OF THE EVENT AND NO EQUIPMENT FAILURES OCCURRED. A ROVING FIRE WATCH PATROL WAS CONFIRMED IN EFFECT. THE TWO DEFICIENT CIRCUITS WILL BE MODIFIED TO MEET SEPARATION CRITERIA. A REVIEW OF MODIFICATIONS SUBSEQUENT TO THE ORIGINAL 10CFR50 APPENDIX R DESIGN WILL BE PERFORMED TO ASSURE THE SEPARATION CRITERIA ARE BEING MET. ON 3/29/90, CRYSTAL RIVER UNIT 3 WAS IN MODE 5, COLD SHUTDOWN, FOR A SCHEDULED REFUELING AND MAINTENANCE OUTAGE. AT ABOUT 1400, 4 10CFR50 APPENDIX R NON-CONFORMANCES WERE IDENTIFIED TO THE SHIFT SUPERVISOR. THESE 4 NON-CONFORMANCES ARE CONSIDERED TO BE ADDITIONAL EXAMPLES OF THE DEFICIENCY IDENTIFIED IN THE PREVIOUS LICENSEE EVENT REPORT. ALL THE AFFECTED EQUIPMENT WAS OPERABLE AT THE TIME OF THE DISCOVERY, OR OUT OF SERVICE FOR ROUTINE, SCHEDULED MAINTENANCE AS PART OF THE OUTAGE. NO EQUIPMENT FAILURES OCCURRED AS A RESULT OF THIS EVENT. RELEVANT ENGINEERING PROCEDURES HAVE BEEN REVISED TO PROVIDE
Crystal River 3	02/16/1990	09/30/1993	Fire Dampers May Not Close Under Ventilation Flow Conditions Due to Failure to Consider Flow Conditions in Original Design Criteria Per IEN 89-52 Abstract: POWER LEVEL - 000%. In August 1989, Florida Power Corporation (FPC) evaluated NRC Information Notice 89-522, 'Potential Fire Damper Operational Problems'. The reviewer assumed that fire dampers were required to close under ventilation flow conditions. This is not always correct. A series of actions were undertaken relative to fire damper closure under flow conditions. Included in these actions was a conclusion that the plant was operating outside its design basis and the original submission of this LER. In October 1992, FPC re-evaluated its 1989 interpretation of NRC Information Notice 89-52 and concluded that the CR-3 design basis for fire dampers did not require fire damper closure under air flow conditions; however, air flow through the dampers had to be stopped and procedures were not provided to shut down the associated fans. Therefore, the original LER should have been reported as a condition not covered by the plant's procedures rather than operation outside the design basis. The cause of this condition was the failure to translate design basis information to operating or emergency procedures. Several corrective actions have been or are being undertaken to ensure affected dampers close during a fire. These include the
Crystal River 3	05/07/1992	06/05/1992	10 CFR 50 Appendix R Design Requirement Not Entered Into Commitment System Results In Procedure Change That Causes Plant Operation Outside Design Basis Abstract: POWER LEVEL - 000%. ON MAY 7, 1992, CRYSTAL RIVER UNIT 3 (CR-3) WAS IN MODE 5 (COLD SHUTDOWN). FLORIDA POWER CORPORATION (FPC) REPORTED TO THE NRC THAT CR-3 HAD BEEN OPERATING OUTSIDE THE 10 CFR 50 APPENDIX R DESIGN BASIS. AN INDEPENDENT CONTRACTOR'S REVIEW DISCOVERED FPC TO BE OUTSIDE APPENDIX R REQUIREMENTS WHEN CR-3 ALIGNS COOLING WATER FOR ITS 'A' HIGH PRESSURE INJECTION (HPI) PUMP TO DECAY HEAT CLOSED CYCLE COOLING (DHCCC). IN 1986, FPC CHANGED ITS PROCEDURES FOR ALIGNING COOLING WATER TO THE HPI PUMPS IN RESPONSE TO NRC CONCERNS THAT ALIGNMENT OF THE COOLING WATER FOR THE HPI PUMPS WAS DIFFERENT THAN DESCRIBED IN THE FSAR. THIS ACTION PLACED CERTAIN COOLING WATER ALIGNMENTS OUTSIDE APPENDIX R FIRE STUDY ASSUMPTIONS. THE APPROPRIATE OPERATING PROCEDURE WILL BE REVISED TO SUPPORT THE APPENDIX R EVALUATION. FPC WILL INCLUDE THIS PROCEDURE CHANGE INTO FPC'S COMMITMENT SYSTEM.
Crystal River 3	07/05/1995	08/04/1995	Personnel Error Leads to Incorrect Orientation of Door Seals Resulting in Operation Outside the Design Basis Abstract: On July 5, 1995, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE ONE (POWER OPERATION), operating at 100% reactor power and generating 871 megawatts. During a routine walkdown, an FPC engineer discovered that door C-508 had been installed with the door seals and astragal improperly oriented. A formal operability evaluation was conducted which concluded that the door could perform both its fire protection and habitability envelope design functions; however, the door configuration constituted operation outside the design basis of the plant. The event was reported to the Nuclear Regulatory Commission at 1600 on July 5, 1995 as a 1 hour non-emergency report per the requirements of 10 CFR 50.72(b)(1)(ii)(B) and was assigned the Event number 29027. This report is submitted in accordance with 10 CFR 50.73(a)(2)(ii)(B) for operation outside the design basis of the plant. By July 19, 1995, the astragal and door seals were removed and replaced in their proper configuration, thereby returning the plant to within its design basis. The cause of the event was personnel error. Corrective actions include counselling, training, and enhancing inspection plan instructions.
Crystal River 3	07/07/1995	08/04/1995	Design Error Leads to Inadequate Circuit Isolation Resulting in Operation Outside the Licensing (Design) Basis of the Plant Abstract: On July 7, 1995, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE ONE (POWER OPERATION), operating at 100% reactor power and generating 870 megawatts. At that time it was determined that CR-3 may have operated outside its licensing basis, relative to compliance with existing 10 CFR 50 Appendix R (Appendix R) Safety Evaluation Report criteria for CR-3, in that a concern was discovered regarding remote shutdown circuits in fire area CC-108-102. A formal operability evaluation was conducted, which concluded that the affected pumps remained operable although CR-3 had deviated from its design intent. The event was reported as a 1 hour non-emergency report per the requirements of 10 CFR 50.72(b)(1)(ii)(B) and was assigned the Event number 29035. This report is submitted in accordance with 10 CFR 50.73(a)(2)(ii)(B) for operation outside the Licensing (Design) basis of the plant. The cause was a design error by the CR-3 architect/engineering firm. Corrective action included the installation of isolation contacts in the affected control circuits.
Crystal River 3	01/10/1996	06/23/1997	Personnel Error by Contractor Results in Operation Outside 10CFR50 Appendix R Design Basis Abstract: On January 10, 1996, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE THREE (HOT STANDBY). During a walkdown to develop a modification for upgrading CR-3's Thermo-Lag fire barriers, an Appendix R separation criteria deviation was identified in that two conduits containing circuits for controlling "B" Train Emergency Feedwater flow to the steam generators were noted to pass through the same fire area as "A" Train circuits with no fire barrier protection in that area. Although the condition was initially determined not reportable, upon further review on January 11, 1996 while the unit was in MODE FOUR (HOT SHUTDOWN), a 4-hour prompt notification was made to identify a degraded condition while the plant was shutdown. This report documents the separation problem as a condition outside CR-3's design basis. A justification for continued operation was established based on the existence of continuous roving fire watches in the affected area. The cause of this event was cognitive personnel error by personnel involved in preparing a modification to install conduit and cable during a 1985 refueling outage. Affected circuits have been brought back into compliance with Appendix R and a field validation of selected Appendix R drawings has been completed. A
Crystal River 3	01/11/2007	03/09/2007	Design Oversight Results In 10 CFR 50, Appendix R, Cable Separation Criteria Not Being Met Abstract: At 19:01, on January 11, and at 13:16, on January 23, 2007, Progress Energy Florida, Inc., Crystal River Unit 3 (CR-3) was operating in MODE 1 (POWER OPERATION) at 100 percent RATED THERMAL POWER when conditions not meeting 10CFR50, Appendix R, Section III.G.2 cable separation criteria were identified for high/low pressure interface valves. During performance of the CR-3 Safe Shutdown Analysis Revalidation Project Fire Area Assessment for the Intermediate and Reactor Buildings, respectively, reviews revealed that the power cable for Decay Heat Removal (DH) System valve DHV-3 and the power and control cables for DHV-4 were routed with other energized cables. Low probability three-phase external cable hot shorts of the proper voltage due to a hypothetical fire could cause spurious opening of both valves, resulting in an unanalyzed loss of coolant condition in the Auxiliary Building. The cause for this event was a misunderstanding of 10CFR50, Appendix R cable separation criteria in 1997 and 2002 pertaining to high/low pressure interfaces resulting in missed opportunities to correct the identified conditions. Appropriate compensatory measures have been put into place. This report is being submitted pursuant to 10CFR50.73(a)(2)(ii)(B). This condition does not represent a
Davis-Besse	01/12/1980	02/07/1980	Ventilator Fire Damper Blocked Open with Fiberglass Insulation Abstract: Equipment operator on rounds found fiberglass insulation stuffed into an open wall ventilator between the water treatment building and the service water valve room. This rendered the fire damper inoperable. The cause was attributed to personnel error in that someone apparently placed the fiberglass in the damper just to block a cold draft. The fiberglass was immediately removed. No specific group or individual could be singled out for blame, therefore, a memo was distributed to all station personnel, security, and project management to warn against further blockage.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Davis-Besse	01/16/1980	02/13/1980	Pipe and Conduit Penetrations through Fire Barriers not Sealed Properly. Abstract: On 1/16/80 during the performance of ST 5016.11, fire protection system barrier surveillance test, test personnel found a gap around a 1 1/2' conduit which penetrated a fire wall. On 1/19/80, a 4' hole with a 2' conduit was found in the south wall of #2 electrical penetration room. Fire detection devices were operable. The cause can be attributed to a procedural deficiency which did not address the temporary sealing of holes or the gap around the conduit through a hole, especially if the conduit or pipe is not installed immediately after the core drill is completed. The holes were temporarily sealed with kao-wool. A memo was issued warning against breaching of fire barriers. Procedures have been modified.
Davis-Besse	03/30/1980	04/25/1980	Smoke Detector DS8656 in Alarm and Would Not Clear Abstract: 0200 hours, Smoke Detector DS8656 went into alarm and would not clear. An investigation found no smoke in the area of the detector. This is located above motor control center E11B. On 4/6/80 at 1952 hours, this same detector again alarmed and would not clear. The fire watch was established within one hour of the failure in each case. The cause of both occurrences was dirty contacts in the detector. The detector was removed from its base and its contacts cleaned. It was then returned to its base where it properly responded to a smoke test. The first occurrence was corrected at 1130 hours on 3/30/80. The second occurrence was corrected at 2200 hours on 4/6/80.
Davis-Besse	04/19/1980	04/30/1980	Abstract: HIGH VIBRATION. BREAKER HBBF2 WAS OPENED BY A GROUND FAULT RELAY WHICH PROBABLY ACTUATED FROM MECHANICAL VIBRATION DUE TO CONSTRUCTION PERSONNEL IN THE ROOM. TWO ESSENTIAL BUSES WERE LOST DUE TO THE ELECTRICAL LINEUP FOR MAINTENANCE. SAFETY FEATURES ACTUATION RESULTED. THE DECAY HEAT PUMP HAD TO BE SHUTDOWN TO STOP THE INJECTION. AIR IN THE PIPING DELAYED THE PUMP RESTART. REACTOR COOLANT TEMPERATURE ROSE ABOVE THE 140F SPECIFICATION. THE DECAY HEAT PUMP WAS VENTED AND RESTARTED AT A MAXIMUM REACTOR COOLANT SYSTEM TEMPERATURE OF 170F.
Davis-Besse	03/16/1981	05/04/1981	Unsealed Half-Inch Holes Through Fire Walls Abstract: The NRC Site Inspector reported finding four 1/2 inch unsealed holes through the Control Room Equipment Room east fire wall. On 4/3/81 at 1440 hours, the NRC Site Inspector found two 1/2 inch unsealed holes in the north wall of room 427B. The cause was a personnel error. The personnel involved should have filled the holes with Kaowool when they were first opened. When the holes were discovered, they were immediately filled with kaowool. The holes were permanently filled with grout.
Davis-Besse	08/07/1981	12/18/1981	Penetrations in a Safety-related Fire Wall were Found to be Unsealed Abstract: Two architect engineers reported finding five open places between the corrugated metal decking in the ceiling of the hallway to the diesel generators and the high voltage switchgear rooms 322 and 324, respectively. The ceiling is a fire barrier. Upon inspection, some kaowool was found in the holes. However, sufficient Kaowool was not present to maintain fire wall integrity. The cause was due to personnel error during initial construction. The construction personnel involved should have ensured the holes were sufficiently sealed at the completion of their work. The holes were filled with Kaowool.
Davis-Besse	10/11/1981	11/10/1981	The Steam Line Area of the A/C Equipment Room Vestibule Abstract: It was determined that an hourly fire watch had been missed for three hours in the steam line area of the a/c equipment room vestibule, Elevation 643'. The hourly watch was established when a required fire detector is inoperable. There was no danger to the health and safety of the public or station personnel. The operation of the plant was not affected. The cause was a personnel error during the turnover period between shifts. The shift going off duty did not properly inform the shift coming on the fire watch on panel C6713. The fire watch was re-established at 1100 hours and continued until the alarm was cleared at 1300 hours. A memo was sent to the responsible personnel reinforcing proper turnover fo fire watches.
Davis-Besse	10/24/1981	03/15/1982	The Core Drill was in a Fire Wall in Electrical Penetration Room #2 Abstract: At 0930 hours, a quality control inspector found, during an inspection, an improperly sealed core drill. The core drill was in a fire wall in electrical penetration room #2. Tech spec 3.7.10 requires that no penetration be left open through a fire wall without having a fire watch stationed. Construction personnel who drilled the hole and put the conduit through it did not reseal the hole. The hole was immediately stuffed with kaowool and will be filled permanently with bisco. Core drill report are also being revised as an additional precaution to prevent a recurrence.
Davis-Besse	11/05/1981	01/08/1982	Failure to Seal Core Bores Through the Control Room Floor Abstract: At 0830 hours, a quality control inspector found three unsealed conduit ways going through the control room floor into the cable spreading room. The floor is a required fire barrier. The contractor electricians were immediately contacted. The conduits were temporarily sealed and reinspected satisfactorily by toledo edison quality control at 1100 hours on 11/5/81. Maintenance procedure mp 1410.39, which covers proper procedures for sealing penetrations, is now being taught to all contractor supervision.
Davis-Besse	12/02/1981	09/22/1983	Abstract: AT 2000 HOURS ON 12/2/81 DURING THE PERFORMANCE OF SURVEILLANCE TEST ST 5016.11, FIRE PROTECTION SYSTEM BARRIER, NUMEROUS CONDUIT PULL BOXES WERE DISCOVERED NOT TO BE SEALED WITH A FIRE RESISTANT MATERIAL. THE STATION ENTERED THE ACTION STATEMENT OF TECH SPEC 3.7.10, WHICH REQUIRES THAT ALL PENETRATIONS THROUGH A FIRE WALL ARE EITHER SEALED OR A FIRE WATCH STATIONED. FIRE DETECTION AND SUPPRESSION SYSTEMS LOCATED THROUGHOUT THE PLANT WERE FUNCTIONAL. A FIRE WATCH WAS STATIONED UNTIL ALL PENETRATIONS COULD BE FILLED WITH KAOWOOL. MAINTENANCE WORK ORDERS HAVE BEEN PERFORMED TO REPLACE THE TEMPORARY KAOWOOL WITH A PERMANENT SEALANT (BISCO). MAINTENANCE PROCEDURE MP 1405.04 HAS BEEN WRITTEN TO ALLOW THE STATION TO PERMANENTLY SEAL PENETRATIONS AT THE COMPLETION OF PENETRATION WORK.
Davis-Besse	12/03/1981	02/17/1982	Fire Door 308B Blocked Open Abstract: Door 308B, a fire door to a cable run in mechanical penetration room number 4, was found blocked open by the shift supervisor. The station entered the action statement of Tech. Spec. 3.7.10 which requires that the door be immediately shut or a fire watch established. The cause was due to personnel error. The door was cleared and immediately closed. A memo was issued to all contractor foreman re-emphasizing the need to observe the signs posted on all doors. A training program is being conducted to familiarize all incoming personnel with Tech. Spec. Requirements.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Davis-Besse	05/30/1982	06/29/1982	The Fire Door that Separates the Computer Room and Cabinet Room was not Controlled and left Open Abstract: On May 30, 1982 at 0115 hours and again at 2020 hours, door 504 was found blocked open. This door separates the computer room and the cabinet room. This is a fire door and must be controlled in all modes in order to comply with Tech Spec 3.7.10. On June 8, 1982 at 1530 hours, door 504 was again found blocked open. The cause was personnel error by the contractor working in the room. The door was opened to provide additional cooling to the room. However, the personnel did not receive permission from the shift supervisor and the door was not controlled. The contractor personnel involved was instructed in the proper procedure for blocking fire/safety related doors. Memo E82-1710 had been recently issued to station and construction supervisors.
Davis-Besse	08/08/1982	09/07/1982	A Hole was Found in a Fire Barrier Wall Above Door 309 Abstract: A QC inspector found a hole in a fire barrier wall above door 309. This hole was created by snubber EBD12SR43, which because of the configuration of the main feedwater line in this area, penetrates the wall through a pipe shell. The station entered the action statement of Tech Spec 3.7.10. The hole was left by workers who did not fill the area between the pipe shell and snubber with an approved fire retardant material after the work on the snubber was complete. A fire watch was immediately established, and the hole was properly filled with Kaowool.
Davis-Besse	08/29/1982	09/29/1982	The Latch Mechanism would not Allow the Door to Close Fully Abstract: An equipment operator making his rounds found fire door 428C, the #2 Electrical Isolation Room 429A door, cracked open. The unit entered the action statement of Tech Spec 3.7.10. Upon discovery, the door was immediately closed. The cause was a component failure. The latch mechanism would not allow the door to close fully. Station maintenance repaired the latch mechanism.
Davis-Besse	09/17/1982	10/14/1982	Inadequate Training of Station Personnel on Proper Administrative Procedures Conserning Fire Protection Abstract: Station personnel prepared to flush the vent line on the concentrates storage tank. This required blocking open fire door 101A with a temporary hose. Station personnel were present near the door until 1600 hours when the door was left unattended for approximately 5 minutes. This placed the unit in the action statement of Tech Spec 3.7.10. The hose was removed at 1605 hours. The apparent cause of the occurrence is a personnel error due to inadequate training of station personnel on proper administrative procedures concerning fire protection barriers. General Orientation training was modified to require training on standing order 30, the Blocking of Penetration Fire Barriers, Fire Doors, and Negative Pressure Boundary Doors.
Davis-Besse	11/16/1982	04/22/1985	Update on Inoperable Fire Doors Abstract: On 11-16-82 at 1630 hrs, fire door 509, the Control Room access door and door 512, the Central Alarm Station (CAS) access door, were declared non-functional due to the improper fire rating labels on these doors. This placed the unit in the action statement of Tech Spec 3.7.10. There was no degradation to the fire protection detection/suppression systems. The cause of this occurrence was a design error in that the manufacturer, Protective Materials Co., incorrectly affixed the fire rating labels on doors 509 and 512. The actions by the service representative were in error since a manufacturer cannot independently put fire rating labels on a door in the field, only at the point of manufacture where a u.l. inspector has witnessed and verified the construction of a door. The station had previously established an hourly fire watch with concurrence from NRC Region III on these doors since 10-6-82. FCR 83-009 REV B will replace door 512 and upgrade fire walls to change the fire boundaries.
Davis-Besse	04/29/1983	09/22/1983	Update of Containment Fire Detector Failure Abstract: (NP-40-83-01) on 4/29/83 at 2000 hours, fire detection zone (FDZ) 410, Containment East Passage 603' level, went into alarm and could not be reset. It was determined that this alarm was false since the surrounding FDZ's were checked and found not in alarm, no equipment failures were indicated in the alarmed zone, and the containment cooler inlet temperatures were stable. This Special Report is being submitted per Action Statement B of Tech Spec 3.3.3.8. Additional smoke detectors in FDZ's located in containment were operable. On 5/5/83 under MWO 83-2918, it was determined that the fault was in the detector string. Under MWO 83-3139, which was completed 8/6/83, it was determined that a failed smoke detector was causing FDZ 410 to continuously alarm. The failed detector was replaced. Verification that the alarm cleared at fire detection panel C5720A was made, returning FDZ 410 to operable status on 8/6/83.
Davis-Besse	06/14/1983	07/13/1983	Violation of Fire Barrier and Negative Pressure Boundary Abstract: (NP-33-83-39) at 1500 hours on 6/14/83, floor plugs between Elevations 555' and 565' and Elevation 565' and 585' were removed to facilitate changing of #1 Emergency Core Cooling System coil assembly. At 0845 hours on 6/15/83, it was discovered that the floor plugs were a part of the negative pressure boundary and fire barriers, placing the unit in violation of Tech Specs 3.6.5.2 and 3.7.10. Both emergency ventilation system trains were operable and would have provided a negative pressure in the area. The cause was personnel error. Also procedures did not specifically address floor plug removal. At 0910 hours on 6/15/83, a fire watch was established satisfying item 2 of Tech Spec 3.7.10. Reinstalled removing the unit from the action statement of Tech Spec 3.6.5.2. Maintenance instruction M-118 was written specifically addressing floor plug removal and replacement.
Davis-Besse	06/20/1983	09/22/1983	Update of Failure of Containment Fire Detector Abstract: (NP-40-83-02) on 6/20/83, fire detection zone Reactor Coolant Pump (RCP) 1-2, containment level 603', went into alarm and could not be reset. This was determined to be a false alarm since the redundant fire detector in the zone was not in alarm, and no equipment failures were indicated in the alarmed zone. This Special Report is being submitted per Action Statement B of Tech Spec 3.3.3.8. Additional smoke detectors in this fire detection zone were operable. The cause of the alarm was found to be a problem with the detector string. Under MWO 83-3697, which was completed 8/6/83, the failed smoke detector that had been causing fire detection zone RCP 1-2 to continuously alarm was replaced. Verification that the alarm cleared at fire detection panel C4720A was made, returning fire detection zone RCP 1-2 to operable status on 8/6/83.
Davis-Besse	08/30/1983	09/30/1983	15 Fire Dampers Found Nonfunctional Abstract: (NP-33-83-64) during the performance of ST 5016.11, the Fire Protection System Barrier Surveillance Test, 15 fire dampers were found nonfunctional between August 30, 1983 and September 22, 1983. The nonfunctional state of these fire dampers placed the unit in the action statement of Tech Spec 3.7.10. The fire detection and suppression systems, located throughout the plant, were operable. The cause of these occurrences was either an initial construction installation error or an equipment failure due to an accumulation of dirt. Upon discovery of each nonfunctional damper, a fire watch was established within one hour. To date, all dampers except three have been repaired or cleaned and returned to functional status.
Davis-Besse	11/10/1983	08/11/1988	A Design Error was not Verified as Built Conditions of the Plant Abstract: N P11/10/83 it was determined that the separation criteria, as required by the Fire Hazard Analysis Report (FHAR) was not maintained between #1 Mechanical Penetration Room (Fire Area DC) and the #1 Emergency Core Cooling System ECCS Pump Room (Fire Area AB) and between the #2 Mechanical Penetration Room (Fire Area DB) and the #2 ECCS Pump Room (Fire Area A). Currently an open pipe chase exists between each set of rooms. The fire barriers were declared nonfunctional, placing the unit in the action statement of Tech Spec 3.7.10. The cause of this occurrence was a design error in that Bechtel did not verify the as built conditions of the plant, nor did they perform any analysis on open pipe chases between fire areas prior to issuing the FHAR. A fire watch was established within one hour for each of the pipe chases. An analysis was performed by bechtel to analyze the above described conditions.
Davis-Besse	11/24/1983	12/29/1983	Update on Fire Barrier Watch not Maintained Abstract: (NP-33-83-95) on 11/24/83 at 2100 hours, an equipment operator discovered that Fire Dampers (FD) 1085, 1084, and 1111 were not being continuously monitored as required by Tech Spec 3.7.10. Investigation revealed that the individual performing the fire watch was sitting in the Auxiliary Building southwest stairway observing FD1085 and could not observe FD1084 and FD1111. Fire detection and suppression systems are located in the area and were operable. This event is attributable to personnel error in that contract personnel failed to report for work, resulting in a lack of adequate coverage. The contract shift supervisor was aware of the problem, but failed to inform the Toledo Edison shift supervisor. Upon discovery, the individual was moved to an area where all three fire dampers could be observed.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Davis-Besse	11/30/1983	04/26/1984	Update on Inadequate Fire Doors Abstract: (NP-33-83--96) on 11/30/83, Nuclear Facility Engineering Department received Nonconformance Report (NCR) 83-118, which identified the following fire barrier doors as having non-UL listed hardware attachments affixed to these doors: doors 320, 321, 322, 323, 332, 427, 428, 215, 601, 603, and 605. These compromise the affixed UL labels and places the unit in the action statement of Tech Spec 3.7.10 for the previously cited nonfunctional fire barrier doors. Modifications that were required to upgrade security requirements to internal doors at Davis-Besse downgraded the fire protection requirements of the same doors. A fire watch was established for each of the doors. Facility engineering personnel are currently reviewing the options available as corrective action.
Davis-Besse	08/08/1984	09/10/1984	Inoperable Fire Barrier Penetration Between Service Water Pump and Valve Rooms Abstract: POWER LEVEL - 094%. ON 8-8-84 WHILE A CONTRACTOR WAS PREPARING TO PERMANENTLY SEAL A FIRE BARRIER PENETRATION, A Q.C. INSPECTOR NOTED THE TEMPORARY SEALING WAS INADEQUATE. THE PENETRATION WAS ADDED TO THE FIREWATCH THAT WAS ESTABLISHED FOR THE AREA. THE PENETRATION WAS PACKED WITH 11 INCHES OF KAOWOOL AND SEALED, RESTORING THE PENETRATION TO THE DESIGN RATING. THE CONSEQUENCES OF THE DEFICIENT FIRE BARRIER ARE MINIMAL. FIRE DETECTION AND FIRE SUPPRESSION SYSTEMS ARE INSTALLED ON BOTH SIDES OF THE WALL. THERE WAS NO VISIBLE OPENING AND THE COMBUSTIBLE LOADINGS OF THE ROOMS IS NEGLIGIBLE.
Davis-Besse	12/04/1984	01/10/1985	Fire Dampers Found Inoperable Abstract: POWER LEVEL - 000%. ON 12-4-84, DURING THE PERFORMANCE OF THE FIRE DAMPER SECTION OF THE FIRE BARRIER PENETRATION 18 MONTH TEST, ST 5016.11, INOPERABLE FIRE DAMPERS WERE FOUND. FIRE WATCH PATROLS WERE ESTABLISHED PER THE CONDITIONS OF THE ACTION STATEMENT OF TECH SPEC 3.7.10. WHEN THE REPAIRS COULD NOT BE MADE WITHIN 7 DAYS, THIS SPECIAL REPORT WAS INITIATED PURSUANT TO TECH SPEC 6.9.2 WITHIN THE NEXT 30 DAYS OUTLINING THE ACTION TAKEN, THE CAUSE OF THE NON-FUNCTIONAL PENETRATION, AND PLANS AND SCHEDULE FOR RESTORING THE FIRE BARRIER PENETRATIONS TO FUNCTIONAL STATUS.
Davis-Besse	06/05/1985	07/12/1985	Inoperable Fire Barrier Door #313 Abstract: POWER LEVEL - 050%. ON JUNE 5, 1985, ENGINEERING EVALUATED THE DAMAGE TO THE BOTTOM OF DOOR #318 AND DETERMINED THAT THE DOOR COULD NO LONGER BE CERTIFIED AS FUNCTIONAL. THE ONE HOUR ACTION STATEMENT REQUIREMENT OF TECH SPEC 3.7.10 OF ESTABLISHING AN HOURLY FIRE WATCH PATROL WAS ALREADY BEING SATISFIED BY AN EXISTING PATROL WHICH HAD BEEN PREVIOUSLY ESTABLISHED DUE TO OTHER APPENDIX R DEFICIENCIES. THIS SPECIAL REPORT IS BEING SUBMITTED PER THE REQUIREMENTS OF TECH SPECS 3.7.10 AND 6.9.2 SINCE THIS FIRE BARRIER COULD NOT BE RESTORED TO OPERABLE STATUS WITHIN 7 DAYS. THE DOOR WAS INOPERABLE DUE TO A MODIFICATION ALONG THE BOTTOM OF THE DOOR WHICH RESULTED FROM INSTALLING A TEMPORARY WATER LINE FOR A ROOM COOLER IN ROOM 320. THE ROOM IS USED AS AN EQUIPMENT OPERATOR STUDY ROOM. THERE IS NO SAFETY RELATED EQUIPMENT IN THIS ROOM ALTHOUGH THERE ARE CONDUITS FOR SUCH EQUIPMENT PASSING THROUGH THE ROOM. WHEN IT WAS DETERMINED THAT THE DOOR COULD NOT BE REPAIRED AND RECERTIFIED, A NEW DOOR WAS ORDERED. IT IS EXPECTED TO BE RECEIVED AND INSTALLED BY SEPTEMBER 30, 1985. UNTIL THE NEW DOOR IS INSTALLED, THE FIRE WATCH PATROL WILL BE MAINTAINED. A FACILITY CHANGE REQUEST HAS BEEN INITIATED TO PERMANENTLY INSTALL A WATER LINE THROUGH THE WALL. ALSO, A MEMO WILL BE ISSUED TO ALL STATION PERSONNEL
Davis-Besse	03/25/1986	10/03/1986	Thermal Degradation of Fire Penetration Fill Material Abstract: POWER LEVEL - 000%. ON MARCH 25, 1986 A TOLEDO EDISON QUALITY CONTROL INSPECTOR FOUND THAT THE LOW DENSITY SILICONE FOAM FOR A FIRE BARRIER PENETRATION IN THE MAIN STEAM LINE ROOM HAD DETERIORATED. THE PENETRATION WAS LOCATED WHERE THE MAIN STEAM LINE ENTERED THE EAST WALL OF MAIN STEAM THE ROOM 602. AS AN INTERIM MEASURE THE PENETRATION WAS STUFFED WITH KAOWOOL. THE ROOM WAS ALREADY BEING FIRE WATCHED FOR OTHER APPENDIX R (FIRE HAZARDS) CONSIDERATIONS. THE ROOT CAUSE OF THE PROBLEM WAS THE MISAPPLICATION OF MATERIAL FOR THE IN-SERVICE CONDITION EXPECTED. THE LOW DENSITY SILICONE FOAM (SF.20) IS ONLY RATED FOR USE UP TO 425 F. THE MAIN STEAM LINE REACHES TEMPERATURES OF APPROXIMATELY 600 DURING NORMAL OPERATION. THE STATION IS CURRENTLY PERFORMING THE FIRE BARRIER PENETRATION TEST, ST 5016.11. AS PART OF THIS EFFORT, PENETRATION SEALS ARE INSPECTED TO ACCEPTANCE CRITERIA FOR PHYSICAL CONDITION (E.G, COLOR, SEPARATION. SHRINKAGE, EVIDENCE OF TAMPERING) TO IDENTIFY ANY SEAL DEGRADATION. IN ADDITION, AN AS-BUILT VERIFICATION OF PENETRATION SEALS IS BEING CONDUCTED TO ENSURE THAT THE SEAL DESIGNS MEET THE PENETRATION DESIGN AND FUNCTIONAL REQUIREMENTS. THE RESULTS OF THESE INSPECTION AND VERIFICATION EFFORTS WILL DETERMINE THE NEED FOR CORRECTIVE ACTIONS. THIS IS BEING
Davis-Besse	04/07/1986	05/15/1986	Breaching a Fire/Nega ive Pressure Barrier by Personnel Abstract: POWER LEVEL - 000%. AT APPROXIMATELY 1300 HOURS ON 4-7-86 PERSONNEL STRINGING TEMPORARY INSTRUMENTATION CABLES BREACHED A FIRE/NEGATIVE PRESSURE BARRIER. A FIRE WATCH WAS IN PLACE IN THE AREA AT THE TIME THE SEAL WAS BREACHED. A WORK REQUEST HAS BEEN ISSUED TO REPAIR THE SEAL AND THE FIRE WATCH IS CONTINUING. TESTING PERSONNEL WERE COUNSELED ON THE EVENT. PERSONNEL DIRECTLY INVOLVED IN THE INCIDENT HAVE RECEIVED DISCIPLINARY ACTION. THIS IS BEING SUBMITTED AS A SPECIAL REPORT PER TECH SPEC 3.7.10 AS A FIRE BARRIER PENETRATION BEING INOPERABLE FOR MORE THAN 7 DAYS.
Davis-Besse	06/25/1986	10/29/1986	Fire Doors Inoperable by NFPA 80 Standards Abstract: POWER LEVEL - 000%. WHILE PERFORMING PERIODIC MAINTENANCE WORK ORDERS FOR FIRE DOORS AND A SUBSEQUENT ENGINEERING INSPECTION, SIXTEEN (16) FIRE DOORS WERE IDENTIFIED UNSATISFACTORY BY THE ACCEPTANCE CRITERIA IN SURVEILLANCE TEST 5016.11. AFTER AN EVALUATION OF THESE SIXTEEN DOORS, FIVE DOORS WERE DETERMINED NO LONGER TO BE FUNCTIONAL. DOORS 105 AND 514 HAD CONSIDERABLE WEAR TO THE DOOR ITSELF. DOORS 427, 428, AND 500 HAD LATCH PROBLEMS. AFTER THIS INITIAL INSPECTION A NEW PROCEDURE, IP-M-012, WAS DEVELOPED AND A MORE DETAILED INSPECTION OF ALL HOLLOW METAL FIRE DOORS WAS MADE. IP-M-012 UTILIZES NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 80 CRITERIA TO ENSURE HOLLOW METAL FIRE DOOR OPERABILITY. OF THE ONE HUNDRED THIRTY (130) DOORS INSPECTED, WHICH INCLUDES THE ORIGINAL 16 FIRE DOORS, ONLY TWO MET THE MINIMUM ACCEPTANCE CRITERIA OF THE INSPECTION PLAN. ONLY HOLLOW METAL FIRE DOORS ARE COVERED BY NFPA 80, ANY OTHER FIRE BOUNDARY DOORS ARE SEPARATELY JUSTIFIED BY A TECHNICAL EVALUATION PER THE FIRE HAZARDS ANALYSIS REPORT (FHAR). ALL THE FIRE DOORS DECLARED INOPERABLE ARE PRESENTLY UNDER A FIRE WATCH UNTIL THEIR OPERABILITY IS ESTABLISHED. THIS REVISION IS BEING SUBMITTED AS STATED IN THE ORIGINAL SPECIAL REPORT PER TECH SPEC 3.7.10.
Davis-Besse	07/29/1986	08/03/1987	Fire Barrier Penetration Seal Surveillance Deficiencies Abstract: POWER LEVEL - 000%. AS A RESULT OF BARRIER PENETRATION SEAL CONCERNS RAISED IN LER 86-005 AND LER 86-017, A COMPREHENSIVE REEVALUATION OF ACCEPTANCE CRITERIA ON BARRIER SEALS WAS PERFORMED TO ENSURE SUITABILITY FOR FIRE RATING. FLOOD SEALING AND HIGH ENERGY LINE BREAK (HELB) PRESSURE SEALING. FLOOD, NEGATIVE PRESSURE. AND HELB RELATED BARRIER SEALS HAVE BEEN PRIORITIZED FOR INSPECTION AND REPAIR BEFORE THE FIRE BARRIER PENETRATION SEALS USING INSPECTION PLANS IP-M008 AND IP-M010 FLOOD AND HELB RELATED BARRIER SEALS WERE REPAIRED PRIOR TO ENTERING MODE 4 FROM THE 1986 OUTAGE. SEVERAL OF THE FIRE BARRIER PENETRATION SEALS, WHICH ARE BEING INSPECTED USING AN UPDATED SURVEILLANCE ST 5016.11, WERE FOUND TO BE INOPERABLE ON JULY 29, 1986 WITH THE PLANT IN COLD SHUTDOWN (MODE 5). THE ROOT CAUSE OF THE DEFICIENCIES ARE INADEQUATE DESIGN CONTROL. INSTALLATION INSTRUCTIONS AND SURVEILLANCE PROCEDURES FOR BARRIER PENETRATION SEALS. THIS REPORT IS BEING SUBMITTED PER TECHNICAL SPECIFICATION 3.7.10.A AND TO REPORT A CONDITION THAT WAS OUTSIDE THE DESIGN BASIS OF THE PLANT. ALSO, THIS REPORT UPDATES THE STATUS OF THE FIRE BARRIER INSPECTION PROGRAM DISCUSSED IN THE SPECIAL REPORT LER 86-017.
Davis-Besse	02/25/1987	06/01/1987	Failure to Maintain Fire Watches due to Inadequate Supervision Abstract: POWER LEVEL - 058%. ROVING AND CONTINUOUS FIRE WATCHES HAD BEEN POSTED AT VARIOUS LOCATIONS IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.10 DUE TO INOPERABLE FIRE APPLIANCES. A COMPANY WAS UNDER CONTRACT TO PROVIDE, TRAIN, AND SUPERVISE FIRE WATCH PERSONNEL. INFORMATION WAS PROVIDED TO TOLEDO EDISON'S INDEPENDENT OMBUDSMAN, ALLEGING THAT VARIOUS FORMS OF MISCONDUCT BY CONTRACT FIRE WATCH PERSONNEL HAD OCCURRED OVER THE PREVIOUS FIVE MONTHS. SLEEPING ON WATCH, LEAVING THE ASSIGNED AREA PRIOR TO WATCH RELIEF, AND INCOMPLETE FIRE WATCH SURVEILLANCE WERE ALLEGED AREAS OF DEFICIENT FIRE WATCH COVERAGE. SEVERAL POTENTIAL VIOLATIONS WERE VALIDATED AND THE RESPONSIBLE FIRE WATCH CONTRACTOR WAS TERMINATED ON FEBRUARY 26, 1987. AN INVESTIGATION INTO ALL ALLEGED VIOLATIONS, INCLUDING THE FALSIFICATION OF DOCUMENTS, HAS BEEN COMPLETED. THIS REPORT DOCUMENTS A LACK OF COMPLIANCE WITH THE INTENT OF ACTION STATEMENT TECHNICAL SPECIFICATION 3.7.10.A AND IS BEING REPORTED PER 10CFR50.73(A).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Davis-Besse	01/20/1988	04/14/1988	Intentionally Missed Hourly Fire Watch Due to Radiological Control Area Evacuation Abstract: POWER LEVEL - 080%. ON JANUARY 20, 1988 AT 1900 HOURS, THE HOURLY FIRE PATROL WAS NOT PERFORMED AS REQUIRED BY THE ACTION STATEMENTS OF TECHNICAL SPECIFICATIONS 3.3.3.8, AND 3.7.10. THE HOURLY FIRE PATROL WAS MISSED BECAUSE OF AN INADVERTENT GASEOUS RELEASE INSIDE THE AUXILIARY BUILDING. AS A RESULT OF THE RELEASE, THE RADIOLOGICAL CONTROL AREA (RCA) WAS EVACUATED AS A PRECAUTIONARY MEASURE FOR ALARA CONCERNS. THE GASEOUS RELEASE RESULTED IN RADIATION DOSE 100 TIMES LESS THAN THE TECHNICAL SPECIFICATION REPORTING LIMITS. AT 100 HOURS, THE HOURLY FIRE PATROLS RESUMED.
Davis-Besse	01/21/1988	04/15/1988	Inoperable Fire Barrier With Inoperable Fire Detection Abstract: POWER LEVEL - 080%. ON JANUARY 21, 1988, AT 2000 HOURS, THE SHIFT SUPERVISOR WAS NOTIFIED THAT AN INOPERABLE FIRE BARRIER, 426-N/427-S, DID NOT HAVE OPERABLE FIRE DETECTION ON EITHER SIDE. THIS CONDITION HAD EXISTED FOR APPROXIMATELY 45 HOURS. THIS IS A VIOLATION OF TECH SPEC 3.7.10 BECAUSE A CONTINUOUS FIRE WATCH HAD NOT BEEN ESTABLISHED WITHIN 1 HOUR. THE SHIFT SUPERVISOR RESET THE ALARMS, WHICH RETURNED THE FIRE DETECTION ZONES TO AN OPERABLE STATUS. OPERATIONS PERSONNEL DID NOT RECOGNIZE THAT FIRE DETECTORS WERE INOPERABLE ON BOTH SIDES OF AN INOPERABLE FIRE BARRIER. A LIST OF FIRE DETECTION ZONES AND THEIR CORRESPONDING FIRE BAOWHICH WAS BARRIERS WILL BE DEVELOPED FOR OPERATIONS PERSONNEL. UNTIL THE LIST IS DEVELOPED, A CONTINUOUS FIRE WATER WILL BE ESTABLISHED WHEN A FIRE DETECTION ALARM CAN NOT BE CLEARED WITHIN 1 HOOUR. DURING DEVELOPMENT OF THIS LIST IT WAS DISCOVERED THAT ONE INOPERABLE FIRE BARRIER WHICH WAS BELIEVED TO HAVE FIRE DETECTION ON ONE SIDE, DID NOT. THIS WAS A RESULT OF AN INCORRECT DRAWING FOLLOWING IMPLEMENTATION OF FACILITY CHANGE REQUEST (FCR) 81-0100. THIS MODIFICATION WILL BE REVIEWED TO ENSURE ALL DESIGN DRAWINGS AFFECTED HAVE BEEN UPDATED APPROPRIATELY. SINCE THE COMPLETION OF FCR 81-0100 THE MODIFICATION PROCESS HAS BEEN REVISED TO INCLUDE A
Davis-Besse	04/04/1988	06/09/1988	Incorrect Termination of a Continuous Fire Watch Abstract: POWER LEVEL - 000%. ON APRIL 4, 1988 AT APPROXIMATELY 1800 HOURS IT WAS DETERMINED THAT AN INOPERABLE FIRE BARRIER EXISTED WITH NO DETECTION ON EITHER SIDE AND A CONTINUOUS FIRE WATCH WAS NOT IN PLACE. THIS CONDITION WAS CAUSED BY PERSONNEL ERROR DURING THE INITIAL FIRE WATCH EVALUATION AND HAD EXISTED SINCE JUNE 24, 1986. A CONTINUOUS FIRE WATCH WAS POSTED AT 1845 HOURS ON APRIL 4, 1988. SUBSEQUENTLY MAINTENANCE WORK ORDER (MWO) 1-88-0449-00 WAS PERFORMED TO REPAIR THE DOOR. THIS MWO DID NOT REPAIR ALL OF THE DOOR DEFICIENCIES WHICH MADE IT INOPERABLE AS A FIRE BARRIER. THE ASSISTANT SHIFT SUPERVISOR DETERMINED BY REVIEWING EXISTING WORK DOCUMENTS THAT THE DOOR WOULD BE RETURNED TO AN OPERABLE STATUS FOLLOWING COMPLETION OF THIS MWO. ANOTHER MWO 2-86-0431-09 INCORRECTLY IMPLIED THAT DOOR 422 WAS OPERABLE WHEN THIS DOOR WAS SHUT. WHEN MWO 1-88-0449-00 WAS COMPLETED THE ASSISTANT SHIFT SUPERVISOR DECLARED THE DOOR OPERABLE AND TERMINATED THE FIRE WATCH AT 0900 ON APRIL 5, 1988. FIRE PROTECTION PERSONNEL LATER NOTICED THAT NO CONTINUOUS WATCH WAS IN PLACE AT DOOR 422 AND INFORMED THE SHIFT SUPERVISOR. HE RE-ESTABLISHED THE CONTINUOUS WATCH AT 1545 HOURS. OUTSTANDING FIRE PROTECTION MWO'S WILL BE REVIEWED BY JUNE 30, 1988 TO ENSURE COMPENSATORY MEASURES HAVE BEEN IDENTIFIED
Davis-Besse	04/06/1988	05/06/1988	Missed Fire Watch Due to Unidentified Inoperable Fire Detection Abstract: POWER LEVEL - 000%. ON APRIL 6, 1988 AT APPROXIMATELY 0230 HOURS MAINTENANCE WAS IN PROGRESS WHICH ISOLATED THE SPRINKLER HEADER ABOVE MAIN FEEDWATER PUMP 1-2 AND CAUSED AN ALARM ON FIRE ALARM/ANNUNCIATOR PANEL C4105. THIS IS A NON-TECHNICAL SPECIFICATION FIRE ALARM ANNUNCIATOR/PANEL. THE SHIFT SUPERVISOR WAS UNAWARE OF THE ALARM'S SIGNIFICANCE. AT APPROXIMATELY 1000 HOURS FIRE PROTECTION PERSONNEL NOTICED THAT FIRE ALARM/ANNUNCIATOR PANEL C4105 WAS IN AN ALARM CONDITION. THIS EFFECTIVELY RENDERED THE FIRE DETECTION FOR THE TURBINE BUILDING INOPERABLE. THIS ALONG WITH TWO INOPERABLE FIRE BARRIERS REQUIRED CONTINUOUS FIRE WATCH AT FIRE DOORS 423 AND 327 IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.10. THE CONTINUOUS WATCH WAS ESTABLISHED AT 1040 HOURS. A PROCEDURE, DB-FP-00009, AND A STANDING ORDER HAVE BEEN REVISED TO PROVIDE CLEARLY STATED GUIDANCE TO THE SHIFT SUPERVISOR CONCERNING IMPLEMENTATION OF COMPENSATORY MEASURES. THIS EVENT IS BEING REPORTED IN ACCORDANCE WITH 10CFR50.73(A)(2)(I).
Davis-Besse	04/08/1988	05/27/1988	Incorrect Termination of a Continuous Fire Watch Following Maintenance Abstract: POWER LEVEL - 000%. ON APRIL 8, 1988 FOLLOWING MAINTENANCE ON FIRE DOOR 422, THE SHIFT SUPERVISOR INCORRECTLY DECLARED FIRE DOOR 422 OPERABLE AND TERMINATED THE CONTINUOUS FIRE WATCH FOR FIRE BARRIER AB1-N/422S. ON APRIL 28, 1988 DURING A SUBSEQUENT REVIEW OF THE SURVEILLANCE TEST USED FOR POST-MAINTENANCE TESTING, FIRE PROTECTION PERSONNEL NOTED THAT ONLY SELECTED PORTIONS OF THE SURVEILLANCE TEST WERE PERFORMED. THESE PORTIONS OF THE SURVEILLANCE PROCEDURE ONLY TESTED THE MAINTENANCE THAT WAS PERFORMED BUT DID NOT CONFIRM THE COMPLETE TECHNICAL SPECIFICATION OPERABILITY SURVEILLANCE REQUIREMENTS THAT WERE PAST DUE. FIRE PROTECTION PERSONNEL CONTACTED THE SHIFT SUPERVISOR AND A CONTINUOUS FIRE WATCH WAS RE-ESTABLISHED AT 1315 HOURS ON APRIL 28, 1988. OPERATIONS MANAGEMENT WILL DISCUSS THIS INCIDENT WITH THE SHIFT SUPERVISORS TO EMPHASIZE THE METHODOLOGY TO DECLARE SYSTEMS OPERABLE FOLLOWING MAINTENANCE. THIS OCCURRENCE IS BEING REPORTED ACCORDING TO 10CFR50.73(A)(2)(I).
Davis-Besse	04/19/1988	06/05/1988	Inoperable Fire Detection Due to Inadequate Design Abstract: POWER LEVEL - 000%. ON APRIL 19, 1988, FOLLOWING THE REVIEW OF THE FIRE DETECTION AND SPRINKLER SYSTEMS IT WAS DETERMINED THAT THE DEFICIENCIES IDENTIFIED WITH THE DETECTION SYSTEMS IN THE ROBING AREA, THE HEATER BAY AREA AND IN THE TURBINE BUILDING WERE SIGNIFICANT ENOUGH TO REQUIRE COMPENSATORY MEASURES. WITH THESE DEFICIENCIES AND OTHER RELATED DETECTION SYSTEMS INOPERABLE, THIRTEEN BARRIERS WERE REQUIRED TO HAVE CONTINUOUS FIRE WATCHES INSTEAD OF ROVING FIRE WATCHES. THE DEFICIENCIES HAVE EXISTED SINCE THE FIRE BARRIERS WERE DECLARED INOPERABLE ON SEPTEMBER 6, 1986. ADDITIONALLY, THE PREACTION SPRINKLERS IN THE TURBINE BUILDING WERE INOPERABLE AS THEY COULD NOT BE ACTUATED BY THE INOPERABLE DETECTORS. THIS REVIEW ALSO IDENTIFIED THAT THE DETECTOR IN THE LOW VOLTAGE SWITCHGEAR ROOM IS OPERABLE FOR GENERAL FIRE PROTECTION BUT IS NOT CAPABLE OF INITIATING AUTOMATIC CLOSURE OF DOOR 427A DUE TO THE LOCATION OF THE DETECTOR RELATIVE TO THE DOOR. THIS CONDITION HAS EXISTED SINCE THIS AUTOMATIC CLOSURE DEVICE WAS INSTALLED JANUARY 9, 1984. THIS OCCURRENCE WAS CAUSED BY AN INADEQUATE DESIGN WHICH DID NOT FULLY IMPEMENT THE APPLICABLE FIRE CODES. ELEVEN FIRE BARRIERS WERE INSPECTED AND RETURNED TO OPERABLE STATUS IN MARCH 1988 AND CONTINUOUS FIRE WATCHES WERE INITIATED FOR THE REMAINING
Davis-Besse	06/09/1988	07/11/1988	Roving Fire Watch Exceeding Hourly Patrol Time Limit Abstract: POWER LEVEL - 000%. ON JUNE 9, 1988, WITH THE REACTOR DEFUELED A REVIEW OF THE TECHNICAL SPECIFICATION FIRE WATCH LOG IDENTIFIED THAT THE HOURLY FIRE WATCH PATROL TIME LIMITS FOR FIVE TURBINE BUILDING ROOMS HAD BEEN EXCEEDED. THIS WAS CAUSED BY THE FIRE WATCH PATROL BEING DISTRACTED BY THE TESTING OF A NEW BAR CODE SYSTEM FOR IMPROVING FIRE WATCH DOCUMENTATION AND BY THE TRAINING OF AN INDIVIDUAL TO CONDUCT FIRE WATCH PATROLS. PERSONNEL PERFORMING ROVING FIRE WATCHES HAVE BEEN COUNSELLED CONCERNING THIS EVENT WITH EMPHASIS ON THE TIMELINESS OF FIRE WATCHES AND HOW TO DEAL WITH CIRCUMSTANCES THAT DELAY THE FIRE WATCH PATROL FROM HIS APPOINTED ROUNDS.
Davis-Besse	07/19/1988	08/18/1988	Roving Fire Watch Tour Times Exceeded Abstract: POWER LEVEL - 000%. ON JULY 19, 1988 WITH THE REACTOR DEFUELED, A REVIEW OF ROVING FIRE WATCH TOUR DOCUMENTATION IDENTIFIED THREE OCCURRENCES OF ROVING FIRE WATCHES EXCEEDING THE ONE HOUR PATROL INTERVAL. SUBSEQUENTLY ON JULY 21, 1988, ONE ADDITIONAL OCCURRENCE WAS DISCOVERED. THESE OCCURRENCES WERE CAUSED BY PERSONNEL ERROR. TOUR 'TARGET TIMES' HAVE BEEN ESTABLISHED TO AID THE ROVING FIRE WATCHES IN MEETING THE REQUIRED INSPECTION INTERVALS. THE ROVING FIRE WATCH SHEETS HAVE BEEN DIVIDED INTO SECTIONS WITH 'TARGET TIMES' ASSIGNED TO EACH SECTION FOR COMPLETION OF THE TOUR. THESE SHEETS ARE REVIEWED FOR COMPLIANCE WITH THE TARGET TIMES AS WELL AS THE AREA TIMES. THESE TARGET TIMES ARE ADJUSTED AS NECESSARY BASED ON THESE REVIEWS AND CHANGING CONDITIONS. ADDITIONALLY, THE ROVING FIRE WATCHES HAVE BEEN GIVEN GUIDANCE IN HOW TO UTILIZE THESE 'TARGET TIMES' ON THEIR TOURS. THIS CONDITION IS BEING REPORTED IN ACCORDANCE WITH 10CFR50.73(A)(2)(I)(B).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Davis-Besse	11/17/1988	11/30/1988	Missed Fire Watch for Fire Detection Zone 235 Abstract: POWER LEVEL - 000%. ON NOVEMBER 17, 1988, AT APPROXIMATE Y 1100 HOURS, WITH THE REACTOR IN MODE 5, AN ALARM WAS RECEIVED FOR FIRE DETECTION ZONE 235 MAKING THIS DETECTION ZONE INOPERABLE. AN HOURLY FIRE WATCH WAS ESTABLISHED AT 1110 HOURS. LATER THAT DAY, AT APPROXIMATELY 1510 HOURS, THE RELIEVING SHIFT SUPERVISOR DISCOVERED THAT THE PREVIOUS SHIFT HAD INCORRECTLY ESTABLISHED AN HOURLY PANEL WATCH INSTEAD OF THE REQUIRED CONTINUOUS FIRE WATCH THE CONTINUOUS WATCH WAS ESTABLISHED AT 1523 HOURS. THIS OCCURRENCE WAS CAUSED BY PERSONNEL ERROR. THE PERSONNEL INVOLVED HAVE BEEN COUNSELED. THIS CONDITION IS BEING REPORTED ACCORDING TO 10CFR 50.73(A)(2)(I)(B).
Davis-Besse	01/12/1989	02/10/1989	Incorrect Fire Watch Established Due to Personnel Error When Fire Door 422 Blocked Open Abstract: POWER LEVEL - 100%. ON 1/12/89, AT 2315 HOURS, THE ONCOMING SHIFT SUPERVISOR NOTED THAT FIRE DOOR 422 WAS BLOCKED OPEN WITH THE WRONG TYPE FIRE WATCH ESTABLISHED. TECHNICAL SPECIFICATION 3.7.10 REQUIRES A CONTINUOUS FIRE WATCH TO BE ESTABLISHED WITHIN ONE HOUR IF THE INOPERABLE BARRIER DOES NOT HAVE OPERABLE FIRE DETECTION ON AT LEAST ONE SIDE. EITHER SIDE. THE DOOR HAD BEEN BLOCKED OPEN AT 2125 HOURS WHEN THE KNOB PULLED OFF LEAVING ONLY THE STEM. THE SHIFT SUPERVISOR ON DUTY WHEN THIS OCCURRED DID FOLLOW THE CORRECT PROCESS FOR DETERMINING IF AND WHAT TYPE WATCH WOULD BE NECESSARY. HOWEVER, A PERSONNEL ERROR WAS MADE USING THE FIRE BARRIER PROCEDURE DB-FP-00009, REV. 02 WHEN ROOM 422A WAS EVALUATED FOR OPERABLE DETECTION RATHER THAN ROOM 422. THIS LED HIM TO AUTHORIZE, INCORRECTLY, BLOCKING THE DOOR OPEN WITH A ROVING FIRE WATCH AS COMPENSATION. THE ONCOMING SHIFT SUPERVISOR HAD THE DOOR CLOSED, RESTORING IT TO AN OPERABLE STATUS. THE ONE HOUR ACTION STATEMENT HAD BEEN EXCEEDED BY 50 MINUTES, WHICH IS A VIOLATION OF TECHNICAL SPECIFICATIONS. APPLICABLE OPERATIONS PERSONNEL HAVE RECEIVED ADDITIONAL TRAINING ON THE USE OF DB-FP-00009.
Davis-Besse	09/13/1989	10/13/1989	Hourly Fire Watch Patrol Exceeded Allowed Interval By Two Minutes Abstract: POWER LEVEL - 100%. ON SEPTEMBER 13, 1989, AT 0015 HOURS, AN HOURLY FIRE WATCH PATROL EXCEEDED THE ALLOWED INTERVAL. THE PATROL WAS STARTED AT 0017 HOURS AND WAS TWO MINUTES LATE. THIS IS A VIOLATION OF TECHNICAL SPECIFICATION 3 7 10. ACTION 'A.2'. THE EMPLOYEE ASSIGNED TO THE WATCH FAILED TO INFORM THE SHIFT SUPERVISOR IMMEDIATELY WHEN HIS PROGRESS WAS IMPEDED. HIS PROBLEM WAS QUICKLY RESOLVED, BUT NOT BEFORE THE ALLOWED INTERVAL HAD PASSED. THE INDIVIDUAL WAS COUNSELED. ALL FIRE WATCH PERSONNEL RECEIVED INFORMATION ON THIS INCIDENT AND ON THEIR RESPONSIBILITIES AS ROVING FIRE WATCHES.
Davis-Besse	09/25/1989	11/10/1989	Inoperable Fire Detection Zone 237 and 323 Due to Installation of Plastic Sheeting Abstract: POWER LEVEL - 100%. ON 10/11/89, AT 1545 HOURS, A MODIFICATION SUPERVISOR REPORTED TO THE SHIFT SUPERVISOR THAT PLASTIC SHEETING WAS BLOCKING OFF SOME FIRE DETECTORS IN ROOM 237 (AUX. FEEDWATER PUMP 1-1 ROOM) AND ROOM 323 (B HIGH VOLTAGE SWITCHGEAR ROOM). FURTHER INVESTIGATION DETERMINED THAT THIS PLASTIC SHEETING HAD BEEN INSTALLED SINCE 9/25/89, TO PROTECT SURROUNDING EQUIPMENT DURING THE REMOVAL OF OLD AND INSTALLATION OF NEW STRUCTURAL STEEL FIRE PROOFING MATERIAL. HOWEVER, THE PLASTIC SHEETING HAD IN EFFECT MADE THE DETECTORS INOPERABLE BY SEPARATING THEM FROM THE REST OF THE ROOM ATMOSPHERE. THE PLASTIC SHEETING WAS SUBSEQUENTLY REMOVED BY 1615 HOURS. SOME OF THESE ROOM FIRE BARRIERS HAD PREVIOUSLY BEEN DECLARED INOPERABLE, AND WITH NO DETECTION ON THE OPPOSITE SIDE OF SOME OF THESE BARRIERS, A CONTINUOUS FIRE WATCH WAS REQUIRED. SINCE THESE ROOMS WERE ONLY BEING CHECKED BY AN HOURLY FIRE WATCH PATROL, THE APPROPRIATE ACTION STATEMENT WAS NOT BEING MET. THE CAUSE WAS PERSONNEL OVERSIGHT. THE SUPERVISOR OF THE INSULATING CONTRACTOR PERSONNEL WHO INSTALLED THE PLASTIC SHEETING FAILED TO RECOGNIZE THAT HE WAS SEALING OFF THE DETECTORS WHICH RENDERED THEM INOPERABLE. THE MODIFICATION COORDINATORS AND SUPERVISORS WERE COUNSELED ON THIS
Davis-Besse	12/12/1990	01/11/1991	Fire Panel C4720c Six Month Surveillance Test Exceeded Late Date Abstract: POWER LEVEL - 100%. ON DECEMBER 12, 1990, AT 0700 HOURS, THE SHIFT SUPERVISOR RECOGNIZED THAT AT 0005 HOURS THE LATE DATE FOR TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENT (SR) 4.3.3.8.2 HAD BEEN EXCEEDED FOR LOCAL FIRE PANEL C4720C. THIS PANEL MONITORS THE CONTAINMENT FIRE DETECTION ZONES. THE SR DONE BY DB-MI-03806 IS A CHECK OF THE SUPERVISED CIRCUITS. THE TEST WAS RUN IN SEPTEMBER, BUT A DEFICIENCY (WHICH WAS EVALUATED AS NOT AFFECTING OPERABILITY) PREVENTED THE TEST FROM BEING SIGNED OFF AS COMPLETE. THE FAILURE TO RESOLVE THE DEFICIENCY BY THE TEST SPONSOR AND THE DESIGNATED REVIEWER CAUSED THE TEST TO EXCEED ITS LATE DATE. OVERSIGHT BY THE SHIFT SUPERVISOR IN NOT DECLARING THE PANEL INOPERABLE BEFORE THE LATE DATE WAS EXCEEDED CAUSED THIS INCIDENT TO BE REPORTABLE. THE MISSED SURVEILLANCE REQUIREMENT IS REPORTABLE AS AN LER UNDER 10CFR50.73(A)(2)(I)(B) AS A CONDITION PROHIBITED BY THE TECHNICAL SPECIFICATIONS. DB-MI-03806 WAS COMPLETED AND THE ACTION STATEMENT EXCITED AT 2142 HOURS ON DECEMBER 12, 1990. THE INCIDENT WILL BE REVIEWED WITH ALL SHIFT SUPERVISORS AS WELL AS THOSE PERSONNEL WHO HAVE RESPONSIBILITIES FOR PERFORMING TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENTS AND THOSE WHO HELP RESOLVE DEFICIENCIES.
Davis-Besse	06/19/1992	07/17/1992	Hourly Fire Watch Patrol Exceeded Allowed Interval By Five Minutes Abstract: POWER LEVEL - 100%. On June 19, 1992, at 1715 hours, an hourly fire watch of inoperable fire barriers 235E/124W and 235N/236S exceeded the allowable interval. The hourly fire watch patrol was conducted at 1720 hours and was five minutes late. This was a condition prohibited by Technical Specification (TS) 3.7.10, Action a.2. The fire barriers are fire detector actuated water curtains and were declared inoperable due to performance of a fire detection surveillance test. technician was assigned the responsibility of performing the fire watch in accordance with the TS action statement. Upon realizing that the required interval had passed, the technician immediately performed the patrol and notified the control room shift manager of the delinquent fire watch. This event, and the importance of the fire watch patrol due to an inoperable fire barrier during surveillance or maintenance has been reiterated with the individual and was discussed with I&C maintenance personnel in their July 7, 1992 unit shop meeting.
Davis-Besse	02/03/1997	03/26/2004	Reactor Coolant Pump Motor Oil Piping Not Protected From Leakage As Required Per 10CFR50, Appendix R Abstract: On January 31, 1997, with the plant in Mode 1 operating at 100 percent power, it was discovered that a portion of the oil piping for each Reactor Coolant Pump (RCP) motor was outside the oil collection system that is required per 10CFR50, Appendix R. This piping is the source connection for three pressure switches and a pressure gauge for the lift oil pump system, which is only pressurized when the lift oil pump is operating. On February 19, 1997, after reviewing pictures of the RCP motors as part of the corrective actions for this issue, more piping was found outside the RCP oil collection system. This additional piping included lower bearing remote oil fill connections, which are not pressurized; and piping for lower bearing oil reservoir drains, which is exposed to only two feet static head pressure. The lift oil pumps were not operating, and the remote oil fill connections had not been used that operating cycle. This condition is considered outside the plant design basis and was reported in accordance with 10CFR50.73(a)(2)(ii)(B). Plant modifications were implemented to contain or modify the piping as necessary to ensure compliance with 10CFR50, Appendix R.
Davis-Besse	12/10/1997	05/08/1998	Emergency Diesel Generator Tachometer Circuit Outside 10CFR50 Appendix R Design Basis Abstract: On December 12, 1997, at 1020 hours, with the unit in Mode 1 at 100% power, during a review of the condition report from the Fort Calhoun Station, it was discovered that a problem with the Emergency Diesel Generator (EDG) tachometer circuitry existed at Davis-Besse. A postulated hot short condition could cause a failure of the EDG speed switch before the operator could manually disconnect the EDG tachometer control room circuitry from the EDG speed switch. Technical Specification 3.3.3.5.2 was entered to track the inoperable circuit, and an hourly fire watch was established in the cable spreading room. On December 18, 1997, at 1345 hours, it was determined that this condition represented a condition that was outside the 10CFR50 Appendix R design basis of the plant. The control room tachometer circuit was isolated at 1356 hours using the installed local disconnect switch, and the NRC was notified via the Emergency Notification System at 1415 hours on December 18, 1997 in accordance with 10CFR50.72(b)(1)(ii)(B). A review of all circuits previously identified as potentially experiencing a single hot short will be performed to determine if the consequences were adequately evaluated. This event is being reported in accordance with 10CFR50.73(a)(2)(ii)(B), 10CFR50.73(a)(2)(i), and the Special

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Davis-Besse	08/18/2014	10/17/2014	Door Latch Failure Results in Loss of Emergency Ventilation System Function Abstract: On August 18, 2014, with the Davis-Besse Nuclear Power Station operating in Mode 1 approximately 100 percent full power, a door to a mechanical penetration room could not be secured following normal usage. This door is required to be latched closed to maintain the shield building negative pressure boundary except when open under administrative control. With the door unable to be latched closed, the Station Emergency Ventilation System could not perform its required safety function of maintaining a negative pressure in the affected area. The door was restored to the latched status in ten minutes. A similar failure to latch on August 20, 2014, was also experienced, and the door was re-latched in four minutes. The cause of this event was a design flaw that could cause the latch fingers to stick, preventing the door from latching; and an infantile failure of the door closer. A vendor modified version of the latch was installed along with a new door closer to correct the problem. This event is being reported pursuant to 10 CFR 50.73(a)(2)(v)(C) and (D) as an event that could have prevented fulfillment of the safety function of the Station Emergency Ventilation System.
Diablo Canyon 1	12/05/1983	12/19/1983	Non-functional Fire Barrier Pentetration Seal Abstract: In mode 5, the Plant Fire Marshall discovered a fire barrier penetration seal in the RHR pump 1-1 room non-functional in violation of Tech Spec 3.7.10. It was determined that the penetration was non-functional from 11/15/83 to 12/05/83 without a fire watch being stationed. Fire barriers providing separation between redundant rhr pumps remained functional. Reportable per Tech Spec 6.9.1.12b. Maintenance personnel did not locate the fire penetration due to insufficient information on the work request. On 12/05/83, a fire watch was established and on 12/09/83 the penetration was resealed. Personnel responsible for writing the work request were counseled on the importance of clearly specifying the work to maintain compliance with the tech specs.
Diablo Canyon 1	01/04/1985	02/04/1985	Thirty (30) Days Reporting Period Exceeded Abstract: POWER LEVEL - 002%. ON 1-4-85, WITH UNIT 1 IN MODE 2, THE 30-DAY TIME PERIOD ALLOWED FOR THE SUBMITTAL OF A SPECIAL REPORT ON NONFUNCTIONAL FIRE BARRIERS HAD BEEN EXCEEDED. ON 11-28-84, THE INSTALLATION OF A PA SYSTEM CABLE IN THE 4KV CABLE SPREADING ROOMS CAUSED 2 FIRE BARRIERS TO BECOME NONFUNCTIONAL. TECH SPEC 3.7.10, ACTION STATEMENT A REQUIRES THAT A SPECIAL REPORT BE SUBMITTED WITHIN 30 DAYS FOR FIRE BARRIERS THAT REMAIN NONFUNCTIONAL IN EXCESS OF 7 DAYS. THE UNSEALED PENETRATIONS WERE DISCOVERED DURING A WALKDOWN ON 1-8-85. THE FIRE BARRIERS WERE REPAIRED AND DECLARED FUNCTIONAL ON 1-9-85. THE CAUSE OF THIS EVENT WAS THE FAILURE TO FOLLOW PROCEDURES. CONSTRUCTION PERSONNEL FAILED TO LIST 2 FIRE BARRIERS ON A CLEARANCE REQUEST. TO PREVENT RECURRENCE, ALL PROJECT TEAM PERSONNEL WHO PREPARE CR'S AND THE CONSTRUCTION ENTRY PERMIT ARE RECEIVING ADDITIONAL TRAINING EMPHASIZING THAT THE LOCATIONS FOR WORK MUST BE CORRECTLY, COMPLETELY, AND UNIFORMLY IDENTIFIED ON THE CR.
Diablo Canyon 1	04/22/1986	05/20/1986	Failure to Post Continuous Fire Watch With Detection Equipment Inoperable and the Fire Barrier Degraded Abstract: POWER LEVEL - 100%. ON APRIL 22, 1986, WITH UNITS 1 AND 2 IN MODE 1 (POWER OPERATION) AT 100 PERCENT POWER, WITH THE SMOKE DETECTION SYSTEM IN UNITS 1 AND 2 BATTERY ROOMS NONFUNCTIONAL AND A ROVING FIRE PATROL IN EFFECT, AN OPENING WAS CREATED IN THE FIRE BARRIER WITHOUT ESTABLISHING A CONTINUOUS FIRE WATCH IN ACCORDANCE WITH TECHNICAL SPECIFICATION (TS) 3.7.10. CAUSE OF THIS EVENT WAS MISINTERPRETATION, BY PLANT FIRE PROTECTION PERSONNEL, OF THE CONSTRUCTION REQUIREMENTS FOR THE WORK BEING PERFORMED. THIS CONDITION WAS DISCOVERED AT APPROXIMATELY 2115 PST, APRIL 26, 1986, BY THE FIREWATCH SUPERVISOR, WHO IMMEDIATELY ESTABLISHED A CONTINUOUS FIRE WATCH IN THE AFFECTED AREA. THE CONTINUOUS FIRE WATCH WAS MAINTAINED UNTIL 1515 PDT, APRIL 28, 19B6, WHEN THE FIRE BARRIER PENETRATION SEALS WERE RESTORED TO FUNCTIONAL STATUS. FIRE WATCH REQUIREMENTS WERE THEN REDUCED TO A ROVING PATROL IN ACCORDANCE WITH TS 3.3.3.B. THE APPLICABLE PLANT CONSTRUCTION PROCEDURE WILL BE REVISED TO REQUIRE CLARIFICATION OF THE TYPE OF WORK BEING PERFORMED. REQUESTS TO DETERMINE WHAT FIRE PROTECTION MEASURES ARE REQUIRED TO MAINTAIN PLANT SAFETY.
Diablo Canyon 1	07/26/1990	08/24/1990	CONTROL ROOM POST-LOCA HABITABILITY DESIGN BASIS POTENTIALLY EXCEEDED DUE TO LEAKAGE THROUGH A VIBRATION INDUCED CRACK IN POTENTIALLY CVCS PIPING Abstract: POWER LEVEL - 100%. ON JULY 31, 1990, IT WAS DETERMINED THAT UNIT 1 COULD HAVE POTENTIALLY OPERATED OUTSIDE THE CONTROL ROOM HABITABILITY DESIGN BASIS FOR A POST-LOCA RECIRCULATION CONDITION DUE TO LEAKAGE THROUGH A CRACK IN THE UNIT 1 POSITIVE DISPLACEMENT CHARGING PUMP (PDP) SUCTION PIPING ELBOW. A ONE HOUR NON-EMERGENCY REPORT WAS MADE TO THE NRC AT 1245 PDT ON JULY 31, 1990, IN ACCORDANCE WITH 10 CFR 50.72(B)(II)(B). THE CRACK, WHICH WAS DISCOVERED ON JULY 26, 1990, WAS OBSERVED TO BE WEEPING A SMALL AMOUNT OF WATER WHICH EVAPORATED IMMEDIATELY. AS A COMPENSATORY MEASURE, EMERGENCY PROCEDURE E-1.3, 'TRANSFER TO COLD LEG RECIRCULATION', WAS REVISED ON JULY 28, 1990 TO VERIFY THAT THE AUXILIARY BUILDING SAFEGUARDS AIR FILTRATION SYSTEM IS IN THE 'SAFEGUARDS ONLY' MODE DURING POST-LOCA CONDITIONS. IN THIS MODE, LEAKAGE FROM THE PDP ROOM WOULD BE FILTERED PRIOR TO ITS RELEASE. THE CAUSE OF THE CRACK IS CONSIDERED TO BE VIBRATION INDUCED HIGH CYCLE FATIGUE. THE CRACK WAS REPAIRED BY AN ASME SECTION XI WELD REPAIR. VIBRATION DATA WILL BE COLLECTED AND EVALUATED. BASED ON THE RESULTS OF THE EVALUATION, AN ACTION PLAN WILL BE DEVELOPED TO ADDRESS ANY RECOMMENDED MODIFICATIONS.
Diablo Canyon 1	12/21/1990	01/21/1991	FIRE DAMPER CARDOX ACTUATION FUSIBLE LINK ASSEMBLY INCORRECTLY INSTALLED FOR INDETERMINATE REASON Abstract: POWER LEVEL - 100%. ON DECEMBER 12, 1990, DURING PERFORMANCE OF SURVEILLANCE TEST PROCEDURE (STP) M-39B, 'ROUTINE SURVEILLANCE TEST OF CABLE SPREADING ROOM CARBON DIOXIDE FIRE SYSTEM OPERATION,' UNIT 1 CABLE SPREADING ROOM VENTILATION SYSTEM SUPPLY FIRE DAMPER VAC-1-FD-220 WAS OBSERVED TO BE OPEN AFTER PRESSURIZATION OF THE CO2 HEADER, CONTRARY TO THE INTENDED CLOSED POSITION. THE FAILURE OF THE FIRE DAMPER TO CLOSE WAS DUE TO INCORRECT INSTALLATION OF THE CARDOX SYSTEM ACTUATION ROD AND FUSIBLE LINK ASSEMBLY FOLLOWING THE LAST SURVEILLANCE ACTIVITY ON THIS DAMPER ON NOVEMBER 29, 1989. THE ROOT CAUSE OF THIS EVENT WAS INDETERMINATE BUT WAS MOST LIKELY DUE TO PERSONNEL ERROR. THIS CONDITION COULD HAVE RESULTED IN DILUTION OF THE CO2 DISCHARGED IN THIS AREA IN THE EVENT OF A FIRE. THE ROD AND LINK ASSEMBLY WAS REASSEMBLED TO THE CORRECT CONFIGURATION AND SUCCESSFULLY TESTED. THE SIMILAR ASSEMBLY FOR THE UNIT 2 CABLE SPREADING ROOM DAMPER WAS INSPECTED AND FOUND ACCEPTABLE. STP M-39B WILL BE REVISED TO INCLUDE AN ILLUSTRATION OF THE CORRECT ASSEMBLED CONFIGURATION OF THE CARDOX ACTUATION ROD AND FUSIBLE LINK ASSEMBLY.
Diablo Canyon 1	11/30/1991	03/31/1992	TECHNICAL SPECIFICATION 3.7.9.4, ACTION A. NOT PERFORMED ON TIME DUE TO LACK OF AVAILABLE DESIGN INFORMATION Abstract: POWER LEVEL - 100%. ON 11/30/91, WITH UNIT 1 IN MODE 1 (POWER OPERATION) AT 100% POWER, TECH. SPEC. (TS) 3.7.9.4 WAS NOT MET WHEN A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT WAS NOT ESTABLISHED IN THE UNIT 1 SOLID STATE PROTECTION SYSTEM (SSPS) ROOM WITHIN ONE HOUR OF DISCOVERING A DAMAGED CEILING TILE IN THAT ROOM. THE DAMAGED TILE WAS TEMPORARILY REINSTALLED ON 11/30/91, AND ON 12/13/91, THE DAMAGED TILE WAS REPLACED WITH A NEW TILE, WHICH MADE THE CEILING FUNCTIONAL. ON 3/3/92, THE RESULTS OF PG&E ENGINEERING EVALUATIONS CONCLUDED THAT THE UNIT 1 SSPS ROOM HALON SYSTEM WAS INOPERABLE FROM 11/30 TO 12/13/91, BECAUSE THE DAMAGED CEILING TILE HAD NOT BEEN REPLACED AND THE CEILING WAS NOT FUNCTIONAL. THE ROOT CAUSE OF THIS EVENT WAS LACK OF AVAILABLE DESIGN INFORMATION. THE TS-REQUIRED ACTION WAS NOT IMPLEMENTED BECAUSE AVAILABLE DOCUMENTS DID NOT SPECIFY THE GAS BARRIER FUNCTION THAT THE SSPS ROOM CEILING PERFORMS IN MAINTAINING HALON CONCENTRATION FOR FIRE SUPPRESSION. SINCE THE 1978 DESIGN CHANGE THAT SPECIFIED THE DESIGN OF THE SSPS ROOM CEILING, THE PG&E DESIGN PROCESS HAS UNDERGONE SIGNIFICANT CHANGES TO ENSURE DESIGN DOCUMENTS AND PROCEDURES SUPPORTING DESIGN CHANGES ARE ALSO CHANGED TO
Diablo Canyon 1	06/24/1992	07/22/1992	VIOLATION OF TECHNICAL SPECIFICATION 3.7.9.2 DUE TO A MISSED FIRE WATCH CAUSED BY PERSONNEL ERROR Abstract: POWER LEVEL - 100%. On June 24, 1992, at 0012 PDT, with Unit 1 in Mode 1 (Power Operation) at 100 percent power, the 1-hour limiting condition for operation for the action statement of Technical Specification (TS) 3.7.9.2 was not met for Unit 1 when the required continuous fire watch was not performed for certain safety-related equipment rooms. The sprinkler fire water to the component cooling water and centrifugal charging pump areas was isolated in accordance with an equipment tagout request without the Shift Foreman noting that a continuous fire watch was needed. An hourly fire watch was patrolling in the affected area. The root cause of the event is personnel error on the part of the Shift Foreman. His review of the equipment tagout request was insufficient to determine the correct fire watch requirements. The corrective actions for the event will include: (1) counseling of the Shift Foreman and the operators involved regarding the importance of establishing TS-required fire watches when approving requests, and (2) An Operations Coordination Instruction will be issued to include establishing required fire watches as the first step on equipment tagout requests that affect fire protection systems. 1040S/85K

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Diablo Canyon 1	09/03/1992	10/07/1992	VIOLATION OF TECHNICAL SPECIFICATION 3.7.10: MISSED FIRE WATCHES DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 087%. On September 3, 1992, at 1630 PDT and on September 4, 1992, at 1630 PDT, with Unit 1 in Mode 1 (Power Operation) at 87 percent power, and on September 15, 1992, at 1032 PDT, with Unit 1 in Mode 5 (Cold Shutdown), the Limiting Condition for Operation (LCO) of Technical Specification (TS) 3.7.10 was exceeded when a continuous fire watch was not in place while smoke detectors were inoperable and fire barrier impairments existed in the detection zone. 10, 1992, when a review of a fire barrier impairments list determined that fire barrier impairments had existed that were not resolved by 1630 PDT on September 3 and 4, 1992. The root cause for events 1 and 2 was personnel error (non-cognitive) in that operations personnel failed to understand the interrelationship between the faulted detection zone and the fire barrier area when interpreting the compensatory measures specified in TS 3.7.10. The root cause for event 3 was personnel error (cognitive) in that the Unit 2 operator did not clearly inform Unit 1 personnel of the Zone A10 alarm status. The corrective actions include revision of applicable procedures to: (1) more accurately reflect the status of field construction activities that impact fire barriers; (2) clarify the effect of alarming detectors; and (3) clarify the impact that an inoperable fire detector has on compensatory measures for fire barrier impairments. In addition, training will be provided on the events.
Diablo Canyon 1	05/09/1996	07/11/1996	Auxiliary Feedwater Pumps Inoperable Due to Inadvertent Blockage of a Ventilation Flow Path Assumed to be Open in an Accident Analysis Abstract: On May 9, 1996, with Unit 1 in Mode 1 (Power Operation) at 100 percent power, a PG&E engineer discovered that the ventilation path from the turbine-driven auxiliary feedwater (AFW) pump room to the plenum above was blocked by a steel plate lying on a floor grate. The steel plate was removed on May 13, 1996. On June 11, 1996, an engineering evaluation of the blocked vent path determined that this condition could cause the environment in the turbine-driven AFW pump room and the motor-driven AFW pump room to exceed the specifications assumed in the steam line break analysis for operability of the motor-driven AFW pumps. At 1645 PDT, a 4-hour non-emergency event notification was made to the NRC in accordance with 10 CFR 50.72 (b)(2)(iii)(D). This event was caused by personnel error, non-cognitive. PG&E believes the event may have occurred when security personnel created a holding area in the plenum. Lamicoids are being installed to warn personnel not to block the grating. Other ventilation flow paths were reviewed for hatches or grills which could readily be blocked, thereby impeding air flow required to meet plant or system design basis. The hatches and grills determined to be vulnerable to inadvertent blockage will be labeled to note that these vents provide a ventilation path and should remain unobstructed. In addition, this event was addressed by the Security Director at a series of departmental communication
Diablo Canyon 1, Diablo Canyon 2	02/20/1984	03/22/1996	Technical Specification 6.8.1.h Not Met Due to a Programmatic Deficiency Abstract: POWER LEVEL - 000%. On February 20, 1984, and on July 19, 1985, respectively, Technical Specification (TS) 6.8.1.h was not met when Units 1 and 2 entered Mode 4 (Hot Shutdown) during plant heatup. Appropriate administrative controls had not been established for surveillance tests and compensatory measures for potential impairments for fire suppression systems in 18 fire areas and fire detection systems in 18 fire areas. These systems are credited for the protection of equipment required for safe shutdown, such as those required to comply with PG&E's license commitment to meet provisions of 10 CFR 50, Appendix R, those credited in NRC approved Appendix R deviations and those credited in Fire Hazards Appendix R Evaluations. On February 22, 1996, PG&E conservatively determined that this condition was not in compliance with TS 6.8.1.h. The cause of this event was a programmatic deficiency in that formal administrative controls were not established for all fire protection systems at Diablo Canyon Power Plant which protect safe shutdown equipment. As a corrective action, PG&E will place these fire protection systems under administrative controls. PG&E has established compensatory measures for these systems, if they become impaired, that are commensurate with measures required for other
Diablo Canyon 1, Diablo Canyon 2	02/20/1984	03/21/1996	Technical Specification 3.7.10 Not Met Due to Personnel Error Abstract: POWER LEVEL - 000%. On February 20, 1984, and on July 19, 1985, respectively, Technical Specification (TS) 3.7.10 was not met when Units 1 and 2 entered Mode 4 (Hot Shutdown) during plant heatup. Administrative controls were not in place to require post maintenance inspections of fire rated doors as required by TS 4.7.10.b. On February 20, 1996, PG&E conservatively determined that this condition was not in compliance with TS 3.7.10. The cause of this event was personnel error (cognitive) in that a PG&E quality control inspector did not include requirements for post maintenance inspection in the development of the surveillance test procedure for inspection of fire barrier penetrations, nor was the deficiency identified during subsequent revisions of the procedure. As a corrective action, PG&E will revise its maintenance and surveillance test procedures for fire doors to include the requirements for performing post maintenance visual inspections. PG&E has verified that existing hourly fire watch patrols provide an adequate interim compensatory measure for those doors that may be impaired for maintenance, until the procedures are revised.
Diablo Canyon 1, Diablo Canyon 2	09/17/1991	10/16/1991	VIOLATION OF TECHNICAL SPECIFICATION 3.7.10 WHEN AN HOURLY FIRE WATCH PATROL WAS NOT PERFORMED DUE TO INADEQUATE INSTRUCTIONS Abstract: POWER LEVEL - 100%. ON SEPTEMBER 17, 1991, AT 0300 PDT, WITH UNIT 1 IN MODE 1 (POWER OPERATION) AT 100 PERCENT POWER, AND UNIT 2 DEFUELED, THE ACTION STATEMENT FOR TECHNICAL SPECIFICATION 3.7.10 WAS NOT MET FOR UNITS 1 AND 2 WHEN THE REQUIRED HOURLY FIRE WATCH PATROL WAS NOT PERFORMED IN THE REQUIRED SAFETY-RELATED EQUIPMENT ROOMS. THE HOURLY FIRE WATCH PATROL WAS NOT PERFORMED BECAUSE THE HOURLY ROVING FIRE WATCH WAS UNABLE TO EXIT FROM THE RADIOLOGICALLY CONTROLLED AREA (RCA) OF THE PLANT AND EXCHANGE DUTIES WITH ANOTHER FIRE WATCH IN THE TURBINE BUILDING. THE ROOT CAUSE OF THE EVENT WAS DETERMINED TO BE THAT NO WRITTEN INSTRUCTIONS EXISTED TO ASSURE THAT TS RELATED FIRE IMPAIRMENTS WOULD BE INSPECTED EACH HOUR DURING UNEXPECTED CONDITIONS WHICH COULD DELAY FIRE WATCH PERSONNEL. THE CORRECTIVE ACTIONS TO PREVENT RECURRENCE INCLUDE (1) PROVIDING WRITTEN INSTRUCTIONS TO FIRE WATCH PERSONNEL ON ACTIONS TO TAKE IF DELAYED DURING ROUNDS; AND (2) PREPARING AN INCIDENT SUMMARY OF THIS EVENT, REVIEWING IT WITH ALL FIRE WATCH PERSONNEL, AND INCLUDING THE INCIDENT SUMMARY IN INITIAL ROVING FIRE WATCH TRAINING.
Diablo Canyon 1, Diablo Canyon 2	06/20/1992	07/20/1992	MISSED FIRE WATCH AND MANUAL ENGINEERED SAFETY FEATURE ACTUATION FROM CHEMICAL SPILL DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 100%. On June 20, 1992, at 1800 PDT, with Units 1 and 2 in Mode 1 (Power Operation) at 100 percent power, the action statement for Technical Specification 3.7.10 was not met for Units 1 and 2. At 1821 PDT, the control room ventilation system was manually shifted from the normal operation mode to the pressurization mode. This mode shift is an Engineered Safety Feature actuation. On June 20, 1992, at 1718 PDT, during a condensate demineralizer resin regeneration, an acid/caustic spill caused a chemical mist to enter portions of the turbine building. As a prudent personnel safety measure, the turbine building was evacuated and the roving 1-hour fire watch was discontinued. The 1-hour fire watches were resumed at 0210 PDT on June 21, 1992. The root cause of the event was personnel error. In order to save time, the non-licensed operator consciously decided to fill the acid and caustic day tanks simultaneously, although the Operating Procedure cautions that only one day tank be filled at a time. The corrective actions for the event include counseling of the operator, preparation of an incident summary of the event and reviewing it with control operators, and design changes to the condensate polisher system. 5825S/85K
Diablo Canyon 1, Diablo Canyon 2	10/01/1992	05/20/1993	TECHNICAL SPECIFICATIONS 3.3.3.8 AND 3.7.10 NOT MET DUE TO PROCEDURAL DEFICIENCY Abstract: POWER LEVEL - 000%. On October 1, 1992, at 0731 PDT, with Unit 1 in Mode 6 (Refueling) and Unit 2 in Mode 1 (Power Operation) at 100 percent power, and on November 26, 1992, at 1948 PST, with Units 1 and 2 in Mode 1 at 100 percent power, Technical Specification (TS) 3.3.3.8 and 3.7.10 Action Statements were not met when the fire protection system (FPS) computer was inoperable for more than one hour without the required compensatory measure established. On November 26, 1992, at 1848 PST, the FPS computer malfunctioned, making the FPS inoperable and requiring compensatory fire watches in accordance with TS 3.3.3.8 and 3.7.10. However, the computer malfunction was not identified until November 27, 1992, at 0902 PST and compensatory measures were immediately established. On December 4, 1992, a review of records identified that a similar reportable event had occurred on October 1, 1992, at 0731 PDT. The root cause of these events was lack of adequate procedures/ instructions to configure the data sensing software in the FPS computer. To prevent recurrence, a procedure for disabling the data retrieval points on the FPS computer will be developed. In addition, a Software Quality Assurance Plan, which includes Configuration Management for the FPS computer, is being implemented. 5963\85K

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Diablo Canyon 1, Diablo Canyon 2	08/09/1996	05/28/1997	Fire Barrier Penetration Seals Outside Design Basis Due to Untested Application of Epoxy Grout Material Abstract: On August 9, 1996, at 1809 PDT, with Units 1 and 2 in Mode 1 (Power Operation) at 100 percent power, PG&E determined that some fire barrier penetration seals may be outside the plant design basis due to an untested application of epoxy grout material. A 1-hour, non-emergency report was made to the NRC in accordance with 10 CFR 50.72(b)(1)(ii)(B) on August 9, 1996, at 1812 PDT. The root cause for this event is personnel error (cognitive) in that PG&E engineering personnel believed that Ceilcote 658-N epoxy grout was acceptable for penetrations. PG&E verified that fire watches previously in place for inoperable penetration seals provided an adequate compensatory measure for the as-found condition. Refer to LER 1-94-01-01. On December 20, 1996, PG&E performed fire testing for Ceilcote 658-N epoxy resin grout. The testing demonstrated that epoxy grout is acceptable in Appendix R fire barriers, provided that the configurations identified in the test are met. Existing installations of Ceilcote 658-N epoxy resin grout were found to be in compliance with the tested configurations. Procedures will be updated to limit the permitted use of Ceilcote 658-N epoxy grout. Training will also be provided to Outage Services personnel regarding the limitations involving the use
Diablo Canyon 1, Diablo Canyon 2	05/15/2000	08/30/2000	Unit 1 Unusual Event Due to a 12 kV Bus Fault Abstract: On May 15, 2000, at 0025 PDT, with Unit 1 in Mode 1 (Power Operation) at 100 percent power, Unit 1 experienced a unit trip, followed immediately by a turbine trip and automatic reactor trip. The cause of the unit trip was an electrical phase-to-phase fault on the 12 kV bus supplied by Auxiliary Transformer 1-1.The 12 kV electrical fault created electrical arcing (fire) which damaged a nearby 4 kV startup bus resulting in loss of both offsite sources of power to all 4 kV loads. All three onsite emergency diesel generators (EDGs) started, and vital loads automatically sequenced onto the EDGs as designed. In response to the fire and loss of both sources of offsite power to vital loads, an Unusual Event (UE) was declared at 0043 PDT. The onsite fire brigade extinguished the small fire with carbon dioxide. After clearing the room of smoke, the fire was declared out at 0143 PDT. On May 16, 2000, at 0959 PDT, after offsite power was restored and electrical loads were transferred from emergency diesel generators, the UE was terminated. On May 17, 2000, at 2000 PDT, the unit entered Mode 5 (Cold Shutdown). The cause of the electrical fault could not be conclusively determined but is believed to be associated with long-term degradation, and/or inadequate preventive maintenance (PM) exacerbated by a marginal design. Corrective actions include a new PM program and upgrades to the 4 kV and 12 kV nonsegregated buses on both units.
Diablo Canyon 2	01/31/1986	03/03/1986	PERSONNEL ERROR RESULTS IN FAILURE TO MEET THE LIMITING CONDITION FOR OPERATION OF TECHNICAL SPECIFICATION 3.7.9.3 FOR THE CABLE SPREADING ROOM C02 SYSTEM Abstract: POWER LEVEL - 000%. ON 1-31-86 AND AGAIN ON 2-9-86, WITH UNIT 2 IN MODE 5 A ROVING FIRE WATCH DISCOVERED THAT THE CABLE SPREADING ROOM CARBON DIOXIDE (CO2) SYSTEM HAD BEEN TAKEN OUT OF SERVICE FOR MAINTENANCE ACTIVITIES WITHOUT THE POSTING OF A CONTINUOUS FIRE WATCH AS REQUIRED BY TECH SPEC 3.7.9.3. THE CAUSE OF THE EVENT WAS PERSONNEL ERROR IN THAT A CONSTRUCTION WORKER AND A MAINTENANCE WORKER ON 2 SEPARATE OCCASIONS FAILED TO COMPLY WITH THE ADMINISTRATIVE PROCEDURE FOR FIRE SYSTEM IMPAIRMENT. TO PREVENT RECURRENCE OF THIS EVENT, SPECIAL TRAINING WAS CONDUCTED FOR CONSTRUCTION PERSONNEL TO REEMPHASIZE THE IMPORTANCE OF COMPLYING WITH THE ADMINISTRATIVE PROCEDURE FOR FIRE SYSTEM IMPAIRMENT AND CLEARANCE REQUIREMENTS. A MAINTENANCE TAILBOARD WILL BE HELD WITH ALL APPLICABLE PERSONNEL. PROCEDURES RELATING TO THE REMOVAL OF THE CABLE SPREADING ROOM CO2 SYSTEM FROM SERVICE WILL BE REVIEWED AND REVISED TO INCLUDE ADDITIONAL EMPHASIS ON THE NEED TO PROVIDE A CONTINUOUS FIRE WATCH WHEN THE CABLE SPREADING ROOM CO2 SYSTEM IS OUT OF SERVICE.
Diablo Canyon 2	05/24/1987	06/23/1987	Personnel Error Results In Failure To Meet Technical Specification 3.7.9.3 Limiting Condition For Operation For The Cable Spreading Room Cardox System Abstract: POWER LEVEL - 000%. ON MAY 24, 1987, AT 0850 PDT, WITH THE CARDOX FIRE PROTECTION SYSTEM OUT OF SERVICE, THE CONTINUOUS FIRE WATCH FOR THE CABLE SPREADING ROOM LEFT HIS STATION TO WORK ANOTHER JOB, IN VIOLATION OF THE LIMITING CONDITION FOR OPERATION (LCO) OF TECHNICAL SPECIFICATION (TS) 3.7.9.3. THE EVENT WAS DISCOVERED BY A SENIOR CONTROL OPERATOR WHO RETURNED THE CARDOX SYSTEM TO SERVICE APPROXIMATELY 15 MINUTES LATER. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR IN THAT THE FIRE WATCH DID NOT COMPLY WITH THE INSTRUCTIONS ON THE FIRE WATCH LOG AND MISUNDERSTOOD HIS DUTY TO REMAIN ON STATION UNTIL THE CARDOX SYSTEM WAS RETURNED TO SERVICE. TO PREVENT RECURRENCE, A TAILBOARD SESSION WAS HELD WITH PERSONNEL FROM GENERAL CONSTRUCTION QUALIFIED AS FIRE WATCHES WHICH EMPHASIZED THE IMPORTANCE OF REMAINING ON STATION UNTIL THE CARDOX SYSTEM IS RETURNED TO SERVICE. ADDITIONALLY, THE EMERGENCY AND SAFETY DEPARTMENT SENT A MEMO TO ALL PLANT PERSONNEL INFORMING THEM OF THIS INCIDENT AND ITS CAUSES.
Diablo Canyon 2	11/07/1987	06/06/1988	MANUAL REACTOR TRIP AFTER DISCOVERY OF ARCING IN ISOPHASE BUS MOTOR OPERATED DISCONNECT SWITCH DUE TO HIGH RESISTANCE AT THE CONTACTS Abstract: POWER LEVEL - 098%. AT 1315 PST, NOVEMBER 7, 1987, WITH THE UNIT IN MODE 1 (POWER OPERATION) AT 98 PERCENT POWER, A MANUAL REACTOR TRIP WAS INITIATED WHEN ARCING WAS DISCOVERED IN NON-SAFETY RELATED ISOPHASE BUS PHASE C MOTOR OPERATED DISCONNECT (MOD) SWITCH. THE UNIT WAS STABILIZED IN MODE 3 HOT SHUTDOWN) AT 1430 PST. THE FOUR HOUR NONEMERGENCY REPORT REQUIRED BY 10 CFR 50.72 WAS MADE AT 1330 PST. ON MONDAY, NOVEMBER 9, 1987 A REPLACEMENT MOD WAS OBTAINED. THE REPLACEMENT SWITCH AND THE SWITCHES FROM THE UNAFFECTED PHASES WERE INSPECTED, CLEANED, LUBRICATED, AND ALIGNED. THE UNIT WAS RETURNED TO POWER ON NOVEMBER 14, 1987. THE MOD FAILURE WAS CAUSED BY A COMBINATION OF HIGH AMBIENT TEMPERATURE AND HIGH RESISTANCE AT THE CONTACTS. THE HIGH RESISTANCE WAS CAUSED BY DUST AND HARDENED LUBRICANT ON THE CONTACTS AND A SLIGHT MISALIGNMENT OF SOME CONTACTS. A COMPREHENSIVE PREVENTIVE MAINTENANCE PROCEDURE, MP E-61.9A 'ISOLATED PHASE BUS, AND MOTOR OPERATED DISCONNECT PREVENTIVE MAINTENANCE' WAS DEVELOPED AND IMPLEMENTED FOR THE ISOPHASE BUS MODS.
Diablo Canyon 2	11/27/1988	10/01/1991	FAILURE TO MEET TECHNICAL SPECIFICATION 3.7.9.4 DUE TO FAILURE OF TWO DAMPERS TO CLOSE AND LATE ISSUANCE OF THE REPORT DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 000%. ON NOVEMBER 27, 1988, WITH UNIT 2 IN MODE 4 (HOT SHUTDOWN), TECHNICAL SPECIFICATION 3.7.9.4 WAS NOT MET DUE TO A FAILURE TO IMPLEMENT A CONTINUOUS FIRE WATCH WITHIN ONE HOUR OF THE HALON FIRE SUPPRESSION SYSTEM BECOMING INOPERABLE. ON NOVEMBER 23, 1989, DURING PERFORMANCE OF SURVEILLANCE TEST PROCEDURE M-19B, ' HALON FIRE SUPPRESSION SYSTEM FUNCTIONAL TEST,' TWO OF THE FOUR FIRE/SMOKE DAMPERS FOR THE SOLID STATE PROTECTION SYSTEM ROOM FAILED TO CLOSE ON MANUAL ACTUATION OF THE HALON SYSTEM. FAILURE OF THE TWO DAMPERS TO CLOSE WAS DUE TO FUSIBLE LINKS NOT FUNCTIONING AS REQUIRED. IT WAS CONSERVATIVELY ASSUMED THAT DAMPERS HAVE BEEN INOPERABLE SINCE THE PREVIOUS SUCCESSFUL PERFORMANCE OF STP M-19B ON NOVEMBER 18, 1988. THIS CONDITION COULD HAVE RESULTED IN DILUTION OF THE HALON DISCHARGED IN THE SS PS ROOM TO BELOW THE REQUIRED CONCENTRATION. THE ROOT CAUSE OF THIS EVENT HAS NOT BEEN DETERMINED. INVESTIGATIONS OF VERTICALLY MOUNTED DAMPERS COULD NOT DUPLICATE THE FAILURES OR IDENTIFY ANY FAULTY COMPONENTS. THE LATE REPORT WAS DUE TO PERSONNEL FAILING TO RECOGNIZE THAT FAILURE OF THE DAMPERS TO CLOSE COULD AFFECT THE OPERABILITY OF THE HALON SYSTEM.
Diablo Canyon 2	08/28/1989	09/27/1989	MANUAL REACTOR TRIP DUE TO REACTOR COOLANT PUMP ELECTRICAL FAULT DUE TO A FAILURE OF A LOAD SIDE BOLTED TERMINATION Abstract: POWER LEVEL - 100%. ON 8/28/89, AT 2057 PDT, WITH UNIT 2 IN MODE 1 AT 100% POWER, OPERATORS INITIATED A MANUAL REACTOR TRIP AFTER OBSERVING ELECTRICAL GROUND ALARMS FOR REACTOR COOLANT PUMP (RCP) 2-1, CIRCULATING WATER PUMPS (CWPS) 2-1 AND 2-2, AND THE AUXILIARY TRANSFORMER, AND ELEVATED, FLUCTUATING MOTOR CURRENT FOR RCP 2-1. OPERATORS TRIPPED THE REACTOR AND THEN TRIPPED RCP 2-1. FEEDER GROUND ALARMS FOR RCP 2-1 AND BOTH CWPS CLEARED. AT 2115 PDT, THE UNIT WAS STABILIZED IN MODE 3 WITH AN RCS TEMPERATURE OF APPROXIMATELY 525F. IN ACCORDANCE WITH 10 CFR 50.72(B)(2)(II) A 4-HOUR NON-EMERGENCY REPORT WAS COMPLETED AT 2205 PDT ON 8/28/89. THE EVENT WAS CAUSED BY AN INADEQUATE ELECTRICAL CONNECTION ON RCP 2-1. ALL 12KV ELECTRICAL CONNECTORS, INCLUDING THE FAILED CONNECTOR, WERE REPLACED ON RCP 2-1. ALL OTHER 12KV CONNECTORS FOR UNIT 2 RCPS WERE EXAMINED TO THE EXTENT PRACTICABLE WITH NO ABNORMALITIES FOUND.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Diablo Canyon 2	10/30/1992	11/25/1992	TECHNICAL SPECIFICATIONS 3.3.3.8 AND 3.7.10 NOT MET WHEN FIRE WATCHES WERE NOT ESTABLISHED WITHIN ONE HOUR DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 100%. On October 30, 1992, at 1411 PST, with Unit 2 in Mode 1 (Power Operation) at 100 percent power, the Limiting Condition for Operation (LCO) of Technical Specification (TS) 3.3.3.8 action statement a. was exceeded. Fire detectors in detection zone B-8 (Unit 2 auxiliary and fuel handling building ventilation area) were inoperable for greater than one hour with no compensatory measures in place (Event 1). On November 14, 1992, at 1354 PST, with Unit 2 in Mode 1 (Power Operation) at 100 percent power, the LCO of TS 3.7.10 action statement a. was exceeded. component cooling water pump, charging pump, and containment spray pump rooms) were inoperable for greater than one hour without a continuous fire watch in place (Event 2). The root cause of Event 1 was personnel error due to inadequate knowledge of the plant problem report processing program by the Senior Control Operator responding to the fire alarm. The root cause for Event 2 was personnel error due to improper handling of the spurious fire alarm. The corrective actions to prevent recurrence include: (1) applicable procedures will be revised to provide the appropriate methods to utilize when dealing with spurious fire alarms; (2) an incident summary will be issued outlining the events and stressing the importance of not declaring spurious fire alarms operable even if the alarm immediately resets; (3) on-shift training to ensure that
Dresden 2	06/18/1984	07/17/1984	Fire System Control Room Alarms Abstract: POWER LEVEL - 099%. DURING NORMAL OPERATIONS, THE SECURITY COMPUTER WAS TAKEN OUT-OF-SERVICE BY OAD. IMMEDIATELY. HOWEVER, THE SHIFT DID NOT NOTIFY THE FIRE MARSHAL UNTIL THE FOLLOWING MORNING AND AT THIS TIME AN HOURLY FIRE INSPECTION WAS ESTABLISHED DUE TO THE INOPERABILITY OF THE CONTROL ROOM FIRE DETECTION ALARM AND SPRINKLER ALARM PRINTER INDICATIONS. THE FIRE WATCH WAS TERMINATED ONCE THESE ALARM INDICATIONS WERE VERIFIED OPERABLE BY OAD. TO ENSURE FIRE DETECTION SYSTEM CONTROL ROOM ALARMS AND SPRINKLER ALARMS ARE OPERABLE, THE SHIFT WILL CHECK THE ALARM INDICATIONS STATUS EACH TIME A COMPUTER OUTAGE OCCURS. DAP 7-13 'CONTROL OVER COMPUTER OPERATIONS PROCEDURE' WILL BE REVISED TO ESTABLISH ADMINISTRATIVE CONTROLS TO BE FOLLOWED DURING A SECURITY COMPUTER OUTAGE. THIS IS THE FIRST OCCURRENCE OF THIS KIND AT DRESDEN STATION.
Dresden 2	07/05/1984	09/18/1984	Degraded Fire Barriers Abstract: POWER LEVEL - 098%. A FIRE BARRIER INSPECTION OF THE AUX ELECTRIC EQUIPMENT ROOM, UNIT 2 DG ROOM, UNIT 3 DG ROOM AND UNIT 2/3 DG ROOM WAS CONDUCTED TO ENSURE THAT ALL FIRE WALL PENETRATIONS WERE SEALED. THIS INSPECTION SHOWED THAT SEVERAL MECHANICAL PENETRATIONS WERE NOT SEALED. PER TECH SPECS, A FIRE WATCH WAS ESTABLISHED WITHIN 1 HR OF DISCOVERY. ALL OF THE PENETRATIONS WERE SEALED WITH CERAFIBER AND VIMASCO. SIMILAR EVENT - 237/84-064.
Dresden 2	08/28/1984	09/24/1984	Failure to Finish Fire Watch Within One (1) Hour Abstract: POWER LEVEL - 080%. ON 8/27/84, AT 2229 HOURS, THE SECURITY COMPUTER TRIPPED DUE TO SYSTEM FAILURE. WITH THE SECURITY COMPUTER DOWN, THE FIRE DETECTION SYSTEM AND SPRINKLER CONTROL ROOM ALARMS' INDICATIONS WERE RENDERED INOPERABLE. A FIRE INSPECTION WAS INITIATED AT 2304 HOURS AND WAS COMPLETED AT 0038 HOURS. THE SHIFT WAS UNAWARE OF THE ONE HOUR LIMITATION UPON THE INITIAL INSPECTION. THE TRAINING DEPARTMENT WILL REVIEW FIRE PROTECTION (FIRE WATCHES) TECH SPECS OVER THE NEXT FEW OPERATING TRAINING SESSIONS. A LISTING INDICATING PANEL NUMBERS, LOCATIONS AND MULTIPLEXER INVOLVED WAS RECENTLY DISTRIBUTED TO THE SHIFT. DAP 7-13 'CONTROL OVER COMPUTER OPERATIONS' PROCEDURE IS BEING REVISED TO PROVIDE GUIDELINES FOR THE SHIFT IN THE EVENT OF A COMPUTER OUTAGE.
Dresden 2	03/05/1985	04/10/1985	Fire Watch Not Established Within 1 Hour Abstract: POWER LEVEL - 000%. ON 3-5-85 DURING NORMAL REFUELING OPERATIONS, THE FIRE DOOR FOR THE UNIT 2 125V DC BATTERY ROOM WAS FOUND OPEN WITHOUT A FIRE WATCH ESTABLISHED WITHIN 1 HR PER TECH SPEC 3.12.F.2. THE DOOR WAS IMMEDIATELY CLOSED. MECHANICAL MAINTENANCE WAS WORKING ON FIRE HEADER VALVE 2-4109-501 LOCATED OUTSIDE THE ROOM WHICH HOUSES THE U2 125V DC AND 250V DC BATTERY ROOMS. BEFORE ANY REPAIRS COULD BE DONE, THE FIRE HEADER VALVE HAD TO BE ISOLATED AND DRAINED OF ANY WATER REMAINING IN THE HEADER. OPERATIONS DEPARTMENT ISOLATED THE VALVE AND DRAINED THE WATER OFF BY CONNECTING A FIRE HOSE (ALSO LOCATED INSIDE THE BATTERY ROOM) TO THE VALVE AND STRINGING IT THROUGH THE FIRE DOOR OF THE 125V DC BATTERY ROOM ENCLOSURE INTO THE DRAIN. THE FIRE DOOR WAS PROPPED OPEN FROM APPROX 0800 ON 3-5-85 UNTIL 0942 THAT SAME DAY WHEN IT WAS IMMEDIATELY CLOSED UPON DISCOVERY. SAFETY SIGNIFICANCE IS CONSIDERED MINIMAL DUE TO THE FACT THAT THE DOOR WAS LEFT OPEN A RELATIVELY SHORT PERIOD OF TIME AND THAT THE BATTERY ROOM IS PROTECTED BY SMOKE DETECTORS WHICH ALARM IN THE CONTROL ROOM. CORRECTIVE ACTION TO BE TAKEN CONSISTS OF THE FOLLOWING: 1) THE ESTABLISHMENT OF A SECOND SHIFT FOREMAN PER SHIFT FOR THE DURATION OF THE REFUELING OUTAGE. 2) A REVIEW OF TECH SPECS REFERENCING FIRE WATCHES IN THE NEXT 6 WEEK TRAINING
Dresden 2	06/26/1985	07/25/1985	Auxiliary Electric Equipment Room Fire Suppression System Found Inoperative Abstract: POWER LEVEL - 098%. DURING NORMAL UNIT OPERATION, WHILE PERFORMING MANUAL/AUTO INITIATION LOGIC TEST OF THE AUX ELECTRIC EQUIPMENT ROOM (AEER) HALON SYSTEM, ELECTRICAL MAINTENANCE PERSONNEL DISCOVERED THAT 5 OUT OF 6 MOTOR-OPERATED VENTILATION DAMPERS FAILED TO OPERATE PROPERLY. THE ELECTRICAL MAINTENANCE PERSONNEL NOTIFIED THE STATION FIRE MARSHAL ON 6-26-85 AT APPROX 1200 HRS. THE SHIFT ENGINEER WAS NOTIFIED OF THE DISCREPANCY ON 7-1-85 BY 0900 HRS, AND APPROX 5 DAYS AFTER THE HALON SYSTEM HAD BEEN DISCOVERED INOPERATIVE, THE CONTINUOUS FIRE WATCH WAS ESTABLISHED. THIS IS CONTRARY TO TECH SPEC 3.12.H.2 WHICH REQUIRES A CONTINUOUS FIRE WATCH BE ESTABLISHED WITHIN 1 HR AFTER THE AEER HALON SYSTEM IS DISCOVERED TO BE INOPERATIVE. THE CAUSE OF THE EVENT IS PERSONNEL ERROR. ALL FAILED DAMPERS WERE REPAIRED EXCEPT FOR ONE. THIS DAMPER WAS ISOLATED IN A CLOSED POSITION UNTIL REPAIR PARTS CAN BE PROCURED. THE HALON SYSTEM WAS FUNCTIONALLY TESTED AGAIN AND PROVEN TO BE OPERABLE ON 7-9-85 AT 1430 HRS. ALTHOUGH SEVERAL OF THE AEER ISOLATION DAMPERS WOULD HAVE FAILED TO CLOSE DURING A HALON SYSTEM INITIATION, THE SAFETY SIGNIFICANCE OF THIS EVENT IS CONSIDERED MINIMAL. THE SMOKE DETECTOR AND GAS INJECTION PORTIONS OF THE HALON SYSTEMS WERE OPERABLE. ALSO THE FAILED OPEN DAMPERS
Dresden 2	11/06/1985	12/12/1985	Fire Doors in Degraded Condition Abstract: POWER LEVEL - 068%. THE 1978 SER BY THE OFFICE OF NUCLEAR REACTOR REGULATION U.S. NRC IN THE MATTER OF COMMONWEALTH EDISON CO. DRESDEN NUCLEAR POWER STATION UNITS 2 AND 3 DOCKETS 237/249 DATED 3-78, CONTAINS COMMITMENTS TO PERFORM CERTAIN MODIFICATIONS BASED UPON THE 1978 NRC ON-SITE REVIEW OF DRESDEN'S FIRE PROTECTION PROGRAM. AS PART OF DRESDEN STATION'S ONGOING APPENDIX R PROGRAM, THE 1978 FIRE PROTECTION SER IS PRESENTLY BEING RE-EVALUATED. SECTION 3.1.8 OF THE 1978 SER, SUMMARY OF MODIFICATIONS AND INCOMPLETE ITEMS; FIRE DOORS ADDRESSED AREAS WHICH REQUIRED FIRE DOORS HAVING CLASS A (3 HR) RATINGS. UL-LISTED 3 HR RATED FIRE DOORS WERE PURCHASED AND INSTALLED AT EACH OF THE LOCATIONS. PRESENTLY, 3 FIRE DOORS EXIST IN A MODIFIED FORM SINCE THE ORIGINAL INSTALLATION. ON 11-6-85, THE UNIT 2 DG DAY TANK ROOM FIRE DOOR, THE AUX ELECTRICAL EQUIPMENT ROOM WEST FIRE DOOR, AND THE UNIT 2 TURBINE BLDG ACCESS FIRE DOOR TO TRANSFORMERS 21 AND 22 WERE INSPECTED TO DETERMINE IF EACH COULD MEET UL-LISTED FIRE RATINGS. AT 1400 HRS THE UNIT 2 DG DAY TANK ROOM FIRE DOOR AND THE AUX ELECTRICAL EQUIPMENT ROOM WEST FIRE DOOR WERE DETERMINED TO BE DEGRADED. AT 1605HRS THE UNIT 2 TURBINE BLDG ACCESS FIRE DOOR WAS ALSO FOUND TO BE DEGRADED. A FIRE WATCH WAS ESTABLISHED IMMEDIATELY PER TECH SPEC 3.12.F.2 AND WILL CONTINUE UNTIL THE
Dresden 2, Dresden 3	04/09/1987	04/30/1987	Failure to Maintain Continuous Fire Watch in the Auxiliary Electric Room Due to Personnel Error Abstract: POWER LEVEL - 000%. ON 4/04/87 AT 0920 HOURS, WHILE UNIT 2 WAS SHUT DOWN AND UNIT 3 WAS IN THE RUN MODE AT 52% POWER, THE HALON 1301 AUXILIARY ELECTRIC EQUIPMENT ROOM (AEER) FIRE SUPPRESSION SYSTEM WAS INADVERTENTLY ACTUATED BY CONTRACTOR PERSONNEL. THE AEER HALON SYSTEM WAS DECLARED INOPERABLE DUE TO THE HALON BOTTLES BEING DISCHARGED AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED IN THE AREA IMMEDIATELY IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.12.H.2. AT 0245 HOURS ON 4/09/87 WITH UNIT 2 SHUT DOWN AND UNIT 3 IN THE RUN MODE AT 100% POWER, AND THE AEER FIRE WATCH REQUIRED, IT WAS DISCOVERED THAT THE AEER FIRE WATCH HAD LEFT HIS POST UNATTENDED TO FIND A RELIEF PERSON. AN OPERATOR WAS POSTED IN THE ROOM IMMEDIATELY IN ORDER TO RESUME THE FIRE WATCH. INVESTIGATION FOUND THE ROOT CAUSE OF THE EVENT TO BE PERSONNEL ERROR BY THE FIRE WATCH INDIVIDUAL WHO LEFT THE AEER POST UNATTENDED FOR APPROXIMATELY 45 MINUTES. CORRECTIVE ACTION INCLUDED TAKING DISCIPLINARY ACTION AGAINST THE INVOLVED PERSONNEL AND NOTIFYING ALL STATION PERSONNEL OF THIS EVENT. SAFETY SIGNIFICANCE OF THE EVENT WAS MINIMAL SINCE THE FIRE WATCH WAS UNATTENDED FOR A RELATIVELY SHORT PERIOD OF TIME AND THE AEER FIRE DETECTION AND A BACKUP MANUAL CARBON DIOXIDE SUPPRESSION SYSTEM WAS

Dresden 2, Dresden 3	06/04/1987	06/19/1987	Improperly Located Fire Break Near Cable Tray Routing Point 192B Due to Design Error Abstract: POWER LEVEL - 088%. ON JUNE 4, 1987, DURING A REVIEW OF QUESTIONS CONCERNING A FIRE STOP/BREAK SURVEILLANCE, ARCHITECT-ENGINEER PERSONNEL DETERMINED THAT THE FIRE BREAK INSTALLED BETWEEN CABLE TRAY ROUTING POINTS 191B AND 192B SHOULD INSTEAD BE LOCATED BETWEEN ROUTING POINTS 192B AND 193B TO PROVIDE SEPARATION OF DIVISION I AND II CABLES. THE NRC SAFETY EVALUATION REPORT (SER) DATED MARCH 1978 INCLUDED A REQUIREMENT THAT ADDITIONAL FIRE STOPS (BREAKS) BE INSTALLED TO PROVIDE SEPARATION BETWEEN DIVISIONS (SER ITEM 3.1.14); COMPLETION OF THIS AND OTHER LISTED MODIFICATIONS WAS REQUIRED BY DRESDEN UNIT 2 LICENSE CONDITION 3.H AND DRESDEN UNIT 3 LICENSE CONDITION 3.G. THE ROOT CAUSE OF THIS DISCREPANCY IS THAT DIVISION I WAS ROUTED AT POINT 192B RATHER THAN DIVISION II AS ORIGINALLY SHOWN ON REVISIONS OF DRAWING 12E-2052 DATED PRIOR TO FEBRUARY 3, 1987. ALTHOUGH DRAWING 12E-2052 WAS CORRECTED ON FEBRUARY 3, 1987, THE NEED TO MOVE THE EXISTING FIRE BREAK WAS NOT RECOGNIZED BY THE ARCHITECT-ENGINEER AT THAT TIME. THE SAFETY SIGNIFICANCE OF THIS EVENT IS MINIMAL BECAUSE THE APPENDIX R SAFE SHUTDOWN ANALYSIS DOES NOT TAKE CREDIT FOR A FIRE BREAK NEAR ROUTING POINT 192B.
Dresden 2, Dresden 3	10/26/1989	11/21/1989	Reactor Building Fire Rated Wall Degraded by an Unauthorized Penetration Opening Due to Management Deficiency Abstract: POWER LEVEL - 100%. ON 10/26/89 AT 1200 HOURS, WITH UNIT 2 AT 99.6% POWER AND UNIT 3 AT 94.8% POWER, THE STATION MANAGER DISCOVERED A 3 INCH DIAMETER CORE HOLE STUFFED WITH RAGS IN A THIRD FLOOR FIRE WALL SEPARATING THE UNIT 2 AND UNIT 3 REACTOR BUILDINGS. OPERATIONS DEPARTMENT SUPERVISION WAS NOTIFIED, AND A ONCE PER HOUR FIRE WATCH WAS ESTABLISHED AT 1300 HOURS IN ACCORDANCE WITH DRESDEN ADMINISTRATIVE TECHNICAL REQUIREMENT (DATR) 3/4.1.6. INVESTIGATION REVEALED THAT THIS CONDITION HAD EXISTED FOR APPROXIMATELY ONE DAY BEFORE BEING DISCOVERED. THE CAUSE OF THIS EVENT IS ATTRIBUTED TO MANAGEMENT DEFICIENCY. THE SAFETY SIGNIFICANCE OF THIS EVENT WAS CONSIDERED TO BE MINIMAL BECAUSE OF THE SMALL SIZE OF THE OPENING, THE LOCATION OF THE OPENING WITH RESPECT TO THE FIXED COMBUSTIBLES IN THE AREA, AND THE FIRE DETECTION AND MANUAL SUPPRESSION SYSTEMS AVAILABLE IN THE AREA. CORRECTIVE ACTIONS TO THIS EVENT INCLUDE VARIOUS ADMINISTRATIVE AND PROGRAMMATIC CHANGES. IN ADDITION, A FIRE BARRIER REFERENCE GUIDE WILL BE PREPARED. A PREVIOUS OCCURRENCE INVOLVING A DEGRADED FIRE BARRIER WAS REPORTED IN LER 89-8/050249. THE EVENT INVOLVED THE INADVERTENT OBSTRUCTION OF A FIRE DAMPER.
Dresden 3	05/04/1983	05/31/1983	Unit 3 HPCI Fire Suppression (Deluge) System Abstract: After actuation of the HPCI Deluge System the weight releasing lever of the deluge valve tripped. Upon resetting the valve, the trip release solenoid de-energized (as designed) but the valve would not reset. The fire system valve was taken out of service 4/20/83 at 1030 hours and returned to service 5/4/83 at 1800 hours, thereby exceeding the 14 day limit per tech spec 3.12.c.3. Inoperability. First event of this kind at dresden. The most probable cause was attributed to the misaligned trip linkage. The solenoid and valve linkage were disassembled/assembled; no anomalies were noted. The valve was tested several times in an attempt to duplicate the failure. It did not recur. Due to the additional testing to ensure operability, the valve was returned to service 6 hours in excess of tech spec limits.
Dresden 3	09/23/1983	10/19/1983	Broken Drain Valve on U-3 Trackway Fire Protection System Abstract: During normal unit operations, a mobile crane was moving a railcar out of the U-3 trackway. The boom on the crane hit the wet pipe sprinkler drain valve. The valve broke and water sprayed the trackway. The system was isolated and the alarm was reset. An hourly fire watch was in effect until the system was returned to normal. No previous occurrence of this kind. The cause was personnel error caused by the crane operator not being aware of clearance. The incident was discussed with the foreman stressing that crane operators be more aware of plant systems and components within the boom path of the crane during operations. The valve was repaired and the system was returned to service.
Dresden 3	06/17/1989	07/11/1989	Fire Damper Discovered Obstructed by Welding Equipment Due to Management Deficiency Abstract: POWER LEVEL - 087%. ON 6/17/89 AT 1130 HOURS WITH UNIT 3 OPERATING AT 87% RATED CORE THERMAL POWER, A WELDING CABLE AND AIR HOSE WERE FOUND ROUTED THROUGH AN UNDUCTED VENTILATION OPENING CONTAINING A FIRE DAMPER IN A FIRE WALL SEPARATING THE UNIT 3 EAST LOW PRESSURE COOLANT INJECTION (LPCI) ROOM AND THE UNIT 3 HIGH PRESSURE COOLANT INJECTION (HPCI) ROOM. THE CABLE AND HOSE WERE PLACED TO SUPPORT WELDING ACTIVITY INVOLVED WITH A UNIT 3 HPCI TURBINE STEAM SUPPLY VALVE DRAIN POT PIPING SUPPORT MODIFICATION. AN OPERATIONS SHIFT SUPERVISOR IMMEDIATELY REMOVED THE OBSTRUCTIONS SINCE NO FIRE WATCH INDIVIDUAL WAS PRESENT AS REQUIRED BY TECH SPEC 3.12.F.2. THE ROOT CAUSE OF THE EVENT WAS DETERMINED TO BE MANAGEMENT DEFICIENCY IN THAT MECHANICAL MAINTENANCE SUPERVISION DID NOT IDENTIFY THE VENTILATION OPENING AS BEING PART OF THE FIRE BARRIER. CORRECTIVE ACTION WILL INCLUDE INSTALLATION OF DUCT WORK TO PREVENT PASSAGE OF OBSTRUCTIONS THROUGH THE FIRE DAMPER. SAFETY SIGNIFICANCE WAS MINIMAL AS A FIRE WATCH WAS PRESENT DURING THE WELDING ACTIVITY AND THE HPCI ROOM IS EQUIPPED WITH AN AUTOMATIC FIRE SUPPRESSION SYSTEM. A PREVIOUS EVENT INVOLVING OBSTRUCTION OF A FIRE DOOR WAS INVESTIGATED UNDER NON-REPORTABLE EVENT 12-3-89-41.
Dresden 3	11/16/1989	12/13/1989	Improper Stationing of Fire Inspections Due to Personnel Error Abstract: POWER LEVEL - 091%. ON 11/16/89, WHILE INVESTIGATING A FAILURE OF A LINEAR HEAT DETECTION FIRE PROTECTION SYSTEM INSTALLED IN THE PRESSURE SUPPRESSION CHAMBER AND LOW PRESSURE COOLANT INJECTION PUMP ROOMS, IT WAS DISCOVERED THAT A FIRE INSPECTION HAD NOT BEEN STATIONED PROPERLY. DUE TO MISINTERPRETATION OF AN ADMINISTRATIVE LIMITING CONDITION FOR OPERATION, THE FIRE INSPECTIONS WERE INITIATED 14 DAYS AFTER THE TIME FRAME REQUIRED BY THE DRESDEN ADMINISTRATIVE TECHNICAL REQUIREMENTS (DATRS). THE CAUSE WAS ATTRIBUTED TO PERSONNEL ERROR ON THE PART OF A TECHNICAL STAFF ENGINEER AND THE STATION FIRE MARSHAL IN THAT THEY PROVIDED INCORRECT DIRECTION TO OPERATIONS SHIFT SUPERVISION. SAFETY SIGNIFICANCE WAS MINIMAL BECAUSE THE AREA INVOLVED WAS REGULARLY INSPECTED AS PART OF OPERATOR ROUNDS AND SMOKE FROM A FIRE IN THESE AREAS WOULD BE DETECTED BY SMOKE DETECTORS LOCATED ABOVE THE PASSAGEWAYS TO THESE ROOMS. A PREVIOUS EVENT INVOLVING A FIRE WATCH PROBLEM WAS REPORTED BY LER 89-30/050237.
Dresden 3, Dresden 2	02/09/1987	03/04/1987	An Hourly Inspection for the East End of the Unit 2/3 Cable Tunnel Not Established Immediately per Technical Specification 3.12.C.1 Due to Operating Personnel Error. Abstract: POWER LEVEL - 100%. ON 2-9-87 WITH UNIT 3 IN THE RUN MODE AT 100% POWER AND UNIT 2 IN REFUEL AND ALL FUEL REMOVED FROM THE VESSEL AT 1030 HRS, A STATION CONSTRUCTION FOREMAN CONTACTED THE OPERATING SHIFT REQUESTING THE EAST END OF THE UNIT 2/3 CABLE TUNNEL SUPPRESSION SYSTEM OUT-OF-SERVICE. AUTOMATIC SPRINKLER COMPANY CONTRACTORS WERE TO BEGIN WORK IN THE AREA ON MODIFICATION M12-2-84-107, PLANT SUPPRESSION SYSTEMS. THE SHIFT CONTACTED THE FIRE MARSHALL REGARDING AN AREA HOURLY FIRE INSPECTION. BECAUSE HE WAS UNAVAILALBE, THE UNIT 1 OPERATING ENGINEER WAS CONTACTED. HE DETERMINED PER UNIT TECH SPEC 3.12.C.1 AND TABLE 3.12-2 THAT AN HOURLY FIRE INSPECTION WAS NOT REQUIRED. HOWEVER, PER UNIT 3 TECH SPEC 3.12.C.1 AND TABLE 3.12-2 AN HOURLY FIRE INSPECTION WAS REQUIRED. FOLLOWING A DISCUSSION WITH THE FIRE MARSHALL ON 2-10-87, THE SHIFT ESTABLISHED AN HOURLY FIRE INSPECTION IMMEDIATELY. TUNNEL WOULD HAVE ALERTED THE CONTROL ROOM IMMEDIATELY OF A FIRE. ALSO, HAD ANY UNIT 3 CABLES BEEN DAMAGED BEFORE THE STATION FIRE BRIGADE COULD HAVE SUPPRESSED ANY FIRE, SAFE UNIT 3 SHUTDOWN WOULD HAVE BEEN ACHIEVABLE BY FOLLOWING DRESDEN SAFE SHUTDOWN PROCEDURES 100-E1, HOT SHUTDOWN PATH E1 AND DSSP 200-5
Duane Arnold	02/06/1980	02/20/1980	The CO-2 System Tagged Out to Permit Maintenance in the Cable Spreading Room Abstract: The CO-2 system tagged out to permit maintenance in the cable spreading room, site security shift supervision removed fire watch personnel from the area without notifying the shift supervising engineer. The room door was locked with no personnel inside when the fire watch was secured. The cable spreading room was left unattended with the CO-2 system inoperable for about six hours. No similar reports have been made. The CO-2 system was immediately returned to service when situation was recognized. The persons involved have been reinstructed to adhere to tech spec requirements and associated surveillance procedures pertaining to fire watches.
Duane Arnold	04/25/1980	05/05/1980	The Cable Spreading Room Cardox System Inoperable Abstract: With the cable spreading room cardox system inoperable, a fire watch was established approximately 30 minutes later than is required by T.S. a watchman had been posted at the cable spreading room entrance but this person did not have a key to the room and was not checking the room continuously. The room was subsequently opened and the fire watch properly established. The violation was discovered by NRC personnel observation. In order to prevent recurrence affected personnel were appraised of the Tech. Spec. Requirements for properly establishing a fire watch.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Duane Arnold	07/21/1985	08/20/1985	Fire Watch Not Completed as Required by Technical Specification Abstract: POWER LEVEL - 024%. ON 7-21 IT WAS DETERMINED THAT A FIRE WATCH ON THE HPCI DELUGE SYSTEM REQUIRED BY TECH SPEC 3.13.C.2.A HAD BEEN PREMATURELY CANCELLED 3 DAYS EARLIER. UPON COMPLETION OF MAINTENANCE ON THE HPCI DELUGE SYSTEM ON 7-15-85, VALVE TAGOUT CARDS HAD BEEN REMOVED. A SEPARATE SET OF TAGOUT CARDS WAS REINSTALLED ON THE VALVES WHEN THE HPCI DELUGE VALVE WAS FOUND TO BE STILL LEAKING. A LATER SHIFT, WHICH WAS UNAWARE OF THE SECOND TAGOUT CARD, CANCELLED THE FIRE WATCH ON THE HPCI DELUGE SYSTEM BASED ON CLOSURE OF THE FIRST TAGOUT. UPON DETERMINING THAT A TAGOUT STILL EXISTED ON THE SYSTEM, THE HOURLY FIRE WATCH WAS IMMEDIATELY RESUMED AND MAINTAINED UNTIL SYSTEM OPERABILITY WAS RESTORED. THIS EVENT WAS CAUSED BY INEFFECTIVE COMMUNICATIONS BETWEEN OPERATIONS PERSONNEL AND A LACK OF VALVE POSITION VERIFICATION PRIOR TO TERMINATING THE FIRE WATCH. ALL THESE EVENTS OCCURRED DURING THE WEEK OF PLANT STARTUP FROM A 5 1/2 MONTH REFUELING AND MAINTENANCE OUTAGE. THE NEED TO COMMUNICATE BETWEEN SHIFTS IS BEING REEMPHASIZED WITH ALL OPERATIONS PERSONNEL. THE INCREASED AMOUNT OF CONTROL ROOM ACTIVITY ASSOCIATED WITH PLANT STARTUP OR MAINTENANCE IN SUPPORT OF STARTUP CONTRIBUTED TO THIS EVENT.
Duane Arnold	08/12/1985	09/11/1985	Fire Hose Stations Inoperable Longer than Technical Specification Limit of One Hour Abstract: POWER LEVEL - 085%. WHILE PERFORMING A DIESEL FIRE PUMP OPERABILITY TEST, A LEAK WAS DETECTED IN THE FIRE MAIN OUTSIDE THE REACTOR BLDG. A PORTION OF THE FIRE MAIN WAS ISOLATED TO INITIATE REPAIRS. THIS ACTION ALSO ISOLATED ALL REACTOR BLDG HOSE STATIONS INCLUDING 8 WHICH ARE REQUIRED BY TECH SPEC 3.13.E.1. ACTION WAS IMMEDIATELY INITIATED TO RESTORE THE FUNCTION OF THESE INOPERABLE HOSE STATIONS WITHIN THE ONE HR LIMIT OF TECH SPEC 3.13.E.2. THIS WAS ACCOMPLISHED BY CONNECTING THE REACTOR BLDG FIRE SUPPRESSION SYSTEM TO AN OPERABLE SECTION OF THE FIRE MAIN. HOWEVER, THE TIME REQUIRED TO LOCATE AND ASSEMBLE THE NECESSARY 'Y' FITTINGS AND PIPING SPOOLS AND MAKE THE INTERCONNECTION EXCEEDED 1 HR.
Duane Arnold	05/03/1986	06/02/1986	Fire Suppression System Isolation Due to Inadequate Administrative Procedures Abstract: POWER LEVEL - 100%. ON MAY 3, 1986 AT APPROXIMATELY 1100 HOURS THE REACTOR WAS AT 100% POWER. WHILE PERFORMING THE FIRE PROTECTION SYSTEM RING HEADER FLUSH, TWO VALVES WERE CLOSED PER AN APPROVED PLANT PROCEDURE TO ALLOW FLUSHING OF THE COOLING TOWER LOOP. HOWEVER, TWO OTHER MANUAL POST INDICATING VALVES ON THE MAIN HEADER WERE ALREADY CLOSED TO ALLOW INSTALLATION OF 2 FIRE HYDRANTS IN SUPPORT OF NEW FACILITY CONSTRUCTION. THEREFORE, CLOSING OF THE VALVES TO PERFORM THE COOLING TOWER LOOP FLUSH CAUSED AN ISOLATED SECTION OF THE DELUGE, SPRINKLER, HOSE, AND FIRE MAIN SYSTEMS FOR FIVE HOURS. DURING THIS PERIOD OF ISOLATION, A FIRE WATCH REQUIRED BY TECHNICAL SPECIFICATIONS WAS NOT ESTABLISHED. THE ROOT CAUSE OF THIS DEVIATION IS INADEQUATE ADMINISTRATIVE CONTROLS FOR THE FIRE HEADER LOOP, WHERE A SINGLE VALVE ISOLATION WILL NOT IMPAIR SYSTEM OPERABILITY, BUT DOUBLE VALVE ISOLATION MAY RENDER PORTIONS OF THE SYSTEM INOPERABLE. THE CONTROL ROOM PANEL SHIFT CHECK LIST PROCEDURE HAS BEEN REVISED TO INCLUDE ANY ABNORMAL VALVE POSITION IN THE FIRE SUPPRESSION SYSTEM. ADDITIONALLY, THE TESTING PROCEDURE WAS REVISED TO INCLUDE A REQUIREMENT FOR A WALK DOWN CHECK OF VALVES IN THE FIRE SUPPRESSION YARD LOOP SYSTEM TO MAKE CERTAIN VALVES ARE IN THE 'NORMAL' OPERATING POSITION
Duane Arnold	10/15/1986	07/13/1987	Inadvertent Deluge of Standby Filter Units Due to Inadequate Procedure Abstract: POWER LEVEL - 094%. ON OCTOBER 15, 1986 WITH THE REACTOR AT 94% POWER, THE CHARCOAL BEDS OF THE CONTROL BUILDING STANDBY FILTER UNITS (SFUS) WERE INADVERTENTLY SPRAYED WITH WATER AND RENDERED INOPERABLE AFTER A FUNCTIONAL TEST OF THE FIRE PROTECTION DELUGE SYSTEM. THE ROOT CAUSE WAS AN INADEQUATE PROCEDURE. THE FIRE DELUGE SYSTEM WAS ISOLATED AT 0900 BEFORE THE TEST. DURING THE FUNCTIONAL TEST OF BOTH SFU DELUGE CONTROL UNITS THE NORMALLY CLOSED STANDBY FILTER UNITS DELUGE ISOLATION VALVES WERE GIVEN A SIMULATED HIGH TEMPERATURE SIGNAL AND OPENED. THE HIGH TEMPERATURE ALARMS WERE CLEARED IN THE CONTROL ROOM, BUT THE VALVE WAS SEALED OPEN. A RESET BUTTON FOR BOTH TRAINS NEEDS TO BE PUSHED TO CLOSE THE VALVES. THE FIRE SUPPRESSION SYSTEM WAS UNISOLATED WITHOUT PUSHING THE RESET BUTTON CAUSING THE CHARCOAL BEDS TO BE SPRAYED. THE ROOT CAUSE OF THE EVENT WAS AN INADEQUATE PROCEDURE BECAUSE PUSHING THE RESET BUTTONS WAS NOT SPECIFIED. THIS PROCEDURE IS BEING REVISED TO INCLUDE THIS STEP AFTER PERFORMING FUNCTIONAL TESTS INVOLVING THE STANDBY FILTER UNITS CONTROL UNITS. ALSO AN ENGINEERING REQUEST HAS BEEN INITIATED TO CONSIDER INSTALLING AN ISOLATION VALVE IN BOTH TRAINS OF THE SFU.
Duane Arnold	05/27/1988	06/27/1988	Premature Termination of Fire Watch Due to Inadequate Post-Maintenance Testing Abstract: POWER LEVEL - 100%. ON MAY 27, 1988 AT 1430 HOURS THE PLANT WAS OPERATING AT 100% POWER, WHEN MAINTENANCE ACTIVITIES ON FSV 8522A (PILOT CONTROL VALVE FOR FIRE SUPPRESSION CARBON DIOXIDE INJECTION TO THE CABLE SPREADING ROOM) WERE COMPLETED. THE CONTINUOUS FIRE WATCH, WHICH WAS IN PLACE ON THE CABLE SPREADING ROOM, WAS SECURED WHEN THE CABLE SPREADING ROOM FIRE SUPPRESSION SYSTEM WAS RETURNED TO SERVICE. DURING FOLLOW-UP REVIEW OF THE MAINTENANCE DOCUMENTATION, IT WAS DETERMINED THAT THE POST-MAINTENANCE TESTING WAS INADEQUATE TO ENSURE THAT THE SOLENOID VALVE WOULD OPERATE AUTOMATICALLY AS DESIGNED. THE FIRE WATCH FOR THE CABLE SPREADING ROOM WAS RE-ESTABLISHED AT 1550 HOURS ON THE SAME DAY. FOLLOW-UP TESTING FOUND THE SOLENOID VALVE FAILED TO CYCLE IN THE MANNER REQUIRED BY THE SURVEILLANCE TEST PROCEDURE. INOPERABILITY OF CABLE SPREADING ROOM FIRE SUPPRESSION SYSTEM WITHOUT A TIMELY COMPENSATORY CONTINUOUS FIRE WATCH IS A CONDITION PROHIBITED BY PLANT TECH SPECS. MAINTENANCE ACTIVITIES WERE COMPLETED ON MAY 28 AND THE CABLE SPREADING ROOM FIRE SUPPRESSION SYSTEM TESTED SUCCESSFULLY AND RESTORED TO NORMAL SERVICE AT 1130 HOURS. A DEPARTMENTAL INSTRUCTION IS BEING DEVELOPED TO PROVIDE IMPROVED GUIDANCE ON POST-MAINTENANCE TESTING
Duane Arnold	08/03/1988	09/01/1988	Missed Fire Watch Due to Communication Error Abstract: POWER LEVEL - 090%. ON AUGUST 3, 1988, WITH THE REACTOR OPERATING AT 90% POWER, A ROUTINE INSPECTION OF FIRE BARRIER PENETRATIONS IDENTIFIED TWO PENETRATIONS NEEDING REPAIR. THE CONTROL ROOM WAS NOTIFIED AND THE FIRE WATCH WAS THOUGHT TO HAVE BEEN INITIATED. DUE TO A MISCOMMUNICATION BETWEEN CONTROL ROOM PERSONNEL AND THE DISCOVERER OF THE INADEQUATE PENETRATIONS, THE FIRE WATCH SURVEILLANCE WAS LOGGED IN AS COMMENCING BUT THE PROPER NOTIFICATION WAS NOT MADE TO THE GROUP RESPONSIBLE FOR PERFORMING THE HOURLY FIRE WATCHES. THE USE OF AN ADDITIONAL INFORMATION SHEET TO CONTROL FIRE WATCH ACTIVITIES RESULTED IN A DELAY IN THE DISCOVERY OF THE SITUATION AND LED TO THE FIRE WATCH NOT BEING PERFORMED UNTIL 0935 HOURS THE FOLLOWING MORNING. THE SURVEILLANCE PROCEDURE IS BEING REWRITTEN SO IT WILL PROVIDE CORRECT AND TIMELY INFORMATION TO THE PEOPLE CONDUCTING THE FIRE WATCH INSPECTIONS.
Duane Arnold	07/30/1990	08/29/1990	Inadequate Fire Barrier Seal Abstract: POWER LEVEL - 000%. WITH THE PLANT SHUTDOWN IN A REFUELING OUTAGE, WORK WAS IN PROGRESS ON A DESIGN CHANGE PACKAGE INVOLVING POSITIVE PRESSURE MODIFICATIONS TO THE CONTROL BUILDING HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM. DURING TESTING, PERSONNEL IDENTIFIED AIR LEAKAGE FORM THE CONTROL ROOM TO THE CABLE SPREADING ROOM AND CONDUIT CHASE AROUND THE FIRE BARRIER SEAL IN THE 'SEISMIC GAP' BETWEEN THE BUILDINGS. INVESTIGATION DETERMINED THE BARRIER SEAL DID NOT MEET THE REQUIREMENTS OF 10 CFR 50 APPENDIX R. THE SEAL WAS REPLACED IN ACCORDANCE WITH 10 CFR 50 APPENDIX R. THIS EVENT IS BEING REPORTED PURSUANT TO 10 CFR 50.73 (A)(2)(I).
Duane Arnold	01/26/1992	02/25/1992	Missed Fire Watch due to Procedural Inadequacies Abstract: POWER LEVEL - 083%. ON JANUARY 26, 1992, THE PLANT WAS OPERATING AT 83% POWER. DURING SURVEILLANCE TESTING A FIRE DOOR WAS BLOCKED OPEN WITHOUT THE REQUIRED TECHNICAL SPECIFICATION COMPENSATORY ACTION OF A FIRE WATCH. THE FIRE DOOR IS LOCATED AT THE SUMP ROOM ENTRANCE IN THE TURBINE BUILDING BASEMENT. UPON DISCOVERY OF THE LACK OF A REQUIRED FIRE WATCH, A FIRE WATCH WAS INITIATED. THE CAUSE OF THE EVENT WAS INADEQUATE PROCEDURAL INSTRUCTIONS. THE APPLICABLE SURVEILLANCE TEST PROCEDURES, SYSTEM OPERATING INSTRUCTIONS AND ANNUNCIATOR RESPONSE PROCEDURES HAVE BEEN CHANGED TO REFLECT THE REQUIREMENT FOR A FIRE WATCH WITH THE VENTILATION FANS SECURED AND THE SUMP ROOM FIRE DOOR BLOCKED OPEN. ALL THE FIRE DOORS THROUGHOUT THE PLANT ARE IN THE PROCESS OF BEING RELABELED TO HIGHLIGHT THE REQUIREMENT OF A FIRE WATCH IF THEY ARE BLOCKED OPEN. FIRE DETECTION EQUIPMENT IN THE ADJOINING AREA THAT CONTAINED SAFETY RELATED CABLES WERE OPERABLE THROUGHOUT THE EVENT. THE EVENT HAD NO EFFECT ON THE SAFE, CONTINUED OPERATION OF THE FACILITY.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Duane Arnold	02/11/1992	03/12/1992	Fire Barrier Degraded as a Result of an Unsealed Penetration following a Design Modification Abstract: POWER LEVEL - 078%. ON FEBRUARY 11, 1992, DURING PERFORMANCE OF THE FIRE BARRIER PENETRATION SEAL INSPECTION SURVEILLANCE TEST, A FIRE BARRIER CABLE PENETRATION WAS FOUND UNSEALED. REVIEW OF THE ANALYSIS FOR THE BARRIER IN WHICH THE UNSEALED PENETRATION IS LOCATED DETERMINED THAT THE OPEN PENETRATION MADE THE BARRIER INOPERABLE. UPON DISCOVERY OF THE UNSEALED PENETRATION, A FIRE WATCH WAS INITIATED. REVIEW OF PLANT DOCUMENTATION INDICATED THAT THE PENETRATION WAS OPENED AND LEFT UNSEALED DURING ONE OF TWO DESIGN MODIFICATIONS WHICH OCCURRED IN 1977 AND 1980. IT APPEARS THAT PROCEDURAL CONTROLS IN PLACE AT THE TIME WERE INSUFFICIENT TO ENSURE SEALING OF PENETRATIONS WOULD OCCUR FOLLOWING A DESIGN MODIFICATION. SINCE 1980 MANY IMPROVEMENTS HAVE BEEN MADE IN THE FIRE PROTECTION PROGRAM AT THE DUANE ARNOLD ENERGY CENTER WHICH WILL MINIMIZE THE POSSIBILITY OF A PENETRATION BEING LEFT UNSEALED FOLLOWING A DESIGN MODIFICATION. THIS EVENT HAD NO EFFECT ON THE SAFE OPERATION OF THE PLANT.
Duane Arnold	05/07/1992	07/29/1992	Fire Barrier Degraded as a Result of Unsealed Penetrations Abstract: POWER LEVEL - 096%. On May 7, 1992, during maintenance on an instrument air pipe, its fire barrier penetration was found unsealed. After this discovery, a limited number of additional fire barrier penetration inspections were performed and five additional unsealed penetrations were identified. Upon discovery of unsealed penetrations, appropriate fire watches were initiated. Review of the analysis for the barriers in which the unsealed penetrations are located determined the open penetrations had not been previously evaluated. Therefore the barriers were considered inoperable. The penetrations in question appear to have been open since original plant construction. Improvements have been made to the fire protection program at the Duane Arnold Energy Center to help ensure fire penetrations are adequately inspected. This report is submitted as a supplemental update on additional corrective actions that will be taken.
Duane Arnold	07/17/1992	12/22/1992	Potential Degradation of Control Room Habitability Due to Lack of Seismic Qualification of Cable Spreading Room Vent and Damper Abstract: POWER LEVEL - 100%. During March and April of 1992, when the plant was in cold shutdown during a refueling outage, testing was done on the Cable Spreading Room (CSR) carbon dioxide fire suppression system and its affect on control room habitability. Due to carbon dioxide infiltration into the control room, a temporary vent damper assembly was installed in the CSR. In June, testing determined that the required positive pressure in the control room under accident conditions could not be met if the vent damper assembly failed open. On 7-10-92, with the plant at 99.9% power, the vent damper assembly was determined to be non-seismic. There was no immediate effect on plant safety but it was recognized that operator action would be required to assure control room habitability was not degraded during a seismic event. The cause for the lack of seismic qualification and the root cause for the positive pressure test failure was the failure to recognize the need for assured closure of the vent damper given the variation in unidentified leaks in the system. A safety related and seismic modification will replace the current vent damper assembly. Temporary procedure changes provide compensatory actions until the modification is complete.
Duane Arnold	12/29/1992	01/25/1993	Installation of Seismically Qualified Vent Assembly Results in Cable Spreading Room Fire Suppression System Being Out of Service Greater Than Fourteen Days Abstract: POWER LEVEL - 100%. On December 29, 1992, at 0735 hours, the cable spreading room carbon dioxide fire suppression system (CARDOX) exceeded its allowable fourteen day period for inoperability. The CARDOX system had been removed from service to accommodate installation of a seismically qualified vent assembly. Licensee Event Report 92-12 detailed the previously installed non-seismic vent assembly. Construction was preplanned and expected to exceed fourteen days due to the scope of the activity being performed. The cable spreading room CARDOX system will be returned to service upon completion of the vent assembly installation The seismically qualified vent assembly will be operational by March 15, 1993. This report is being submitted as a Special Report in accordance with DAEC Technical Specification 3.13.D.3 and 6.11.
Farley 1	01/21/1984	09/07/1984	Hourly Fire Watch Patrol Posted Instead of Continuous Fire Watch Abstract: POWER LEVEL - 100%. ON 8-8-84, DURING THE PERFORMANCE OF AN OPERATIONS QUALITY ASSURANCE AUDIT, IT WAS DETERMINED THAT IN 2 CASES AN HOURLY FIRE WATCH PATROL HAD BEEN POSTED INSTEAD OF A CONTINUOUS FIRE WATCH AS REQUIRED BY TECH SPEC 3.7.11.2. IN ONE CASE, ON 1-21-84, SPRINKLER SYSTEM 1A-51 ON UNIT 1 WAS PLACED IN OVERRIDE TO ALLOW OPEN FLAME PERMIT WORK IN THE AREA. THE OTHER CASE OCCURRED ON 2-2-84 WITH UNIT 2 IN MODE 1 AT 100% POWER, WHEN SPRINKLER SYSTEM 2A-27 WAS PLACED IN OVERRIDE TO FACILITATE CONSTRUCTION ACTIVITIES. IN BOTH CASES, A CONTINUOUS FIRE WATCH HAD NOT BEEN ESTABLISHED WITHIN 1 HR AS REQUIRED BY TECH SPECS. AN HOURLY FIRE WATCH PATROL HAD BEEN POSTED INSTEAD. THESE EVENTS WERE CAUSED BY PERSONNEL ERRORS IN THAT THE SHIFT FOREMEN DID NOT DETERMINE FIRE WATCH REQUIREMENTS PROPERLY WHEN A FIRE PROTECTION SYSTEM WAS INOPERABLE. THE INDIVIDUALS INVOLVED HAVE BEEN REINSTRUCTED. TO PREVENT FUTURE OCCURRENCE, ADMINISTRATIVE PROCEDURES ARE BEING CHANGED TO PROVIDE MORE SPECIFIC GUIDANCE IN DETERMINING FIRE WATCH REQUIREMENTS. ALSO, AN OPERATIONS MEMO HAS BEEN ISSUED TO FURTHER DEFINE FIRE WATCH REQUIREMENTS.
Farley 1	02/17/1984	09/14/1984	Unsealed Interior of a Conduit in a Fire Barrier Penetration Abstract: POWER LEVEL - 100%. AT 0555 ON 8-15-84, DURING A ROUTINE CONTROL ROOM INSPECTION, A THREE INCH CONDUIT CONTAINING SEVEN CABLES IN A FIRE BARRIER PENETRATION WAS FOUND NOT TO BE SEALED INTERNALLY. FIRE WATCH WAS ESTABLISHED. THE CONDUIT WAS INTERNALLY SEALED ON AUGUST 15, 1984. SINCE THE CONTROL ROOM HAD BEEN MANNED CONTINUOUSLY, FIRE WATCH SURVEILLANCE HAD BEEN MAINTAINED DURING THE TIME THAT THE PENETRATION WAS NONFUNCTIONAL. THE FIRE BARRIER PENETRATION HAD BEEN BREACHED FOR INSTALLATION OF A CONDUIT AS PART OF A DESIGN MODIFICATION ON 2-14-84. NEW CABLES WERE PULLED ON 2-16-84 AND THE CONDUIT WAS SEALED EXTERNALLY ON 2-17-84. THE CONDUIT WAS NOT SEALED INTERNALLY DUE TO PROCEDRUAL INADEQUACY IN THAT THE DESIGN SPECIFICATIONS WERE NOT FOLLOWED AND THE PROCEDURE FOR INSPECTION OF NEW OR REPAIRED FIRE BARRIER PENETRATIONS DID NOT PROVIDE GUIDANCE FOR THE INTERNAL INSPECTION OF CONDUITS FOR PROPER SEALING. TO PREVENT RECURRENCE, THE PROCEDURES WILL BE CHANGED TO PROVIDE SPECIFIC GUIDANCE FOR INSTALLATION AND VERIFICATION OF INTERNAL SEALING OF CONDUITS IN NEW OR REWORKED FIRE BARRIER PENETRATIONS.
Farley 1	02/20/1984	03/21/1984	Missed Fire Watch Abstract: POWER LEVEL - 000%. AT 1345 ON 2-20-84, DURING TROUBLESHOOTING, THE AUTOMATIC ACTUATION PORTION OF THE DIESEL BUILDING CARDOX FIRE SUPPRESSION SYSTEM, WHICH SUPPLIES 4160 V BUS 1J, WAS DETERMINED TO BE INOPERABLE. THE REQUIRED HOURLY FIREWATCH HAD NOT BEEN PERFORMED.
Farley 1	07/16/1984	08/15/1984	Continuous Fire Watch Abstract: POWER LEVEL - 100%. AT 1630 ON 7-16-84, IT WAS DETERMINED THAT A CONTINUOUS FIRE WATCH HAD NOT BEEN POSTED IN THE CCW HEAT EXCHANGER AND PUMP ROOM AS REQUIRED BY TECH SPEC 3.7.11.2. A FIRE WATCH WAS POSTED IMMEDIATELY AND MAINTAINED UNTIL NO LONGER REQUIRED.
Farley 1	09/07/1984	10/05/1984	Inoperable Fire Barrier Penetrations Abstract: POWER LEVEL - 100%. A PLANTWIDE WALKDOWN OF FIRE BARRIER PENETRATIONS COVERED BY TECH SPECS WAS INITIATED IN AUGUST 1984 TO VERIFY THAT AS-BUILT CONDITIONS AGREED WITH FIRE BARRIER PENETRATION DRAWINGS. DURING THIS INSPECTION, TWO FIRE BARRIER PENETRATIONS IN THE CONTROL ROOM WERE FOUND NOT TO CONFORM TO DESIGN SPECIFICATIONS. AT 1000 ON 9-7-84, FIRE BARRIER PENETRATION 01-155-02 WAS FOUND TO HAVE FIVE CONDUITS RUNNING THROUGH HOLES DRILLED IN A STEEL PLATE. THIS PENETRATION SHOULD HAVE HAD SILICONE FOAM SEALANT AROUND THE CONDUITS BUT THE FOAM WAS NOT INSTALLED. AT 1430 ON 9-7-84, FIRE BARRIER PENETRATION 06-155-03 WAS FOUND TO HAVE A SPARE THREE INCH CONDUIT WHICH WAS CAPPED ONLY ON THE CONTROL ROOM SIDE OF THE PENETRATION. DESIGN SPECIFICATIONS REQUIRE A CAP AT BOTH ENDS OF SPARE CONDUITS. IN BOTH CASES, THE FIRE BARRIER PENETRATION WAS DECLARED INOPERABLE AND THE PENETRATION WAS SEALED. FIRE BARRIER PENETRATION 01-155-02 WAS DECLARED OPERABLE AT 1430 ON 9-12-84 AND PENETRATION 06-155-03 WAS DECLARED OPERABLE AT 0800 ON 9-10-84. SINCE THE CONTROL ROOM HAD BEEN MANNED CONTINUOUSLY, FIRE WATCH SURVEILLANCE HAD BEEN MAINTAINED DURING THE TIME THE BARRIERS WERE NONFUNCTIONAL. THE INSPECTION OF ALL CONTROL ROOM FIRE BARRIER PENETRATIONS REVEALED ONLY THESE TWO DEFICIENT PENETRATIONS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Farley 1	10/08/1984	11/05/1984	Hourly Fire Watch Patrol Posted Not Maintained as Required Abstract: POWER LEVEL - 100%. AT 1008 ON 10-8-84, THE FIRE ALARM FOR THE SERVICE WATER INTAKE STRUCTURE WAS CUT OUT DUE TO SPURIOUS FIRE ALARMS BEING GENERATED IN SMOKE DETECTOR CIRCUIT 1-SW-97. AN HOURLY FIRE WATCH PATROL WAS POSTED IN ACCORDANCE WITH TECH SPEC 3.3.3.9 ACTION STATEMENT REQUIREMENTS. HOWEVER, AT 1745 ON 10-8-84, IT WAS DETERMINED THAT NO HOURLY FIRE WATCH PATROLS HAD BEEN CONDUCTED DURING THE PERIOD 1430 THROUGH 1745. THE FIRE WATCH PATROL WAS REINSTATED IMMEDIATELY AND MAINTAINED UNTIL NO LONGER REQUIRED. THE SERVICE WATER INTAKE STRUCTURE FIRE ALARM WAS RETURNED TO SERVICE AT 2348 ON 10-8-84.
Farley 1	10/22/1984	11/21/1984	Continuous Fire Watch Not Posted as Required Abstract: POWER LEVEL - 100%. AT 0345 ON 10-24-84, IT WAS DETERMINED THAT THE ISOLATION VALVE FOR FIRE PROTECTION SYSTEM 1SW-111 WAS CLOSED. THE VALVE WAS OPENED AND THE FIRE PROTECTION SYSTEM WAS RETURNED TO SERVICE AT 0355 ON 10-24-84. AN INVESTIGATION REVEALED THAT THE ISOLATION VALVE HAD BEEN CLOSED AT 1500 ON 10-22-84. TECH SPEC 3.7.11.2 ACTION STATEMENTS REQUIRE A CONTINUOUS FIRE WATCH TO BE POSTED WITHIN 1 HR OF THE TIME THAT 1SW-111 IS RENDERED INOPERABLE. HOWEVER, NO FIRE WATCH HAD BEEN POSTED.
Farley 1	04/11/1985	05/10/1985	Inoperable Fire Door Abstract: POWER LEVEL - 000%. AT 0005 ON 4-O11-85, FIRE DOOR 401 WAS DECLARED INOPERABLE AND COULD NOT BE REPAIRED WITHIN 7 DAYS. THEREFORE, THIS SPECIAL REPORT IS SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF TECH SPEC 3.7.12. TECH SPEC 3.7.12 REQUIREMENTS FOR VERIFYING THE OPERABILITY OF FIRE DETECTORS ON AT LEAST ONE SIDE OF THE NON-FUNCTIONAL FIRE BARRIER AND ESTABLISHING AN HOURLY FIRE WATCH WERE MET. THE FIRE DOOR WAS DECLARED INOPERABLE DUE TO A LOOSE AUTO-CLOSURE MECHANISM AND LOOSE ASTRAGAL. WHILE ATTEMPTING TO REPAIR THE DOOR, ADDITIONAL PROBLEMS WERE FOUND AND IT WAS DETERMINED THAT THE DOOR ASSEMBLY SHOULD BE REPLACED. A NEW DOOR ASSEMBLY HAS BEEN ORDERED AND IS EXPECTED TO BE RECEIVED ON 6-24-85. AFTER THE DOOR HAS BEEN RECEIVED. FIRE WATCH REQUIREMENTS CONTINUE TO BE MET AND A FIRE WATCH WILL BE MAINTAINED UNTIL THE DOOR IS REPLACED AND DETERMINED FUNCTIONAL.
Farley 1	07/09/1985	11/19/1985	Inadequate Testing Results in Inoperable Smoke Detectors Abstract: POWER LEVEL - 100%. AT 0950 ON 10-23-85, DURING SEMI-ANNUAL SMOKE DETECTOR TESTING, IT WAS DISCOVERED THAT THE FIFTH, SIXTH AND SEVENTH SMOKE DETECTORS IN FIRE PROTECTION SYSTEM 1A-32 WERE INOPERABLE. SUBSEQUENT INVESTIGATION REVEALED THAT THESE DETECTORS HAD BEEN INOPERABLE SINCE 7-9-85 WHEN WIRES FOR THE FIFTH SMOKE DETECTOR WERE RETERMINATED INCORRECTLY. SINCE IT WAS NOT RECOGNIZED AT THE TIME THAT THESE DETECTORS WERE INOPERABLE, THE TECH SPEC 3.3.3.9 ACTION STATEMENT CONCERNING THE ESTABLISHMENT OF A FIRE WATCH PATROL WITHIN 1 HR IN EACH OF THESE ROOMS WAS NOT MET. UPON DISCOVERY ON 10-23-85, AN HOURLY FIREWATCH PATROL WAS ESTABLISHED IMMEDIATELY IN THE AFFECTED AREAS. THE SMOKE DETECTORS WERE RETURNED TO SERVICE AT 1528 ON 10-23-85. THIS EVENT WAS CAUSED BY PERSONNEL ERROR IN THAT ADEQUATE VERIFICATION WAS NOT SPECIFIED TO ENSURE THE OPERABILITY OF THE DETECTORS AFTER THE COMPLETION OF THE WORK. TO PREVENT RECURRENCE, THE INDIVIDUALS INVOLVED WILL BE COUNSELED AND THIS EVENT WILL BE DISCUSSED WITH OTHER APPROPRIATE INDIVIDUALS.
Farley 1	08/04/1986	09/02/1986	Fire Watch Not Established As Required Abstract: POWER LEVEL - 099%. AT 1946 ON 8-4-86, DURING NORMAL PLANT OPERATIONS AT 99% REACTOR POWER, IT WAS DISCOVERED THAT A CONTINUOUS FIRE WATCH HAD NOT BEEN POSTED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.11.2. DURING THE ESTABLISHING OF FORTY REQUIRED FIRE WATCHES AND PATROLS, THE CONTINUOUS FIRE WATCH IN ONE ROOM WAS OVERLOOKED AND NOT ESTABLISHED AS REQUIRED. THIS EVENT WAS CAUSED BY A COGNITIVE PERSONNEL ERROR. THE SHIFT FOREMAN WHO WAS ESTABLISHING THE FIRE WATCHES AND PATROLS WAS UNABLE TO FIND ONE OF THE ROOMS REQUIRING A FIRE WATCH ON A PRINT. THIS FIRE WATCH WAS DEFERRED WHILE THE OTHERS WERE BEING ESTABLISHED. SUBSEQUENTLY, HE FORGOT TO ESTABLISH THIS PARTICULAR FIRE WATCH. THE LARGE AMOUNT OF ACTIVITY REQUIRED TO ESTABLISH THIS NUMBER OF FIRE WATCHES AND PATROLS IS CONSIDERED TO HAVE DIRECTLY CONTRIBUTED TO THE ERROR.
Farley 1	09/02/1986	09/25/1986	Special Report: Fire Detectors Inoperable for Longer Than Allowed By Technical Specifications Abstract: POWER LEVEL - 099%. AT 1400 ON 8-19-86, FIRE PROTECTION SYSTEM 1A-108 WAS DISABLED IN ORDER TO SUPPORT EXTENSIVE ARCHITECTURAL MODIFICATIONS TO THE AUXILIARY BUILDING ACCESS CONTROL AREA. TECH SPECS REQUIRE THAT AN HOURLY FIRE WATCH PATROL REMAIN IN EFFECT WHILE THE SYSTEM IS INOPERABLE AND THAT THE SYSTEM BE RETURNED TO OPERABLE STATUS WITHIN 14 DAYS. THE HOURLY FIRE WATCH PATROL WAS ESTABLISHED AND MAINTAINED. HOWEVER, DUE TO THE SCOPE OF THE MODIFICATIONS IN PROGRESS, THE SYSTEM COULD BE RETURNED TO SERVICE WITHIN 14 DAYS. THE SMOKE DETECTORS COULD NOT BE REINSTALLED UNTIL THE WALL MODIFICATIONS WERE COMPLETED. FIRE PROTECTION SYSTEM 1A-108 WAS RETURNED TO SERVICE ON 9-16-86. THIS SPECIAL REPORT IS BEING SUBMITTED IN ACCORDANCE WITH TECH SPEC 3.3.3.9.
Farley 1	11/05/1986	12/05/1986	SPECIAL REPORT: THE CONTAINMENT EQUIPMENT HATCH WAS NON-FUNCTIONAL AS A FIRE BARRIER FOR LONGER THAN SEVEN DAYS Abstract: POWER LEVEL - 000%. THIS SPECIAL REPORT IS BEING SUBMITTED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.12. AT 1712 ON 10-29-86 THE CONTAINMENT EQUIPMENT HATCH WAS OPENED TO SUPPORT OUTAGE ACTIVITIES. SINCE THE CONTAINMENT WALL IS CONSIDERED TO BE A FIRE BARRIER, OPENING THE EQUIPMENT HATCH CONSTITUTES BREACHING A FIRE BARRIER. TECHNICAL SPECIFICATIONS REQUIRE THAT WITHIN ONE HOUR, EITHER ESTABLISH A CONTINUOUS FIRE WATCH OR VERIFY THE OPERABILITY OF FIRE DETECTORS AND ESTABLISH AN HOURLY FIRE WATCH. A CONTINUOUS FIRE WATCH WAS ESTABLISHED AND MAINTAINED. FURTHER, TECHNICAL SPECIFICATIONS REQUIRE THAT BREACHED FIRE BARRIERS BE RESTORED TO FUNCTIONAL STATUS WITHIN SEVEN DAYS OR A SPECIAL REPORT MUST BE SUBMITTED. DUE TO THE SCOPE OF THE WORK IN PROGRESS, IT WAS NOT PRACTICAL TO CLOSE THE EQUIPMENT HATCH WITHIN SEVEN DAYS. THE CONTAINMENT EQUIPMENT HATCH WAS CLOSED AT 2224 ON 11-08-86.
Farley 1	03/23/1987	04/23/1987	Personnel Errors Result In Missed Fire Watch Abstract: POWER LEVEL - 100%. AT 1000 ON 3-24-87, WITH THE UNIT OPERATING IN STEADY STATE AT 100% REACTOR POWER, IT WAS DISCOVERED THAT AN HOURLY FIRE WATCH HAD NOT BEEN PERFORMED IN ROOM 223. UPON DISCOVERY OF THE MISSED FIRE WATCH, AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED IMMEDIATELY IN ROOM 223. THIS EVENT WAS CAUSED BY PERSONNEL ERRORS. THE INDIVIDUALS INVOLVED IN THIS EVENT HAVE BEEN COUNSELED.
Farley 1	01/20/1988	02/19/1988	Technical Specification Action Statement Requirement Not Met For Inoperable Fire Protection Systems Abstract: POWER LEVEL - 100%. AT 0830 ON 1-20-88, WITH THE UNIT OPERATING IN STEADY STATE AT 100% REACTOR POWER, IT WAS DISCOVERED THAT THE MASTER OVERRIDE SWITCH FOR THE UNIT 1 PYROTRONICS PANEL WAS IN THE OVERRIDE POSITION. BY BEING IN THIS POSITION, THIS SWITCH RENDERED ALL OF THE UNIT 1 PREACTION WATER PROTECTION SYSTEMS INOPERABLE. TECHNICAL SPECIFICATION 3.7.11.2 REQUIRES THAT CONTINUOUS FIRE WATCHES OR HOURLY FIRE WATCH PATROLS (AS APPROPRIATE) BE POSTED WITHIN ONE HOUR WHENEVER ONE OF THESE SYSTEMS IS INOPERABLE. HOWEVER, THESE FIRE WATCHES WERE NOT ESTABLISHED AS REQUIRED SINCE IT WAS NOT REALIZED THAT THE SWITCH WAS IN OVERRIDE. THE PANEL SWITCH WAS RESET AT 0834 AND AN IMMEDIATE INVESTIGATION WAS BEGUN TO DETERMINE WHY THE SWITCH WAS IN THE OVERRIDE POSITION. THIS EVENT WAS CAUSED BY PERSONNEL ERROR. THE INDIVIDUAL WHO FAILED TO ENSURE THAT THE SWITCH WAS IN THE CORRECT POSITION HAS BEEN COUNSELED.
Farley 1	02/12/1988	02/19/1988	Personnel Errors Result in Special Report Not Being Submitted For An Inoperable Fire Door Abstract: POWER LEVEL - 100%. ON 2-12-88, IT WAS DISCOVERED THAT A SPECIAL REPORT HAD NOT BEEN SUBMITTED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.12 ACTION STATEMENT A. THIS EVENT WAS CAUSED BY PERSONNEL ERRORS. THE EVENT WAS MISTAKENLY BELIEVED TO NOT BE REPORTABLE AND THUS THE PLANT INCIDENT REPORT WAS NOT AGGRESSIVELY PURSUED. THE INDIVIDUALS WHO WERE RESPONSIBLE FOR THE INVESTIGATION OF THIS EVENT AND DETERMINATION OF REPORTABILITY REQUIREMENTS HAVE BEEN COUNSELED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Farley 1	04/13/1988	05/11/1988	Special Report: Containment Hatches Were Non-functional As A Fire Barrier For Longer Than Seven Days Abstract: POWER LEVEL - 000%. THE CONTAINMENT PERSONNEL AND EQUIPMENT HATCHES HAVE BEEN OPEN FOR MORE THAN SEVEN DAYS TWICE DURING THE CURRENT REFUELING OUTAGE. THE HATCHES WERE OPENED TO SUPPORT OUTAGE ACTIVITIES. THE FIRST TIME THE SEVEN-DAY TIME LIMIT WAS EXCEEDED FOR THE PERSONNEL HATCH WAS 4-13-88 AT 1925 AND THE SECOND TIME WAS 5-5-88 AT 0500. THE SEVEN-DAY TIME LIMIT FOR THE EQUIPMENT HATCH WAS EXCEEDED ON 4-18-88 AT 2115 AND 5-9-88 AT 1400. SINCE THE CONTAINMENT WALL IS CONSIDERED TO BE A FIRE BARRIER, OPENING THESE HATCHES CONSTITUTES BREACHING A FIRE BARRIER. TECH SPEC 3.7.12 REQUIRES THAT WITHIN ONE HOUR, EITHER ESTABLISH A CONTINUOUS FIRE WATCH OR VERIFY THE OPERABILITY OF FIRE DETECTORS AND ESTABLISH AN HOURLY FIRE WATCH PATROL. CONTINUOUS FIRE WATCHES WERE ESTABLISHED AND MAINTAINED. TECH SPEC 3.7.12 ALSO REQUIRES THAT BREACHED FIRE BARRIERS BE RESTORED TO FUNCTIONAL STATUS WITHIN SEVEN DAYS OR A SPECIAL REPORT MUST BE SUBMITTED WITHIN THE FOLLOWING 30 DAYS. THEREFORE, THIS SPECIAL REPORT IS BEING SUBMITTED. DUE TO THE SCOPE OF THE WORK IN PROGRESS, IT WAS NOT PRACTICAL TO CLOSE THESE HATCHES WITHIN SEVEN DAYS. THE CONTAINMENT PERSONNEL AND EQUIPMENT HATCHES WILL BE CLOSED PRIOR TO ENTRY INTO MODE 4 (HOT SHUTDOWN).
Farley 1	04/24/1988	05/24/1988	Special Report: Fire Barrier Inoperable For More Than Seven Days Abstract: POWER LEVEL - 000%. AT APPROXIMATELY 1600 ON 5-4-88, IT WAS DISCOVERED THAT FIRE BARRIER PENETRATION 17-139-9 HAD BEEN BREACHED. THE SHIFT FOREMAN WAS UNAWARE OF THIS PENETRATION BEING BREACHED. AN INVESTIGATION DETERMINED THAT A CABLE HAD BEEN ROUTED THROUGH THE PENETRATION ON 4-17-88 AND THE FORMS THAT ARE NORMALLY FILLED OUT FOR A BREACHED PENETRATION HAD NOT BEEN FILLED OUT. THE PENETRATION WAS SEALED AND RESTORED TO FUNCTIONAL STATUS BY I700 ON 5-4-88. TECHNICAL SPECIFICATION 3.7.12 REQUIRES: WITHIN ONE HOUR, EITHER ESTABLISH A CONTINUOUS FIRE WATCH ON AT LEAST ONE SIDE OF THE AFFECTED PENETRATION, OR VERIFY THE OPERABILITY OF FIRE DETECTORS ON AT LEAST ONE SIDE OF THE NON-FUNCTIONAL FIRE BARRIER AND ESTABLISH AN HOURLY FIRE WATCH PATROL. TECHNICAL SPECIFICATION ACTION STATEMENT REQUIREMENTS HAD BEEN MET IN THAT AN HOURLY FIRE WATCH PATROL HAD BEEN MAINTAINED DUE TO ANOTHER BREACHED PENETRATION IN THE AREA. TECHNICAL SPECIFICATION 3.7.12 ALSO REQUIRES THE PENETRATION TO BE RETURNED TO FUNCTIONAL STATUS WITHIN SEVEN DAYS OR A SPECIAL REPORT MUST BE SUBMITTED. THEREFORE, THIS SPECIAL REPORT IS BEING SUBMITTED. TO PREVENT RECURRENCE OF THIS TYPE OF EVENT, THE APPROPRIATE PERSONNEL WILL BE REINSTRUCTED TO ENSURE THAT THE SHIFT FOREMAN IS INFORMED PRIOR TO BREACHING A FIRE BARRIER
Farley 1	05/25/1988	06/24/1988	Special Report: Fire Door Inoperable For More Than Seven Days Abstract: POWER LEVEL - 048%. AT 1200 ON 5-18-88, FIRE DOOR 408 WAS DECLARED INOPERABLE BECAUSE IT HAD BEEN SECURED IN THE OPEN POSITION TO FACILITATE ACCESS TO THE AREA. ON 5-24-88, :HE WORK IN THIS AREA WAS COMPLETED AND THE DOOR WAS INSPECTED PRIOR TO RESTORING THE DOOR TO OPERABLE STATUS. DURING THIS INSPECTION, AT APPROXIMATELY 2200 ON 5-24-88, IT WAS DISCOVERED THAT THE DOOR WAS DAMAGED. THE DOOR WAS REPAIRED AND RETURNED TO FUNCTIONAL STATUS AT 0830 ON 6-6-88. TECHNICAL SPECIFICATION 3.7.12 REQUIRES: WITHIN ONE HOUR, EITHER ESTABLISH A CONTINUOUS FIRE WATCH ON AT LEAST ONE SIDE OF THE AFFECTED PENETRATION, OR VERIFY THE OPERABILITY OF FIRE DETECTORS ON AT LEAST ONE SIDE OF THE NON-FUNCTIONAL FIRE BARRIER AND ESTABLISH AN HOURLY FIRE WATCH PATROL. AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED AND MAINTAINED. TECHNICAL SPECIFICATION 3.7.12 ALSO REQUIRES THE DOOR TO BE RETURNED TO FUNCTIONAL STATUS WITHIN SEVEN DAYS OR A SPECIAL REPORT MUST BE SUBMITTED. THEREFORE, THIS SPECIAL REPORT IS BEING SUBMITTED.
Farley 1	06/15/1988	07/13/1988	Technical Specification Action Statement Requirement Not Met For An Inoperable Fire Hose Station Abstract: POWER LEVEL - 100%. AT 1750 ON 6/15/88, IT WAS DISCOVERED THAT FIRE HOSE STATION N1V43-D-126 WAS INOPERABLE. THE HOSE STATION HAD BEEN INOPERABLE SINCE 0800 ON 6/15/88 WHEN A SYSTEM OPERATOR HAD INADVERTENTLY SHUT THE WRONG VALVE WHILE ISOLATING A FIRE PROTECTION SPRINKLER SYSTEM. TECH SPEC 3.7.11.4 ACTION STATEMENT REQUIREMENT TO ROUTE AN ADDITIONAL FIRE HOSE TO THE AREA WITHIN ONE HOUR HAD NOT BEEN MET SINCE IT WAS NOT REALIZED THAT THE HOSE STATION WAS INOPERABLE. THE ISOLATION VALVE WAS OPENED IMMEDIATELY UPON DISCOVERY AND FIRE HOSE STATION N1V43-D-126 WAS RESTORED TO OPERABLE STATUS. THE SYSTEM OPERATOR INVOLVED IN THIS EVENT HAS BEEN COUNSELED.
Farley 1	10/12/1988	11/10/1988	Personal Error Results In Technical Specification Action Statement Requirements Not Being Met When Fire Protection Systems Were Inoperable Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 1130 ON 10/12/88, IT WAS FOUND THAT SPRINKLER FIRE PROTECTION SYSTEMS (FPS'S) 1A-48, 1A-112 AND 1A-118 WERE INOPERABLE BECAUSE THEIR CLAPPER VALVES WOULD NOT HAVE TRIPPED AS REQUIRED IN RESPONSE TO A SIGNAL FROM A SMOKE DETECTOR. AN INVESTIGATION REVEALED THAT THESE FPS'S HAD BEEN INOPERABLE SINCE 10/6/88 WHEN THE ASSOCIATED ZONE INDICATING UNIT (ZIU) WAS REPLACED. IT WAS NOT REALIZED ON 10/6/88 THAT THESE FPS'S WERE INOPERABLE. THEREFORE, ONE OF THE FIRE WATCHES REQUIRED BY TECH SPEC 3.7.11.2 WAS NOT ESTABLISHED. THIS EVENT WAS CAUSED BY COGNITIVE PERSONNEL ERROR IN THAT MAINTENANCE PERSONNEL ERPLACED THE WIRES INCORRECTLY FOLLOWING THE REPLACEMENT OF THE ZIU. CONTRIBUTING TO THIS ERROR WERE IMPROPER PLANNING AND IMPROPER TEST AND RESTORATION. THE MAINTENANCE WORKERS INVOLVED IN THIS EVENT HAVE BEEN COUNSELED AND THIS EVENT WILL BE DISCUSSED WITH ELECTRICAL MAINTENANCE PERSONNEL. THE APPROPRIATE PORTIONS OF THIS EVENT WILL BE DISCUSSED WITH PLANNING PERSONNEL. THE ELECTRICAL FOREMAN WHO RE-PLANNED THE WORK REQUEST WILL BE REINSTRUCTED ON THE PROPER INFORMATION TO BE INCLUDED IN A PLANNING SEQUENCE. TEST AND RESTORATION PROCEDURES FOR MAINTENANCE ON THE PYROTRONICS PANEL
Farley 1	02/13/1990	03/13/1990	Fire Watch Not Established Within The Required Time Period Due To Personnel Error Abstract: POWER LEVEL - 100%. AT 1035 ON 02/13/90, IT WAS RECOGNIZED THAT A CONTINUOUS FIRE WATCH REQUIRED BY TECH SPEC 3.7.11.2 WAS NOT BEING PERFORMED. PRE-ACTION FIRE PROTECTION SYSTEM (FPS) 1A-62 HAD BEEN ISOLATED AT 0859 ON 02/13/90 SO THAT MAINTENANCE COULD BE PERFORMED ON THE CLAPPER VALVE. WHEN FPS 1A-62 IS INOPERABLE, TECH SPEC 3.7.11.2 REQUIRES THAT, WITHIN ONE HOUR, A CONTINUOUS FIRE WATCH BE ESTABLISHED IN ROOM 190 (AUXILIARY FEEDWATER PUMPS CABLE AREA). THE REQUIRED FIRE WATCH WAS ESTABLISHED AT 1054 ON 02/13/90. THIS EVENT WAS CAUSED BY COGNITIVE PERSONNEL ERRORS IN THAT: (1) THE SHIFT FOREMAN - INSPECTING INVOLVED DID NOT CONSIDER THE NEED FOR ESTABLISHING A FIRE WATCH AND (2) THE SHIFT SUPERVISOR AND PLANT OPERATOR ASSUMED THAT THE FIRE WATCH HAD ALREADY BEEN ESTABLISHED AND DID NOT VERIFY THE CORRECTNESS OF THEIR ASSUMPTION. FNP-O-SOP-0.4 (FIRE PROTECTION PROGRAM ADMINISTRATIVE PROCEDURE) HAS BEEN REVISED. THIS REVISION REQUIRES VERIFICATION THAT THE REQUIRED FIRE WATCH HAS BEEN ESTABLISHED PRIOR TO REMOVING A FIRE PROTECTION SYSTEM FROM SERVICE FOR MORE THAN ONE HOUR. ALL OPERATIONS PERSONNEL WILL BE TRAINED ON THIS REQUIREMENT. IN ADDITION, ALL OPERATIONS PERSONNEL WILL BE RETRAINED ON THE PROPER USE OF TURNOVER SHEETS FOR DOCUMENTATION OF SPECIAL CONDITION
Farley 1	01/23/1991	02/15/1991	Missed Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 100%. AT 1440 ON 01-23-91, IT WAS RECOGNIZED THAT AN HOURLY FIRE WATCH PATROL REQUIRED BY TECHNICAL SPECIFICATION 3.3.3.9 WAS NOT BEING PERFORMED. A FIRE WATCH WAS REQUIRED BECAUSE A CONTROL ROOM ALARM HAD BEEN DISABLED DUE TO RECURRING SPURIOUS ALARMS. THE SHIFT FOREMAN 0PERATOR WHO ESTABLISHED THE FIRE WATCH PATROL INADVERTENTLY ESTABLISHED THE FIRE WATCH IN THE WRONG AREA OF THE AUXILIARY BUILDING. THE REQUIRED FIREWATCH WAS ESTABLISHED AT 1445 ON 01-23-91. THIS EVENT WAS CAUSED BY COGNITIVE PERSONNEL ERROR. THE SHIFT FOREMAN OPERATING INVOLVED HAS BEEN COUNSELED.
Farley 1	08/31/1992	11/10/1992	Fire Door Blocked Open Without Fire Watch Abstract: POWER LEVEL - 100%. On 8-26-92, during the performance of FNP-1-SOP-49.1, 'Dewatering of a Storage Cask to the Secondary SRST' (Spent Resin Storage Tank), Operations personnel routed a drain hose under a closed fire door to facilitate the dewatering evolution. At 2015 on 8-31-92, an Operations Shift Foreman (SFO) discovered the fire door ajar and blocked open by the drain hose. No fire watch had been established. Apparently, an individual used the door and did not ensure that it reclosed over the hose. The Operations Systems Operator (SO) responsible for the area had noted the door open 4 hours earlier but assumed a fire watch had been established. Upon recognition of this condition, the actions of Technical Specification 3.7.12 were performed. Fire detector operability on at least one side of the door was verified throughout the event, and an hourly fire watch patrol was immediately established. The Operations SO responsible for the area has been reinstructed to question and verify rather than assume that blocked or propped open fire doors have fire watches established as required. SOP-49.1 has been changed to provide instruction on ensuring the establishment of a fire watch before routing a drain hose under or through a fire door. The fire protection program administrative procedure will be changed to include

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Farley 1, Farley 2	05/04/1987	06/03/1987	Personnel Error Resulted in Missed Fire Watch Abstract: POWER LEVEL - 100%. AT 1633 ON 5-4-87, WITH THE UNIT OPERATING IN STEADY STATE AT 100% REACTOR POWER, IT WAS DISCOVERED THAT A FIRE WATCH HAD NOT BEEN POSTED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.11.2. A FIRE DOOR WAS LEFT WITHOUT BEING PROPERLY CLOSED. NEITHER THE SHIFT SUPERVISOR NOR THE SHIFT FOREMAN OPERATING (SFO) WERE INFORMED AND THUS THE REQUIRED FIRE WATCH WAS NOT ESTABLISHED. THE DOOR WAS CLOSED AT 1650 AND AN IMMEDIATE INVESTIGATION WAS BEGUN TO DETERMINE WHY AND WHEN THE DOOR WAS LEFT OPEN. THIS EVENT WAS CAUSED BY PERSONNEL ERROR. THE INDIVIDUAL RESPONSIBLE FOR FAILING TO ENSURE THAT THE FIRE DOOR WAS CLOSED HAS BEEN COUNSELED. IT IS A REQUIREMENT OF ADMINISTRATIVE PROCEDURES TO NOTIFY THE SHIFT SUPERVISOR OR SFO OF ANY INOPERABLE FIRE DOOR SO THAT ANY FIRE WATCH REQUIRED CAN BE ESTABLISHED.
Farley 1, Farley 2	10/08/1987	11/03/1987	Special Report: Fire Door 496 Inoperable For More Than Seven Days Abstract: POWER LEVEL - 100%. AT 2130 ON 10-1-87, FIRE DOOR 496 WAS DECLARED INOPERABLE AND COULD NOT BE REPAIRED WITHIN SEVEN DAYS. TECHNICAL SPECIFICATION 3.7.12 REQUIRES THE FIRE DOOR TO BE RETURNED TO OPERABLE STATUS WITHIN SEVEN DAYS OR A SPECIAL REPORT MUST BE SUBMITTED WITHIN THE FOLLOWING 30 DAYS. THEREFORE THIS SPECIAL REPORT IS BEING SUBMITTED. THE FIRE DOOR WAS DECLARED INOPERABLE BECAUSE THE DOOR WAS BENT AND THE LATCHING MECHANISM WAS STUCK SO THAT THE DOOR COULD NOT BE LATCHED. THE DOOR WAS ADJUSTED, BUT COULD NOT BE REPAIRED AND MUST BE REPLACED. A NEW DOOR HAS BEEN ORDERED AND IS EXPECTED TO BE RECEIVED ON DECEMBER 9, 1987. REPAIRS WILL BE COMPLETED AS SOON AS PRACTICABLE AFTER THE DOOR HAS BEEN RECEIVED. FIRE WATCH REQUIREMENTS CONTINUE TO BE MET AND A FIRE WATCH WILL BE MAINTAINED UNTIL THE DOOR IS REPLACED AND DETERMINED FUNCTIONAL. ALL TECHNICAL SPECIFICATION ACTION STATEMENT REQUIREMENTS FOR THE FIRE DOOR ARE BEING MET.
Farley 1, Farley 2	02/19/1988	03/17/1988	Personnel Error Results In Required Fire Watch Patrol Not Being Established With The Required Time Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 1545 ON 2/19/88, WITH THE UNIT OPERATING IN STEADY STATE AT 100% REACTOR POWER, IT WAS DISCOVERED THAT AN HOURLY FIRE WATCH PATROL HAD NOT BEEN ESTABLISHED AS REQUIRED. UPON DISCOVERY OF THE MISSED FIRE WATCH PATROL, THE REQUIRED FIRE WATCH PATROL WAS ESTABLISHED IMMEDIATELY. THIS EVENT WAS CAUSED BY PERSONNEL ERROR. THE INDIVIDUAL INVOLVED IN THIS EVENT HAS BEEN COUNSELED.
Farley 1, Farley 2	10/13/1990	11/21/1990	Failure Of Protection System Clapper Valves To Trip Abstract: POWER LEVEL - 100%. ON 10-13-90, DURING AN INVESTIGATION TO DETERMINE WHY FIRE PROTECTION SYSTEM CLAPPER VALVES FAILED TO TRIP, IT WAS DETERMINED THAT THE DIAPHRAGMS IN SOME OF THESE VALVES AT FNP HAVE DETERIORATED AND/OR DEFORMED OVER TIME, WHICH CAUSED THEM TO FUNCTION IMPROPERLY. THE CURRENT PREVENTIVE MAINTENANCE PROGRAM WILL BE CHANGED TO INCLUDE PERIODIC REPLACEMENT OF THE DIAPHRAGMS ON PREACTION FIRE PROTECTION SYSTEMS.
Farley 1, Farley 2	03/30/1992	04/24/1992	Missed Fire Watch Due To Personnel Error Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 1000 ON 3-30-92, A SHIFT FOREMAN OPERATING (SFO) RECOGNIZED THAT AN HOURLY FIRE WATCH PATROL REQUIRED BY TECHNICAL SPECIFICATION 3.3.3.9 WAS NOT BEING PERFORMED. THE FIRE DETECTION SYSTEM, 1SW-111, FOR THE SERVICE WATER INTAKE STRUCTURE (SWIS) WENT INTO SPURIOUS ALARM AT 0846 AND WAS THEREFORE INOPERABLE. THE REQUIRED HOURLY FIRE WATCH WAS NOT ESTABLISHED UNTIL 1025. DETECTION SYSTEM 1SW-111 HAD BEEN DECLARED INOPERABLE PRIOR TO THIS EVENT ON 3-18-92 AT 1715. THIS LCO AND THE REQUIRED FIRE WATCH ON 1SW-111 WERE CLEARED AT 1850 ON 3-19-92. THE UNIT 1 UNIT OPERATOR (UO) PROPERLY REMOVED THIS LCO FROM HIS RELIEF CHECKSHEET. HOWEVER, HE DID NOT RELAY THIS INFORMATION TO THE OPERATOR AT THE CONTROLS (OATC), AND SUBSEQUENTLY, THE OATC CONTINUED TO RECORD 1SW-111 AS BEING INOPERABLE. WHEN 1SW-111 ALARMED ON 3-30-92 AT 0846, THE OATC DID NOT INITIATE AN INVESTIGATION NOR DID HE INFORM THE SFO OF THE ALARM BECAUSE HE BELIEVED THE SYSTEM WAS ALREADY INOPERABLE AND THAT THE REQUIRED FIRE WATCHES WERE ESTABLISHED. THIS EVENT WAS CAUSED BY PERSONNEL ERROR DUE TO INADEQUATE COMMUNICATION BETWEEN THE CONTROL ROOM OPERATORS REGARDING THE OPERABILITY OF 1SW-111. A FIRE WATCH WAS ESTABLISHED WITHIN ONE HOUR OF THE SFO'S DISCOVERY THAT THE SYSTEM WAS INOPERABLE. THE
Farley 2	01/23/1984	04/19/1984	Missed Fire Watch Patrol Abstract: At 1500 on 1/23/84, it was determined that an hourly firewatch patrol in the B Train auxiliary building battery charger room, as required by Tech Spec 3.3.3.9, had not been performed during the 1300-1400 and 1400-1500 hours. The firewatch patrol was immediately performed for the 1500-1600 hour and all subsequent hours as required.
Farley 2	08/01/1984	08/24/1984	Continuous Fire Watch Not Maintained as Required Abstract: POWER LEVEL - 100%. AT 1830 ON 8-1-84, IT WAS DETERMINED THAT A CONTINUOUS FIRE WATCH HAD NOT BEEN MAINTAINED AS REQUIRED BY TECH SPEC 3.7.11.2. REMOVED FROM SERVICE FOR SURVEILLANCE TESTING AT 0809 ON 8-1-84. A CONTINUOUS FIRE WATCH WAS POSTED IN ACCORDANCE WITH TECH SPEC 3.7.11.2. HOWEVER, AT 1830 ON 8-1-84 IT WAS DETERMINED THAT THE FIRE WATCH HAD NOT BEEN MAINTAINED AS REQUIRED ALTHOUGH MAINTENANCE PERSONNEL HAD BEEN IN THE AREA INTERMITTENTLY (WORKING ON 2A-25). THIS EVENT WAS DUE TO PERSONNEL ERROR. THE SHIFT FOREMAN DID NOT PROVIDE ADEQUATE FIRE WATCH INSTRUCTIONS AND DID NOT ENSURE THAT THE FIRE WATCH REQUIREMENTS WERE MET. A FIRE WATCH WAS POSTED IMMEDIATELY AND MAINTAINED UNTIL NO LONGER REQUIRED.
Farley 2	11/07/1984	12/07/1984	Hourly Fire Watch Not Performed as Required Abstract: POWER LEVEL - 100%. TECH SPEC 3.3.3.9 ACTION STATEMENTS REQUIRE THE POSTING OF AN HOURLY FIRE WATCH PATROL WITHIN 1 HR WHENEVER CERTAIN FIRE DETECTION INSTRUMENTS ARE INOPERABLE. HOWEVER, AT 2315 ON 11-7-84, IT WAS DETERMINED THAT NO FIRE WATCH PATROL HAD BEEN POSTED WHEN THE MAIN CONTROL ROOM ANNUNCITION CAPABILITY FOR FIRE PROTECTION SYSTEM 2A-100 SMOKE DETECTORS WAS RENDERED INOPERABLE AT APPROX 2205 ON 11-7-84. THE SMOKE DETECTORS AND THE SPRINKLER SYSTEM ASSOCIATED WITH FIRE PROTECTION SYSTEM 2A-100 REMAINED OPERABLE. ONLY THE MAIN CONTROL ROOM ANNUNCIATOR FOR THIS SYSTEM WAS INOPERABLE. AN ALTERNATE MAIN CONTROL ROOM ALARM METHOD, THE PLANT COMPUTER ALARM DISPLAY, ALSO REMAINED OPERABLE DURING THIS PERIOD. AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED AT 2317 AND WAS MAINTAINED UNTIL NO LONGER REQUIRED.
Farley 2	12/13/1984	01/10/1985	Continuous Fire Watch Not Maintained as Required Abstract: POWER LEVEL - 100%. AT 0800 ON 12-14-84, DURING A REVIEW OF FIRE WATCH FORMS, IT WAS DISCOVERED THAT A CONTINUOUS FIRE WATCH REQUIRED BY TECH SPEC 3.7.11.2 HAD NOT BEEN MAINTAINED DURING THE PERIOD 0900-0935 ON 12-13-84. THE FIRE WATCH WAS NECESSARY BECAUSE FIRE PROTECTION SPRINKLER SYSTEM 2A-62 HAD BEEN PLACED IN OVERRIDE DUE TO WELDING IN ROOMS 2189 AND 2190 IN THE AUX BLDG. THIS EVENT WAS CAUSED BY PERSONNEL ERROR IN THAT THE INDIVIDUALS INVOLVED FAILED TO NOTIFY THE SHIFT FOREMAN BEFORE LEAVING THE FIRE WATCH. SUPERVISORS AND FOREMEN RESPONSIBLE FOR THESE PERSONNEL HAVE BEEN RE-INSTRUCTED IN FIRE WATCH REQUIREMENTS.
Farley 2	01/26/1985	02/21/1985	Continuous Fire Watch Not Maintained as Required Abstract: POWER LEVEL - 000%. AT APPROX 1730 ON 1-26-85 IT WAS DETERMINED THAT CONTINUOUS FIRE WATCHES REQUIRED BY TECH SPEC 3.7.11.2 HAD BEEN TERMINATED IMPROPERLY AT 1647 ON 1-26-85. THE FIRE WATCHES WERE NECESSARY BECAUSE FIRE PROTECTION SPRINKLER SYSTEMS 2A-101 AND 2A-25 HAD BEEN MADE INOPERABLE BY HAVING BEEN PLACED IN OVERRIDE DUE TO WELDING IN THE AREAS COVERED BY THESE SYSTEMS. THE SPRINKLER SYSTEMS WERE PLACED BACK IN SERVICE AT 1735 ON 1-26-85. THE FOREMAN IN CHARGE OF THE WELDING IN THESE AREAS RELEASED THE FIRE WATCHES AT 1647 WITHOUT FIRST CONTACTING THE SHIFT FOREMAN SO THAT THE SPRINKLER SYSTEMS COULD BE PLACED BACK IN SERVICE. THIS WAS CONTRARY TO PROCEDURAL REQUIREMENTS AND SPECIFIC VERBAL INSTRUCTIONS BY THE SHIFT FOREMAN. THIS EVENT WAS CAUSED BY PERSONNEL ERROR. THE INDIVIDUAL INVOLVED HAS BEEN COUNSELED CONCERNING THE ESTABLISHMENT AND TERMINATION OF CONTINUOUS FIRE WATCHES.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Farley 2	03/01/1985	03/27/1985	Fire Watch Established Incorrectly Abstract: POWER LEVEL - 000%. AT 2330 ON 3-1-85, WHILE REVIEWING LCO FORMS DURING SHIFT TURNOVER, IT WAS DISCOVERED THAT FIRE WATCH REQUIREMENTS HAD BEEN DETERMINED INCORRECTLY FOR AN INOPERABLE FIRE BARRIER. TECH SPEC 3.7.12 REQUIRES THAT EITHER A CONTINUOUS FIRE WATCH BE ESTABLISHED OR THE OPERABILITY OF FIRE DETECTORS ON AT LEAST ONE SIDE OF THE NONFUNCTIONAL FIRE BARRIER MUST BE VERIFIED AND AN HOURLY FIRE WATCH PATROL ESTABLISHED. HOURLY FIRE WATCH PATROLS HAD BEEN ESTABLISHED ON 2-27-85 FOR AN INOPERABLE FIRE BARRIER. HOWEVER, FIRE PROTECTION SYSTEM 2A-48 WHICH COVERS BOTH SIDES OF THE NONFUNCTIONAL FIRE BARRIER WAS MADE INOPERABLE ON 2-22-85 TO ADD AN ADDITIONAL SMOKE DETECTOR. AT THE TIME THE HOURLY FIRE WATCHES WERE ESTABLISHED, SYSTEM 2A-48 WAS STILL INOPERABLE. UPON DISCOVERY, CONTINUOUS FIRE WATCHES WERE ESTABLISHED IMMEDIATELY AND MAINTAINED UNTIL NO LONGER REQUIRED. THIS EVENT WAS CAUSED BY PERSONNEL ERROR IN THAT THE SHIFT FOREMAN WHO INITIATED THE LCO FAILED TO CHECK THE STATUS OF THE FIRE PROTECTION SYSTEM PRIOR TO INITIATING FIRE WATCH REQUIREMENTS. FURTHER, OTHER SHIFT FOREMEN FAILED TO ENSURE REQUIRED ACTIONS WERE PERFORMED WHILE THE LCO WAS IN EFFECT. THE INDIVIDUALS INVOLVED HAVE BEEN COUNSELED.
Farley 2	11/13/1985	12/16/1985	Inappropriate Fire Watch Established Abstract: POWER LEVEL - 099%. AT 0710 ON 11-17-85 WHILE REVIEWING LCO FORMS, IT WAS DISCOVERED THAT FIRE WATCH REQUIREMENTS HAD BEEN DETERMINED INCORRECTLY WHEN THE FIRE DETECTORS ON BOTH SIDES OF AN INOPERABLE FIRE BARRIER HAD BEEN MADE INOPERABLE AT 0910 ON 11-13-85. A CONTINUOUS FIRE WATCH SHOULD HAVE BEEN ESTABLISHED WITHIN 1 HR. INSTEAD, AN HOURLY FIRE WATCH HAD BEEN ESTABLISHED. UPON DISCOVERY OF THIS EVENT, THE DETECTORS ON 1 SIDE OF THE INOPERABLE FIRE BARRIER WERE RETURNED TO OPERABILITY. THIS EVENT WAS CAUSED BY PERSONNEL ERROR IN THAT THE SHIFT FOREMAN FAILED TO SPECIFY ADEQUATE FIRE WATCH REQUIREMENTS WHEN THE DETECTORS ON BOTH SIDES OF THE PENETRATIONS WERE MADE INOPERABLE ON 11-13-85. INDIVIDUALS INVOLVED HAVE BEEN COUNSELED.
Farley 2	05/21/1986	06/17/1986	Technical Specification Action Statement Requirements Not Met For Inoperable Fire Damper Abstract: POWER LEVEL - 000%. AT 0900 ON 5-21-86, DURING HEATUP FOLLOWING A MAINTENANCE OUTAGE, IT WAS RECOGNIZED THAT THE FIRE DAMPER IN PENETRATION 05-139-06 WAS INOPERABLE BECAUSE A CABLE FOR SOUND POWERED HEADPHONES HAD BEEN ROUTED THROUGH FIRE DAMPER. IT WAS DETERMINED THAT THE FIRE DAMPER HAD BEEN INOPERABLE SINCE APPROXIMATELY 0830 ON 5-18-86 AND THAT THE TECH SPEC 3.7.12 ACTION STATEMENT REQUIREMENT TO ESTABLISH AN HOURLY FIRE WATCH PATROL WITHIN 1 HOUR HAD NOT BEEN MET. THE CABLE WAS REMOVED AT APPROXIMATELY 0930 ON 5-21-86 WHICH RETURNED THE FIRE DAMPER TO OPERABILITY. SOUND POWERED HEADPHONES WERE NEEDED IN THE 121' PIPING PENETRATION ROOM (PPR) BUT NO HEADPHONE CONNECTIONS WERE AVAILABLE IN THIS ROOM. A CONNECTION IN THE 139' ELECTRICAL PENETRATION ROOM (EPR) WAS USED AND THE CABLE WAS ROUTED THROUGH A FIRE DAMPER IN A PENETRATION CONNECTING THE 2 ROOMS. THE ON-DUTY SHIFT SUPERVISOR WAS AWARE THAT THE FIRE DAMPER WAS INOPERABLE BUT FORGOT TO TAKE ACTION TO ESTABLISH THE REQUIRED FIRE WATCH. THIS EVENT WAS CAUSED BY PERSONNEL ERROR. THE APPROPRIATE INDIVIDUAL HAS BEEN COUNSELED. ALSO, THE FIRE DAMPERS IN THE EPR OF BOTH FNP UNITS HAVE BEEN CLEARLY LABELED AS FIRE BARRIERS.
Farley 2	09/15/1986	10/13/1986	TECHNICAL SPECIFICATION ACTION STATEMENTS NOT MET FOR AN INOPERABLE FIRE DOOR Abstract: POWER LEVEL - 099%. AT 0829 ON 9-15-86, DURING NORMAL PLANT OPERATIONS AT 99% REACTOR POWER, IT WAS DISCOVERED THAT A FIRE WATCH HAD NOT BEEN POSTED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.11.2. A FIRE DOOR WAS PROPPED OPEN WITHOUT THE SHIFT SUPERVISOR OR THE SHIFT FOREMAN OPERATING (SFO) BEING INFORMED AND THUS THE REQUIRED FIRE WATCH WAS NOT ESTABLISHED. THE DOOR WAS CLOSED AND AN IMMEDIATE INVESTIGATION WAS BEGUN TO DETERMINE WHY AND WHEN THE DOOR WAS PROPPED OPEN. THIS EVENT WAS CAUSED BY A PERSONNEL ERROR. THE INDIVIDUALS RESPONSIBLE FOR PROPPING THE DOOR OPEN HAVE BEEN COUNSELED SINCE IT IS A REQUIREMENT OF ADMINISTRATIVE PROCEDURES THAT THE SHIFT SUPERVISOR OR SFO BE NOTIFIED OF ANY INOPERABLE FIRE DOOR SO THAT ANY FIRE WATCH REQUIRED CAN BE ESTABLISHED.
Farley 2	03/15/1988	04/14/1988	Personnel Error Results In Required Fire Watch Patrol Not Being Established Abstract: POWER LEVEL - 100%. AT 0900 ON 3-15-88, IT WAS DISCOVERED THAT A FIRE WATCH PATROL HAD NOT BEEN ESTABLISHED AS REQUIRED. AT 1000 ON 3-8-88, TWO PENETRATIONS WERE RELEASED TO BE BREACHED. HOWEVER, THE SHIFT FOREMAN WHO RELEASED THESE PENETRATIONS DID NOT RECOGNIZE THAT ONE OF THESE PENETRATIONS IS A FIRE BARRIER PENETRATION. CONSEQUENTLY, THE REQUIRED FIRE WATCH PATROL WAS NOT ESTABLISHED. THIS EVENT WAS CAUSED BY PERSONNEL ERROR. THE SHIFT FOREMAN INVOLVED IN THIS EVENT HAS BEEN COUNSELED.
Farley 2	05/01/1988	05/26/1988	Personnel Error Results In Termination Of The Wrong Fire Watch Patrol Abstract: POWER LEVEL - 100%. AT 0800 ON 5-1-88, IT WAS DISCOVERED THAT AN HOURLY FIRE WATCH PATROL REQUIRED BY TECHNICAL SPECIFICATION 3.7.12 HAD NOT BEEN PERFORMED DURING THE PERIOD FROM 1315 ON 4-30-88 UNTIL 0800 ON 5-1-88. THE SHIFT FOREMAN COORDINATING FIRE WATCHES HAD DISCONTINUED FIVE FIRE WATCH PATROLS AT 1315 ON 4-30-88 BECAUSE THE SITUATION REQUIRING THE FIRE WATCH PATROLS HAD BEEN CORRECTED. FOUR OF THESE FIRE WATCH PATROLS WERE DISCONTINUED CORRECTLY. HOWEVER, IN THE FIFTH CASE, THE FIRE WATCH PATROL IN THE WRONG LOCATION WAS DISCONTINUED. THIS EVENT WAS CAUSED BY PERSONNEL ERROR. THE SHIFT FOREMAN INVOLVED IN THIS EVENT HAS BEEN COUNSELED.
Farley 2	12/11/1988	01/06/1989	TECHNICAL SPECIFICATION ACTION STATEMENT REQUIREMENT NOT MET FOR AN INOPERABLE FIRE PROTECTION SYSTEM Abstract: POWER LEVEL - 100%. AT 1148 ON 12-11-88, THE SHIFT FOREMAN WAS INFORMED THAT FIRE PROTECTION SYSTEM (FPS) 2A-48 WAS INOPERABLE. THE FIRE WATCHES REQUIRED BY TECHNICAL SPECIFICATION 3.7.11.2 WERE NOT BEING PERFORMED. DUE TO WATER LEAKAGE, A SYSTEM OPERATOR (SO) HAD ISOLATED THE CLAPPER VALVE FOR FPS 2A-48 AT APPROXIMATELY 1045 ON 12-11-88. HOWEVER, THE SO DID NOT FOLLOW PROCEDURE IN THAT HE DID NOT NOTIFY THE SHIFT FOREMAN SO THAT THE REQUIRED FIRE WATCHES COULD BE ESTABLISHED. THE CLAPPER VALVE WAS UNISOLATED AT 115 ON 12-11-88. THE S0 INVOLVED IN THIS EVENT HAS BEEN COUNSELED.
Farley 2	02/25/1989	04/14/1989	Technical Specification Action Statement Requirement Not Met for Inoperable Fire Protection System Due to Personnel Error Abstract: POWER LEVEL - 100%. AT 1927 ON 2/25/89, WITH THE UNIT OPERATING IN STEADY STATE AT 100% REACTOR POWER, A SYSTEM OPERATOR (SO) WAS MAKING ROUTINE ROUNDS AND QUESTIONED WHY FIRE PROTECTION SPRINKLER SYSTEM (FPS) 2A-59 WAS IN THE OVERRIDE POSITION. THE SYSTEM WAS REMOVED FROM OVERRIDE AT 1933 AND AN IMMEDIATE INVESTIGATION WAS BEGUN TO DETERMINE WHY THE SWITCH WAS IN THE OVERRIDE POSITION. TECH SPEC 3.7.11.2 REQUIRES THAT CONTINUOUS FIRE WATCHES OR HOURLY FIRE WATCH PATROLS (AS APPROPRIATE) BE MAINTAINED FOR THE FULL LENGTH OF TIME THAT THE FIRE PROTECTION SYSTEM IS INOPERABLE. THE SYSTEM HAD BEEN PLACED IN THE OVERRIDE POSITION ON 2/24/89 AT 0830 IN ACCORDANCE WITH FNP-0-FSP-28.0 (SMOKE DETECTORS - CLEAN AND CALIBRATE PROCEDURE). HOWEVER, THE SHIFT FOREMAN - OPERATING (SFO) SECURED THE REQUIRED FIRE WATCH FOR FPS 2A-59 AT 1500 ON 2/24/89 WITHOUT VERIFYING THAT THE SYSTEM WAS OPERABLE. THIS EVENT WAS CAUSED BY COGNITIVE PERSONNEL ERROR. THE SFO WHO SECURED THE FIRE WATCH WHEN THE SYSTEM WAS STILL IN OVERRIDE HAS BEEN COUNSELED. A CONTRIBUTING CAUSE OF THIS EVENT WAS THAT FSP-28.0 DID NOT REQUIRE THAT THE SYSTEM BE TAKEN OUT OF THE OVERRIDE POSITION WHEN THE MAINTENANCE WAS COMPLETED. IN ADDITION, THIS EVENT WOULD NOT
Farley 2	05/01/1989	05/26/1989	Special Report: Containment Hatches were Non-Functional as Fire Barriers for Longer than Seven Days Abstract: POWER LEVEL - 000%. THE CONTAINMENT PERSONNEL AND EQUIPMENT HATCHES WERE OPEN FOR MORE THAN SEVEN DAYS DURING THE SIXTH REFUELING OUTAGE. THE HATCHES WERE OPENED TO SUPPORT OUTAGE ACTIVITIES. THE SEVEN DAY TIME LIMIT WAS EXCEEDED FOR THE HATCHES AT 0900 ON 5-1-89. SINCE THE CONTAINMENT WALL IS CONSIDERED TO BE A FIRE BARRIER, OPENING THESE HATCHES CONSTITUTES BREACHING A FIRE BARRIER. TECHNICAL SPECIFICATION 3.7.12 REQUIRES THAT WITHIN ONE HOUR, EITHER ESTABLISH A CONTINUOUS FIRE WATCH OR VERIFY THE OPERABILITY OF FIRE DETECTORS AND ESTABLISH AN HOURLY FIRE WATCH PATROL. CONTINUOUS FIRE WATCHES WERE ESTABLISHED AND MAINTAINED. TECHNICAL SPECIFICATION 3.7.12 ALSO REQUIRES THAT BREACHED FIRE BARRIERS BE RESTORED TO FUNCTIONAL STATUS WITHIN SEVEN DAYS OR A SPECIAL REPORT MUST BE SUBMITTED WITHIN THE FOLLOWING 30 DAYS. THEREFORE, THIS SPECIAL REPORT IS BEING SUBMITTED. DUE TO THE SCOPE OF THE WORK IN PROGRESS, IT WAS NOT PRACTICAL TO CLOSE THESE HATCHES WITHIN SEVEN DAYS. THE CONTAINMENT HATCH WAS CLOSED ON 5-5-89 AND THE PERSONNEL HATCH WAS CLOSED ON 5-9-89.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Farley 2	07/11/1990	08/06/1990	Missed Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 100%. AT 0945 ON 07-11-90, IT WAS DISCOVERED THAT SOME OF THE HOURLY FIRE WATCH PATROLS REQUIRED BY TECHNICAL SPECIFICATION 3.7.12 FOR FIRE DOOR 2318 HAD NOT BEEN PERFORMED. THE SHEET USED TO INITIATE AND DOCUMENT PERFORMANCE OF THE FIRE WATCH WAS REMOVED BY THE SHIFT FOREMAN BECAUSE IT WAS BELIEVED TO BE A DUPLICATE. THIS RESULTED IN THE REQUIRED FIRE WATCHES NOT BEING PERFORMED. IN ADDITION, SHIFT FOREMEN ON THREE SUBSEQUENT SHIFTS PERFORMED AN INADEQUATE REVIEW OF THE LIMITING CONDITION FOR OPERATION (LCO) SHEETS AND FIRE WATCH SHEETS RESULTING IN THEIR FAILURE TO IDENTIFY THAT THE FIRE WATCH WAS NOT BEING PERFORMED. THIS EVENT WAS CAUSED BY COGNITIVE PERSONNEL ERROR. THE SHIFT FOREMAN WHO REMOVED THE SHEET FROM THE FIRE WATCH NOTEBOOK AND THE TWO SHIFT FOREMEN ON SUBSEQUENT SHIFTS WHO PERFORMED INADEQUATE REVIEWS OF THE LCO STATUS SHEETS AND FIRE WATCH SHEETS HAVE BEEN DISCIPLINED FOR FAILURE TO PERFORM THEIR LICENSED DUTIES PROPERLY. IN ADDITION, A MEMO HAS BEEN SENT TO ALL SHIFT FOREMEN WHICH STRESSES THE IMPORTANCE OF EXERCISING CARE AND ATTENTION TO DETAIL WHEN PERFORMING LICENSED DUTIES. THE MEMO POINTS OUT THAT THE SHIFT FOREMAN MUST VERIFY THAT TECHNICAL SPECIFICATION ACTION STATEMENT REQUIREMENTS ARE BEING COMPLIED WITH PRIOR TO INITIALING THE LCO SHEET.
Fermi 2	04/02/1985	05/06/1985	Fire Barrier Violation Abstract: POWER LEVEL - 000%. ON 4-2-85, AT ABOUT 1330 HRS A FLOOR PLUG WAS REMOVED WHICH IS PART OF A FIRE RATED ASSEMBLY AND CARBON DIOXIDE SUPPRESSION SYSTEM BOUNDARY. THE FLOOR PLUG HAD BEEN REMOVED TO ALLOW THE TRANSPORT OF EQUIPMENT BETWEEN THE 3RD AND 4TH FLOORS OF THE AUX BLDG. CONTRARY TO PLANT TECH SPECS, A FIRE WATCH WAS NOT ESTABLISHED WITHIN 1 HR. THIS CONDITION EXISTED UNTIL 1540 HRS ON 4-4-85, AT WHICH TIME THE FLOOR PLUG WAS SECURED. DURING THE EVENT, THE PLANT WAS IN OPERATIONAL CONDITION 5 WITH CORE ALTERATIONS IN PROGRESS FOR INITIAL FUEL LOAD. THERE WERE NO SIGNIFICANT OPERATIONAL OCCURRENCES AS A RESULT OF THE EVENT.
Fermi 2	08/29/1985	09/27/1985	Fire Watch Out of Area Abstract: POWER LEVEL - NG %. ON 8-29-85, A 1 HR ROVING FIRE WATCH WAS MISSED DURING A SITE RADIOLOGICAL EMERGENCY RESPONSE PREPAREDNESS (RERP) DRILL. THE DRILL STARTED AT 0730 ON 8-29-85. AS ORDERED, THE FIRE WATCH LEFT THE PLANT AND WENT TO HIS RERP ASSEMBLY AREA, ABOUT 0900. AT 1030 THE NUCLEAR SHIFT SUPERVISOR (NSS) WAS NOTIFIED THAT THE FIRE WATCH WAS NOT IN HIS ASSIGNED LOCATION. THE PATROL NUCLEAR SUPERVISING OPERATOR (NSO) PERFORMED THE FIRE WATCH, AND NOTED NO CONDITIONS ADVERSE TO SAFETY. ONLY ONE 1-HR ROUND WAS NOT PERFORMED. THE PLANT WAS IN OPERATIONAL CONDITION 2 THROUGHOUT THIS EVENT. THE FIRE WATCH WAS REQUIRED BY TECH SPEC 3.7.8 BECAUSE FIRE BARRIERS HAD BEEN BREACHED FOR WORK IN PROGRESS AND BY DETROIT EDISON'S COMMITMENT FOR COMPENSATORY FIRE PROTECTION MEASURES. OTHER ADMINISTRATIVE CONTROLS, FIRE DETECTION AND PROTECTION SYSTEMS, AND THE FIRE BRIGADE REMAINED IN EFFECT. THUS, THE CONSEQUENCES OF THE MISSED FIRE WATCH WERE MINIMAL. TO PREVENT RECURRENCE, OPERATIONS HAS REVIEWED THE DUTIES OF THE FIRE WATCH WITH ALL INDIVIDUALS ASSIGNED THIS DUTY. CRITICAL OPERATIONS PERSONNEL, EXEMPT FROM EVACUATION DURING DRILLS, ARE NOW IDENTIFIED BY WHITE ARM BANDS AND ACCOUNTED FOR SEPARATELY.
Fermi 2	09/08/1986	10/08/1986	Fire Protection Technical Specification Action Statement Entry Delayed by Personnel Error Abstract: POWER LEVEL - 002%. AT 2000 HOURS ON SEPTEMBER 8, 1986, FERMI 2 WAS IN OPERATIONAL CONDITION 2 (STARTUP), OPERATING AT 2.3 PERCENT POWER, 920 PSIG, AND 535 DEGREES FAHRENHEIT. DURING PERFORMANCE OF A TECHNICAL SPECIFICATION SURVEILLANCE, A FLOW SWITCH IN THE FIRE PROTECTION SYSTEM DID NOT INITIATE AN ALARM AS REQUIRED. TECHNICAL SPECIFICATIONS REQUIRE THAT AN HOURLY FIRE WATCH BE ESTABLISHED WHEN THE SPRINKLER SYSTEM IS NOT OPERABLE. HOWEVER, THE POSTING OF AN HOURLY FIRE WATCH WAS NOT COMPLETED WITHIN THE ALLOWED ACTION STATEMENT INTERVAL. THIS EVENT WAS CAUSED BY A COGNITIVE PERSONNEL ERROR. THE EVENT WAS CONTRIBUTED TO BY MALFUNCTION OF A FLOW SWITCH, AND PROCEDURAL INADEQUACIES ENCOUNTERED DURING SURVEILLANCE TEST PERFORMANCE. AS CORRECTIVE ACTIONS, AN HOURLY FIRE WATCH WAS POSTED, THE PERSON WHO WAS RESPONSIBLE FOR THE ERROR WAS COUNSELED, REQUESTS WERE INITIATED TO CORRECT INADEQUACIES IN THE SURVEILLANCE TEST PROCEDURE AND RESOLVE THE FLOW SWITCH PROBLEM, AND A DESCRIPTION OF THIS EVENT WAS PLACED IN THE NIGHT ORDER LOG TO REINFORCE THE NEED TO THOROUGHLY REVIEW DOCUMENTATION TO ENSURE TECHNICAL SPECIFICATION COMPLIANCE.
Fermi 2	09/25/1987	11/06/1987	Deficiencies in the Fire Protection Program Discovered During an Inspection Abstract: POWER LEVEL - 000%. ON SEPTEMBER 25, 1987 THREE DEFICIENCIES IN THE FIRE PROTECTION PROGRAM WERE IDENTIFIED. FIRST, FIRE BRIGADE REQUALIFICATION TRAINING WAS NOT BEING PERFORMED ON THE SCHEDULE COMMITTED TO IN THE UPDATED FINAL SAFETY ANALYSIS REPORT (UFSAR). A FIRE PROTECTION VALVE WAS RESTORED TO ITS CORRECT POSITION BUT NOT LOCKED AFTER A MAINTENANCE INSPECTION. FINALLY, A CONTROL ROOM OPERATOR INDICATED TO A NUCLEAR REGULATORY COMMISSION INSPECTOR THAT HE WOULD TAKE ACTIONS CONTRARY TO APPROVED PROCEDURES ON ACTIVATING THE FIRE BRIGADE UPON RECEIPT OF A FIRE ALARM. THE FIRE BRIGADE TRAINING PROGRAM WAS REVISED TO INCLUDE THE REQUALIFICATION TRAINING ON THE SCHEDULE COMMITTED TO IN THE UFSAR. THE VALVE WAS LOCKED AND PROCEDURE COVERING THE RESTORATION OF EQUIPMENT WILL BE REVISED. DISCUSSIONS WILL BE HELD IN TRAINING CLASSES ON THE APPROPRIATE ACTIONS TO TAKE UPON RECEIPT OF A FIRE ALARM.
Fermi 2	05/28/1988	08/12/1988	Manual Isolation of Reactor Water Cleanup Due to an Instrument Line Failure Abstract: POWER LEVEL - 050%. AT 0315 HOURS ON MAY 28, 1988, AND AT 2145 HOURS ON JULY 13, 1988, THE REACTOR WATER CLEANUP SYSTEM (RWCU) WAS MANUALLY ISOLATED BY OPERATOR ACTION WHEN A STEAM LEAK DEVELOPED WHILE RETURNING THE RWCU TO SERVICE. THE JULY 13, 1988 STEAM LEAK PREVENTED THE TECH SPEC REQUIRED FIRE WATCH FROM PERFORMING THREE CONSECUTIVE HOURLY PATROLS. BOTH STEAM LEAKS WERE A RESULT OF SEPARATE INSTRUMENT LINE COMPRESSION FITTING FAILURES. THE JULY 13, 1988 FITTING FAILURE WAS CAUSED BY SUBJECTING AN IMPROPERLY ASSEMBLED COMPRESSION FITTING TO WATERHAMMER LOADING. THE MAY 28, 1988 FITTING FAILURE WAS CAUSED BY WATERHAMMER LOADING AND IT IS BELIEVED THAT THE FITTING WAS IMPROPERLY ASSEMBLED. THE INSTRUMENT LINES WERE REPAIRED. THE RWCU SYSTEM OPERATING PROCEDURES HAVE BEEN REVISED. ANALYSIS OF COMPRESSION FITTING CHARACTERISTICS AND PLANT INSPECTIONS ARE CONTINUING. DECONTAMINATION OF THE REACTOR BUILDING IS IN PROGRESS.
Fermi 2	01/04/1989	02/03/1989	Failure of Recirculation System Field Breaker Due to Mechanical Binding Abstract: POWER LEVEL - 000%. ON JANUARY 4, 1989, RECIRCULATION PUMP B'S FIELD BREAKER FAILED TO TRIP WHEN THE MOTOR GENERATOR SET WAS SHUTDOWN DURING A CONTROLLED SHUTDOWN. AN OPERATOR VERIFIED THAT THE MG SET HAD STOPPED ROTATING LOCALLY BUT FOUND THAT THE TRIP COIL HAD BURNED OUT. THE FIELD BREAKERS FOR BOTH DIVISIONS OF THE RECIRCULATION SYSTEM WERE QUARANTINED UNTIL AN ACTION PLAN WAS DEVELOPED FOR TROUBLESHOOTING. BASED UPON ANALYSIS OF THE BREAKER, IT WAS DETERMINED THAT THE FAILURE WAS CAUSED BY MECHANICAL BINDING OF THE LINKAGE. THIS IS ATTRIBUTED TO THE FAILURE TO LUBRICATE THE BREAKER DURING PREVENTIVE MAINTENANCE IN MARCH OF 1988 AND THE MISALIGNMENT OF THE CONTACTS. A CONCLUSIVE CAUSE FOR THE MISALIGNMENT OF THE CONTACTS COULD NOT BE DETERMINED. A REPLACEMENT FIELD BREAKER WAS OBTAINED. THE 'A' FIELD BREAKER AND THE REPLACEMENT BREAKER WERE REFURBISHED AND UPGRADED BY GENERAL ELECTRIC, THEN INSPECTED AND TESTED PRIOR TO INSTALLATION.
Fermi 2	12/08/1989	02/21/1990	Fire Watches Not Performed in Compliance with Technical Specifications Abstract: POWER LEVEL - 001%. ON 12/8/89, A REVIEW OF KEY CARD TRANSACTIONS SHOWED THAT ONE OF THE ROVING FIRE WATCH PERSONNEL HAD NOT COMPLETED HIS ASSIGNED HOURLY ROUNDS REQUIRED BY TECH SPECS 3.3.7.9 AND 3.7.8. THE RECORDS SHOWED THAT THE INDIVIDUAL HAD MISSED VARIOUS PORTIONS OF HIS ASSIGNED HOURLY FIRE WATCH ROUNDS ON A RANDOM BASIS FROM 10/20 TO 12/7/89. THE INDIVIDUAL WAS INTERVIEWED AND OFFERED NO EXPLANATION AS TO WHY HE HAD NOT PERFORMED THE ASSIGNED ROUNDS CORRECTLY. THE INDIVIDUAL INVOLVED WAS AWARE OF THE REQUIREMENTS. DURING A SUBSEQUENT REVIEW OF KEY CARD TRANSACTIONS, IT WAS DETERMINED THAT ANOTHER INDIVIDUAL, DURING THE PERIOD OF TIME FROM 10/7 TO 12/30/89, HAD NOT PERFORMED THE ASSIGNED ROUNDS. THE INDIVIDUAL WAS INTERVIEWED AND INDICATED THAT THE ROUNDS HAD BEEN PERFORMED PROPERLY. ADDITIONAL REVIEW DID NOT PROVIDE ANY INFORMATION THAT COULD SUBSTANTIATE THE INDIVIDUAL'S CLAIM. BOTH INDIVIDUALS INVOLVED WERE DISCHARGED. METHODS FOR IMPROVING THE RELIABILITY OF THE FIRE WATCH WERE DEVELOPED AND IMPLEMENTED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Fermi 2	05/13/1996	06/12/1996	Auxiliary Building Basement Not Fully Meeting 10CFR50, Appendix R Criteria for Divisional Separation Abstract: Auxiliary Building Basement, elevations 551 feet and 562 feet. This prompted a review of the 10CFR50, Appendix R assumptions used for this area. This review which was completed on May 13, 1996 revealed an incorrect assumption used in the Appendix R Fire Hazards Analysis. Further investigation identified a portion of Division 2 cable trays which are not fire-wrapped in their entirety and these trays are located near equipment which can be considered intervening combustibles, i.e., combustible material within 20 feet of redundant shutdown divisions. Specifically, the assumption was that there is no short term need for Control Center Heating, Ventilation, and Air Conditioning (CCHVAC), and therefore, no immediate need for the Non-Interruptible Air Supply (NIAS) system components located in the Auxiliary Building Basement. A fire in this room that could render both divisions of NIAS inoperable was not considered an impediment to the safe shutdown of the plant. This is based on an assumption developed prior to 1984 that the Control Center would not reach 120 degrees Fahrenheit for 4.3 days and manual action, including restoration of offsite power, could be taken to restore CCHVAC within that time period. Once it was discovered that there is a design deficiency with
Fermi 2	10/10/1997	04/06/1998	Turbine Building and Auxiliary Building Mezzanine Not Fully Meeting License Condition 2.C.9 Abstract: During independent design verification of an Engineering Design Package, unsealed electrical penetrations were discovered in the auxiliary building wall fire rated separation barrier and in the adjacent and parallel turbine building fire barrier. This prompted a review of the fire hazards analysis and the 10CFR50, Appendix R assumptions used for this area. This review was completed on October 10, 1997 and revealed that of the 20 penetrations in these walls, 16 were not sealed at the auxiliary building wall and 4 were not sealed at the turbine building wall. There were no openings which were unsealed at both the turbine building wall and the auxiliary building wall. The 16 unsealed penetrations in the auxiliary building wall are located over a horizontal distance in excess of 25 feet and interface with areas which contain both redundant shutdown divisions. The lack of penetration seals in the fire barriers could allow a fire in the turbine building to exit the turbine building through any of the 4 unsealed penetrations and enter the auxiliary building at any of the sixteen unsealed penetrations. These 16 unsealed penetrations could then introduce a fire hazard within 20 feet of cable trays containing both Division I and Division II shutdown divisions. This condition is not in compliance with 10CFR50,
Fermi 2	10/14/1998	11/13/1998	Cracking in Silicone Fire Barrier Penetration Seal due to High Temperatures Abstract: During the Sixth Refueling Outage (RFO6), a review of the Fermi 2 Appendix R fire barrier penetration seals [SEAL] was performed as a result of concerns identified in an Illinois Power Company 10CFR21 report dated July 20, 1998. Based on the review and subsequent inspection of fire barrier penetration seal integrity in high temperature applications (i.e., greater than 250 F), a penetration seal in the 36 inch thick 3-hour rated fire barrier separating T Room (the corridor area in the Auxiliary Building outside of the Torus Room) from the Turbine Building (Penetration P-170 which contains High Pressure Coolant Injection System and Reactor Core Isolation Cooling System drain lines) was found to have cracks and a degree of hardening of the elastomer throughout. The hardening of the seal material, Dow Coming Sylgard 170, resulted in the tested configuration of the penetration seal to be challenged and questioned as to its ability to remain qualified as a 3-hour rated penetration seal. Based on the degradation observed, the penetration seal was most likely capable of providing a level of fire protection between the fire zones; however, based on the as-found configuration, the specific level of protection cannot be ascertained. The seal was declared inoperable and an hourly fire watch was established for the barrier at the
Fermi 2	07/17/2005	09/15/2005	Potential Fire Scenario Affecting Opposite Division Emergency Diesel Generators Abstract: During review of 10 CFR 50 Appendix R, III.G.2 compliance on July 17, 2005, it was discovered that a fire in a divisional switchgear room affecting maintenance tie breakers 64T or 65T could adversely affect the emergency diesel generators (EDGs) in the alternate division. Specifically, a combination of hot shorts between bundled conductors in the maintenance tie breaker switchgear in either divisional switchgear room could result in closure of the associated emergency safety system maintenance tie feeder breakers. Since a loss of offsite power must also be considered concurrent with an Appendix R fire, the EDGs are assumed to be running. This could result in the asynchronous paralleling of the EDGs from the opposite division which could result in damage to those EDGs. Because the conductors bundled within the maintenance tie breakers are in close proximity to each other, they are treated as if they are part of a single cable. This combination of hot shorts is considered to be credible in accordance with the guidance provided in NRC Regulatory Issue Summary 2004-03 Revision 1. The original associated circuit assessment review was performed in 1984, but the analysis performed was not of sufficient scope and rigor to fully identify all Appendix R associated circuit issues. That analysis was not structured
FitzPatrick	03/27/1980	04/25/1980	Visual Inspection of More than 6000 Electrical Fire Seals Required by T.S Abstract: Visual inspection of more than 6000 electrical fire seals required by T.S. revealed 350 seals missing or requiring resealing. Initial installation was missing in most cases. Fire watch was stationed until new seals were installed.
FitzPatrick	10/23/1980	11/21/1980	A Wire Physically Preventing Proper Operation of the Carbon Dioxide System Actuating Relay Abstract: While conducting tests, the carbon dioxide system associated with the north cable run room would not actuate from either heat detectors or local push button. Installation of wiring by contractor personnel as part of modifications, resulted in a wire physically preventing proper operation of the carbon dioxide system actuating relay. The wire was rerouted to prevent interference and the system was retested and restored to fully operable status later on the same day.
FitzPatrick	11/10/1980	12/10/1980	Fire Detection System for the Reactor Core Isolation Cooling System was made Inoperable Abstract: Fire Detection System for the Reactor Core Isolation Cooling System was made inoperable to allow electrical conduit rerouting required by part of Fire Protection modifications in the area. TS requirements were met by posting a fire watch. Implementation of required fire protection modifications caused event. Establishment of fire watch and restoration of system was only corrective action required. System was restored later on the same day.
FitzPatrick	12/10/1980	01/09/1981	Heat Detector Associated with the Fire Protection System for Reactor Core Isolation Failed Abstract: Heat detector associated with the fire protection system for reactor core isolation failed. A fire watch was immediately established. The cause was an internal short believed to have been caused by personnel working fire protection modifications in the area. Following replacement of the detector the system was tested with satisfactory results.
FitzPatrick	10/26/1981	11/16/1981	Failure of a Multiplexer Transmitter-extender Module was the Cause Abstract: Personnel noted that smoke detectors required to be operable by Tech. Spec. Would not cause alarms in the control room. Local alarms were functional. Failure of a multiplexer transmitter-extender module was the cause. Module replacement restored the system to fully operable status. Additional evaluation continues.
FitzPatrick	04/19/1982	10/19/1982	Four Smoke Dectectors were Inoperable Due to the Connecting Cabling had not been Properly Terminated Abstract: Final report: testing indicated that four smoke detectors, added as part of the fire protection upgrade program, were inoperable because the connecting cabling had not been properly terminated. A later event identified a similar problem with heat detectors associated with a local area water spray system. The attachment describes the events in detail. Procedural error and management inefficiencies resulted in a failure to properly terminate and test the new smoke and heat detectors were the causes of this event. This problem is considered reportable under Tech Spec 6.9.a4.2.c. The attachment describes the causes of the events in detail and the corrective actions implemented by the licensee.
FitzPatrick	07/27/1983	08/18/1983	Reactor Building Fire Barrier Penetration Seal Opened Abstract: Contrary to Tech Specs Appendix A, section 3.12.F.1.b a fire barrier penetration seal in the reactor building was opened and remained open for greater than 1 hour without establishing a continuous fire watch. The penetration was actually open for 4 hours without a fire watch. The plant was in cold shutdown for a refueling outage. A continuous fire watch was established until the penetration was resealed. The responsible supervisory personnel were instructed in the requirements for monitoring open fire barrier penetration seals.
FitzPatrick	07/20/1984	08/20/1984	Missed Fire Watch Abstract: POWER LEVEL - 100%. DURING POWER OPERATION ON 7-6-84, THE REMOTE ALARM FUNCTION FOR THE EAST CABLE TUNNEL SMOKE DETECTION SYSTEM WAS DECLARED INOPERABLE DUE TO A FAULTY TRANSMITTER. AN HOURLY PATROLLING FIRE WATCH WAS ESTABLISHED PER TECH SPEC 3.12.E.1.B. ON 7-20-84 THE HOURLY FIRE WATCH DID NOT PATROL THE EAST CABLE TUNNEL BETWEEN THE HOURS OF 0200 AND 0400. HOURLY FIRE PATROLS WERE CONDUCTED PRIOR TO AND FOLLOWING THE MISSED 2 HR PERIOD. DISCIPLINARY ACTION WAS ADMINISTERED TO THE PERSON ASSIGNED TO CONDUCT THE HOURLY FIRE PATROL. THE REMOTE ALARM FUNCTION WAS REPAIRED ON 8-8-84. DURING A MANAGEMENT REVIEW OF THE ABOVE INCIDENT, IT WAS ALSO NOTED THAT A SPECIAL REPORT REQUIRED BY TECH SPEC 3.12.E.2 AND 6.9.B.2, REQUIRED SUBMITTAL FOR THE INOPERATIVE SMOKE DETECTION SYSTEM.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

FitzPatrick	07/28/1987	01/28/1988	FIRE BARRIER ELECTRICAL PENETRATION SEALS NOT INSTALLED Abstract: POWER LEVEL - 098%. DURING PERFORMANCE OF MAINTENANCE PROCEDURE MP-76.11 (ELECTRICAL PENETRATION SEAL SURVEILLANCE INSPECTION) ON 7/28/87 WITH THE PLANT IN NORMAL OPERATION AND AT 98 PERCENT REACTOR POWER, IT WAS DISCOVERED THAT NUMEROUS ELECTRICAL CONDUIT AND FLOOR/WALL PENETRATIONS IN 10CFR50, APPENDIX R, FIRE BARRIERS WERE NOT SEALED WITH A THREE-HOUR FIRE RATED SEAL AS REQUIRED BY TECHNICAL SPECIFICATION SECTION 3.12.F. CONTINUOUS FIRE WATCHES WERE POSTED AT THE AFFECTED FIRE BARRIERS PER TECHNICAL SPECIFICATION SECTION 3.12.F.1.B. CORRECTIVE ACTIONS WERE INITIATED TO INSTALL THREE-HOUR FIRE SEALS IN THE UNSEALED PENETRATIONS. ALL UNSEALED PENETRATIONS WERE SEALED PRIOR TO COMPLETION OF THE SURVEILLANCE TEST ON 8/14/87 EXCEPT FOR THREE UNSCHEDULED LIGHTING CONDUITS LOCATED IN THE REACTOR BUILDING. A CONTINUOUS FIRE WATCH WAS POSTED AND SEALING OF THESE PENETRATIONS WAS COMPLETED ON 9/3/87. THE CAUSE OF THE UNSEALED PENETRATIONS IS ATTRIBUTED TO USE OF AN INCOMPLETE LIST OF FIRE BARRIER PENETRATIONS ORIGINALLY GENERATED FOR PERFORMANCE OF THE SUBJECT SURVEILLANCE TEST AND 10CFR50, APPENDIX R, COMPLIANCE REVIEWS. THERE ARE NO RELATED LER EVENTS IN WHICH FIRE BARRIER PENETRATION SEALS WERE NOT PROPERLY INSPECTED OR SEALED.
FitzPatrick	03/04/1991	04/03/1991	New Three-Inch Telephone Cable Conduit Sleeve Fire Wall Penetration Opened and Left Unattended Due to Personnel Error and Deficient Procedures Abstract: POWER LEVEL - 100%. ON 3/4/91 AN OPENING WAS MADE IN A WALL TO INSTALL A 3-INCH TELEPHONE CABLE CONDUIT SLEEVE. THE WALL IS A FIRE BARRIER IN APPENDIX A TO NRC BRANCH TECHNICAL POSITION 9.5-1. WATCH WAS PROVIDED. THE OPENING WAS LEFT UNATTENDED WHEN WORKERS WENT TO LUNCH AT 1145. THE OPENING WAS DISCOVERED UNATTENDED AT 1226. A FIRE WATCH WAS ESTABLISHED. THE WALL SEPARATED THE TELEPHONE ROOM FROM A STAIRWELL AND ULTIMATELY FROM STEEL CONDUIT CONTAINING SAFETY-RELATED CABLE LOCATED MORE THAN 138 FEET FROM THE OPENING. A SECOND FIRE WALL IS IN PLACE BETWEEN THE OPENING AND THE SAFETY-RELATED CABLE. THIS SECOND WALL IS NOT DESIGNATED IN THE FIRE PROTECTION MANUAL. THE WORK REQUEST SPECIFIED REQUIREMENTS TO PROVIDE FIRE BARRIERS IN THE CONDUIT IN ACCORDANCE WITH A SPECIFIC PROCEDURE. THE PROCEDURE REQUIRED POSTING OF A FIRE WATCH FOR A LIST OF SPECIFIC AREAS, NOT INCLUDING THIS PENETRATION. THE WORK PERMIT REQUEST FAILED TO PROVIDE INSTRUCTIONS FOR A FIRE WATCH. THE JOB SUPERVISOR WAS EXPERIENCED IN WORKING ON FIRE BARRIER PENETRATIONS. THE CAUSE IS ATTRIBUTED TO HUMAN ERROR IN NOT RECOGNIZING THE NEED TO ESTABLISH A FIRE WATCH WHILE THE FIRE BARRIER PENETRATION WAS OPEN AND UNSEALED AND A
FitzPatrick	06/25/1991	07/25/1991	Fire Barrier Manway Open Without Fire Watch Caused by Human Error Abstract: POWER LEVEL - 000%. THE PLANT HAD BEEN SHUT DOWN FOR APPROXIMATELY 7 WEEKS FOR MAINTENANCE. ON 6/25/91 AT 1330, A 17 BY 21-INCH RECTANGULAR OPENING WAS FOUND BETWEEN THE CABLE TUNNEL CONTAINING SAFETY-RELATED CABLE AND A CONCRETE BLOCK PIPE CHASE. THE OPENING IS NORMALLY CLOSED BY A 3-HOUR RATED MANWAY PLUG. THE PLUG HAD BEEN REMOVED TO PERFORM A MODIFICATION AND WAS APPARENTLY NOT REPLACED DUE TO PERSONNEL ERROR AT THE END OF THE SECOND SHIFT (1530-2330) THE PREVIOUS NIGHT. MODIFICATION INSTALLATION PERSONNEL WERE AWARE OF THE EXISTENCE OF THE FIRE BARRIER AND THE ACCESS PLUG. THE NEED TO KEEP THE PLUG IN PLACE WHEN MODIFICATION WORK WAS NOT IN PROGRESS WAS EMPHASIZED DURING PRE-JOB BRIEFINGS. THE LACK OF COMBUSTIBLE MATERIAL IN THE PIPE CHASE, COUPLED WITH THE LOCATION AND THE DISTANCE ACROSS A BARE CONCRETE FLOOR TO THE NEAREST SAFETY-RELATED CABLE TRAY, SUPPORTS A FINDING THAT NO SIGNIFICANT SAFETY RISK EXISTED. CORRECTIVE ACTIONS INCLUDE COUNSELLING OF PERSONNEL AND LABELING OF REMOVABLE FIRE BARRIER PENETRATION SEALS. LER-91-002 IS RELATED.
FitzPatrick	07/21/1991	08/20/1991	Fire Door Blocked Open Due To Personnel Error Abstract: POWER LEVEL - 000%. ON JULY 21, 1991, AT APPROXIMATELY 2130 HOURS WHILE THE PLANT WAS SHUTDOWN FOR MAINTENANCE, THE SOUTH CABLE TUNNEL TO RELAY ROOM (NA) FIRE DOOR WAS FOUND BLOCKED OPEN. THIS DOOR WAS NOTED TO BE CLOSED AT APPROXIMATELY 0600 BY AN OPERATOR PERFORMING ROUNDS IN THE AREA AND AGAIN BY A FIRE WATCH IN THE AREA BETWEEN 1300 AND 1500. A FIRE WATCH WAS STATIONED IN THE IMMEDIATE AREA IN THE RELAY ROOM TO MONITOR FOUR VENTILATION SYSTEM FIRE DAMPERS, BUT THIS DOOR WAS NOT INCLUDED IN THEIR INSTRUCTIONS. INVESTIGATION DID NOT IDENTIFY THE INDIVIDUAL(S) RESPONSIBLE FOR BLOCKING THIS DOOR OPEN.
FitzPatrick	08/22/1991	10/10/1991	Fire Doors Between Emergency Diesel Generator Rooms Left Open on Two Occasions Due to Personnel Errors Abstract: POWER LEVEL - 100%. ON AUGUST 22, 1991, AT APPROXIMATELY 1000 HOURS WHILE THE PLANT WAS OPERATING AT 100% POWER, A JOURNEYMAN OPERATOR ON ROUNDS FOUND TWO NORMALLY CLOSED FIRE DOORS IN AN OPEN POSITION. ONE DOOR, 76FDR-DG-272-8, IS BETWEEN THE B AND C EMERGENCY DIESEL GENERATOR (EDG) ENGINE ROOMS; AND THE OTHER DOOR, 76FDR-DG-272-9, IS BETWEEN THE EDG A AND C ENGINE ROOMS. ON SEPTEMBER 10, 1991, AT APPROXIMATELY 1535 HOURS, WHILE THE PLANT WAS OPERATING AT 100% POWER, THE NORMALLY CLOSED FIRE DOOR, 76FDR-DG-272-7, BETWEEN THE EDG B AND D ENGINE ROOMS WAS FOUND IN AN OPEN POSITION BY ENGINEERING PERSONNEL CONDUCTING A PLANT WALK THROUGH. IN BOTH INSTANCES, THE DOORS WERE UNATTENDED BY PLANT PERSONNEL, AND THEREFORE, WERE WITHOUT THE REQUIRED POSTED FIRE WATCH IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.12.F.1. ONLY DOOR 76FDR-DG-272-8 IS AN APPENDIX R TO 10CFR50 FIRE BARRIER. ALL DOORS ARE APPENDIX A TO BTP 9.5-1 THREE-HOUR FIRE BARRIERS. THE FIRE DOORS WERE SUBSEQUENTLY SECURED AND THE NEED TO KEEP FIRE DOORS CLOSED OR POST A FIRE WATCH WAS RE-EMPHASIZED WITH THE PERSONNEL INVOLVED. RELATED LERS: 91-002 AND 91-008.
FitzPatrick	09/04/1991	11/27/1991	Residual Heat Removal, Emergency Diesel Generators, and Fire Pumps Potentially Made Inoperable Due to Inadequate Modification Installation Activities Abstract: POWER LEVEL - 100%. THE EXHAUST VENTILATION FAN FOR ONE OF TWO SAFETY-RELATED PUMP ROOMS TRIPPED ON THERMAL OVERLOAD AT 1400 ON 9/4/91 WITH THE PLANT AT FULL POWER. THE FAN TRIP WAS THE RESULT OF A RESTRICTED VENTILATION AIR SUPPLY DUE TO CLOSURE OF 6 FIRE DAMPERS TO ALLOW MODIFICATION OF THE DAMPERS. THE RESTRICTED AIR SUPPLY RESULTED IN OVERLOAD DURING FAN AUTO START WHILE WINDMILLING IN REVERSE OR DUE TO LOW FLOW DURING OPERATION. AN ENGINEERING REVIEW FORMALIZED ON 10/9/91 IDENTIFIED A FIRE SCENARIO WITH POTENTIAL FOR DAMAGE TO THE FAN AND FIRE DAMPER CONTROLS AND RESULTING LOSS OF EXHAUST FANS AND CLOSURE OF VENTILATION FIRE DAMPERS. VENTILATION LOSS DURING PUMP OPERATION WOULD DEGRADE PERFORMANCE OF THE RESIDUAL HEAT REMOVAL (BO), RESIDUAL HEAT REMOVAL SERVICE WATER (BI), EMERGENCY SERVICE WATER (ESW) (BI), AND ELECTRIC AND DIESEL DRIVEN FIRE PUMPS (KP). LOSS OF THE ESW FLOW WOULD DEGRADE THE EMERGENCY DIESEL GENERATORS (EK). INADEQUATE VENTILATION FOLLOWING FIRE DAMPER CLOSURE RESULTS FROM INADEQUATE ANALYSIS OF THE NRC REQUIRED-1980 FIRE DAMPER INSTALLATION. A FIRE WATCH IN PLACE PRIOR TO THE EVENT WILL REMAIN UNTIL ADEQUATE VENTILATION IS ASSURED. INSTALLATION PROCEDURE REVIEW
FitzPatrick	09/25/1991	10/25/1991	Fire Door 76FDR-RW-272-16 Inoperable Due to Tape on Latch Bolt as a Result of Human Error Abstract: POWER LEVEL - 100%. ON 09/25/91 AT 0100 HOURS FIRE DOOR 76FDR-RW-272-16 IN THE APPENDIX R BARRIER BETWEEN THE TURBINE BUILDING (NM) AND RADWASTE BUILDING (NE) WAS FOUND WITH THE LATCH MECHANISM TAPED THUS PREVENTING LATCHING OF THE DOOR. A FIREWATCH WAS POSTED. THE LATCH WAS TAPED AS A PERSONNEL SAFETY CONCERN WHEN IT WAS FOUND THAT THE LATCH WAS INOPERATIVE. A FIREWATCH WAS POSTED AND THE DOOR WAS REPAIRED AND TESTED. THE CAUSE OF THIS EVENT WAS HUMAN ERROR.
FitzPatrick	10/09/1991	03/15/1994	Both Trains of Safe Shutdown Equipment Potentially Inoperable Abstract: POWER LEVEL - 100%. Supplemental Report During normal full power operation on 10/9/91, it was found that a Safety Division 1 motor control center [ED] feeder cable was routed through a fire zone for which Division 1 equipment is relied on to meet safe shutdown requirements of 10 CFR 50, Appendix R, Section III.G. While the original Appendix R evaluation indicated the cable was within conduit embedded in concrete, it was discovered that a portion of the conduit is actually not embedded. A fire watch was posted immediately. The Division 2 cable was rerouted to meet Appendix R requirements. A root cause analysis indicated that there was a lack of commitment to the fire protection program. Weak written procedures, inadequate interface between engineering groups responsible for the program and inadequate staff qualifications contributed to this deviation. A Fire Protection Program improvement plan was developed from the root cause analysis. the plan was incorporated into the site Results Improvement Program. Actions completed through the improvement program will preclude recurrence of this type event.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

FitzPatrick	11/16/1991	03/15/1994	Unsatisfactory Penetration Seals Found During Inspection Abstract: POWER LEVEL - 100%. On November 16, 1991, at approximately 1730 hours while the plant was operating at 100 percent power, seven electrical penetration fire seals were found in an unsatisfactory condition during the performance of a penetration seal baseline inspection. As the inspection continued, it became evident that there were programmatic problems with the penetration seal program. Deviations from design were found in approximately 39 percent of the 7200 seals inspected. Minor repairs, cosmetic in nature, were initiated in an additional 15 percent of the seals inspected. All penetration seals were restored to design condition through rework or evaluation as an acceptable configuration. This final report describes the scope and nature of inspection findings. The root cause of the poor condition of the FitzPatrick fire penetration seal program was inadequate training and qualification of staff. Poor administrative controls was a contributing factor. Improved training has been implemented and administrative controls have been strengthened to ensure adequate management oversight of the program. LER 89-007-01 describes similar weaknesses and deficiencies with the penetration fire seal program.
FitzPatrick	01/03/1992	02/03/1992	Fire Watches Missed Due to Inadequate Training and Supervision Abstract: POWER LEVEL - 000%. WHILE THE PLANT WAS SHUTDOWN AND IN A COLD CONDITION FOR MAINTENANCE AND REFUELING, THREE SEPARATE FIRE WATCHES WERE NOT COMPLETED AS REQUIRED BY TECHNICAL SPECIFICATION 3.12.F ON JANUARY 3, AND 11, 1992. FIRE WATCHES WERE MISSED FOR A MAXIMUM OF 1 HOUR AND WERE REESTABLISHED WITHIN THE FOLLOWING HOUR. THE EVENTS WERE CAUSED BY INADEQUATE TRAINING AND SUPERVISION OF TEMPORARY PERSONNEL. CORRECTIVE ACTIONS INCLUDE THE HIRING OF SUPERVISORS TO PROVIDE 24-HOUR-A-DAY SUPERVISION. NO PREVIOUS LERS WHICH INVOLVE INADEQUATE TRAINING AND SUPERVISION RESULTING IN A FAILURE TO MEET TECHNICAL SPECIFICATION FIRE WATCH REQUIREMENTS HAVE BEEN SUBMITTED BY THIS FACILITY.
FitzPatrick	01/15/1992	02/14/1992	Automatic Fire Suppression Systems in Safety-Related Cable Tunnels Declared Inoperable Due to Inadequate Design and Review for Appendix R Requirements Abstract: POWER LEVEL - 000%. THE PLANT WAS SHUTDOWN AND IN THE COLD CONDITION FOR MAINTENANCE AND REFUELING. ON 1/15/92 FIRE SUPPRESSION SYSTEMS (KP) FOR THE EAST AND WEST CABLE TUNNELS, WHICH CONTAIN POWER, CONTROL, AND INSTRUMENTATION CABLES REQUIRED FOR SAFE SHUTDOWN, WERE ADMINISTRATIVELY DECLARED INOPERABLE. THE FIRE SUPPRESSION SYSTEMS WERE DECLARED INOPERABLE (BUT REMAIN IN SERVICE) BECAUSE THE DESIGN OF THE ORIGINAL INSTALLATION WAS INADEQUATE. A CONTINUOUS FIRE WATCH WAS POSTED IN EACH TUNNEL AS REQUIRED BY TECHNICAL SPECIFICATION 3.12.B.1.B AND WILL REMAIN POSTED UNTIL MODIFICATION OF THE FIRE SUPPRESSION SYSTEMS ARE COMPLETED TO PROVIDE ADEQUATE PROTECTION AGAINST THE HAZARDS OF THE AREA. LER-91-010, 91-021, 91-024, AND 91-032 DESCRIBE ADDITIONAL FIRE PROTECTION INADEQUACY EVENTS. THIS REPORT IS ALSO SUBMITTED TO SATISFY THE SPECIAL REPORT REQUIREMENTS OF TECHNICAL SPECIFICATIONS 3.12.B.2 AND 6.9.B.2.
FitzPatrick	01/22/1992	02/21/1992	Inadequate Performance of Fire Watch Duties Abstract: POWER LEVEL - 000%. THE PLANT WAS SHUTDOWN AND IN THE COLD CONDITION FOR MAINTENANCE AND REFUEL. ON JANUARY 22, 1992 A CONTINUOUS FIRE WATCH REQUIRED BY TECHNICAL SPECIFICATION 3.12.F IN AN AREA WITH FIRE BARRIER PENETRATION SEAL DEFICIENCIES AND VENTILATION DUCTWORK DAMPER DEFICIENCIES WAS OBSERVED TO BE LESS THAN FULLY ATTENTIVE TO THE ASSIGNED FIRE WATCH DUTIES. THE FIRE WATCH WAS RELIEVED BY ANOTHER FIRE WATCH PERSON AND DISCIPLINED. THE FIRE WATCH WAS ASSIGNED DUTIES IN AN AREA WITH VENTILATION SYSTEM FIRE DAMPER AND/OR FIRE BARRIER PENETRATION SEAL DEFICIENCIES. THE FIRE AREAS OF CONCERN CONTAIN PORTIONS OF SYSTEMS REQUIRED FOR ACCIDENT MITIGATION AND FOR SAFE SHUTDOWN IN THE EVENT OF POSTULATED FIRES. LER-92-001 DESCRIBES RELATED EVENTS CONCERNING INADEQUATE PERFORMANCE OF FIRE WATCH DUTIES.
FitzPatrick	01/27/1992	06/26/1992	Failure to submit a 30-Day Special Report due to failure to track Limiting Condition for Operations Abstract: POWER LEVEL - 000%. THE PLANT WAS SHUTDOWN AND IN THE COLD CONDITION FOR MAINTENANCE AND REFUEL. ON JANUARY 27, 1992, THREE CARBON DIOXIDE FIRE SUPPRESSION DAMPERS FOR THE NORTH EMERGENCY DIESEL GENERATOR (EK) SWITCHGEAR ROOM WERE TAGGED OUT OF SERVICE TO ALLOW MODIFICATION WORK. A FIRE WATCH WAS POSTED PER THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.12.C.2. FOLLOWING COMPLETION OF THE MODIFICATION WORK, THESE DAMPERS WERE RETURNED TO SERVICE ON APRIL 20, 1992. A 30-DAY SPECIAL REPORT AS REQUIRED BY TECHNICAL SPECIFICATION 3.12.C.2 AND 6.9.B.2 WAS NOT SUBMITTED. THE FAILURE TO TRACK THE REQUIREMENT RESULTED IN THE FAILURE TO SUBMIT THE SPECIAL REPORT. PROCEDURE CHANGES WILL BE IMPLEMENTED TO REDUCE THE PROBABILITY OF RECURRENCE.
FitzPatrick	02/10/1992	03/11/1992	Roving Fire Watch Patrols Missed for Six Hours Due to Personnel Error Abstract: POWER LEVEL - 000%. THE PLANT WAS SHUTDOWN AND IN THE COLD CONDITION FOR MAINTENANCE AND REFUEL. ON 2/11/92 IT WAS DISCOVERED THAT HOURLY ROVING FIRE WATCH PATROLS REQUIRED BY TECHNICAL SPECIFICATION 3.12.F.2 FOR A 6-HOUR PERIOD STARTING AT 2300 ON 2/10/92 HAD NOT BEEN MET. DURING A ROUTINE FIRE WATCH PATROL, THE USUAL ACCESS ROUTE TO A PORTION OF THE REACTOR BUILDING (NG) WAS DENIED BY RADIATION PROTECTION PERSONNEL DUE TO A TEMPORARY HIGH RADIATION AREA. THE FIRE WATCH SUPERVISOR WAS INFORMED. HOWEVER, THE SUPERVISOR ERRONEOUSLY ASSUMED COMPLETE RESPONSIBILITY AND DID NOT INFORM THE SHIFT SUPERVISOR OR TAKE ACTION TO GAIN ACCESS BY ANY OF SEVERAL AVAILABLE ROUTES TO ALLOW THE COMPLETION OF THE REQUIRED FIRE WATCH PATROL. THE FIRE WATCH PATROL WAS PERFORMED IMMEDIATELY AFTER THE FIRE PROTECTION SUPERVISOR DISCOVERED THE PROBLEM. A REPLACEMENT FIRE WATCH SUPERVISOR HAS BEEN HIRED AND TRAINED. LER-92-001 AND LER-92-006 ARE SIMILAR EVENTS.
FitzPatrick	02/21/1992	03/23/1992	Fire Protection Features Obstructed by Scaffolding due to Inadequate Supervision of Scaffold Installation Abstract: POWER LEVEL - 000%. WHILE THE PLANT WAS SHUTDOWN AND IN A COLD CONDITION FOR MAINTENANCE AND REFUELING, TWO SEPARATE INSTANCES OF FIRE PROTECTION EQUIPMENT BEING OBSTRUCTED BY SCAFFOLDING OCCURRED ON FEBRUARY 21, 1992 AND MARCH 3, 1992. IN ONE CASE A FIRE DOOR CLOSING PATH WAS BLOCKED. IN THE OTHER CASE A FIRE CURTAIN SPRAY PATTERN WAS PARTIALLY BLOCKED. IN EACH INSTANCE, THE FIRE PROTECTION EQUIPMENT WOULD HAVE BEEN PREVENTED FROM PERFORMING ITS DESIGN FUNCTION IN THE EVENT OF A FIRE. THESE INSTANCES WERE CAUSED BY INSUFFICIENT ATTENTION TO DETAIL BY SUPERVISION AND FAILURE TO ADEQUATELY INSTRUCT CRAFT WORKERS. SUPERVISORS AND CRAFT FOREMEN HAVE BEEN RETRAINED ON THE REQUIREMENTS FOR ERECTION OF SCAFFOLDS NEAR SAFETY RELATED EQUIPMENT. PARTICULAR EMPHASIS WAS PLACED ON INITIAL WALKDOWN BY SUPERVISION AND DETAILED INSTRUCTION TO THE CRAFT WORKERS. LER 85-004 DESCRIBES A SIMILAR EVENT.
FitzPatrick	03/20/1992	04/20/1992	Ventilation System Fire Dampers Found with Inadequate Thermal Expansion Clearance and No Evidence of Test Laboratory Approval Abstract: POWER LEVEL - 000%. THE PLANT WAS SHUTDOWN AND IN THE COLD CONDITION FOR MAINTENANCE AND REFUEL. ON 3/20/92 DURING NRC INSPECTION 92-80 AN INSPECTOR NOTED DEFICIENCIES ON TWO FIRE DAMPERS. THE FIRE DAMPERS OF CONCERN ARE LOCATED IN VENTILATION DUCTS WHICH PENETRATE THE SOUTH WALL OF BOTH THE EAST AND WEST ELECTRIC BAYS. BOTH DAMPERS WERE APPARENTLY INSTALLED DURING ORIGINAL PLANT CONSTRUCTION WITHOUT ADEQUATE CLEARANCE FOR THERMAL EXPANSION AND DO NOT APPEAR TO BE DEVICES APPROVED BY A TESTING LABORATORY. BOTH DEFICIENCIES WILL BE CORRECTED BY MODIFICATIONS. LER-91-010 DESCRIBES SIMILAR FIRE DAMPER DEFICIENCIES.
FitzPatrick	04/07/1992	05/07/1992	Hourly Roving Fire Watch Not Posted Within One Hour Due to Personnel Errors Abstract: POWER LEVEL - 000%. THE PLANT WAS SHUTDOWN AND IN THE COLD CONDITION FOR MAINTENANCE AND REFUEL. ON 4/7/92 AT 2316 HOURS, FIRE BARRIER PENETRATION SEAL DEFICIENCIES WERE FOUND WHICH REQUIRED POSTING OF AN HOURLY FIRE WATCH PATROL TO MEET TECHNICAL SPECIFICATION 3.12.F.2. DUE TO A PERSONNEL ERROR, THE REQUIRED HOURLY FIRE WATCH PATROL WAS NOT POSTED UNTIL APPROXIMATELY 8 HOURS LATER WHEN THE ERROR WAS DISCOVERED BY OTHER PERSONNEL. OPERATING PERSONNEL RESPONSIBLE FOR IMPLEMENTING THE TECHNICAL SPECIFICATION REQUIREMENTS DID NOT DISCUSS THE REQUIREMENTS WITH FIRE WATCH SUPERVISION. AS A RESULT, THE PERSONNEL MOST LIKELY TO BE AWARE OF THE NEED TO POST AN ADDITIONAL FIRE WATCH (OR REVISE EXISTING FIRE WATCH POST INSTRUCTIONS) WAS UNAWARE OF THE NECESSARY CHANGES. SHIFT SUPERVISORS AND ASSISTANT SHIFT SUPERVISORS HAVE BEEN INSTRUCTED TO DISCUSS EACH DEFICIENCY DISCOVERY WITH FIRE WATCH SUPERVISION TO IMPROVE COMMUNICATIONS AND COORDINATION OF THE OPERATING AND FIRE PROTECTION GROUPS. IN ADDITION, INFORMATION HAS BEEN PROVIDED TO OPERATING PERSONNEL FOR THEIR USE TO ACCURATELY ASSESS THE NEED FOR ADDITIONAL OR REVISED FIRE WATCH POSTINGS. LERS 92-001, 92-006, AND 92-010 DESCRIBE SIMILAR FIRE WATCHPOSTING AND/OR FIRE WATCHSTANDING DEFICIENCIES.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

FitzPatrick	05/15/1992	06/15/1992	Fire Watches Discontinued or Not Posted When Required Due to Personnel Error and Inadequate Equipment Status Control Abstract: POWER LEVEL - 000%. THE PLANT WAS SHUT DOWN AND IN THE COLD CONDITION FOR MAINTENANCE AND REFUEL WITH ALL IRRADIATED FUEL IN THE SPENT FUEL POOL. APPROXIMATELY 30 FIRE WATCHES ARE REQUIRED EACH SHIFT AS COMPENSATORY ACTION FOR A NUMBER OF FIRE PROTECTION DEFICIENCIES. ON FIVE OCCASIONS BETWEEN MAY 1, 1992 AND MAY 22, 1992 PERSONNEL ERROR, INADEQUATE REVIEW OF DOCUMENTATION, AND/OR AN INADEQUATE/INEFFECTIVE EQUIPMENT STATUS CONTROL SYSTEM RESULTED IN A FAILURE TO HAVE A FIRE WATCH POSTED WHEN REQUIRED. FIRE WATCHES WERE DISCONTINUED OR NOT POSTED AS COMPENSATORY ACTION WHEN FIRE SUPPRESSION SYSTEMS (KQ) WERE INOPERABLE OR WHEN FIRE DOORS WERE MADE NON-FUNCTIONAL. IN EACH CASE, THE REQUIRED FIRE WATCH WAS IMMEDIATELY POSTED FOLLOWING DISCOVERY OF THE DEFICIENCY OR THE NON-FUNCTIONAL FIRE DOOR WAS RESTORED TO NORMAL. CORRECTIVE ACTIONS INCLUDE IMPROVED ADMINISTRATIVE CONTROLS FOR DISCONTINUING A FIRE WATCH AND EVALUATION OF THE NEED TO IMPROVE THE EQUIPMENT STATUS CONTROL SYSTEM. ONE OF THE FIVE EVENTS IS BEING REPORTED ON A VOLUNTARY BASIS BECAUSE IT HAD THE SAME CAUSE AND RESULTED IN THE SAME DEFICIENCY AS THOSE EVENTS REQUIRING A REPORT UNDER 10CFR50.73. LERS 92-001, 92-004, 92-006, 92-010, 92-
FitzPatrick	06/23/1992	01/14/1994	Engineered Safety Feature Actuations due to Transformer Failure Abstract: POWER LEVEL - 000%. EIIS Codes are in [] Updated Report - Previous Report Date, July 23, 1992 The plant was shutdown and in the cold condition for maintenance and refuel with all irradiated fuel in the spent fuel pool. On June 23, 1992 at 0546 hours a circuit breaker supplying power to five of eight non-safety related 600V AC load centers [EC] tripped. The partial loss of power resulted in: 1) loss of fuel pool cooling system pumps [DA], 2) loss of reactor building cooling [CC] pumps, 3) loss of normal reactor building [NG] ventilation, 4) loss of Service Air [LF], Instrument Air [LD] and Breathing Air [LH], 5) partial loss of security system [LA] functions and, 6) engineered safety feature actuations [JE]. The power loss was caused by a transformer fault which caused the supply circuit breaker to trip. No safety related systems were effected. The Residual Heat Removal/Low Pressure Coolant Injection (RHR/LPCI) [BO] system fuel pool cooling mode remained available. The power loss also resulted in reactor building [NG] isolation and automatic starting of emergency service water [BI]. A root cause analysis revealed the fault was caused by a breakdown of the insulation caused by aging and high loads during shutdown activities. The transformer has been refurbished and re-installed.
FitzPatrick	07/08/1992	08/06/1992	Hourly roving fire watch patrol missed for one hour due to failure to follow watch relief procedures and fire watch post instructions Abstract: POWER LEVEL - 000%. EIIS Codes are in [] The plant was shutdown and in the cold condition for maintenance and refuel with the irradiated fuel in the spent fuel pool. On 07/08/92 an hourly roving fire watch patrol required by Technical Specification 3.12.F.2 and/or commitments related to 10CFR50, Appendix R was not completed for a one hour period. The fire watch left the plant at the completion of a work shift without being properly relieved as required. The hourly roving fire watch patrol post involved 15 areas containing portions of non-safety related and safety related electrical distribution systems [EA,EB,EC,ED], emergency diesel generators [EK], safety related service water pumps [BI] and fire pumps [KP]. The event was not safety significant due to the short time interval and plant conditions. Corrective action includes disciplinary action, procedure changes to strengthen the fire watch relief process and training on the procedure changes. LER-92-001, 92-006, 92-010 and 92-019 describe previous similar events involving fire watch performance and/or fire watch supervision deficiencies.
FitzPatrick	09/01/1992	10/01/1992	Fire Watch Posts Not Maintained Due to Personnel Errors Made by Fire Watchpersons Abstract: POWER LEVEL - 000%. EIIS Codes are in [] The plant was shutdown and in the cold condition for maintenance and refuel. On two occasions in the month of September, fire watches were not maintained as required by Technical Specifications 3.12.F or as required to meet other commitments. Both situations involved fire watch personnel error (Cause Code A). On 09/01/92 a fire watch person was discovered inattentive to the assigned post in the Radwaste Control Room [NE] approximately 25 minutes after the watchperson had assumed the post. On 09/19/92 a fire watch person left the assigned post in a small portion of the Reactor Building [NG] about 10 minutes prematurely. The events were not safety significant due to the short time intervals, the areas being watched, and the plant conditions. Corrective actions in both cases involved immediate re-establishment of the fire watches, immediate termination of employment and continuing reinforcement of procedural requirements. LERs-92-001, 92-006, and 92-030 describe similar fire watch performance deficiencies.
FitzPatrick	10/12/1992	11/09/1992	First Watch Post Not Maintained Due to Personnel Error by a Fire Watchperson Abstract: POWER LEVEL - 000%. EIIS Codes are in [] Abstract The plant was shutdown and in the cold condition for maintenance and refuel. On October 12, a continuous fire watch post was not maintained as required by Technical Specifications 3.12.F or as required to meet other commitments due to personnel error (Cause Code A). On that date, a fire watchperson was discovered inattentive to the assigned post in the Emergency Service water Room [MK] approximately 15 minutes after the watchperson had assumed the post. The event was not safety significant due to the short time interval, the areas being watched, the installed fire detection and suppression systems, and the plant conditions. Corrective actions involved immediate re-establishment of the fire watch, disciplinary action, and continuing reinforcement of procedural requirements.
FitzPatrick	12/03/1992	12/31/1992	Roving Fire Watch Late Due to Personnel Error by Fire Watch Personnel Abstract: POWER LEVEL - 000%. EIIS Codes are in [] The plant was shutdown and in the cold condition for maintenance and refuel. On December 3, a roving fire watch tour was not performed as required by Technical Specifications 3.12.F due to personnel error (Cause Code A). The roving fire watch tour was to compensate for some smoke detection circuits (IC) which were taken out of service. The assigned fire watchperson did not perform the tour as assigned, did not formally turn over the assignment to another fire watchperson, and did not contact the fire watch supervisor. The event was not safety significant due to the short time interval, the limited work being performed at the time, and the plant conditions. Corrective actions involved immediate re-assignment of the fire watch tour, continuing reinforcement of professional behavior and procedural adherence, and disciplinary action. EIIS Codes are in []
FitzPatrick	12/21/1993	01/20/1994	Fire Protection System Function Test Procedure Weaknesses Abstract: POWER LEVEL - 100%. The plant was operating at 100 percent power in the Run mode. Technical Services staff had completed an initial adequacy review of the fire protection functional test procedures using improved administrative controls for guidance in their review. The review identified that heat detectors located in the Standby Gas Treatment system filter trains were not being functionally tested as required by the Technical Specifications. Additional weaknesses associated with testing of the Reactor Building fire protection water spray curtains and pre-action sprinkler systems located in the Emergency Diesel Generator and Recirculation Motor Generator rooms are also reported in order to provide a complete summary of the adequacy review. The test program was not adequate to ensure proper automatic actuation of these systems in the event of a fire. testing completed with satisfactory results. These testing weaknesses were the result of inadequate procedure development and poor administrative controls. Improved administrative guidance which controls the development, review and revision of test procedures will prevent these types of procedure weaknesses in the future.
FitzPatrick	01/14/1999	03/31/1999	Incorrect Emergency Diesel Generator Line-Up During Fire Placed Plant in Condition Outside Design Basis Abstract: On January 14, 1999, at 12:56 hours, with the plant operating at 100 percent power, a fire was reported in the Hydrogen (H sub 2) Storage Facility. An Unusual Event Emergency Classification was declared. On-site and off-site fire fighting resources were dispatched. The fire was declared extinguished at 19:45 hours. The plant remained at 100 percent power for the duration of the event. During the event, the plant's offsite 115 KV reserve power was de- energized to protect firefighters working in proximity to the 115 KV switchyard. The Emergency Diesel Generator (RDG) Systems were started and run to demonstrate operability required by the plant's Technical Specifications. During the Surveillance Test to assure operability, it was decided to leave the EDGs running unloaded. However, the tie-breakers that force parallel the two EDGs on each Class IE emergency bus were open. In this configuration the plant was in a condition that was outside the design basis of the plant and was required to be in cold shutdown within 24 hours. The causes for running the EDG Systems with the tie-breakers open were inadequate procedures and insufficient operator training on the impact of EDG tie-breaker position on EDG system operability.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Fort Calhoun	01/26/1980	02/06/1980	The Fire Watch was not Maintained in a Continuous Manner Abstract: A fire barrier inside a empty breaker cubicle was degraded to pull in new cabling. A fire watch was established and a maintenance order issued to temporarily fill the fire barrier. The fire watch was not maintained in a continuous manner as required by tech. Specs. The established fire watch did not receive accurate information on the status of the degraded barrier.
Fort Calhoun	01/11/1982	01/19/1982	Two Fire Barrier Penetrations Were Found to be Non-Functional Abstract: While performing ST-FP-0 (f.1), two fire barrier penetrations were found to be non-functional. The shift supervisor was immediately notified. Contrary to the requirements of Tech Spec 2.19(7), a fire watch was not posted within one hour, nor was an hourly fire watch patrol established. Personnel performing the fire barrier inspection brought this matter to the attention of the shift supervisor. Due to the pressure of other operational matters at the time, inspection personnel were advised to contact another plant management representative. This contact was made; however, lack of proper communication on this occasion did not result in proper corrective action until the following day, when the matter was again discussed with the management representative. Reinstruction was provided to both supervisory and inspection personnel involved in this event.
Fort Calhoun	08/01/1986	08/29/1986	Reactor Trip Due to Bus Duct Overheating Abstract: POWER LEVEL - 085%. ON FRIDAY, AUGUST 1, 1986, AT 0000 HOURS, WHILE THE FORT CALHOUN STATION WAS AT 100% POWER, THE TURBINE BUILDING OPERATOR DISCOVERED SMOKE COMING FROM THE MAIN GENERATOR'S ISOLATED PHASE BUS DUCT (CANADIAN GENERAL ELECTRIC, MINIFLUX). A CONTROLLED POWER REDUCTION WAS IN PROGRESS WHEN THE SMOKE INTENSIFIED. AT THAT TIME, THE REACTOR WAS MANUALLY TRIPPED. INSPECTION OF THE ISOLATED BUS DUCT SHOWED THAT THE INSULATION HAD BROKEN DOWN AND PROVIDED A PATH FOR CIRCULATING CURRENTS TO TRAVEL ACROSS THE INSULATION AND THROUGH THE GROUND STRAPS WHICH OVERHEATED THE BUS DUCT AND GROUND STRAPS. THE BUS DUCTS WERE REINSULATED AND A NEW GROUND STRAP WAS INSTALLED AND THE UNIT WAS RETURNED TO SERVICE AT 1944 HOURS ON AUGUST 3, 1986. MONITORING OF THE BUS DUCTS SHOWED THE INITIATION OF DEGRADATION OF THE NEW INSULATION. THIS WAS CORRECTED BY REINSULATING AGAIN, THIS TIME WITH A DIFFERENT MATERIAL.
Fort Calhoun	04/28/1988	11/30/1988	Failure to Issue Special Report on File Barrier Inoperability Abstract: POWER LEVEL - 100%. THIS LER IS BEING REVISED TO INCLUDE THE RESULTS OF AN INVESTIGATION INTO THE ADEQUACY OF PROCEDURAL CONTROLS CONCERNING MAINTENANCE WHICH AFFECTS THE FIRE PROTECTION SYSTEM. ON APRIL 28, 1988, IT WAS DISCOVERED THAT A SPECIAL REPORT ON FIRE BARRIER INOPERABILITY, REQUIRED BY TECHNICAL SPECIFICATION 5.9.3, HAD NOT BEEN SUBMITTED . THE SPECIAL REPORT PERTAINED TO FIRE BARRIERS FOUND DEGRADED IN FIRE ZONES 1 AND 2 ON MARCH 18, 1988. IN ACCORDANCE WITH TECHNICAL SPECIFICATION 2.19 (7), WITHIN ONE HOUR OPPD PERSONNEL DID VERIFY THE OPERABILITY OF FIRE DETECTION AND ESTABLISHED A HOURLY FIREWATCH PATROL FOR THE FIRE AREAS AFFECTED. A MAINTENANCE ORDER WAS ISSUED TO REPAIR THE FIRE BARRIERS. THE MAINTENANCE ORDER WAS NOT PROPERLY TRACKED AND THE INCOMPLETE WORK WAS NOT DISCOVERED UNTIL APRIL 28, 1988. THE SPECIAL REPORT WAS NOT SUBMITTED WITHIN THE 30 DAY TIME FRAME. THE DEGRADED BARRIERS WERE REPAIRED BY MAY 16, 1988 AND HAVE BEEN RETURNED TO OPERABLE STATUS. THIS LER ALSO FULFILLS THE REQUIREMENT TO SUBMIT A SPECIAL REPORT IN ACCORDANCE WITH TECHNICAL SPECIFICATION 5.9.3.
Fort Calhoun	07/08/1988	08/25/1988	Failure to Issue Special Report on Fire Barrier Inoperability Abstract: POWER LEVEL - 090%. ON JULY 26, 1988, IT WAS DISCOVERED THAT A SPECIAL REPORT ON FIRE BARRIER INOPERABILITY, REQUIRED BY TECHNICAL SPECIFICATION 5.9.3, HAD NOT BEEN SUBMITTED. ON JUNE 1, 1988, AN HVAC PENETRATION WAS FOUND TO HAVE NO FLASHING AROUND IT WHICH IS REQUIRED TO MAINTAIN FIRE BARRIER OPERABILITY. IN ACCORDANCE WITH TECHNICAL SPECIFICATION 2.19(7), WITHIN ONE HOUR, OPPD PERSONNEL VERIFIED THE OPERABILITY OF FIRE DETECTION AND ESTABLISHED AN HOURLY FIRE WATCH PATROL FOR THE FIRE AREAS AFFECTED. A MAINTENANCE ORDER WAS INITIATED TO REPAIR THE FIRE BARRIER, BUT WAS NOT COMPLETED UNTIL JUNE 10, 1988. THIS WAS PAST THE SEVEN DAY TIME LIMIT, HENCE; A THIRTY DAY SPECIAL REPORT TO THE NRC WAS REQUIRED. SUBMITTAL OF THE SPECIAL REPORT WAS MISSED DUE TO A LACK OF DISTINCT PROCEDURAL RESPONSIBILITIES AND CONTROLS FOR FIRE PROTECTION RELATED DEFICIENCIES. RECENT PROCEDURAL INVESTIGATION. CORRECTION OF THE DEFICIENCIES IS CURRENTLY IN PROGRESS. THIS LER ALSO FULFILLS THE REQUIREMENT TO SUBMIT A SPECIAL REPORT IN ACCORDANCE WITH TECHNICAL SPECIFICATION 5.9.3.
Fort Calhoun	09/09/1988	10/10/1988	Failure to Issue Special Report on Fire Barrier Inoperability Abstract: POWER LEVEL - 064%. ON SEPTEMBER 2, 1988, THE LATCHING MECHANISM FOR FIRE DOOR 1007-16 WAS REPAIRED. ON SEPTEMBER 9, 1988 AT 1000 HOURS, DURING PAPERWORK COMPLETION, IT WAS DISCOVERED THAT THE POWER SUPPLY TO THE ELECTRIC LATCHING MECHANISM FOR FIRE DOOR 1007-16 HAD ORIGINALLY BEEN REMOVED ON JULY 15, 1988 AT 0950 HOURS THUS RENDERING THE DOOR IN THE FAIL OPEN POSITION. IN ACCORDANCE WITH TECHNICAL SPECIFICATION 2.19(7), OPPD PERSONNEL VERIFIED A FIRE WATCH PATROL HAD BEEN IN PLACE SINCE JULY 15, 1988 WHEN THE DOOR WAS DECLARED INOPERABLE. MAINTENANCE ORDER 883100 WAS INITIATED JULY 15, 1988 TO REPAIR THE FIRE BARRIER; HOWEVER, THE MAINTENANCE ORDER WAS NOT EXPEDITED OR COMPLETED. THE SEVEN DAY TIME LIMIT PER TECHNICAL SPECIFICATION 2.19(7) FOR REPAIR EXPIRED AND SUBMITTAL OF THE THIRTY DAY SPECIAL REPORT TO THE NRC WAS MISSED. SUBMITTAL OF THIS SPECIAL REPORT WAS MISSED DUE TO INADEQUATE TRACKING OF MAINTENANCE ORDERS PERTAINING TO FIRE PROTECTION. CORRECTIVE ACTIONS INCLUDE IMPLEMENTATION OF TRAINING OF PLANT PERSONNEL, AND PROCEDURE REVISIONS. SPECIAL REPORTS THAT WERE NOT SUBMITTED WITHIN TECHNICAL SPECIFICATION REQUIREMENTS FOR FIRE PROTECTION ARE THE SUBJECT OF LER 88-017, LER 88-012, AND LER 87-028.
Fort Calhoun	09/29/1988	10/31/1988	Failure to Perform Hourly Fire Door Patrol Abstract: POWER LEVEL - 000%. ON SEPTEMBER 29, 1988, TWO HOURLY FIRE DOOR PATROLS WERE NOT CONDUCTED. A REVIEW OF THIS MATTER DETERMINED THAT THE SECURITY STAFF REASSIGNED THE PERSONNEL WHO HAD BEEN PERFORMING THE FIRE DOOR PATROLS TO ANOTHER SECURITY FUNCTION WHICH THEY CONSIDERED TO BE A GREATER PRIORITY. TO PREVENT A POSSIBLE RECURRENCE OF THIS PROBLEM, A SECURITY BULLETIN WAS ISSUED AND A SECURITY PROCEDURE WAS REVISED TO CLARIFY THAT PERSONNEL PERFORMING FIRE DOOR PATROLS WILL NOT HAVE ANY OTHER RESPONSIBILITIES AND THAT THE PERFORMANCE OF THE FIRE DOOR PATROLS IS NOT AN OPTIONAL RESPONSIBILITY.
Fort Calhoun	12/04/1988	01/03/1989	Failure to Maintain a Continuous Fire Watch Abstract: POWER LEVEL - 000%. ON 12/4/88 WHILE IN REFUELING SHUTDOWN (MODE 5), IT WAS DISCOVERED THAT A CONTINUOUS FIRE WATCH HAD NOT BEEN SUSTAINED FOR THE ENTIRE PERIOD OF TIME THE ROLLUP DOOR SEPARATING FIRE AREAS 35A AND 35B (DIESEL GENERATOR ROOMS) WAS OPEN. THE REQUIREMENT FOR A CONTINUOUS FIRE WATCH IS BASED ON TECH SPEC 2.19(7) WHICH STATES IN PART, 'THAT WITH A PENETRATION FIRE BARRIER NONFUNCTIONAL, WITHIN ONE HOUR, EITHER ESTABLISH A CONTINUOUS FIRE WATCH ON AT LEAST ONE SIDE OF THE AFFECTED PENETRATION, OR VERIFY THE OPERABILITY OF FIRE DETECTORS ON AT LEAST ONE SIDE OF THE PENETRATION AND ESTABLISH AN HOURLY FIRE PATROL.' SINCE THE FIRE DETECTION SYSTEM IN EACH OF THE DIESEL ROOMS WAS INOPERABLE AND THE ROLLUP DOOR SEPARATING THE DIESEL ROOMS WAS NONFUNCTIONAL (DUE TO MODIFICATION AND MAINTENANCE WORK IN PROGRESS) A CONTINUOUS FIRE WATCH WAS REQUIRED TO BE POSTED. TO PRECLUDE FUTURE OCCURRENCES, STANDING ORDER 0-38, 'FIRE WATCH DUTIES AND TURNOVER PROCEDURES', WILL BE REVISED TO EMPHASIZE THE REQUIREMENT THAT A CONTINUOUS FIRE WATCH NOT LEAVE THE IMMEDIATE FIREWATCH AREA UNTIL THE INOPERABLE FIRE BARRIER IS RETURNED TO FUNCTIONAL STATUS. A COMPLETE REWRITE OF STANDING ORDER G-58, 'CONTROL OF FIRE PROTECTION SYSTEM IMPAIRMENTS' HAS BEEN COMPLETED BY THE FIRE PROTECTION ENGINEER. ITS INTENT
Fort Calhoun	12/10/1988	01/09/1989	Failure to Establish Continuous Fire Watch When Fire Damper Rendered Inoperable Abstract: POWER LEVEL - 000%. ON DECEMBER 10, 1988 WHILE IN REFUELING SHUTDOWN (MODE 5) IT WAS DISCOVERED THAT FIRE DAMPERS BETWEEN THE DIESEL GENERATOR ROOMS (FIRE ZONES 35A AND 35B), HAD BEEN RENDERED INOPERABLE BY THE INSTALLATION OF SCAFFOLDING. ACCORDING TO TECHNICAL SPECIFICATION 2.19(7), A CONTINUOUS FIRE WATCH WAS REQUIRED. NO FIRE WATCH HAD BEEN POSTED. TO IMPROVE AWARENESS OF FIRE PROTECTION SYSTEM REQUIREMENTS, A COMPLETE REWRITE OF STANDING ORDER G-58, 'CONTROL OF FIRE PROTECTION SYSTEM IMPAIRMENTS' HAS BEEN COMPLETED. SCHEDULED BY MARCH 31, 1989.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Fort Calhoun	12/14/1988	12/08/1989	FIRE SUPPRESSION SYSTEM INOPERABILITY IN COMPRESSOR BAY DUE TO ISOLATION OF SUPPLY HEADER Abstract: POWER LEVEL - 000%. FORT CALHOUN STATION (FCS) TECH SPECS REQUIRE THAT THE COMPRESSOR ROOM FIRE PROTECTION SPRINKLER SYSTEM BE OPERABLE OR A CONTINUOUS FIRE WATCH BE ESTABLISHED. ON 12/14/88, ONE OF TWO SUPPLY HEADERS SUPPLYING FIRE SUPPRESSION HEADERS IN THE AUX. BLDG. WAS ISOLATED. ON 12/15/88, AT APPROXIMATELY 1300, OPPD PERSONNEL RECOGNIZED, PER AN EXISTING ENGINEERING ANALYSIS, THAT THE HEADER ISOLATION CREATED A HYDRAULIC PRESSURE DEFICIENCY IN THE FIRE SPRINKLER SYSTEM ABOVE THE AIR COMPRESSORS. UPON DISCOVERY, THE SUPPLY HEADER WAS RETURNED TO SERVICE. THE SPRINKLER SYSTEM WAS UNABLE TO FULLY PERFORM ITS DESIGN FUNCTION AND WAS INOPERABLE AS DEFINED BY FCS TECH SPECS. PERSONNEL WERE UNAWARE OF THE SYSTEM DESIGN LIMITATION WHEN THE HEADER WAS ISOLATED AND CONSEQUENTLY DID NOT ESTABLISH A CONTINUOUS FIRE WATCH. THIS EVENT IS REPORTABLE PURSUANT WITH 10 CFR 50.73(A)(2)(I)(B). THE THREAT TO NUCLEAR SAFETY WAS MINIMAL AS THE PLANT WAS IN REFUELING SHUTDOWN, AN EXISTING HOURLY FIRE WATCH PATROL WAS IN EFFECT AT THAT TIME FOR THE AFFECTED AREA AND THE FIRE DETECTORS IN THAT ROOM WERE OPERABLE. THIS INCIDENT AROSE OUT OF A LACK OF PROCEDURAL GUIDANCE IN THE COMMUNICATION OF DESIGN BASIS CONCERNS BETWEEN DESIGN ENGINEERING AND PLANT STAFF AND
Fort Calhoun	04/18/1989	05/23/1989	Failure to Conduct Hourly Firewatch Patrol due to Procedural Inadequacies Abstract: POWER LEVEL - 100%. ON APRIL 23, 1989 AT 2340 HOURS WITH FORT CALHOUN STATION UNIT 1 OPERATING AT 100% POWER, A SECURITY SERGEANT DETERMINED THAT THE HOURLY FIREWATCH PATROL AT DOOR 1025-2 WAS NOT BEING PERFORMED. THIS DOOR HAD BEEN ADDED TO THE HOURLY-FIREWATCH PATROL LOG ON APRIL 18, 1989 AT 1000 HOURS DUE TO INOPERABLE FIRE BARRIER PENETRATION SEAL 71-W-2. HOWEVER, SECURITY PERSONNEL PERFORMING FIREWATCH PATROLS WERE USING AN UNCONTROLLED WORKING LIST BASED ON THE HOURLY FIREWATCH PATROL LOG. DOOR 1025-2 HAD NOT BEEN ADDED TO THE UNCONTROLLED WORKING LIST. FAILURE TO PERFORM THE FIREWATCH PATROL WAS A VIOLATION OF TECH SPEC 2.19(7). USE OF THE UNCONTROLLED LIST WAS DISCONTINUED, SECURITY BEGAN HOURLY FIREWATCH PATROLS OF DOOR 1025-2, AND ALL INVOLVED GROUPS WERE MADE AWARE OF PROPER CONTROL OF FIREWATCHES. REVISIONS WILL BE MADE TO STATION PROCEDURES TO BETTER DEFINE AND CONTROL THE FIREWATCH PATROL PROCESS. PENETRATION SEAL 71-W-2 COULD NOT BE RESTORED TO OPERABILITY WITHIN 7 DAYS AS NOTED IN TECH SPEC 2.19(7); THEREFORE, THIS REPORT ALSO FULFILLS THE SPECIAL REPORT REQUIREMENT OF THAT SPECIFICATION.
Fort Calhoun	05/19/1989	09/29/1989	Auxiliary Feedwater Panel Instrumentation Outside Design Basis Abstract: POWER LEVEL - 100%. DESIGN BASIS RECONSTITUTION FOR THE AUXILIARY FEEDWATER PANEL REVEALED DEFICIENCIES IN THE INSTRUMENTATION ON 5/19/89, AT APPROXIMATELY 1750 HOURS WHILE THE PLANT WAS IN MODE 1 AT 100% POWER. THE WIRING FOR THE WIDE RANGE STEAM GENERATOR PRESSURE INDICATION WAS FOUND TO BE IN NON-COMPLIANCE WITH 10 CFR 50 APPENDIX R. THIS WIRING WAS ROUTED THROUGH THE CONTROL ROOM ENVELOPE WHICH COULD AFFECT THE OPERABILITY OF THE INSTRUMENTATION IN THE EVENT OF A FIRE IN THE CONTROL ROOM. THE DESIGN BASIS RECONSTITUTION ALSO REVEALED THAT PRESSURIZER PRESSURE AND STEAM GENERATOR NARROW RANGE LEVEL INDICATIONS ON THE AUXILIARY FEEDWATER PANEL RECEIVE POWER FROM INVERTER 'C' WHICH IS POWERED BY BATTERY #1. USE OF BATTERY #1 WAS NOT ANALYZED IN THE SAFE SHUTDOWN ANALYSIS WITH RESPECT TO THE WORST CASE CONTROL ROOM FIRE. THESE DEFICIENCIES WERE REPORTED ON 5/19/89, AT 1820 HOURS TO THE NRC PURSUANT TO 10 CFR 50.72(B)(1)(II)(B). IT HAS BEEN DETERMINED THAT THE DEFICIENCIES WERE THE RESULT OF INADEQUACIES IN THE FORMER DESIGN MODIFICATION PROCESS AND IN THE ORIGNAL ANALYSIS ASSOCIATED WITH APPENDIX R COMPLIANCE. PRESENT DAY DESIGN PROCEDURES REQUIRE THAT POWER SUPPLY AND CABLE ROUTING BE CONSIDERED AS PART OF THE DESIGN TO ENSURE THAT APPENDIX R REQUIREMENTS ARE MET.
Fort Calhoun	06/13/1989	07/13/1989	Plant Emergency Lighting Outside Design Basis Abstract: POWER LEVEL - 100%. ON JUNE 13, 1989, FORT CALHOUN STATION UNIT NO. 1 WAS IN MODE 1 OPERATING AT 100 POWER. PLANT EMERGENCY LIGHTING IN SOME LOCATIONS REQUIRED FOR SHUTDOWN DURING A FIRE INDUCED FORCED EVACUATION OF THE CONTROL ROOM WAS DETERMINED TO BE MARGINAL OR DEFICIENT. THIS WAS A CONDITION OUTSIDE THE DESIGN BASIS NEEDED TO COMPLY WITH THE REQUIREMENTS OF 10 CFR 50 APPENDIX R, SECTION III.J. THIS CONDITION WAS IDENTIFIED DURING THE DESIGN BASIS RECONSTITUTION PROCESS. A SAFETY ANALYSIS FOR OPERABILITY WAS PROCESSED WHICH INSTITUTED INTERIM CORRECTIVE ACTIONS INCLUDING AN HOURLY FIREWATCH PATROL IN THE CABLE SPREADING ROOM AND USE OF PORTABLE FLASHLIGHTS BY OPERATIONS PERSONNEL. PERMANENT CORRECTIVE ACTIONS WILL INCLUDE COMPLETION OF MODIFICATION MR-FC-89-061 WHICH WILL UPGRADE OR INSTALL EMERGENCY LIGHTING UNITS IN THOSE AREAS WITH INADEQUATE EMERGENCY LIGHTING. THIS EVENT WAS REPORTED PURSUANT TO 10 CFR 50.72(B)(1)(II)(B) AT 1212 HOURS ON JUNE 13, 1989.
Fort Calhoun	08/03/1989	09/05/1989	Failure to Conduct Hourly Firewatch Patrol Due to Procedural Inadequacies Abstract: POWER LEVEL - 100%. ON 8/3/89 AT 0920 HOURS, WITH FORT CALHOUN STATION UNIT 1 OPERATING AT 100% POWER, THE FIRE PROTECTION SYSTEM ENGINEER DETERMINED THAT THE REQUIRED HOURLY FIREWATCH PATROL AT DOOR 989-14 WAS NOT BEING PERFORMED. THIS DOOR HAD BEEN ERRONEOUSLY REMOVED FROM THE HOURLY FIREWATCH LOG USED BY SECURITY ON 7/29/89 AT APPROXIMATELY 0400 HOURS. UPON DISCOVERY OF THE PROBLEM, THE SYSTEM ENGINEER CONTACTED THE SHIFT SECURITY SUPERVISOR, WHO REINSTATED THE HOURLY PATROL FOR DOOR 989-14 AND RESTORED THE DOOR TO THE HOURLY FIREWATCH LOG. THIS EVENT RESULTED PRIMARILY FROM INADEQUATE PROCEDURAL CONTROLS; INEFFECTIVE COMMUNICATIONS AND PROCEDURAL NON-COMPLIANCE WERE CONTRIBUTING CAUSES. REVISIONS HAVE BEEN MADE TO STATION PROCEDURES TO BETTER CONTROL THE FIREWATCH PATROL PROCESS. FAILURE TO PERFORM THE FIREWATCH PATROL WAS A VIOLATION OF TECH SPEC 2.19(7). THIS REPORT IS MADE PURSUANT TO 10 CFR 50.73(A)(2)(I)(B).
Fort Calhoun	01/08/1990	02/09/1990	Failure to Implement Fire Watch Patrol Abstract: POWER LEVEL - 100%. A FIRE BARRIER BREACH PERMIT FOR THE WALL BETWEEN AUXILIARY BUILDING ROOMS 26 AND 34 WAS TAKEN TO THE SHIFT SUPERVISOR FOR AUTHORIZATION ON JANUARY 8, 1990. THE SHIFT SUPERVISOR AUTHORIZED THE FIRE BARRIER BREACH AT 1025 HOURS, BUT SECURITY WAS NOT NOTIFIED TO ESTABLISH AN HOURLY FIRE WATCH PATROL. HENCE, TECHNICAL SPECIFICATION 2.19(7) WAS VIOLATED BY FAILURE TO ESTABLISH AN HOURLY FIRE WATCH PATROL FOR THAT AREA FOLLOWING THE BREACH OF THE FIRE BARRIER. A SEPARATE FIRE WATCH PATROL WAS ESTABLISHED IN THE SAME AREA ON JANUARY 9, 1990 AT 0940. THE FIRE PROTECTION SYSTEM ENGINEER DISCOVERED THE DISCREPANCY ON JANUARY 10, 1990 AND INITIATED THE REQUIRED FIRE WATCH PATROL. THE PRIMARY CAUSE OF THIS EVENT WAS FAILURE OF THE SHIFT SUPERVISOR TO ASSURE HIS PROCEDURAL RESPONSIBILITY FOR INITIATING A FIRE WATCH PATROL WAS MET. CONTRIBUTING FACTORS WERE PAST PRACTICES AND INADEQUATE TRAINING ASSOCIATED WITH THE SHIFT SUPERVISOR RESPONSIBILITIES OF THE FIRE PROTECTION PROGRAM. CHANGES TO THE FIRE PROTECTION PROGRAM TO BETTER DEFINE ASSOCIATED RESPONSIBILITIES WILL BE IMPLEMENTED BY FEBRUARY 16, 1990. THE SHIFT SUPERVISORS AND OTHER LICENSED OPERATORS WILL BE TRAINED CONCERNING EACH OF THESE CHANGES PRIOR TO IMPLEMENTATION.
Fort Calhoun	09/15/1990	10/26/1990	Failure to Conduct Hourly Firewatch Abstract: POWER LEVEL - 100%. ON SEPTEMBER 27, 1990 AT 2358 HOURS WITH FORT CALHOUN STATION UNIT 1 OPERATING AT 100% POWER, THE SHIFT SECURITY SUPERVISOR DETERMINED THAT THE REQUIRED HOURLY FIREWATCH PATROL AT DOOR 989-8 WAS NOT BEING PERFORMED. THIS DOOR WAS ERRONEOUSLY COPIED AS DOOR 989-4 ONTO THE HOURLY FIREWATCH LOG ON SEPTEMBER 16, 1990 BY A DIFFERENT SHIFT SECURITY SUPERVISOR. FAILURE TO PERFORM THE FIREWATCH PATROL FROM SEPTEMBER 16 TO SEPTEMBER 27 WAS A VIOLATION OF TECHNICAL SPECIFICATION 2.19(7). UPON DISCOVERY THAT THE REQUIRED HOURLY FIREWATCH PATROL WAS NOT BEING PERFORMED, DOOR 989-8 WAS IMMEDIATELY RESTORED TO THE HOURLY FIREWATCH LOG. THIS EVENT RESULTED FROM PERSONNEL ERROR. APPROPRIATE DISCIPLINARY ACTION HAS BEEN ADMINISTERED. PLANT STAFF WILL IMPLEMENT A COMPUTER DRIVEN DATA BASE TO GENERATE THE HOURLY FIREWATCH LOG. THIS COMPUTERIZED SYSTEM SHOULD PRECLUDE MANUAL TRANSCRIPTION ERRORS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Fort Calhoun	12/07/1990	01/07/1991	Inadequate Hourly Firewatch Patrols Abstract: POWER LEVEL - 100%. ON DECEMBER 7, 1990, AT APPROXIMATELY 0001 HOURS CST, THE SHIFT SECURITY SUPERVISOR DETERMINED THAT AN ADEQUATE COMPENSATORY FIREWATCH INSPECTION OF DOOR 971-1 (ROOM 23) WAS NOT BEING CONDUCTED. UPON FURTHER INVESTIGATION, IT WAS DETERMINED THAT THREE ADDITIONAL DOORS/AREAS WERE ALSO NOT BEING PROPERLY INSPECTED. THE SHIFT SECURITY SUPERVISOR BRIEFED THE FIREWATCH PATROL OFFICER ON THE PROPER PROCEDURE AND DIRECTED THAT THE FOUR AREAS BE VISUALLY INSPECTED AFTER COMPLIANCE WITH THE APPROPRIATE RADIATION PROTECTION MEASURES. THE CAUSE OF THE INADEQUATE FIREWATCH INSPECTIONS WAS INAPPROPRIATE ACTIONS BY FIREWATCH PATROL OFFICERS RESULTING FROM AN INADEQUATE UNDERSTANDING OF THE PROCEDURAL REQUIREMENTS. CORRECTIVE ACTIONS INCLUDE RETRAINING OF FIREWATCH PATROL OFFICERS ON PROPER INSPECTION METHODS AND EMPHASIS ON INCREASED INVOLVEMENT IN THE FIREWATCH INSPECTION PROCESS BY THE SHIFT SECURITY SUPERVISORS.
Fort Calhoun	03/05/1991	04/04/1991	Failure to Establish Compensatory Firewatches Abstract: POWER LEVEL - 070%. AT 0812 ON MARCH 5, 1991, FIRE DETECTION ZONE 6 ALARMED IN THE CONTROL ROOM. THIS ALARM COULD NOT BE RESET, AND WAS DETERMINED TO BE A FALSE ALARM OF AN INDIVIDUAL DETECTOR CAUSED BY MAINTENANCE ACTIVITIES. PRIOR TO THIS EVENT, 2 FIRE BARRIERS WITHIN DETECTION ZONE 6 HAD BEEN DECLARED INOPERABLE AND AN HOURLY FIRE WATCH HAD BEEN IMPLEMENTED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 2.19(7). WHEN DETECTION ZONE 6 BECAME INOPERABLE, A CONTINUOUS FIRE WATCH SHOULD HAVE BEEN ESTABLISHED FOR THESE INOPERABLE BARRIERS IN ACCORDANCE WITH THE REQUIREMENTS OF THE TECHNICAL SPECIFICATION. THE ROOT CAUSE OF THIS EVENT WAS INADEQUATE ADMINISTRATIVE CONTROL TO ASSURE THE MODIFICATION WHICH INSTALLED THE XL-3 PANEL WAS PROPERLY REFLECTED IN THE OPERATING PROCEDURES AND THE TRAINING LESSON PLANS. THIS RESULTED IN INADEQUATE UNDERSTANDING BY OPERATIONS PERSONNEL OF HOW THE MODIFIED DETECTION SYSTEM WORKS; THUS, OPERATIONS PERSONNEL DID NOT REALIZE THE ENTIRE DETECTION ZONE WAS INOPERABLE. THE REQUIRED CONTINUOUS FIRE WATCH, AS WELL AS SEVERAL HOURLY FIRE WATCHES REQUIRED BY TECHNICAL SPECIFICATION 2.19(1), WERE NOT ESTABLISHED. CORRECTIVE ACTIONS INCLUDE CLARIFICATION OF SYSTEM FUNCTIONS TO OPERATIONS PERSONNEL, AND REVISION OF THE APPROPRIATE OPERATIONS PROCEDURES AND THE TRAINING
Fort Calhoun	01/28/1992	02/27/1992	Technical Specification 2.19 Violation Due to Missed Fire Watch Abstract: POWER LEVEL - 074%. AT 1035 HOURS ON JANUARY 28, 1992, WHILE IN MODE 1 AT 74 PERCENT POWER, ZONE 2 ALARM ON FIRE ALARM PANEL AI-54A ACTUATED. THIS ALARM WAS ACKNOWLEDGED AT THE AI-54A AND AI-56 (XL-3) PANELS. APPROXIMATELY FIVE HOURS LATER, THE ON-COMING OPERATING CREW REVIEWED THE COMPUTER PRINTOUT OF ACTIVITIES ON XL-3 AND NOTED THAT THIS ALARM HAD BEEN ACKNOWLEDGED AT 1035 HOURS, BUT HAD NOT BEEN RESET. DURING THIS TIME THE ZONE WAS INOPERABLE, AND COMPENSATORY MEASURES WERE NOT TAKEN AS REQUIRED BY TECHNICAL SPECIFICATION 2.19(1). THIS EVENT IS BEING REPORTED PURSUANT TO 10 CFR 50.73(A)(2)(I)(B). THE ROOT CAUSE OF THIS EVENT WAS INADEQUATE PERSONNEL PERFORMANCE DUE TO A LACK OF ATTENTION/CONCENTRATION. A CONTRIBUTING CAUSE WAS INADEQUATE ADMINISTRATIVE CONTROL TO IDENTIFY FIRE DETECTORS POTENTIALLY IMPACTED BY WELDING ACTIVITIES, SO THAT APPROPRIATE COMPENSATORY MEASURES WOULD BE CONSIDERED. THE FAILURE TO ESTABLISH THE HOURLY FIRE WATCH FOR ROOM 13 HAD LIMITED SAFETY SIGNIFICANCE BECAUSE THE FIRE HAZARDS ANALYSIS DETERMINED THAT A LOSS OF ALL EQUIPMENT AND CABLING IN THE AREA WOULD NOT ADVERSELY AFFECT SAFE PLANT SHUTDOWN. UPON DETERMINATION THAT ZONE 2 WAS INOPERABLE, THE FIRE DETECTORS IN THE WELDING AREA OF ROOM 18 WERE DISABLED AND APPROPRIATE COMPENSATORY MEASURES
Fort Calhoun	06/11/1992	07/13/1992	Failure to Initiate a Fire Watch for an Inoperable Fire Door Abstract: POWER LEVEL - 100%. On June 11, 1992, during the performance of Surveillance Test Procedure OP-ST-FP-0001, Fire Door 989-4 to the Charging Pump Valve Room (Room 7) was found to have a broken latch. On June 17, 1992, a fire barrier impairment and associated fire watch were initiated. The door was repaired and the impairment cleared on June 23, 1992. A review of the completed surveillance test identified that the fire barrier impairment and associated fire watch had not been generated at the time the door latch was discovered to be inoperable. As a result, requirements of Technical Specification 2.19(7) were not met. This event was found to be of negligible safety significance because Room 7 does not contain significant amounts of combustible material and the fire detectors in the area were operable. The root cause of this event was determined to be ambiguous instructions contained in a note at the beginning of a Fire Protection Door Checklist. Corrective actions will include procedure revisions and informing appropriate personnel of requirements for maintaining fire door qualification and the importance of notifying the Shift Supervisor of fire door discrepancies.
Fort Calhoun	07/02/1992	08/03/1992	Inadequately Sized Heater Drain Pump Cables Abstract: POWER LEVEL - 100%. During reconstitution of the Electrical System Design Basis, it was discovered that the cables supplying 4160 volt power to three Heater Drain Pump motors were inadequately sized. Engineering analysis determined that a bolted three-phase fault could produce a cable outer jacket temperature of 798 degrees F. This would exceed the specified jacket ignition temperature for the cable of 700 degrees F, potentially causing the Heater Drain Pump cables in both safe shutdown switchgear rooms to exceed their cable ignition temperature. This was determined to be outside the safe shutdown design basis of Fort Calhoun Station. The safety significance of this incident is considered minimal. The Anaconda cable used for the Heater Drain Pump 4160 volt feeds meets IEEE 383-1974. Insulation/jacket combustion is not self-sustaining when the energy source is removed and the associated breaker will clear a fault in 7/60ths of a second. Combustion, if any, would therefore be expected to be short lived. The root cause of this condition has been determined to be the inadequate cable sizing which was part of the original plant design. A fire watch has been established for appropriate areas until the undersized Heater Drain Pump cable are upgraded to proper specifications.
Fort Calhoun	07/03/1992	08/03/1992	Reactor Trip Due to Inverter Malfunction and Subsequent Pressurizer Safety Valve Leak Abstract: POWER LEVEL - 100%. On July 3, 1992, at 2336, while the plant was operating at 100% power, the Reactor Protection System automatically tripped the reactor due to high pressurizer pressure. The event was initiated as a result of maintenance on a non-safety related inverter. During replacement of a degraded circuit board, power was momentarily lost to the instrument bus that supplies power to the Turbine Electrohydraulic Control System, resulting in closure of the turbine control valves. A subsequent failure of a pressurizer code safety valve resulted in high pressure in the pressurizer quench tank that blew the tank's rupture disk and resulted in the loss of approximately 21,500 gallons of contaminated water to the containment building sump. The consequences of the event are bounded by the Fort Calhoun Station Updated Safety Analysis Report. The root cause of the momentary loss of power to the instrument bus was determined to be the inability to isolate and test the non-safety related inverters after maintenance without potentially losing power to the respective 120V AC instrument buses. The root cause of the malfunction of Pressurizer Safety Valve RC-142 was determined to be the adjusting bolt locknut that loosened and allowed the set pressure adjusting bolt to back
Fort Calhoun	12/01/1992	12/31/1992	Failure to Satisfy Fire Watch Requirements for Inoperable Abstract: POWER LEVEL - 100%. On November 30, 1992 at approximately 1500, Fire Barrier Penetration 19-E-30, connecting the Turbine Building and Room 19 of the Auxiliary Building, was breached to support maintenance on a Component Cooling Water/Raw Water (CCW/RW) heat exchanger. Fort Calhoun Station Technical Specification (TS) 2.19(7) requires that a hourly fire watch be established within one hour of the breach. The Fire Protection Impairment Permit was not properly completed. As a result, from December 1, 1992 at approximately 1545, until December 2, 1992 at 1134, there was no hourly fire watch to satisfy the TS requirement for Penetration 19-E-30. On identification of the impaired fire barrier, compensatory measures were established in accordance with TS requirements. The root cause of this event was determined to be inappropriate actions and lack of attention to detail. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B). This report is also being submitted pursuant to TS 5.9.3, because three fire barriers impaired to support the CCW/RW work, have been inoperable for more than seven days. Corrective actions involve completing CCW/RW heat exchanger cleaning, counselling the responsible craftsperson on the event, and providing refresher training to fire watch qualified personnel.
Fort Calhoun	12/03/1992	02/26/1993	Inoperability of Fire Suppression Water System Abstract: POWER LEVEL - 100%. On December 3, 1992, following the clearance of Danger Tagout 92-2455 on the Steam Generator Blowdown System (SGBS), a steam leak developed on a drain valve in the Steam Generator Blowdown Processing System (SGBPS). The steam leak resulted in fire detector alarms and an automatic start of Electric Fire Pump FP-1A. Control Room Operators took action to isolate the steam leak. Later, the water plant operator reported water in the lower motor bearing of FP-1A. FP-1A was then declared inoperable. Diesel Driven Fire Pump FP-1B was inoperable at the time due to maintenance. Technical Specification (TS) 2.19(4)b was entered. This report is submitted pursuant to TS 2.19(4)b(ii). This report is also submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) as it was determined following the event that actions specified in TS 2.19(5) should have been implemented in addition to those specified in Ts 2.19(4)b. The root cause of the event has been determined to be a lack of control over the SGBPS and the system interface valves. The root cause of the violation of TS 2.19(5) was found to be a poorly understood specification. Corrective actions included review of SGBPS interface valves, evaluation of a portion of SGBPS piping, revision of the equipment tagging procedure, and review of TS 2.19.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Fort Calhoun	12/17/1992	01/15/1993	Failure to Satisfy Fire Watch Requirements for Impaired Halon System Abstract: POWER LEVEL - 100%. On December 17, 1992 at 0730, Door 1011-4 was declared inoperable as a fire barrier because of an inoperable latch. This door serves a security function, as well as being a fire door and a Halon containment boundary for Switchgear Room 56E. An hourly fire watch patrol was established due to the inoperability of the door. After repair of the door latch was completed and the door declared operable at 1005, it was determined that a continuous fire watch should have been established, pursuant to Technical Specification 2.19(8), due to the inoperable door representing a degradation of the Switchgear Room 56E Halon containment boundary. It was concluded that the root cause of this event was personnel error. Corrective actions involve training for Licensed Operators and Security supervisory personnel, and revision of the Fire Protection Impairment Permit form.
Fort Calhoun	04/27/1993	05/26/1993	Failure to Maintain Continuous Fire Watch For Impaired Halon System Abstract: POWER LEVEL - 000%. On January 18, 1993, the Halon fire suppression system for the Switchgear Rooms was disabled to allow repair/replacement of Halon system piping. A continuous fire watch with back-up fire suppression equipment was established. On April 27, 1993 at 1941 CDT, a security officer on an hourly fire door check entered the Switchgear Rooms and noticed that the individual responsible for the continuous fire watch was not present. Computer records revealed that the individual had exited the Switchgear Rooms at 1930 CDT. Consequently, the Switchgear Rooms were without a continuous fire watch for eleven minutes, resulting in a violation of Technical Specification 2.19(8). It has been concluded that the root cause of this event was personnel neglect and that the problem was isolated to this individual. The individual responsible for the fire watch at the time of the incident was a temporary contract employee. The corrective action taken as a result of this event was to relieve the individual of his responsibilities, block his access to the Protected Area and terminate his services.
Fort Calhoun	06/11/1993	07/12/1993	Failure to Address Low Halon Tank Pressure Following Surveillance Test Abstract: POWER LEVEL - 100%. On June 11, 1993, during performance of Surveillance Test GM-ST-FP-0005, 'Semi-Annual Switchgear Rooms Halon Cylinders Weight and Pressure Test', one of the 14 Halon cylinders did not meet the minimum pressure acceptance criteria listed in the procedure. This unacceptable pressure value was not noticed during performance of the test. After the surveillance test was completed, the Switchgear Rooms Halon system was returned to service. The unacceptable pressure value was identified during the post-performance review of the test by the System Engineer on June 14, 1993. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) due to the failure to satisfy Technical Specification 2.19(8) between June 11, 1993 and June 14, 1993. The causes of the event were determined to be the failure of the surveillance test to include the necessary steps to assign responsibility for verification of data for acceptability and failure to self-check/verify. The Halon cylinder was recharged and retested on June 14, 1993. Additional corrective actions will include revising specified procedures to clarify responsibilities.
Fort Calhoun	04/13/1994	05/13/1994	Inoperability of Halon Gas Fire Suppression System due to Inoperable Fire Damper Abstract: On April 13, 1994 with the plant operating at 100% power, a fire damper designed to retain Halon in the cable spread room in the event of a fire was found improperly latched open. This rendered the cable spread room Halon gas system inoperable and, since a continuous fire watch was not established until the condition was discovered, Technical Specification 2.19(8) was violated. This Technical Specification violation is being reported pursuant to 10 CFR 50.73(a)(2)(B). The primary cause of this event was inappropriate action by unknown personnel. Corrective actions include communicating to applicable personnel a summary of this event and its consequences, emphasizing that (a) only authorized and qualified personnel are to operate plant equipment, and (b) the control room or Shift Supervisor should be notified of any unexpected plant or system condition.
Fort Calhoun	10/21/1998	11/20/1998	An Emergency Temporary Modification Places the Plant in an Unanalyzed Condition Abstract: On October 20, 1998, at about 0220, a ventilation duct from Room 81 (the room through which the main steam line pass) to the Switchgear Rooms had two fire dampers and a drop down panel, credited for mitigation in a Main Steam Line Break (MSLB) accident, which were defeated in a nonconservative direction. This resulted from an Emergency Temporary Modification which was installed to tape shut the drop down panel and block open the fire dampers. This was done to provide additional outside cooling during maintenance on the air conditioning units for the Switchgear Rooms. Later that day the importance of the original configuration was identified. The modification was removed at about 1420 on October 20, 1998, returning the plant to its original analyzed condition. This event resulted from inadequate procedural control of an emergency temporary modification. Also inadequate information was provided in operating instructions for the affected heating ventilation and air conditioning system. A final root cause is inadequate controls for evaluating and subsequently adjusting maintenance priorities based on the cumulative impact of out-of-service equipment on plant condition. The plant procedures will be revised as appropriate. A review of the maintenance planning process will be performed to determine the appropriate corrective actions.
Fort Calhoun	12/19/2002	02/13/2003	Inadequate Procedural Guidance Resulting in Noncompliance with 10 CFR 50 Appendix R Abstract: During a self assessment Fort Calhoun Station completed a review of cable separation for components in Fire Area 30 (Containment), an issue was identified with the configuration of the pressurizer level transmitter signal cables. After an exhaustive review of documentation, a containment entry was made to confirm actual cable configuration. During the containment entry, pressurizer level transmitter cable separation was determined not to comply with Appendix R separation requirements. The root cause of this condition is a failure to recognize and fully apply the separation requirements for cables in conduits as required by 10 CFR 50 Appendix R. The problem of cable separation will be corrected by a modification in accordance with Appendix R as directed by the corrective action system.
Fort Calhoun	10/28/2013	12/26/2013	Postulated Fire Event Could Result in Shorts Impacting Safe Shutdown Abstract: On October 9, 2013, an event notification applicable to Callaway Nuclear Power Plant was posted that documented a postulated fire event regarding the impact of unfused direct current (DC) ammeter circuits in the control room (CR). In the postulated event, a fire in the CR could cause one of the ammeter wires to short to the ground plane. Simultaneously, if the fire causes another DC wire from the opposite polarity on the same battery to also short to the ground plane, a ground loop would be established through the unprotected ammeter wiring. This event could result in excessive current flow (heating) in the ammeter wiring to the point of causing a secondary fire in the raceway system. The secondary fire could adversely affect safe shutdown equipment and potentially result in the loss of the ability to conduct a safe shutdown as required by 10 CFR50 Appendix R. Plant engineering personnel reviewed the information against station electrical schematics and at approximately 1230 CDT on October 28, 2013, an 8-hour notification was made pursuant to 10 FR 50.72(b)(3)(ii)(B). The station was in Mode 5 when the condition was identified. An hourly fire watch was established in the affected locations of the station. FCS will install fuses in the DC ammeter circuitry as determined by Engineering Change 62826, Add
Fort St. Vrain	10/06/1982	11/05/1982	Nonperformance of Required Surviellance Testing of Fire Barrier Penetration Seals Abstract: During an audit, it was noted that System 21 loop split modification procedures failed to require posting of a fire watch during maintenance and also failed to re-quire performance of "Fire Barrier Penetration Seals Post Maintenance Inspection," SR 5.10.4.6-X. This is contrary to the requirements of Fort St. Vrain LCO 4.10.4 and reportable per AC 7.5.2(b)3. Related occurrence is RO 77-45. No affect on public health or safety.
Fort St. Vrain	03/19/1985	04/17/1985	SR 5.10,4b-X Not Performed Following Maintenance Work Abstract:

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Fort St. Vrain	12/20/1985	01/17/1986	Impaired Fire Barrier Penetration Seals Abstract: Missing and Degraded Fire Barrier Penetration Seals Abstract: On February 2, 1987, with the reactor shutdown since May 31, 1986, for an extensive Environmental Qualification outage, four fire barrier seals were determined to be deficient as found during the performance of the annual Technical Specification surveillance. Additionally, on March 10, 1987, numerous other fire barrier penetration seals were determined to be inadequate as found during the performance of an independent seal certification evaluation.
Fort St. Vrain	03/10/1987	05/11/1987	Fire watches have been established in the areas with deficient vital barriers. The seals have been prioritized for repair. Seals affecting Halon and carbon dioxide suppression system operability have been repaired. All deficient seals are being installed or repaired in accordance with appropriately detailed procedures. The Technical Specification surveillance procedure on fire barrier penetration seals will be expanded to reflect the correct scope. This event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B).
Ginna	11/10/1981	11/13/1981	Fire System Modifications Required by 10CFR50 Appendix R Abstract: Tech. Spec. Requires a 30 day written report if a fire suppression system is not restored to service in 14 days with fire watch posted. Several fire suppression systems have exceeded this 14 day limit. Continuous fire watches are being maintained until the systems are restored. These systems have been removed for installation of the Fire System Modifications. The cause was that the Fire System Modifications required by 10CFR50 appendix r removed the system from service during June. The failure to submit a 30 day report was due to the Operations Engineer failure to detect the need to issue an LER. All systems shall be returned to service by November 17, 1981.
Ginna	01/25/1982	02/08/1982	Inoperable Fire Detection Zones Abstract: Due to the events described in LER 82-003, fire watches posted as a result of 8 inoperable fire detection zones were evacuated from site. Therefore these eight zones were inoperable without firewatches which is a violation of a lco defined in Tech Spec 3.14.1.1a and reportable based on Tech Spec 6.9.2.a.(2). The fire watches were evacuated at 1044 hours in accordance with procedure SC-1.5. Following the event, fire watches were returned to the 8 inoperable fire detection zones at 1600 hours.
Ginna	03/23/1982	04/06/1982	linoperable Fire Detection Zones Abstract: At 1348 hours due to a local radiation emergency declared for the intermediate building, north, the fire watch posted, as a result of S-15 isolation valve being closed, was evacuated from the area. Therefore this fire suppression system was inoperable without a fire watch which is a violation of a LCO defined in Tech Spec 3.14.3.1 and reportable based on Tech Spec 6.9.2.2a(2). The fire watches were evacuated at 1359 hours in accordance with procedure sc-1.5. Following the event, fire watches were returned to the inoperable fire suppression areas at 1525 hours.
Ginna	05/10/1982	06/09/1982	Inoperabel Halon System for More Than 14 Days Abstract: On April 26, 1982, results of the Halon concentration test conducted for the Relay Room were received. These results indicated that a minimum of 5% Halon concentration was not maintained for 5 minutes at the 15 foot elevation. Relay room was declared inoperable. On May 10, 1982, this system was inoperable more than 14 days and reportable per Tech Spec 3.14.4.1a. A fire watch was immediately placed in the relay room in accordance with Tech Spec 3.14.4.1 and an investigation was conducted to determine corrective action. Another test was conducted using four fans to produce mechanical mixing with satisfactory results. Permanent installation of mechanical mixing fans has been requested from engineering.
Ginna	05/19/1982	06/02/1982	Inoperable Fire Detection Zones Abstract: During performance of RSSP-2.1, Safety Injection Functional Test, the Satellite Station "A" (SSA) for the Fire Detection System lost AC Power. This condition existed for more than 1 hour without firewatch patrols being established. This is a violation of Tech Spec 3.14.1.1(a). The cause of this event was inadequate procedures. Plant procedure RSSP-2.1, Safety Injection Functional Test and procedure SC-3.16.2.3, satellite station a start-up following undervoltage lockout have been revised to correct this procedural deficiency.
Ginna	07/12/1982	08/25/1982	Inoperable Fire Detection Systems - Testing Abstract: A review of new Fire System Tech Specs revealed that many surveillance requirements were overdue. This placed the plant in a Limiting Condition for Operation based on the requirements of Tech Spec Section 3.14. Steps were immediately taken to ensure all Tech Spec requirements were satisfied (establish fire watch, NRC notification, etc.). At the time of discovery of this event, new fire system test procedures were still in the development stage. The January 25, 1982 steam generator tube rupture impacted work load and procedures were not developed in time. Tech Spec systems and components are presently being tested along with the normal required surveillance and it is planned that all requirements will be met by November 30, 1982.
Ginna	07/25/1984	08/24/1984	Inoperable Fire Suppression System Abstract: POWER LEVEL - 100%. ON JUL 25, 1984, FIRE DETECTION SYSTEM AND SUPPRESSION SYSTEM (S-29) 'TURBINE BLDG/CONTROL ROOM WALL SPRAY SYSTEM' WAS DISCONNECTED AND THE SUPPRESSION SYSTEM ISOLATION VALVES 9274 AND 9275 WERE HELD IN THE CLOSED POSITION FOR STATION MODIFICATION ACTIVITIES AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED. SUBSEQUENT TO MODIFICATION ACTIVITIES BEING TERMINATED FOR THE DAY, THE FIRE DETECTION AND SUPPRESSION SYSTEM WAS RECONNECTED, HOWEVER THE ISOLATION VALVES WERE LEFT IN THE CLOSED POSITION AND THE FIRE WATCH WAS REMOVED, THUS RESULTING IN A VIOLATION OF TECH SPEC 3.14.2.2, WHICH REQUIRES A CONTINUOUS FIRE WATCH WHEN THE SUPPRESSION SYSTEM IS INOPERABLE.
Ginna	09/30/1988	10/31/1988	Inadequate Fire Barrier Inspection Procedure Identified only through Breaches causing partial breaches to go undetected Abstract: POWER LEVEL - 100%. ON SEPTEMBER 30, 1988, AT APPROX. 0850 EDST, TWO SIX INCH DIAMETER PIPES WERE FOUND TO HAVE DEGRADED BLOCKS AROUND THE PIPE SLEEVES, AND IMPROPER FIRE BARRIER FILL. IT WAS LATER DETERMINED THAT NINE TWELVE INCH BLOCKS WERE DEGRADED SO THE EXPOSED FACE ON ONE SIDE WAS INTACT BUT THE UNEXPOSED WAS NOT COMPLETELY INTACT. IMMEDIATE ACTION WAS TO SET UP A FIRE WATCH WITHIN ONE HOUR, WHILE THE INSULATORS TEMPORARILY INSTALLED CERAMIC FIBER FIRE SEALS. THE CAUSE OF THE EVENT WAS DETERMINED TO BE INADEQUATE FIRE BARRIER INSPECTION PROCEDURES. CORRECTIVE ACTION WILL BE TAKEN TO UPGRADE THE DEFICIENT PROCEDURE. FOLLOW-UP ACTION IS TO PERMANENTLY SEAL THE IDENTIFIED BREACHES. DUE TO AN NRC CONCERN REGARDING FIRE WRAP CONDUIT SUPPORTS, AN ENGINEERING ANALYSIS WAS PERFORMED. ON OCTOBER 20, 1988, BASED ON THIS ANALYSIS IT WAS CONCLUDED THAT ONE REDUNDANT CIRCUIT COULD POSSIBLY REACH ITS SHORT CIRCUIT TEMPERATURE IF THE SUPPORTS WERE EXPOSED TO A FIRE OF ONE HOUR, AS COMMITTED IN APPENDIX 'R'. THE CAUSE OF THE EVENT, WAS INADEQUATE ENGINEERING SPECIFICATION. CORRECTIVE ACTION WILL BE A REVISION OF SPECIFICTIONS AND PLACING OF ADDITIONAL FIRE WRAP FOR CONDUIT SUPPORT.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Ginna	02/25/1990	03/27/1990	Technical Specification Fire Watch Patrol Established, But Did Not Perform Tour At Least Once Per Hour Due To Personnel Error. Abstract: POWER LEVEL - 098%. ON FEBRUARY 25, 1990, AT APPROXIMATELY 1345 EST WITH THE POWER AT APPROXIMATELY 98%, THE OPERATIONS SHIFT SUPERVISOR CALLED THE SECURITY SHIFT SUPERVISOR TO DISCUSS THE AREAS BEING TOURED BY SECURITY PERSONNEL TO FULFILL THE TECHNICAL SPECIFICATIONS FOR FIRE WATCH TOURS. IT WAS DETERMINED THAT SECURITY TOURS DID NOT NECESSARILY RESULT IN ENTRY TO THESE AREAS ONCE PER HOUR. IMMEDIATE ACTION WAS TO ESTABLISH AN HOURLY TOUR USING THE AUXILIARY OPERATORS UNTIL THE FIRE PROTECTION SECTION COULD ACQUIRE THE PERSONNEL TO PERFORM THE TASK. THE CAUSE OF THE EVENT WAS DETERMINED TO BE THE IMPROPER INTERPRETATION OF SECURITY TOURING POLICY WHICH RESULTED IN THE FAILURE OF SECURITY TO TOUR THE REQUIRED AREAS ONCE PER HOUR. CORRECTIVE ACTION HAS BEEN TAKEN BY FIRE PROTECTION TO CONDUCT REQUIRED FIRE WATCH TOURS AS REQUIRED. FOLLOW-UP ACTION IS TO RESTORE THE INOPERABLE SYSTEMS/COMPONENTS TO OPERABLE STATUS.
Ginna	02/26/1990	03/28/1990	Fire Watch Patrol Performed Technical Specification Hourly Patrol in the Wrong Areas Due to Personnel Error. Abstract: POWER LEVEL - 098%. ON FEBRUARY 26, 1990, AT APPROXIMATELY 1544 EST WITH THE REACTOR AT APPROXIMATELY 98%, IT WAS DETERMINED THAT THE ROVING FIRE WATCH THAT WAS ASSIGNED TO PERFORM THE HOURLY TOURS OF THE 'A' AND 'B' BATTERY ROOMS MISTAKENLY PERFORMED THE TOURS OF THE 'A' AND 'B' DIESEL GENERATOR ROOMS. THE ERROR WAS IDENTIFIED BY THE RESPONSIBLE FIRE WATCH DURING AN AFTERNOON PRE-TURNOVER MEETING. IMMEDIATE ACTION WAS TO ENSURE AN HOURLY PATROL COVERED THE 'A' AND 'B' BATTERY ROOMS. THE CAUSE OF THE EVENT WAS DETERMINED TO BE PERSONNEL ERROR BY THE ASSIGNED FIRE WATCH. CORRECTIVE ACTION HAS BEEN TAKEN BY THE FIRE PROTECTION SECTION BY ISSUING A CARD TO EACH INDIVIDUAL PERFORMING A TECHNICAL SPECIFICATION FIRE WATCH COMMITMENT, WHICH IDENTIFIES THE AREA OF THEIR RESPONSIBILITY.
Ginna	06/19/1990	07/19/1990	Fire Damper found missing during surveillance test PT-13.26, due to not being installed, causes a condition prohibited by Technical Spec. Abstract: POWER LEVEL - 098%. ON JUNE 19, 1990, AT APPROXIMATELY 1530 EDST, WITH THE REACTOR AT APPROXIMATELY 98% FULL POWER, A TECHNICAL SPECIFICATION FIRE DAMPER WAS DISCOVERED MISSING. THE TECHNICAL SPECIFICATION FIRE DAMPER WAS MISSING DUE TO NOT BEING ORIGINALLY INSTALLED. THE UNDERLYING CAUSE OF THE MISSING FIRE DAMPER WAS DUE TO BE INADEQUATE DESIGN INFORMATION. IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH AN HOURLY FIRE WATCH TO PATROL THE AREA. SUBSEQUENT ACTION WILL BE TO COMPLETE A VISUAL INSPECTION AND PERFORM A TRIP TEST OF ALL TECHNICAL SPECIFICATION AND APPENDIX R FIRE DAMPERS. THIS REPORT IS ALSO BEING SUBMITTED UNDER THE 'OTHER' CATEGORY BECAUSE TECHNICAL SPECIFICATIONS ALSO REQUIRES A SPECIAL 30 DAY WRITTEN REPORT.
Ginna	04/12/2013	05/31/2013	Unanalyzed Condition due to Missing Barrier Abstract: On April 12, 2013, a system engineer performing a walkdown of backflow prevention devices discovered that the check valve that was expected to be found installed in a floor drain in the Intermediate Building Basement had been removed. The check valve was designed as a barrier to prevent the flow of flammable liquid from the Turbine Building Basement to the Intermediate Building Basement where safe shutdown equipment is located. In accordance with the Technical Requirements Manual (TRM), immediate compensatory actions were initiated. These actions were a fire detector operability verification and an hourly fire watch inspection. Additionally, a plug was installed in the floor drain to prevent the backflow of flammable liquid. The apparent cause of this event is removal of the check valve due to housekeeping issues because it would not allow water to pass due to the unique design of the valve. The check valve appears to have been removed at some point in the past to prevent water accumulation in the floor drain without sufficient review of the impact. This event was entered into the Station's Corrective Action Program and a plant modification will be performed to replace the valve, addressing the original design deficiencies.
Grand Gulf 1	06/26/1982	09/07/1982	The Power Supply was not Suffcient to Melt the Electro-Thermal Links Connected to the Dampers Abstract: During preoperational testing of the CO(sub 2) fire protection system, the ventilation dampers for Division 1 and 2 Switchgear Rooms failed to close upon a CO(sub 2) actuation signal. During evaluation, a special test was conducted in which the dampers failed to close again. As a result, a Limiting Condition for operation was entered on June 26 pursuant to Tech Spec 3.7.6.3. The event is being reported in accordance with Tech Spec 6.9.2. The power supply was not sufficient to melt the electro-thermal links connected to the dampers. A design change package was initiated to replace the power supply and associated relays. An hourly fire watch was established in the interim. The design change installation and testing was completed on August 15, 1982.
Grand Gulf 1	07/13/1982	08/04/1982	A Faulty Supervisory Relay Which Gave a Locked-in Fire Signal Abstract: The CO(sub 2) fire protection system initiated in an electrical penetration room in the Auxiliary Building with no fire involved. The room door was open when fire brigade personnel arrived. The building was then evacuated. The cause of the activation was a faulty supervisory relay which gave a locked-in fire signal. Fuses were pulled to prevent continued discharges. The relay was replaced the following day. A continuous fire watch was established prior to replacement of the relay.
Grand Gulf 1	07/15/1982	09/07/1982	The System Design did Not Include Fire Detectors for the Identified Areas Abstract: During a special review by the architect engineer (Bechtel) of the fire detection system, a design deficiency was identified. Smoke detectors were not provided in the plant design for certain areas where divisional cable had apparently been field installed. The cable is safety-related but not safe-shutdown related. An undetected fire in the area would not prevent safe shutdown of the plant. 6.9.1.12.1. The system design did not include fire detectors for the identified areas. The divisional cable had been field installed through these areas without a followup design for fire detection. A design change package was initiated to install detectors. A fire watch was established in the interim. Smoke detector installation was completed on August 20, 1982.
Grand Gulf 1	07/22/1982	12/15/1982	The Open Penetrations was a Construction Oversight Abstract: During a special inspection by the Fire-Protection/Safety coordinator, penetration seal CV-19G was found not installed. The hvac penetration is located on the 189 foot elevation east passageway room OC711 of the Control Building. The event is being reported pursuant to Tech Spec 6.9.2. The open penetration was a construction oversight. A maintenance work order was released to the field to install the seal. An hourly fire watch was established in accordance with Tech Spec 3.7.7.a until the work task was completed. This is a final report.
Grand Gulf 1	07/23/1982	03/03/1983	Update on Missing Fire Barrier Seal on Electrical Penetration Abstract: On July 23, 1982, it was discovered that there was no seal on an electrical penetration between the Hot Machine Shop and Division 2 ESF Switchgear Room. An hourly fire watch was established in accordance with Tech Spec 3.7.7. The event is reported pursuant to Tech Spec 6.9.2. The penetration was not sealed during construction. Procedures and qualified personnel have since been made available and the penetration was sealed on October 7, 1982. This is a final report.
Grand Gulf 1	07/25/1982	08/23/1982	A Smoke Detector Alarmed Where no Fire Existed and Would not Reset Abstract: The smoke detector above the steam tunnel area zone 2-08, alarmed where no fire existed and would not reset. The smoke detector was declared inoperable and an hourly fire watch was established as required by Tech Spec 3.3.7.9. The event is being reported pursuant to Tech Spec 6.9.1.13.b. Upon inspection on July 27 the manual pull station was found initiated. The system was restored at 1930 and the hourly fire watch discontinued. This is considered a final report.
Grand Gulf 1	07/28/1982	03/14/1983	Fire Detectors were not Provided in the Plant Design for these Areas by the Artitect Engineer Abstract: During a special inspection, an apparent discrepancy between Volume 15 Appendix 9A of the FSAR and field conditions was identified. Safety related isolation valves and pressure transmitters are located in the turbine building areas where no fire detection was provided. Upon inspection, no conbustibles were found in the area. The event is being reported pursuant to Tech Spec 6.9.1.12.i. Fire detectors were not provided in the plant design for these areas by the Architect engineer. The necessity for the detectors is under evaluation. A fire watch is being conducted once each shift in the interim. A design change request is being initiated for tracking purposes.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	08/03/1982	09/09/1982	The Zone 1-23 Smoke Detector in the Upper Cable Spreading Room was Deactivated Abstract: The zone 1-23 smoke detector in the upper cable spreading room was deactivated via the security computer due to spurious alarms where no smoke or fumes were present. The smoke detector is required to be operable by Tech Spec 3.3.7.9. The event is being reported pursuant to Tech Spec 6.9.1.13.b. An hourly fire watch was established and a maintenance work order written to investigate. The detector was cleaned, reset and placed back into service. An hourly fire watch was established and a maintenance work order written to (investigate. The detector was cleaned, reset and placed back into service on (August 5, 1982. All corrective action is complete. This is intended to be a final (report.
Grand Gulf 1	08/04/1982	09/02/1982	Malfunctioning Hardware Associated with the Security/Fire Protection Computer Multiplexer Abstract: The zone 2-15 smoke detector in the auxiliary building 185 ft. Cable chase alarmed on the security/fire protection computer and would not clear. There was no fire or smoke in the area. The system was not returned to operable status within 14 days as required by Tech Spec 3.3.7.9. The condition was caused by malfunctioning hardware associated with the security/fire protection computer multiplexer. The supervisory line board was replaced to return the system to operable status on 8/27. An hourly fire watch was established in accordance with Tech Spec 3.3.7.9. The multiplexer is part of the Data General System as supplied by Sygnetron.a
Grand Gulf 1	08/08/1982	11/23/1982	This Event was Caused by Construction Oversight Abstract: During pre-low power physics test walkdowns on August 8, 1982, three four-inch penetrations between rooms 1D302, 1D303, and 1D304 were found not sealed. An hourly fire watch was established in the area, in accordance with requirements of tech spec 3.7.7. A maintenance work authorization was written to seal the three penetrations. This condition was caused by construction oversight. The fire-rated seals were installed and the lco was lifted on September 23, 1982. This is being submitted as a final report.
Grand Gulf 1	08/12/1982	09/13/1982	The Unsealed Fire Barrier was Due to Construction Oversight Abstract: While performing work to reroute cables for divisional separation, technicians noted a fire barrier between two control room cabinets (P712E and P712B) which was not sealed. A limiting condition for operation was initiated pursuant to Tech Spec 3.7.7 and the action statement entered. Operations personnel started an hourly fire watch in the control room area involved. The unsealed fire barrier was due to construction oversight. The maintenance work order for cable reroute will close the fire barrier. A follow up report will be submitted within the next 60 days.
Grand Gulf 1	08/13/1982	09/13/1982	Inspection Revealed Some 27 Barriers not Intact Abstract: An inspection of the Control Room Floor Panels revealed some 27 barriers not intact. These barriers provide a fire break and also define the boundary for the Control Room Halon Systems. A Limiting Condition for Operation was entered pursuant to Tech Spec 3.7.7. If this had gone undetected it could have reduced the effectiveness of the halon system for cable tray fires. These barriers were left open due to inadequate controls on construction rerouting of cables after the barriers were installed. All work is now reviewed and controlled by the operations shift superintendent. All fire barrier removal is documented and a fire watch established until the barrier is replaced. This constitutes a final report.
Grand Gulf 1	08/14/1982	08/26/1982	The Action Requirements of the Technical Specificationsa were not Met Due to the Surveillance Test being Performed Prior to Issuance of the Facility Operating License Abstract: While reviewing an open Material Nonconformance Report on 8/14, a violation of Tech Spec 3.7.6.4 was identified. A halon system surveillance test conducted on 5/29/82 revealed that the acceptance criteria for charge pressure of the halon bottles were not met. A Material Nonconformance rRport was then issued on 6/2 to correct the problem. On 6/16, the license date, actions required by Tech Spec 3.7.6.4 (establishment of a fire watch) should have been implemented but were not. The action requirements of the Tech Specs were not met due to the surveillance test being performed prior to issuance of the facility operating license. The halon bottles were replaced, inspected and found acceptable on 8/17/82.
Grand Gulf 1	08/22/1982	09/20/1982	The Intermittent Alarm was Attributed to Noise in the System Abstract: The smoke detector zone covering the motor control center area and south hallway elevation 119 ft. Of the Auxiliary Building gave erroneous alarms intermittently. The fire zone was deactivated and fire watch established in accordance with Tech Spec 3.3.7.9. The motor control center area is provided with automatic sprinkler coverage and the zone smoke detectors provide early warning signals. The intermittent alarm was attributed to noise in the system. No circuit problem was discovered by maintenance personnel responding to investigate. The zone was returned to service on August 26, 1982. Repetitive occurrences of this nature will be tracked and reviewed for further corrective action.
Grand Gulf 1	08/23/1982	09/20/1982	The Continuous Alarm was Caused by a Magnetic Door Switch which was out of Adjustment Abstract: The supervisory alarm on the fire door separating the pipe chase and CRD pump area from the north stairwell went into alarm and would not clear. This negated operations' ability to monitor the fire door position from the control room and required a fire watch to be established in the area in accordance with Tech Spec 3.7.7. The continuous alarm condition was caused by an out of adjustment magnetic door switch. A fire watch was established until the door switch was adjusted and the alarm tested. The LCO was removed on August 31, 1982.
Grand Gulf 1	08/24/1982	09/22/1982	The Fire Detection Zone Covering the Fuel Handling Area and Ventilation Equipment Area went Into Alarm and Reset Several Times Abstract: The fire detection zone covering the fuel handling area and ventilation equipment area went into alarm and reset several times. Operations investigated the area and found no sign of fire or smoke. The alarm was de-activated and declared inoperable. A fire watch was established in accordance with Tech Spec 3.3.7.9. Investigation showed the alarm was clear and the alarm reset. The alarm can only be attributed to system noise or dust. The zone was returned to service the same day. Repetitive occurrences of this nature will be tracked and reviewed for further corrective action. This is intended as a final report.
Grand Gulf 1	08/30/1982	09/22/1982	The zone Alarm was Caused by Dust Contamination o fthe Ionization Smoke Detectors Abstract: The smoke detector zone covering the SSW pumphouse went into alarm and would not clear. The fire detection for the ssw pumphouse was therefore declared inoperable and a fire watch was established pursuant to Tech Spec 3.3.7.9 until the zone was placed back into service. The zone alarm was caused by dust contamination of the ionization smoke detectors. All the detectors were cleaned and placed back into service. This is intended as a final report.
Grand Gulf 1	09/02/1982	12/14/1982	The Seals were Broken in Order to Route Additional Cable Abstract: During shutdown several fire-rated cable penetration seals were broken on field termination cabinets in the Control Room. The broken seals could provide a path for fire to spread from the affected cabinet. An LCO was entered and an hourly fire watch was established in accordance with Tech Spec 3.7.7. The seals were broken in order to route additional cable. Upon completion of the maintenance activities, the seals were repaired, and the LCO was lifted on October 30, 1982. All corrective action is considered complete. This is being submitted as a final report.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	09/03/1982	01/10/1983	Update on Smoke Detector Failures Abstract: On September 3, 1982, smoke detectors in fire Zones 2-4 (electric switchgear and piping penetration room on elevation 119 feet of Auxiliary Building), 1-18 (elevation 166 feet, Control Building) and 1-23 (elevation 189 feet, Control Building) alarmed with no fire or fumes present. The zone smoke detectors were deactivated and an hourly fire watch was established in accordance with Tech Spec 3.3.7.9. On September 7, 1982, detectors for Zone 2-4 were cleaned and returned to service. Smoke detectors for zones 1-18 and 1-23 were returned to service on September 7, 1982, but alarmed again on September 29. An LCO was again entered and a fire watch was re-established. The detectors were cleaned and returned to service on October 5, 1982. This is a final report.
Grand Gulf 1	09/03/1982	10/04/1982	The Continuous Alarm Condition Was Caused By An Out Of Adjustment Door Microswitch Abstract: The supervisory alarm for the fire door separating the RHR a piping room and its east passageway went into alarm and would not clear. This negated the operator's ability to monitor the fire door position from the control room. A limiting condition for operation was entered and a fire watch was established in the area in accordance with Tech Spec 3.7.7. The continuous alarm condition was caused by an out of adjustment door microswitch. The door switch was adjusted and tested to assure operability and the lco was removed on September 29, 1982. All corrective action is considered complete.
Grand Gulf 1	09/07/1982	10/05/1982	The Continuous Alarm Was Caused By Dust Accumulation on the Ionization Smoke Detector Abstract: Smoke detectors in the fuel handling area and main steam tunnel alarmed and would not clear. Investigation by operations personnel revealed no smoke or fumes. The alarms were deactivated and declared inoperable. A fire watch was established per Tech Spec 3.3.7.9. The continuous alarm was caused by dust accumulation on the ionization smoke detector. The detectors were cleaned and placed back into service on 14 Sept. 82.
Grand Gulf 1	09/07/1982	10/05/1982	Smoke From a Nearby Burn Pit was Being Draw into the Standby Service Water Pumphouse Abstract: On September 7, 13, and 16, an alarm indicated that smoke detector P65 and zone 2-01 was sensing smoke in the standby service water pumphouse. An investigation showed that there was no fire in the area. Since the alarm could not be cleared, it was deactivated and LCO's were entered on each event pursuant to Tech Spec 3.3.7.9. A similar report submitted previously is LER 82-061/03 l-0. It was found that smoke from a nearby burn pit was being drawn into the standby service water pumphouse. When the wind changed direction, the alarm cleared. The detector was cleaned and returned to service on September 16, 1982. One hour fire watch patrols were established during the LCO's.
Grand Gulf 1	09/09/1982	10/05/1982	The Smoke Detector Alarmed and Would not Clear Abstract: The smoke detector zone covering the hallway area elevation 93 foot Aux. Building and the HPCS pump room alarmed and would not clear. No smoke or fumes were present and a fire watch was established in accordance with Tech Spec 3.3.7.9. The zone failed in an alarmed condition due to dust accumulation on the ionization smoke detectors. One detector was found in alarm, cleaned and returned to service on 10 Sept. 82.
Grand Gulf 1	09/10/1982	09/08/1983	Update on Missing Detectors in Aux Building Stairwell Abstract: During an inspection, by the Fire Protection Coordinator, areas containing safety related cable in the Aux. Bldg. Were identified as not having smoke detectors. These areas were room 1A605 on elevation 228 feet and stairwell 1a12 on elevations 185 to 208 ft. An investigation revealed no combustibles in the area. An hourly fire watch was established in these areas. Smoke detectors in these areas were omitted from the original plant design. It has been determined that smoke detectors are not needed in room 1A605. DCR 82-573 provides for installation of smoke detectors in stairwell 1A12. An hourly fire watch will be maintained in the interim. Smoke detector installation is expected to be completed by 9-1-83.
Grand Gulf 1	09/10/1982	10/08/1982	The Smoke Detectors in the Auxiliary Corridor Area Alarmed and Would Not Reset Abstract: The smoke detectors in the zone covering the Auxiliary Building corridor area (elevation 119 foot) alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. A fire watch was established in accordance with Tech Spec 3.3.7.9. The continuous alarm was found to be caused by an accumulation of dust on the ionization smoke detector combined with too high a sensitivity setting. The detector was cleaned, its sensitivity adjusted and returned to service on September 12, 1982.
Grand Gulf 1	09/15/1982	01/20/1983	The Steam Tunnel Dire Door Was Open With No Fire Watch Available Abstract: During surveillance in preparing for non-nuclear heatup (Reactor Recirculation Pump for Heatup), it was discovered that Steam Tunnel Fire Door 1A230 was open with no fire watch established as required by Tech Spec 3.7.7. The door could not be closed due to cables (being used for maintenance activity in the steam tunnel) installed in the doorway. The fire door was open to allow performance of maintenance work in the steam tunnel. An hourly fire watch was established as required by Tech Spec 3.7.7. The fire watch was maintained for 13 days, 21 hours until the work was complete and the door was secured. A memo was distributed to plant personnel reiterating required compliance to plant procedures and rules on this matter.
Grand Gulf 1	09/16/1982	10/18/1982	Three Secondary Containment Penetrations Were Opened for Cable Routing Abstract: While performing work under Design Change Package 82-4145 issued 9/4/82 for completion of the original construction of the heat tracing portion of the Drywell Monitoring System, three secondary containment penetrations were opened for cable routing. The event is being reported pursuant to Tech Spec 6.9.1.13.b. This event was a planned maintenance activity. Secondary containment integrity was not required at the time of the maintenance activity. The penetrations were sealed on 9/18/82. An hourly fire watch was established during the interim pursuant to Tech Spec 3.7.7. This is intended as a final report.
Grand Gulf 1	09/16/1982	10/18/1982	The Trouble Light Alarmed and Would Not Clear Abstract: The fire detection zone 2-6 trouble light alarmed and would not clear. An lco was entered and an hourly fire watch established in accordance with Tech Spec 3.3.7.9. The event is being reported pursuant to Tech Spec 6.9.1.13.b. A maintenance investigation revealed that a smoke detector was not seated properly in its socket causing an open circuit. The detector was reseated, tested and returned to service on September 27, 1982. This is being submitted as a final report.
Grand Gulf 1	09/18/1982	10/18/1982	Nine Fire Barrier Penetrations Were Broken Abstract: During cold shutdown, as required by a planned maintenance activity, nine fire barrier penetrations were broken. The penetrations are located in the Auxiliary Building and Control Building. This resulted in a LCO in accordance with Tech Spec 3.7.7. This event is being reported pursuant to Tech Spec 6.9.1.13.b. Implementation of Design Change 82-3594 required additional electrical conduit be routed. Operations was notified prior to the fire barrier penetrations being broken. An hourly fire watch was established in accordance with Tech Spec 3.7.7. The work was completed on 9/21/82. After the work was completed, the fire barriers were resealed and the LCO was lifted.
Grand Gulf 1	09/20/1982	10/25/1982	Five Penetration Room Fire Door Alarms Were Found Inoperable Abstract: While performing Surveillance Procedure 06-OP-SP64-M-0043 (Fire Doors Alarm Checks), five Penetration Room Fire Door alarms were found inoperable which voided the ability of the Control Room to monitor fire door position. An LCO was entered in accordance with Tech Spec 3.7.7. An hourly fire watch was established per Tech Spec 3.7.7. The cause of the fire door alarms inoperablity was unknown. The fire door alarms were retested by maintenance and returned to operability. The LCO was lifted on September 29, 1982.
Grand Gulf 1	09/23/1982	10/23/1982	The Auxiliary Building Alarmed and would Not Clear Abstract: Smoke detectors in zones 2-06, 2-07, 2-17, and 2-20 of the Auxiliary Building alarmed and would not clear. No fire or smoke was present. The alarms were deactivated. An LCO was entered and an hourly fire watch established for each zone in accordance with Tech Spec 3.3.7.9. The smoke detectors failed in an alarmed condition due to dust accumulation. The detectors were cleaned and returned to operable status. The LCO was lifted on September 29, 1982.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	09/29/1982	03/18/1983	Detector Alarmed Due to Dust Accumulation on the Sensor Abstract: Smoke detector N515H alarmed in zone 1-15 (148 ft. Elevation of the Control Building) with no fire or smoke present. The smoke detector alarm could not be reset. The fire zone was deactivated on the security and fire protection computer. An hourly fire watch was established pursuant to Tech Spec 3.3.7.9. This event is being reported pursuant to Tech spec 6.9.1.13.b. The detector alarmed due to dust accumulation on the sensor. The detector was cleaned, retested, and returned to service on October 1, 1982. A revised program for the smoke detectors is under investigation to determine if an increased frequency of performance of pm's would significantly reduce the number of smoke detector false alarms.
Grand Gulf 1	10/01/1982	10/28/1982	No Component Failure could be Found, the Alarm was Reset Abstract: Fire zone 2-04 was deactivated in the Security and Fire Protection Computer due to inability to reset a spurious smoke detector alarm. No fire or smoke was present. An hourly fire watch was established per Tech Spec 3.3.7.9a. Since no component failure could be found, the alarm was reset. The zone was returned to service in the computer on October 4, 1982 and was observed for 2 weeks with no additional problems. The alarm was apparently spurious and no further action will be taken. This is intended as a final report.
Grand Gulf 1	10/11/1982	11/09/1982	The Fire Barrier was Broken to Perform Maintenance Abstract: While performing maintenance to pull additional cable into panel 1H13P614, a panel fire barrier was broken. In the event of a fire, this could have allowed for the spread of the fire to adjacent cable. The report is being submitted per tech spec 3.7.7 and tech spec 6.9.2. The fire barrier was broken to perform maintenance. Operations was notified prior to the start of the work. In accordance with tech spec 3.7.7, a LCO was entered and an hourly fire watch was established. Upon completion of work, the fire barrier was resealed. The LCO was lifted on October 25, 1982. This is being submitted as a final report.
Grand Gulf 1	10/14/1982	11/12/1982	The Alarms Were Caused by Accumulation on Detectors Abstract: With no fire or smoke present, smoke detection zones 1-11 (133 ft. Elev. Control building HVAC Room) and 2-01 (SSW Pump House) alarmed and would not reset. The zones were deactivated on the fire/security computer and a fire watch established in accordance with Tech Spec 3.3.7.9. This is being reported pursuant to Tech Spec 6.9.1.13.b. The alarms were caused by dust accumulation on detector N511h (zone 1-11) and detector N582A (zone 2-01). Detector N511h was cleaned and returned to service on October 15, 1982. Detector N582A was cleaned and returned to service on October 20, 1982.
Grand Gulf 1	10/22/1982	11/22/1982	The Local Pull Station for the West Corridor Area (185 feet) i the Auxiliary Building was found to be Defective Abstract: The smoke detectors in the zone covering the Auxiliary Building west corridor area, elevation 185 feet, alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. An hourly fire watch was established in accordance with tech spec 3.3.7.9. The local pull station for the west corridor area (185 feet) in the auxiliary building was found to be defective. The pull station was replaced and surveillance tested satisfactorily. The LCO was lifted on October 29, 1982.
Grand Gulf 1	10/22/1982	11/22/1982	The Retractor Alarm not Allowing the Door to Fully Close Abstract: Fire door OC219, leading from control building (elevation 111 feet) to the west stairwell corridor, would not properly close. In accordance with Tech Spec 3.7.7, an LCO was entered and an hourly fire watch was established. The cause of the problem was the retractor arm not allowing the door to fully close. Maintenance performed the required rework on the door, and the LCO was lifted on October 27, 1982. All corrective action is considered completed. This is being submitted as a final report.
Grand Gulf 1	10/22/1982	11/22/1982	The Smoke Detectors Alarmed and Wouldn't Reset Abstract: The smoke detectors in the zone covering the Auxiliary Building East Corridor, elevation 93 feet, alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. An hourly fire watch was established in accordance with Tech Spec 3.3.7.9. The cause for the alarm was indeterminable. Maintenance personnel could find no defects or malfunctions. A surveillance test was performed satisfactorily, and the detectors were returned to service on October 29, 1982. The LCO was lifted on October 29, 1982. This is a final report.
Grand Gulf 1	10/24/1982	11/23/1982	The Smoke Detectors Alarmed in the East Electrical Switchgear Room Abstract: The smoke detectors in the East Electrical Switchgear room and a piping penetration room of the Auxiliary Building, elevation 119 feet, alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. An hourly fire watch was established in accordance with Tech Spec 3.3.7.9. The exact cause of the alarm is unknown. A surveillance test was performed on the smoke detectors on October 24, 1982, and the results were satisfactory. The detectors were returned to service, and the lco was lifted on October 29, 1982. This is a final report.
Grand Gulf 1	10/24/1982	11/23/1982	The Locking Mechanism for the Door would not Engage Properly Abstract: Fire door 1A307 in the control building, separating the North passageway and the Division II Switchgear Room, would not latch. This door is required to be closed and latched at all times. In accordance with Tech Spec 3.7.7.a, an LCO was entered, and an hourly fire watch was established. Engage properly. Maintenance adjusted the locking mechanism, and the door engaged properly. Work was completed, and the lco was lifted on October 24, 1982. All corrective action is considered complete. This is being submitted as a final report.
Grand Gulf 1	10/26/1982	03/07/1983	Update on Open Fire Barriers in Control Room Abstract: In the process of repairing cables in the Control Room, several fire dams were broken. These dams provide a fire barrier between the Control Room and the Computer Room below. An hourly fire watch was established as required by Tech Spec 3.7.7. This report was initially submitted as a special report pursuant to Tech Spec 3.7.7. The fire barriers were removed to replace a damaged cable. Hourly fire watches were conducted for the duration of the event. The cables were replaced and the fire dams were restored. The penetrations were resealed on December 14, 1982. This is submitted as a final report.
Grand Gulf 1	11/02/1982	12/20/1982	Fire Barriers Were Broken to Complete a Planned Maintenance Activity Abstract: During cold shutdown, on November 2, 1982, fire barrier penetrations to cabinets 1H13P700A, B, D & E; 1H13P735 A & B; and 1H13P714 A & B located in control building, elevation 166 feet, were broken in order to perform planned maintenance activities. An LCO was entered in accordance with Tech Spec 3.7.7. An hourly fire watch was established in accordance with Tech Spec 3.7.7. The penetrations were resealed and the LCO cleared on December 1, 1982. This is a final report.
Grand Gulf 1	11/04/1982	09/15/1983	Update on Fire Barriers Incompleted Installed Abstract: During a recent NRC audit of LCOs, it was discovered that an action statement was entered per Tech Spec 3.7.7 on July 30, 1982, and a required special report pursuant to Tech Spec 6.9.2 was not filed. This report is submitted pursuant to Tech Spec 6.9.1.12.b. The action statement of Tech Spec 3.7.7 was entered due to the incomplete installation of fire-rated barriers on some safety related cables, conduit, and cable trays. An hourly fire watch was established; however, an incident report was not filed as required by plant procedures. This resulted in the special report required by Tech Spec 3.7.7 not being filed.
Grand Gulf 1	11/04/1982	12/02/1982	Alarm was Caused by Dust on the Ionization Smoke Detectors Abstract: Smoke detectors in the Piping Penetration Rooms, the Residual Heat Removal "C" pump room and the LPCS pump room of the Auxiliary Building (elevation 93 feet) annunciated. Investigation revealed no smoke or fumes present in the area; however, the alarms would not reset. An LCO was entered in accordance with Tech Spec 3.3.7.9. The event is being reported pursuant to Tech Spec 6.9.1.13.b. An hourly fire watch was established. The continuous alarms was caused by an accumulation of dust on the ionization smoke detectors. The affected detectors were cleaned, tested, and returned to service on November 4, 1982. A program has been initiated to minimize the number of alarms by periodically cleaning the detectors. This is a final report.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	11/04/1982	12/02/1982	The Continuous Alarm was Caused by an Accumulation of Dust on the Ionization Smoke detectors. Abstract: During shutdown, the smoke detectors in the zone covering the Auxiliary Building East Corridor, elevation 103 feet, annunciated. Investigation revealed no smoke or fumes present in the area; however, the alarms would not reset. An LCO was entered in accordance with Tech Spec 3.3.7.9. This event is being reported pursuant to Tech Spec 6.9.1.13.b. An hourly fire watch was established. The continuous alarm was caused by an accumulation of dust on the ionization smoke detectors. The detectors were cleaned, tested, and returned to service on November 5, 1982. A program has been initiated to minimize the number of alarms by periodically cleaning the detectors. This is a final report.
Grand Gulf 1	11/05/1982	03/03/1983	Abstract: DURING SHUTDOWN, FIRE DOOR 1A106 (AUXILIARY BUILDING NORTH STAIRWELL DOOR, ELEVATION 93 FEET) WAS OPENED IN ORDER TO DRAIN STANDBY SERVICE WATER (SSW) LOOP B. THE FIRE DOOR WAS OPENED TO ALLOW PASSAGE OF A HOSE TO CHANNEL WATER FROM THE FLUSH AND DRAIN OF SSW LOOP B. AN LCO WAS ENTERED IN ACCORDANCE WITH TECH SPEC 3.7.7. THIS IS A SPECIAL REPORT SUBMITTED PURSUANT TO TECH SPEC 3.7.7.A. AN HOURLY FIRE WATCH WAS ESTABLISHED PER TECH SPEC 3.7.7. THE FIRE DOOR WAS OPENED TO ALLOW PASSAGE OF A HOSE TO CHANNEL WATER FROM THE FLUSH AND DRAIN OF SSW LOOP B. THE DOOR WAS RESTORED ON DECEMBER 29, 1982, UPON COMPLETION OF THE FLUSH. THIS IS A FINAL REPORT.
Grand Gulf 1	11/05/1982	12/02/1982	The Continuous Alarm was Caused by an Accumulation of Dust on the Ionization Smoke Detector. Abstract: The smoke detectors in the zone covering the Auxiliary Building East Corridor area, elevation 119 feet, alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. An hourly fire watch was established in accordance with Tech Spec 3.3.7.9. This is being reported pursuant to Tech Spec 6.9.1.13.b. The continuous alarm was caused by an accumulation of dust on the ionization smoke detector. The smoke detector was cleaned, functionally checked, and returned to service on November 8, 1982. A program has been initiated to minimize the number of alarms by periodically cleaning the detectors. This is a final report.
Grand Gulf 1	11/05/1982	12/02/1982	The Continuous Alarm was Due to Dust Accumulation in the Smoke Detector Abstract: Smoke detectors in the East Switchgear and Piping Penetration rooms of the Auxiliary Building, elevation 119 feet, alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. A fire watch was established pursuant to Tech Spec 3.3.7.9. This event is being reported pursuant to Tech Spec 6.9.1.13.b. The continuous alarm was due to dust accumulation in the smoke detector. The detector was removed, cleaned, tested, and returned to service on November 8, 1982. A program has been initiated to minimize the number of alarms by periodically cleaning the detectors. This is a final report.
Grand Gulf 1	11/06/1982	03/01/1983	Update on 3 Open Fire Doors to Suppression Pool Abstract: Due to painting in the suppression pool three fire rated doors in the Auxiliary Building had to be blocked open. This is submitted as a Special Report as required by tech spec 3.7.7. The reason the doors were opened was to route sandblasting hoses from outside the auxiliary building to the suppression pool. Fire detectors were verified operable and an hourly fire watch was established in accordance with Tech Spec 3.7.7. The painting was completed and the doors were closed on January 10, 1983. This is a final report.
Grand Gulf 1	11/08/1982	12/07/1982	The Continuous Alarm Resulted from Damage to the Detector Abstract: A smoke detector in the zone covering the control building elevation 166 feet and 177 feet alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. A fire watch was established pursuant to tech spec 3.3.7.9. The continuous alarm resulted from damage to the detector due to insulation work in the area. The damaged detector was replaced with a new one. The new detector was tested and placed in service on November 9, 1982. This report is final pursuant to Tech Spec 6.9.1.13.b.
Grand Gulf 1	11/12/1982	12/16/1982	An LCO was Entered in Accordance with Tech. Spec. Abstract: Fire door 1A213 (entrance to valve room 1A220 on elevation 120 feet 6 inches) was blocked open for a hose which provided support for local leak rate testing. An lco was entered in accordance with Tech Spec 3.7.7. An hourly fire watch was established in accordance with Tech Spec 3.7.7. When the work was completed the hose was removed and the fire door closed. The LCO was lifted on November 29, 1982. This is a special report submitted pursuant to Tech Spec 3.7.7 and is considered a final report.
Grand Gulf 1	11/13/1982	12/13/1982	The Alarms were Caused by an Accumulation of Dust in the Detectors Abstract: On November 13, 14, and 15, 1982, the smoke detectors in several zones of the Auxiliary Building alarmed and would not reset. Upon investigation, no smoke, fumes, or flames were present in the areas. An LCO was entered pursuant to Tech Spec 3.3.7.9. The alarms were caused by an accumulation of dust in the detectors. The detectors were cleaned and returned to service on November 16, 1982. In the interim, hourly fire watches were conducted on the affected areas. All three LCOs were lifted on November 16, 1982. A program has been initiated to minimize the number of alarms by periodically cleaning the detectors. This is a final report.
Grand Gulf 1	11/18/1982	12/16/1982	A Smoke Detector was Found Defective Abstract: The smoke detectors in zone 1-24 (Control Cabinet Room, elevation 189 feet) alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. A fire watch was established in accordance with Tech Spec 3.3.7.9. When the smoke detectors were investigated, under a maintenance work order, one detector was found to be defective. The defective detector was replaced on Vovember 24, 1982. The LCO was lifted on december 10, 1982. An hourly fire watch was established between November 18, 1982, and December 10, 1982. This is a final report.
Grand Gulf 1	11/22/1982	09/08/1983	Update on Five Open Penetrations Abstract: On November 22, 1983, an LCO was entered in accordance with Tech Spec 3.7.7 when five fire rated floor penetrations in the auxiliary building were opened. The penetrations were opened to route cable as required by design change package 82-4145. A fire watch was established in accordance with Tech Spec 3.7.7. This report is submitted as a special report pursuant to Tech Spec 3.7.7. DCP 82-4145 was issued to complete the heat tracing portion of the drywell monitoring system and required cable routing through the penetrations. The penetrations have been resealed. The LCO remained in effect until the work authorizations were closed. The LCO was lifted on August 25, 1983.
Grand Gulf 1	11/24/1982	12/28/1982	The Fire Doors were Opened Due to Rising Temperatures Abstract: Fire doors 0C408 and 0C706 (RPS Motor-Generator Set Rooms A and B) were blocked open to aid in room ventilation. A continuous fire watch was established in accordance with Tech Spec 3.7.7.a. This is submitted as a special report pursuant to Tech Spec 3.7.7.a. The fire doors were opened due to rising temperatures caused by inoperability of the plant chilled water (pcw) system which is the cooling supply to the motor-generator set room hvac equipment. PCW was not operable due to shutdown of plant service water for support of the Standby Service Water System hydro test. The doors were restored to operability on December 9, 1982.
Grand Gulf 1	11/30/1982	01/05/1983	A Design Change Implemented in the Control Room to Eliminate a Wiring Problem Abstract: During recent maintenance work in the control room floor a safety related fire barrier was removed. This is a special report submitted pursuant to Tech Spec 3.7.7. A design change was implemented in the control room to eliminate a wiring problem. Hourly fire watch was established in accordance with Tech Spec 3.7.7. The maintenance was completed and the fire barrier was restored on December 9, 1982. This is a final report.
Grand Gulf 1	11/30/1982	12/30/1982	The Doors were Opened for a Planned Maintenance Activity Abstract: Fire doors OC408 and OC409 were blocked open to allow access for hoses used in sealing penetrations CE202d and CE154d. An action statement was entered in accordance with Tech Spec 3.7.7, and this event is being reported pursuant to Tech Spec 6.9.1.13.b. The doors were opened for a planned maintenance activity. An hourly fire watch was established in the interim in accordance with Tech Spec 3.7.7. The penetrations were sealed, the fire doors were closed, and the LCO was lifted on December 1, 1982.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	11/30/1982	12/14/1982	Several Fire Rated Electrical Penetrations were Found to be Open Abstract: Several fire rated electrical penetrations were found to be open. The penetrations are safety related barriers required by tech spec 3.7.7. Investigation revealed these penetrations were opened without notifying the control room. This resulted in the required fire watch and required report not being completed. This report is being submitted pursuant to Tech Spec 6.9.1.12.b as a final report. The penetration openings were authorized by maintenance work orders with no instructions regarding fire barriers. This resulted in the control room not being notified. Upon discovery of the open barriers, fire watches were established and action was initiated to reseal the barriers. Instructions have been issued to persons responsible for screening mwos to check jobs which may require opening of safety related fire barriers.
Grand Gulf 1	12/01/1982	12/30/1982	The Alarm in the Control Building was Caused by Welding Fumes Present From Ongoing Welding in the Area Abstract: The smoke detectors in the zones covering the HPCS diesel generator room (zone 2-10) and the Control Building (elevation 166 feet, zone 1-18) alarmed and would not reset. An hourly fire watch was established in accordance with Tech Spec 3.3.7.9. The event is being reported pursuant to Tech Spec 6.9.1.13.b. The alarm in the Control Building was caused by welding fumes present from ongoing welding in the area. The alarm was deactivated until the welding was complete. The detector was returned to service on December 2, 1982. The HPCS DG room alarm was caused by dust in the detector. The detector was cleaned, functionally tested, and returned to service on December 6, 1982.
Grand Gulf 1	12/02/1982	03/02/1983	Update on Open Fire Barriers in Control Building Abstract: On December 2, 1982, fire barriers were broken in the Control Building Computer Room, Control Room, and the upper cable spreading room to route cables under a maintenance work authorization. The event was originally reported as a special report pursuant to Tech Spec 3.7.7.a. The event cause was due to a planned maintenance activity. An hourly fire watch was conducted for the duration of the incident per Tech Spec 3.7.7. The penetration was closed and sealed by January 6, 1983, and the LCO was closed. This is a final report.
Grand Gulf 1	12/06/1982	01/05/1983	Smoke Detectors Alarmed and would not Reset Abstract: Smoke detectors in zone 1-18 (Control Room) alarmed and would not reset. The zone was deactivated and a continuous fire watch was established in accordance with tech spec 3.3.7.9. This is being reported pursuant to Tech Spec 6.9.1.13.b. An investigation revealed that there was no smoke in the area, however, welding activities were in progress in the Unit 2 Control Room. The detector was cleaned and functionally tested and Zone 1-18 was restored to operable status on December 10, 1982. This is submitted as a final report.
Grand Gulf 1	12/08/1982	01/07/1983	Fire Detectors Inoperable Abstract: On December 8, 1982, smoke detectors N603A and B in zone 2-18 (Auxiliary Building East Corridor, 119 feet elevation) were covered to prevent actuation while welding was in progress in the area. This left the number of operable instruments less than the minimum required by Tech Spec 3.3.7.9. This is being reported pursuant to Tech Spec 6.9.1.13.b. The cause of the inoperable smoke detectors was a planned maintenance activity. The detectors were returned to service on December 10, 1982 following completion of the maintenance work. An hourly fire watch was conducted during the event in accordance with Tech Spec 3.3.7.9.a. This is submitted as a final report.
Grand Gulf 1	12/09/1982	01/13/1983	Fire Door Inoperable Abstract: On December 9, 1982, fire rated door OC501 (Passage, Turbine Building to the Control Building elevation 166 feet) was blocked open to allow access of personnel. An LCO was entered and an hourly fire watch was established in accordance with Tech Spec 3.7.7.a. This is submitted as a special report pursuant to Tech Spec 3.7.7.a. The door handle on fire rated door OC501 was broken. The door was blocked open to allow personnel access until the handle could be repaired. The door was repaired and closed and the LCO was lifted on December 28, 1982. This is a final report.
Grand Gulf 1	12/10/1982	07/12/1983	Update on Penetration Opened for Maintenance Activity Abstract: On Dec 10, 1982, penetration AE154C in the Aux Bldg was opened to perform a planned maintenance activity. This penetration is a fire rated assembly required by Tech Spec 3.7.7. This is a special rpt pursuant to Tech Spec 3.7.7a. The penetration was opened during a planned maintenance activity to pull cables. An LCO was initiated and an hourly fire watch was established. Work is currently in progress to reseal the penetration assembly and is expected to be completed by Sep 10, 1983. This is a final report.
Grand Gulf 1	12/12/1982	01/11/1983	Fire Doors Blocked Open Abstract: On December 12, 1982, two fire doors in the auxiliary building which are required by Tech Spec 3.7.7 to be closed were blocked open for planned maintenance activities. Two more doors were blocked open on December 13. A LCO was entered and an hourly fire watch was established in accordance with Tech Spec 3.7.7. This event is reported pursuant to Tech Spec 6.9.1.13.b. The doors were blocked open to support plant testing. Hoses for the test were required to pass through the doors. The testing was completed, the hoses were removed and the doors were closed on December 13, 1982. This is a final report.
Grand Gulf 1	12/13/1982	05/06/1983	Update on Open Fire Barriers Abstract: On December 13, 1983, several fire barriers in Control Room Panel 1H13P871 were opened. These barriers are required to be operable by Tech Spec 3.7.7. An LCO was entered and an hourly fire watch was established in accordance with Tech Spec 3.7.7. This is a special report filed pursuant to Tech Spec 6.9.2. Fire barriers were broken in order to accommodate a design change in the panel. This is submitted as a final report.
Grand Gulf 1	12/13/1982	01/11/1983	Smoke Detectors Inoperable Abstract: On December 13, 1982, two smoke detectors in the zone covering the Auxiliary Building hallway on the 119 foot elevation were covered up. The detectors are required to be operable by tech spec 3.3.7.9. An lco was initiated and an hourly fire watch was established in accordance with Tech Spec 3.3.7.9. This event is reported pursuant to Tech Spec 6.9.1.13.b. The detectors were covered to protect them from damage due to welding in the area. The welding was finished and the detectors were returned to service on December 14, 1982. This is a final report.
Grand Gulf 1	12/15/1982	03/14/1983	The Fire Barriers were Broken iN Order to Pull Cables Through Them Abstract: On December 15 and 17, 1982, fire barriers were opened to route cables used for modifications to the transient test system. The fire barriers involved were penetrations AE-290 (166 feet Auxiliary Building Floor Penetration) and 1H13-U732 (Control Room). An hourly fire watch was established in accordance with Tech Spec 3.7.7. The fire barriers were opened in order to pull cables through them. Work is currently in progress to reseal the barriers. This should be complete within the next 60 days. This is an interim report. A final report will be submitted by March 25, 1983.
Grand Gulf 1	12/16/1982	01/13/1983	Fire Doors Blocked Open Abstract: On December 16, 1982, the doors to the reactor protection system equipment rooms were blocked open to help cool the rooms. These doors are required to be operable by Tech Spec 3.7.7. An LCO was entered and an hourly fire watch was established in accordance with Tech Spec 3.7.7. This is a final report pursuant to Tech Spec 6.9.1.13.b. The doors were blocked open due to lack of cooling in the rooms. At the time the chilled water and plant service water systems were down, therefore, no cool air could be distributed by hvac equipment. The water systems were returned to service, cooling was restored to the rooms, and the doors were closed on December 16, 1982. Total time of the LCO was 14.5 hours.
Grand Gulf 1	12/16/1982	01/13/1983	Fire Blocked Open Abstract: On December 16, 1982, fire rated door 1A204 (RHR piping penetration room, elevation 119 feet, Auxiliary Building) was blocked open to allow passage of a hose used in performing a local leak rate test (LLRT). An LCO was entered and a continuous fire watch was established in accordance with Tech Spec 3.7.7.a. This event is reported pursuant to Tech Spec 6.9.1.13.b. The event was due to a planned testing activity. The hose was removed and the door was restored on December 17, 1982. This is submitted as a final report.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	12/17/1982	01/13/1983	Fire Doors Blocked Open Abstract: On December 17, 1982, fire rated door OC717 (Upper Cable Room, elevation 189 feet, control building) was blocked open to allow passage of a hose used for penetration sealing. An LCO was entered and a continuous fire watch was established in accordance with Tech Spec 3.7.7.a. The event is reported pursuant to Tech Spec 6.9.1.13.b. The event was a result of a planned maintenance activity. Upon completion of the work, the door was closed and the lco was lifted on December 22, 1982. This is submitted as a final report.
Grand Gulf 1	12/17/1982	01/13/1983	Smoke Detector Inoperable Abstract: On December 17, 1982, smoke detector N604g in zone 2-19 (Auxiliary Building 139 feet elevation, Centrifugal Chiller Area) was covered to prevent actuation while maintenance welding activities were in progress. An hourly fire watch was established in accordance with Tech Spec 3.3.7.9.a. This event is reported pursuant to Tech Spec 6.9.1.13.b. Maintenance work in the area required cutting, grinding, and welding activities. The detector was covered to prevent actuation. The detector was uncovered following completion of the activity on December 18, 1982. This is submitted as a final report.
Grand Gulf 1	12/18/1982	03/08/1983	Update on Open Fire Barriers in Control Room Abstract: On December 18, 1982, several fire barriers in the Control Room floor were opened to reroute cable through the floor. These barriers are required to be operable by Tech Spec 3.7.7. This is a special report filed pursuant to Tech Spec 3.7.7.a. The barriers were required to be open to reroute a cable through the floor. An lco was initiated and an hourly fire watch was established in accordance with Tech Spec 3.7.7. The barriers were resealed and the LCO was lifted on January 21, 1983. This is submitted as a final report.
Grand Gulf 1	12/22/1982	02/03/1983	The Smoke Detection Zone was Found Functionally Operable and was Reset Abstract: On December 22, 1982, the smoke detection zone covering the Auxiliary Building corridor area (elevation 139 feet) alarmed and would not reset. Investigation revealed no smoke or fumes present in the area. A fire watch was established pursuant to Tech Spec 3.3.7.9. This is a special report filed pursuant to Tech Spec 3.3.7.9.b. Upon investigation by maintenance, the smoke detection zone was found functionally operable and was reset. The cause of the alarm is attributed to spurious actuation. The zone was restored to operability on January 12, 1983. This is a final report.
Grand Gulf 1	12/27/1982	01/25/1983	The Isolation Valve for a Hose Station in the Control Room Area was Replaced Abstract: The isolation valve for a hose station in the control room area was replaced. To secure the station, the control building fire header was isolated and the action statements of Tech Spec 3.6.7.5 were followed. A fire door required by Tech Spec 3.7.7 was blocked open to follow the required action statements. An hourly fire watch was established in accordance with Tech Spec 3.7.7. This report is filed pursuant to Tech Spec 6.9.1.13.b. The powhatatan isolation valve for the hose station was leaking and pressurized the hose. Additional hose was run to supply backup fire protection in accordance with Tech Spec 3.7.6.5. The leaking valve was replaced and the system returned to service on December 27, 1982.
Grand Gulf 1	12/28/1982	01/27/1983	The Doors were Blocked Open to Perform a Control Room Pressure Test Abstract: Two fire rated doors in the Control Building (OC313 and CO503) were blocked open to perform a control room pressure test. These doors are required to be operable by Tech Spec 3.7.7. The event is reported pursuant to Tech Spec 6.9.1.13.b. The doors were blocked open to perform a control room pressure test. An LCO was entered and a continuous fire watch was established in accordance with Tech Spec 3.7.7. Once the control room pressure test was completed, the doors were closed. Total time in the LCO was 3.5 hours.
Grand Gulf 1	12/29/1982	02/08/1983	The Smoke Detection Alarmed and would not Reset Abstract: On December 29, 1982, with the plant in cold shutdown, the smoke detection zone covering the auxiliary building corridors at elevation 166 feet alarmed and would not reset. The zone was deactivated and an hourly fire watch was established in accordnace with Tech Spec 3.3.7.9. This is a special report filed pursuant to Tech Spec 3.3.7.9.b. An investigation revealed that no smoke or flames were present in the area. However, dust had accumulated in the detector. The detector was cleaned, functionally tested, and returned to service on January 12, 1983. This is submitted as a final report.
Grand Gulf 1	12/29/1982	01/28/1983	The Smoke Detection ZOne was Found Functionally Operable and was Reset Abstract: Smoke detection zone 2-14 (RHR C and LPCS Pump Rooms) alarmed with no smoke or fumes present and would not reset. The alarm was deactivated and an hourly fire watch was established in accordance with Tech Spec 3.3.7.9.a. This is reported pursuant to Tech Spec 6.9.1.13.b. Upon investigation by maintenance, the smoke detection zone was found functionally operable and was reset. The cause of the alarm is attributed to spurious actuation. The zone was restored to operability on January 12, 1983. The total time of the LCO was 13 days, 5 hours.
Grand Gulf 1	12/29/1982	01/28/1983	Alarm was Caused by Spurious Actuation Abstract: Smoke detection Zone 2-17 (East Corridor; Auxiliary Building, elevation 103 feet) alarmed and would not reset. Investigation revealed no smoke or fumes in the area. A fire watch was established in accordance with tech spec 3.3.7.9. This event is reported pursuant to Tech Spec 6.9.1.13.b. The cause of the alarm is attributed to spurious actuation. The corrective actions taken were to reset Zone 2-17 on the fire control panel and to functionally check the detectors. The zone was returned to functional operability on January 12, 1983. Total time of the LCO was 13 days, 5 hours.
Grand Gulf 1	01/06/1983	02/04/1983	Door was Opened Due to a Borken Hinge Abstract: A fire door in the control building (OC505) was blocked open due to a broken hinge. This door is required to be operable by Tech Spec 3.7.7. This is reported pursuant to Tech Spec 6.9.1.13.b. Door OC505 was blocked open to allow access through the door. An lco was initiated and a fire watch was established in accordance with Tech Spec 3.7.7. The broken hinge was repaired and the door was closed on January 11, 1983.
Grand Gulf 1	01/07/1983	08/31/1983	Update on Two Open Electrical Penetrations Abstract: On 1/7/83, an electrician preparing to route cable as required by a maintenance work authorization noticed that the two wall penetrations involved (Aux. Bldg. To Turbine Bldg.) Had been previously opened. The control room had not been notified prior to the work, therefore, no fire watch was in effect as required by Tech Spec 3.7.7.a. This is reported pursuant to Tech Spec 6.9.1.12.b. The event was due to personnel error in not giving prior notification to the control room. An hourly fire watch was established upon notification. Personnel were reinstructed on compliance to Tech Spec 3.7.7 and the requirement of giving prior notification to the control room. The penetrations were restored on August 22, 1983.
Grand Gulf 1	01/07/1983	02/04/1983	Fire Alarm Deactivated Abstract: Fire detection zone 2-2 (Auxiliary Building corridor, elevation 119 feet), alarmed with no smoke or flames present and would not reset. The alarm was deactivated and an hourly fire watch was established in accordance with Tech Spec 3.3.7.9. This is reported pursuant to Tech Spec 6.9.1.13.b. Operability on January 12, 1983. A maintenance investigation revealed a detector required cleaning. The detector was cleaned and functionally tested satisfactorily.
Grand Gulf 1	01/09/1983	02/22/1983	Trouble Alarm on Halon Fire Control Panel Abstract: During cold shutdown, Halon Fire Control Panel Q1h13P917, located in the Upper Cable Spreading Room (elevation 189-Area 25A), trouble alarm annunciated with no fire or smoke present and would not reset. An LCO was entered as required by Tech Spec 3.7.6.4. This is submitted as a Special Report pursuant to Tech Spec 6.9.2. An hourly fire watch was established in accordance with Tech Spec 3.7.6.4. A maintenance work order was written to correct the problem. The detector mounting was found to be loose by maintenance personnel. After tightening the loose screws, the system was functionally tested and determined to be operable. The LCO was lifted on February 4, 1983. This is a final report.
Grand Gulf 1	01/10/1983	05/09/1983	The Penentration was Opened to Perform Planned Maintenance Work Abstract: On January 10, 1983, with the plant in cold shutdown, Field Engineering notified the Control Room that penetration AP-72B (Floor penetration, elevation 119 feet, Auxiliary building) was open and had been open since December 13, 1982. An hourly fire watch was established in accordance with Tech Spec 3.7.7.a. This is reported pursuant to Tech Spec 6.9.1.12.b. This is a final report. The penetration was opened to perform planned maintenance work. Personnel involved were unaware of the actions required by Tech Spec 3.7.7 at that time. Personnel became aware of the incident through the corrective actions taken on LER 82-132/01 T-0 and reported it accordingly. The penetration is expected to be restored by June 30, 1983.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	01/11/1983	02/09/1983	Fire Door Blocked Open for Planned Movement of Material Abstract: Fire door OR106 (Radwaste to Turbine Builiding, elevation 93 ft.) was blocked opened to allow transport of resin through it. A fire watch was established in accordance with Tech Spec 3.3.7.9. This is reported pursuant to Tech Spec 6.9.1.13.b. 12. Total time of the LCO was 15.9 hours. All corrective action is considered complete.
Grand Gulf 1	01/13/1983	04/30/1984	Update on Fire Door Blocked Open Abstract: On Jan 13, 1983, fire rated door OC104 (Hot Machine Shop to Turbine Bldg.) Was blocked open to route a temporary discharge hose from the hot machine shop sump to the turbine bldg. Floor drain system. An hourly fire watch was established in accordance with Tech Spec 3.7.7. This is submitted as a special report pursuant to Tech Spec 6.9.2. The temporary discharge hose was routed through the doorway to discharge water from the hot machine shop sump. The present system pump is inadequate (will not generate required head). DCP 83-843 has been initiated for pump replacement. The door will be intermittently opened and fire watches will be established until the DCP is completed. This is a final report.
Grand Gulf 1	01/14/1983	08/29/1983	Lack of Proper Procedure for Missed Testing Abstract: On January 14, 1983, it was discovered that the heat detectors in the control room standby fresh air system had not been functionally tested. These detectors are required by Tech Spec 3.3.7.9. This is a final report filed pursuant to Tech Spec 6.9.1.12.b. The reason for the missed testing was the lack of a proper procedure. Upon discovery an LCO was initiated and an hourly firewatch was established in accordance with Tech Spec 3.3.7.9. Procedure 06-EL-SP65-SA1001 revision 20 now includes the testing of filter train heat detectors and has been placed on the surveillance schedule for performance.
Grand Gulf 1	01/24/1983	04/20/1983	Update on Auxiliary Building Equipment Hatch Opened to Transport Materials Abstract: On January 24, 1983, an equipment hatch at elevation 139 feet in the Auxiliary Building, west corridor, was removed. An hourly fire watch was established in accordance with Tech Spec 3.7.7. This is submitted as a special report pursuant to Tech Spec 6.9.2. The equipment hatch was opened to transport materials to elevation 119 feet for installation of the Drywell Chiller System. The hatch was restored by April 4, 1983. This is a final report.
Grand Gulf 1	01/24/1983	03/01/1983	HPCS Pump Room Blocked Open for Maintenance Abstract: On January 24, 1983, fire door 1A104 (HPCS pump room) was blocked open to allow passage of welding leads used during planned maintenance activities. An hourly fire watch was established in accordance with Tech Spec 3.7.7. This is submitted as a Special Report pursuant to Tech Spec 6.9.2. The cause is due to planned maintenance activities. The door was restored to operability on February 4, 1983. Total time under the LCO was eleven days and three hours. This is a final report.
Grand Gulf 1	01/24/1983	02/23/1983	Erroneous Fire Door Position Alarm Abstract: On January 24, 1983, while in cold shutdown, the supervision system for fire rated door OC517 (stairwell entrance, elevation 166 feet, Control Building) alarmed and would not reset with the door closed. The door was declared inoperable and an hourly fire watch was established in accordance with tech spec 3.7.7.a. This is reported pursuant to Tech Spec 6.9.1.13.b. On January 31, 1983, maintenance personnel investigated and found the system operable after performing a functional test. Therefore, the door was restored and the fire watch was lifted within the seven day time limit. The cause of the alarm was not determinable. This is submitted as a final report.
Grand Gulf 1	01/24/1983	02/23/1983	Auxiliary Building Equipment Hatch Removed From Service Abstract: On January 24, 1983, while in cold shutdown, the Auxiliary Building equipment hatch on elevation 166 feet was removed to allow transport of neutron sources into containment. This plug is classified as a fire barrier under Tech Spec 3.7.7. This is reported pursuant to Tech Spec 6.9.1.13.b. The plug was pulled as part of a planned action to transport neutron sources into the containment. An LCO was established and an hourly fire watch was initiated in accordance with Tech Spec 3.7.7. Once the sources were transported into the containment, the equipment hatch was replaced. Total time under the LCO was 8.5 hours. This is a final report.
Grand Gulf 1	01/28/1983	02/24/1983	Erroneous Fire Door Position Alarms Abstract: On January 28, 1982, the supervision system for fire doors OC220 and 1A211 indicated they were open (alarmed state), yet the doors were visually verified to be closed and the alarm would not reset. Fire detectors on one side of the doors were verified operable and an hourly fire watch was established in accordance with Tech Spec 3.7.7 action a. The event is reported pursuant to Tech Spec 6.9.1.13.b. The cause of the alarm is indeterminable. Upon investigation, under maintenance work orders, no problems were found. Both doors and associated circuits were functionally tested, determined operable, and returned to service. This is a final report.
Grand Gulf 1	01/28/1983	02/24/1983	Erroneous Fire Door Position Alarm Abstract: On January 28, 1983, fire door 1A215 alarmed on the supervision system and would not reset, yet was verified to be closed. Fire detectors on one side of the door were verified operable and an hourly fire watch was established in accordance with Tech Spec 3.7.7 action a. The event is reported pursuant to Tech Spec 6.9.2. The alarm was due to a door position switch being out of adjustment. The duration of the LCO was in excess of 7 days, therefore, this report is being submitted as a special report pursuant to Tech Spec 6.9.2. The switch was adjusted and the door was returned to service on February 1, 1983. The LCO was closed on February 4, 1983, at 1800 hours.
Grand Gulf 1	01/28/1983	02/24/1983	Auxiliary Building Fire Doors Blocked Open for Maintenance Abstract: On January 28, 1983, fire doors 1A401, 1A202, and 1A108 (Auxiliary Building) were blocked open to allow the routing of electric cords and air hoses for planned maintenance activities conducted in the areas secured by these fire doors. This required operating under the action statements of Tech Spec 3.7.7. This is reported pursuant to Tech Spec 6.9.1.13.b. The doors were blocked open to perform planned maintenance. An hourly fire watch was conducted in accordance with Tech Spec 3.7.7.a. The subject fire doors were locked and the alarms activated within 7 days. This is a final report.
Grand Gulf 1	01/31/1983	09/01/1983	Planned Maintenance Abstract: On January 31, 1983, maintenance began opening eight penetrations in the Control Bldg. To allow conduit routing. This was in accordance with design change package 82/5118. The penetrations were opened one at a time. The event required entering an action statement for Tech Spec 3.7.7 and was reported pursuant to Tech Spec 6.9.1.13.b. Hourly fire watch was conducted on each penetration as it was opened. The penetrations have been restored and the lco was lifted on August 25, 1983. This is a final report.
Grand Gulf 1	02/01/1983	03/03/1983	RHR Heat Exchanger Room Fire Door Blocked Open For Planned Maintenance Abstract: On February 1, 1983, fire door 1a307 to the RHR 'B' Heat Exchanger Room was blocked open to allow routing of a hose for a planned maintenance activity. In accordance with Tech Spec 3.7.7, a fire watch was established within 1 hour. This is reported pursuant to Tech Spec 6.9.2. The fire door was returned to its normally closed position and the alarm circuits were activated on February 23, 1983, at 0430 hours. The LCO was closed on the same date. The required time to complete the work exceeded the time limit in Tech Spec 3.7.7, therefore, this is being submitted as a Special Report. This is a final report.
Grand Gulf 1	02/04/1983	03/04/1983	Fire Rated Doors Alarm Abstract: On February 4, 1983, fire rated doors 1A401 and 1A302 alarmed and would not reset. The doors were verified closed and a maintenance work authorization was written to investigate the cause. An hourly fire watch was established in accordance with Tech Spec 3.7.7. This is reported pursuant to Tech Spec 6.9.1.13.b. Loose supervision switches caused the doors to alarm. The switches were adjusted and tightened, and the doors were returned to service on February 9, 1983 (within the seven day time limit of the action statement). This is submitted as a final report.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	02/08/1983	02/28/1983	Abstract: ON FEBRUARY 8, 1983, WHILE THE REACTOR MODE SWITCH WAS IN THE REFUEL POSITION, SEVERAL SMOKE DETECTORS IN ZONES 1-6, 1-18, 2-6, AND 2-18 WERE COVERED TO PREVENT ACTUATION WHILE APPROVED WELDING WAS BEING CONDUCTED IN THOSE AREAS. AN LCO WAS ENTERED IN ACCORDANCE WITH TECH SPEC 3.3.7.9. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B. AN HOURLY FIRE WATCH WAS ESTABLISHED AS REQUIRED BY TECH SPEC 3.3.7.9, IN ADDITION TO A CONTINUOUS FIRE WATCH BY CRAFT PERSONNEL. WHEN WELDING WAS COMPLETED THE DETECTORS WERE UNCOVERED AND THE LCO CONDITION WAS LIFTED. ALL DETECTORS WERE RESTORED WITHIN THE 14 DAY TIME LIMIT OF THE ACTION STATEMENT. ALL CORRECTIVE ACTION IS CONSIDERED COMPLETE. THIS IS A FINAL REPORT.
Grand Gulf 1	03/11/1983	05/27/1983	Update on Failure to Post Fire Watch Abstract: On March 11, 1983, operations discovered that fire watches were not conducted in two areas of fire detection zone 2-19 as required by action a of Tech Spec 3.3.7.9. An LCO had been entered on February 27, 1983, for zone 2-19. This is reported pursuant to tech spec 6.9.1.12.b. And Tech Spec 6.9.2. The fire detection zone consists of six areas on the 139 ft. Elevation of the auxiliary building. Due to personnel oversight, two of the areas were omitted from the fire watch checksheet. The areas were immediately added to the list upon discovery. The zone was restored on April 28, 1983. This is a final report.
Grand Gulf 1	06/15/1983	06/29/1983	Continuous Fire Watch Improperly Discontinued Abstract: On June 15, 1983, the operations shift supervisor reviewing the fire watch checksheets discovered that some continuous fire watches were not performed on June 14 from 1600 hours to 2400 hours as required by Tech Spec 3.7.7. However, the roving fire patrol checked the affected areas hourly. This is reported pursuant to Tech Spec 6.9.1.12.b. This is a final report. The cause was due to personnel error. Operations tracks the fire watches, however, maintenance contract personnel were allowed to obtain and direct continuous fire watch personnel for contract work. Supervisors over fire watch personnel have been reinstructed not to secure a watch without shift supervisor approval.
Grand Gulf 1	07/08/1983	10/05/1983	Heat Detector's Surveillance Performed Late Abstract: During Tech Specs reviews, it was discovered that a surveillance test did not exist to test the carbon dioxide heat detectors in 19 safety-related rooms. A special test was used at the time (Nov. 2, 1982) to satisfy Tech Spec 4.3.7.9. On July 8, 1983, it was discovered that the late date of May 2, 1983, was not adhered to. This is an interim report. Due to delays with the ongoing surv. Review program, the new procedure was not issued until after the late date. The procedure was issued on 7/20/83 and is presently being performed. An hourly fire watch has been in effect. An update is expected to be submitted by September 30, 1983.
Grand Gulf 1	08/08/1983	08/22/1983	Hourly Fire Missed Abstract: On August 8, 1983, it was discovered at an end-of-shift review that all Auxiliary Building hourly fire watches required by tech spec 3.7.7 were not performed from 1200 to 1300 hours. This is reported pursuant to Tech Spec 6.9.1.12.b. This is a final report. The person responsible for the fire watch was released to take a break but did not understand to continue the fire watch following the break. The individual was issued a letter of warning for failure to properly perform the job.
Grand Gulf 1	01/28/1984	03/02/1984	Fuses Missing From Halon Panel Abstract: POWER LEVEL - 000%. DURING SURVEILLANCE TESTING, THREE FUSES WERE FOUND TO BE NOT INSTALLED IN A HALON SYSTEM CONTROL PANEL FOR THE COMPUTER AND CONTROL PANEL ROOM. THESE MISSING FUSES WOULD HAVE PREVENTED FIRE DAMPERS IN THE ROOM FROM CLOSING IN THE EVENT OF A FIRE.
Grand Gulf 1	10/31/1984	11/30/1984	Failure To Implement Technical Specification Requirement Abstract: POWER LEVEL - 000%. A SMOKE DETECTOR WAS FOUND TO BE INOPERABLE. AN HOURLY FIRE WATCH WAS PREVIOUSLY ESTABLISHED IN THE ASSOCIATED ZONE AS REQUIRED BY TECH SPEC 3.7.7 DUE TO A FIRE DOOR IN THAT ZONE THAT HAD BEEN DECLARED INOPERABLE. A CONTINUOUS FIRE WATCH IN THE ASSOCIATED ZONE WAS NECESSARY IN ORDER TO COMPLY WITH TECH SPEC 3.7.7, THOUGH TECH SPEC 3.3.7.9 FOR THE INOPERABLE SMOKE DETECTOR ONLY REQUIRED AN HOURLY FIRE WATCH. THE SHIFT SUPERVISOR (UTILITY LICENSED OPERATOR) DID NOT REALIZE ACTUAL PLANT CONDITIONS IN THAT BOTH THE FIRE DOOR AND THE SMOKE DETECTOR WERE INOPERABLE AT THE SAME TIME AND WERE ASSOCIATED WITH EACH OTHER.
Grand Gulf 1	11/02/1984	08/15/1985	Fire Barriers Omitted From Safe-Shutdown Related Cables Abstract: POWER LEVEL - 004%. ON 10-15-84, DURING A SPECIAL REVIEW, CERTAIN UNIT 1 SAFE-SHUTDOWN RELATED CABLE RACEWAYS WERE FOUND WITH OMITTED FIRE RATED BARRIERS. ALTHOUGH THESE FIRE BARRIERS WERE REQUIRED BY 10 CFR 50 APPENDIX R AND THE PLANT FSAR, THEY WERE NOT INCLUDED IN CONSTRUCTION DOCUMENTS. TWO AREAS CONTAINING THESE CABLE RACEWAYS WERE LOCATED ON THE UNIT 2 SIDE OF THE CONTROL BLDG WHERE THE FIRE DETECTION SYSTEM HAD NOT BEEN UNDER SURVEILLANCE. DUE TO THE UNCERTAINTY OF THE LOCATION OF THESE RACEWAYS, FIRE WATCHES IN UNIT 2 HAD NOT BEEN ESTABLISHED IN A TIMELY MANNER. SUBSEQUENTLY, AS A RESULT OF THE CONTINUING SPECIAL REVIEW RELATIVE TO APPENDIX R, ADDITIONAL UNIT 1 SAFE-SHUTDOWN RELATED CABLES WERE IDENTIFIED ON 12-12-84, AS NOT BEING IN COMPLIANCE WITH APPENDIX R REQUIREMENTS. ALSO, OTHER APPENDIX R DISCREPANCIES WERE IDENTIFIED ON MAY 17 AND 18, 1985. A 1 HR FIRE WRAP REQUIRED TO BE INSTALLED ALONG CERTAIN RACEWAYS WAS FOUND BROKEN AT VARIOUS SUPPORTS. ONE RACEWAY IN THE DIV I SWITCH GEAR ROOM WAS FOUND WITHOUT A 1 HR FIRE BARRIER INSTALLED. NONCONFORMANCE DOCUMENTS WERE WRITTEN FOR CORRECTION OF THE DEFICIENCIES. FIRE WATCHES WILL BE MAINTAINED UNTIL FIRE PROTECTION IS INSTALLED. ON 7-12-85 ADDITIONAL APPENDIX R DISCREPANCIES WERE IDENTIFIED. THREE Z77
Grand Gulf 1	12/13/1984	02/12/1985	Unsealed Penetration Abstract: POWER LEVEL - 001%. AN UNSEALED, UNIDENTIFIED OPENING WAS FOUND IN A FIRE RATED WALL BETWEEN ROOMS OC402 AND OC403 OF THE CONTROL BLDG. THE OPENING WAS APPROX 7' X 6' ALONG THE TOP OF THE WALL WITH 2 NOTCH OUTS FOR PENETRATING ITEMS AND HAD BEEN IN THIS CONDITION SINCE CONSTRUCTION OF THE PLANT. FIRE PILLOWS USED AS TEMPORARY FIRE STOPS HAD BEEN PACKED IN THE OPENING.
Grand Gulf 1	12/28/1984	01/28/1985	Fire Watch Not Performed Abstract: POWER LEVEL - 000%. ON 12-28-84, BETWEEN 0100 AND 0200 HRS, HOURLY FIRE WATCHES FOR THE 93 FOOT AND THE 119 FOOT LEVELS OF THE AUX BLDG WERE NOT PERFORMED AS REQUIRED BY TECH SPECS. THE PERSON PERFORMING THE FIRE WATCH PATROL BECAME LOCKED IN THE RHR 'A' PIPING ROOM (1A203) BECAUSE THE DOOR HANDLE ON THE INSIDE OF DOOR 1A204 WAS BROKEN. A METAL MACHINE SCREW ON THE DOOR HANDLE FAILED. SHE DID NOT HAVE A RADIO AND WAS APPARENTLY UNABLE TO CONTACT ANYONE. A SUPERVISOR WAS SENT TO LOCATE HER WHEN SHE DID NOT RETURN FROM THE FIRE WATCH PATROL. HE FOUND HER APPROX 1.5 HRS LATER. SECURITY WAS INFORMED OF THE PROBLEM AND WAS INSTRUCTED TO HAVE FIRE WATCH PERSONS NOTIFY THEM BEFORE ENTRY OR EXIT OF THE AREA.
Grand Gulf 1	06/20/1985	10/21/1985	Control Room Remote Indication for Fire Detector Inoperable Abstract: POWER LEVEL - 098%. ON 9-20-85, A SMOKE DETECTOR IN A CONTROL BLDG HVAC CHASE FAILED TO ANNUNCIATE ON THE CONTROL ROOM COMPUTER CONSOLE WHEN IT WAS TESTED DURING THE SEMI-ANNUAL FUNCTIONAL TEST SURVEILLANCE. AN INVESTIGATION REVEALED THAT THE REMOTE INDICATION FOR THIS SMOKE DETECTOR HAD BEEN INOPERABLE SINCE 6-20-85. THE LOCAL PANEL ALARMS AND CONTROL BLDG FIRE ALARM BELLS FOR THE SMOKE DETECTOR WERE OPERABLE. A UTILITY ENGINEER ENTERED AN ERRONEOUS ZONE DESCRIPTION INTO THE COMPUTER DATA BASE ON 6-20-85. THIS MADE THE CONTROL ROOM REMOTE INDICATION FOR THAT FIRE DETECTOR INOPERABLE. PROCEDURES WILL BE IMPLEMENTED TO BETTER CONTROL CHANGES TO THE DATA BASE.
Grand Gulf 1	05/22/1986	06/23/1986	FIRE RATED PENETRATIONS NOT PROPERLY SEALED Abstract: POWER LEVEL - 080%. ON 5-22-86, A MAINTENANCE PLANNER OBSERVED 2 UNDESIGNATED AND IMPROPERLY SEALED PENETRATIONS IN A FIRE RATED WALL BETWEEN THE CONTROL BUILDING COMPUTER ROOM AND THE LOWER CABLE SPREADING ROOM. A PVC DRAIN PIPE FROM COMPUTER ROOM SUPPLEMENTAL AIR CONDITIONING UNITS WAS ROUTED THROUGH EACH PENETRATION. THE PLANNER INITIATED A MATERIAL NONCONFORMANCE REPORT (MNCR) TO DOCUMENT THE CONDITIONS. FURTHER INVESTIGATION REVEALED THAT THE NONCONFORMANCE HAD PREVIOUSLY BEEN IDENTIFIED AND DOCUMENTED ON 12-15-84, DURING A SPECIAL WALKDOWN INSPECTION OF THE AREA BUT WAS INADVERTENTLY NOT REPORTED IN AN LER. OTHER NONCONFORMANCES IDENTIFIED DURING THE 1984 WALKDOWN INSPECTION INCLUDED OPEN CONDUIT AND OPEN SPACES AROUND CONDUIT. A FIRE WATCH WHICH HAD BEEN IN EFFECT SINCE 1984 IS STILL IN EFFECT AND A DESIGN CHANGE PACKAGE HAD BEEN ISSUED TO CORRECT THE NONCONFORMANCES. THE DESIGN CHANGE PACKAGE IS EXPECTED TO BE COMPLETED 3-1-87.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	08/15/1986	09/15/1986	Fire Watches Exceed Technical Specification Required Frequency Abstract: POWER LEVEL - 080%. A SPECIAL NUCLEAR REGULATORY COMMISSION (NRC) INSPECTION IN THE AREA OF FIRE PROTECTION WAS CONDUCTED FROM AUGUST 11 TO AUGUST 15, 1986. DURING THIS INSPECTION, THE NRC INSPECTOR FOUND INSTANCES WHERE HOURLY FIRE WATCHES EXCEEDED THE TECHNICAL SPECIFICATION ONE (1) HOUR FREQUENCY. THIS WAS DUE TO ADMINISTRATIVE DEFICIENCIES. FIRE WATCH PERSONNEL RECEIVED SPECIFIC VERBAL INSTRUCTIONS TO IMMEDIATELY CORRECT THE SITUATION. WRITTEN INSTRUCTIONS HAVE BEEN ISSUED FOR USE BY FIRE WATCH PERSONNEL. FIRE WATCH CHECK SHEETS HAVE BEEN REVISED TO INCLUDE DOCUMENTATION OF THE TIME THE WATCH WAS CONDUCTED. IN ADDITION, REVIEWS ARE CONDUCTED TO ENSURE COMPLIANCE WITH THE 60 MINUTE LIMIT.
Grand Gulf 1	10/27/1986	11/26/1986	FAILURE TO VERIFY BREAKER ALIGNMENTS AND LOCKED CLOSED FIRE DOORS Abstract: POWER LEVEL - 000%. ON OCTOBER 27, IT WAS DETERMINED THAT TWO WEEKLY SURVEILLANCES WHICH SHOULD HAVE BEEN PERFORMED BY OCTOBER 26 HAD NOT BEEN PERFORMED. THE TWO SURVEILLANCES WERE THE WEEKLY VERIFICATION OF BREAKER ALIGNMENT FOR INDEPENDENT POWER SOURCES AND THE WEEKLY VERIFICATION OF LOCKED CLOSED FIRE RATED DOORS. THE TWO SURVEILLANCES THAT EXCEEDED THE TECHNICAL SPECIFICATIONS MAXIMUM ALLOWABLE EXTENSION DATE OF OCTOBER 26, 1986, WERE SCHEDULED TO BE PERFORMED AND WERE PREPARED TO BE SENT TO THE CONTROL ROOM, BUT THEY WERE NOT DELIVERED WITH THE NIGHT ORDERS TO THE SHIFT DUE TO AN OVERSIGHT BY NON-LICENSED PERSONNEL. THE OPERATIONS SECTION SURVEILLANCES ARE NOW BEING HAND CARRIED TO THE OPERATIONS SHIFT SUPERINTENDENT INDEPENDENTLY OF THE OPERATIONS SHIFT NIGHT ORDERS. DELIVERY HAS BEEN MADE THE RESPONSIBILITY OF AN ASSISTANT THAT IS ALSO A LICENSED PERSON.
Grand Gulf 1	02/03/1987	11/25/1988	Spurious Control Room Isolation and Standby Fresh Air Unit Start Abstract: POWER LEVEL - 099%. ON 2/3/87 CONTROL ROOM STANDBY FRESH AIR UNIT (SFAU) 'A' SPURIOUSLY STARTED IN THE ISOLATION MODE FROM A SHUTDOWN CONDITION. THERE WERE NO CONTROL ROOM ALARMS OR LOCAL ALARMS INDICATING THE CAUSE OF THE INITIATION. OPERATORS VERIFIED THAT THE 'A' TRAIN WAS OPERATING IN THE ISOLATION MODE AND VERIFIED THAT THERE WERE NO ISOLATION SIGNALS PRESENT TO EITHER THE 'A' OR 'B' TRAIN. OPERATORS ALLOWED THE 'A' SFAU TO OPERATE FOR ALMOST AN HOUR WHILE ATTEMPTING TO DETERMINE THE CAUSE, BUT NO DIRECT CAUSE COULD BE FOUND. LATER EVALUATION REVEALED THE MOST PROBABLE CAUSE TO BE A SPURIOUS TRIP FROM THE CHLORINE DETECTION SYSTEM WHICH MAY HAVE BEEN TRIGGERED BY RADIO TRANSMISSION. A SPECIAL TEST WAS PERFORMED WHICH VERIFIED OPERABILITY OF THE CHLORINE DETECTION CIRCUIT AND ANNUNCIATORS. NORMALLY UPON DETECTION OF A HIGH CHLORINE CONCENTRATION A SILICONE CONTROL RECTIFIER (SCR) FIRES TO TRIGGER A TRANSISTOR AND TO SEAL-IN THE CHLORINE DETECTOR TRIP SIGNAL WHICH SENDS A START SIGNAL TO THE SFAU. HOWEVER, RADIO FREQUENCY INTERFERENCE COULD TRIGGER ONLY THE TRANSISTOR WHICH WOULD PRODUCE AN INSTANTANEOUS TRIP SIGNAL TO THE SFAU, BUT WOULD NOT SEAL-IN THE CHLORINE DETECTOR CIRCUIT. IT IS HYPOTHESIZED THAT THE SIGNAL LASTED JUST LONG ENOUGH FOR THE SFAU TO ACTUATE,
Grand Gulf 1	04/14/1989	05/12/1989	Fire Barrier Nonconformance Due to Early Construction Work Abstract: POWER LEVEL - 000%. SYSTEM ENERGY RESOURCES, INC. IS REQUIRED BY LICENSE CONDITION 2.C.(23) TO MAINTAIN THE FIRE PROTECTION PROGRAM TO MEET THE INTENT OF 10CFR PART 50, APPENDIX R. DURING THE THIRD REFUELING OUTAGE (RFO3), QUALITY PROGRAMS (QP) AUDITORS CONDUCTED A ROUTINE YEARLY AUDIT OF THE COMPANY'S FIRE PROTECTION PROGRAM. DURING A WALKDOWN INSPECTION OF FIRE WALLS AND PENETRATIONS ON APRIL 14, 1989, A QP AUDITOR IDENTIFIED A NONCONFORMANCE IN A 3 HOUR FIRE RATED WALL IN THE CONTROL BUILDING WHICH SEPARATES AN HVAC CHASE FROM THE LOWER CABLE SPREADING ROOM. A NOTCH HAD BEEN CUT IN THE 8 INCH THICK CMU BLOCK WALL APPROXIMATELY 2.5 INCHES DEEP, 3 INCHES WIDE, AND 12 INCHES LONG TO ALLOW A VERTICAL SERVICE AIR LINE TO BE ROUTED AROUND A HORIZONTAL CONDUIT. THE SERVICE AIR LINE WILL BE REROUTED AND THE CMU BLOCK WALL RESEALED TO RESTORE THE 3 HOUR FIRE RATING. AN HOURLY FIRE WATCH WILL BE MAINTAINED IN THE INTERIM.
Grand Gulf 1	08/23/1990	09/21/1990	Control Building Penetration Not Properly Sealed Abstract: POWER LEVEL - 100%. DURING THE PENETRATION FOR THE IMPLEMENTATION OF A MINOR CHANGE PACKAGE, A FIRE RATED ASSEMBLY PENETRATION WAS DISCOVERED NOT PROPERLY SEALED. IT IS BELIEVED THAT THE PENETRATION WAS OPENED IN 1983 BY THE IMPLEMENTATION OF A DESIGN CHANGE PACKAGE AND WAS NOT PROPERLY RESEALED. THE FIRE RATED ASSEMBLY SEPARATES THE UNIT 2 CONTROL BUILDING, WHICH CONTAINS SAFETY-RELATED EQUIPMENT ASSOCIATED WITH UNIT 1 OPERATIONS, FROM THE UNIT 2 TURBINE BUILDING. AFTER COMPREHENSIVE REVIEWS OF WORK DOCUMENTS AND PLANT MODIFICATION PACKAGES, THE ROOT CAUSE COULD NOT POSITIVELY BE DETERMINED. UPON IDENTIFYING THE NONCONFORMANCE, A NONCONFORMANCE REPORT WAS WRITTEN AND A WORK ORDER WAS INITIATED TO SEAL THE PENETRATION. THIS BEING THE FIRST FIRE RATED ASSEMBLY PENETRATION FOUND NOT PROPERLY SEALED, ENTERGY OPERATIONS HAS REASONABLE ASSURANCE THAT THIS IS AN ISOLATED CASE AND THE ADMINISTRATIVE CONTROLS CURRENTLY IN PLACE ARE ADEQUATE TO PRECLUDE ANY UNCONTROLLED WORK OF FIRE RATED ASSEMBLY PENETRATIONS.
Grand Gulf 1	07/27/1994	08/26/1994	Voluntary Report of Inadequate Thermo-Lag Installations Abstract: POWER LEVEL - 100%. In accordance with NRC Bulletin 92-01 and as part of Grand Gulf Nuclear Station's (GGNS) efforts to resolve generic issues related to Thermo-Lag 330 fire retardant material, detailed walkdowns and destructive tests were conducted. These efforts revealed instances where Thermo-Lag is not installed in strict conformance with GGNS installation guidelines. As a result of these deficiencies, GGNS conservatively made a one hour telephone notification in accordance with 10CFR50.72(b)(1)(ii)(B). After further consideration, these particular deficiencies in GGNS Thermo-Lag (similar to generic issues presently being evaluated by the NEI Thermo-Lag initiative), only warrant voluntary notification. Hourly fire watches were initiated in mid 1992 due to generic Thermo-Lag concerns (NRC Bulletin 92-01), and have continued to date. No adverse effects resulted from the period of operation prior to the hourly fire watch being established. Considering the availability of fire detection and suppression systems, as well as the hourly fire watch, this condition should not adversely impact public health and safety. Resolution of these deficiencies have been incorporated into the ongoing Thermo-Lag requalification effort. This is being submitted as a voluntary report.
Grand Gulf 1	10/26/2000	11/22/2000	Plant Outside of its Design Basis with Respect to Appendix R Abstract: The Kaowool fire wrap system is used in certain plant areas as a nominal 1-hour fire barrier to satisfy GGNS' License Condition to meet 10CFR50, Appendix R, Section III.G.2.c commitments. While performing plant walkdowns as part of the GGNS effort to address Kaowool issues in SECY 99-204, deficiencies were identified with the as-installed fire barrier configuration. The initial evaluation identified a condition that may prevent the fire barrier from providing adequate protection for raceways containing Division I and II circuits for ESF Switchgear Room Coolers which support the operation of redundant Division I and II SSD components. Loss of Coolers may potentially affect Division I and II SSD capability. The affected area was under an hourly fire watch. Early warning fire detection and automatic fire suppression are available in this area. Review of the GGNS IPEEE Fire Model confirms that due to the location of the SSD raceways and the projected flame spread of a fire, a transient or fixed fire in this area is not expected to damage these cables. Additionally, there is an alternative method of actuating the affected Coolers locally. Therefore, in the event of a fire in the affected area, the ability of the plant to shutdown and maintain shutdown condition would be maintained. However, the event is being reported pursuant to 10CFR50.73(a)(2)(ii).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Grand Gulf 1	12/09/2000	01/22/2001	Plant Outside Design Basis (Kaowool) Abstract: GGNS uses Kaowool to satisfy commitments for me ting 10CFR50, Appendix R, Section III.G.2 safe shutdown separation requirements, as a nominal 1-hour fire barrier and as a radiant energy shield inside containment. GGNS also uses Kaowool to satisfy Regulatory Guide 1.75 electrical separation requirements. During resolution of concerns promulgated in SECY 99-204, GGNS developed a re-qualification plan to establish the fire resistive rating and overall acceptability of Kaowool. Limited installation instructions and documentation necessitated the need to destructively examine representative samples of GGNS Kaowool raceways. The examinations revealed deficiencies that compromised the ability of Kaowool to perform as designed. Based on the nature of the deficiencies identified, the results of the examinations were generically applied to all Kaowool installations. Subsequent evaluations concluded that the only area where redundant safe shutdown capability may have been compromised during a postulated fire was the Division II ESF Switchgear Room. The fire barrier in this area is augmented with early warning smoke detection, heat detection, and automatic suppression capability. This area is being monitored by an hourly fire patrol. Regulatory Guide 1.75 electrical separation requirements are unimpaired by these deficiencies.
Haddam Neck	03/24/1981	04/18/1981	Abstract: SUPERVISORY CONTROL OPERATOR FOUND UNATTENDED WELDING CABLES RUNNING THROUGH ACCESS IN FIRE BARRIER. ACCESS IS PROTECTED BY GRAVITY DROP SHIELD HELD OPEN BY FUSIBLE METAL STRAPS. CABLES WOULD HAVE INTERFERED WITH SHIELD CLOSING ALL THE WAY. THIS INCIDENT IS REPORTABLE UNDER TECH SPEC 6.9.2.B(3). CONTRACTOR PERFORMING BUILDING MODIFICATIONS FAILED TO INSPECT FIRE BARRIERS IN WORK SITE FOR RESTORATION BEFORE FIRE WATCH PERSONNEL LEFT SITE. CONTRACTOR FAILED TO PROVIDE CONNECTORS IN WELDING CABLES WHERE THEY PENETRATED FIRE BARRIER. COMPANY SUPERVISOR OF CONSTRUCTION CONTRACTORS STATES HE HAS INDOCTRINATED CONTRACTOR SUPERVISION ON FIRE BARRIER CLOSURE PRACTICES, WHERE THE FIRE BARRIERS ARE AND MEASURES TO BE TAKEN IF FIRE BARRIERS CANNOT BE PROPERLY CLOSED.
Haddam Neck	03/21/1984	04/19/1984	Fire Doors Found Inoperable Abstract: POWER LEVEL - 100%. WITH THE PLANT OPERATING AT 100 PERCENT POWER, A NUMBER OF FIRE DOORS REQUIRED BY TECH SPEC (SECTION 3.22.F) WERE FOUND TO BE INOPERABLE, REQUIRING MINOR REPAIRS. THE APPROPRIATE ADMINISTRATIVE ACTIONS WERE INVOKED PER TECH SPEC 3.22.F.2, AND REPAIRS ARE IN PROGRESS. SINCE IT IS BELIEVED THAT THE CONDITION OF THE NONCONFORMING DOORS EXISTED FOR A PERIOD OF TIME GREATER THAN THAT ALLOWED BY TECH SPEC 3.22.F, THIS INCIDENT IS REPORTABLE UNDER 10 CFR 50.73 (A) (2) I.
Haddam Neck	07/21/1984	08/14/1984	Fire Door Found Inoperable Abstract: POWER LEVEL - 079%. WITH THE PLANT OPERATING AT APPROX 79% POWER LEVEL (COASTDOWN OPERATION), A FIRE DOOR SEPARATING A SAFETY-RELATED FROM A NON-SAFETY-RELATED AREA, WAS DISCOVERED WITH AN INOPERABLE LATCHING MECHANISM. THE DOOR WAS IMMEDIATELY REPAIRED AND RETURNED TO SERVICE. SINCE IT IS BELIEVED THAT THIS CONDITION HAD EXISTED FOR A PERIOD OF TIME GREATER THAN THAT ALLOWED BY TECH SPEC, SECTION 3.22.F, THIS INCIDENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I).
Haddam Neck	03/14/1985	04/12/1985	Fire Door Found Inoperable Abstract: POWER LEVEL - 025%. WITH THE PLANT OPERATING AT 25 PERCENT POWER, A FIRE DOOR SEPARATING A SAFETY RELATED FROM A NON-SAFETY RELATED AREA WAS DISCOVERED WITH AN INOPERABLE LATCHING MECHANISMS. UNTIL THE DOOR WAS REPAIRED AND RETURNED TO SERVICE. SINCE THE LENGTH OF TIME THE HATCH WAS INOPERABLE COULD NOT BE DETERMINED, IT IS ASSUMED IT WAS GREATER THAN THE PERIOD OF TIME ALLOWED BY TECH SPEC, SECTION 3.22.F, AND THIS INCIDENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I).
Haddam Neck	06/20/1985	07/18/1985	Inoperable Fire Door to "A" Diesel Room Abstract: POWER LEVEL - 100%. ON 6-21-85 THE DOUBLE DOOR TO THE DRUMMING ROOM IN THE PAB WAS FOUND UNLOCKED. THE DISCOVERY OF THE OPEN TECH SPEC FIRE DOOR WAS MADE AT 1000 HRS BY THE OPERATIONS DEPARTMENT. THE DOOR WAS CONSIDERED OPEN DUE TO THE FACT THAT THE DOOR HAS NO LATCH AND MUST BE KEPT LOCKED TO ENSURE IT IS CLOSED. UPON DISCOVERY, THE DOOR WAS LOCKED AND CAUTION TAGGED TO ALERT PERSONNEL TO SET A FIRE WATCH WHENEVER THE DOOR IS UNLOCKED. SINCE THE DOOR WAS BELIEVED TO BE IN THIS CONDITION FOR A PERIOD OF TIME GREATER THAN ALLOWED BY TECH SPECS 3.22-F, THIS INCIDENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I).
Haddam Neck	07/25/1985	08/23/1985	Inoperable Fire Door "A" Diesel Room Abstract: POWER LEVEL - 100%. ON 7-25-85, THE FIRE DOOR FROM THE SERVICE BLDG TO THE 'A' DG ROOM WAS REPORTED INOPERABLE AT 1730 HRS. THE DOOR HAD THE LATCH REMOVED FOR REPAIRS TO THE SECURITY HARDWARE. WITH THE LATCH REMOVED, A FIRE WATCH, HOURLY PATROL, WAS REQUIRED. HOWEVER, THE FIRE WATCH WAS NOT POSTED DUE TO CONFUSION OVER THE OPERABILITY REQUIREMENTS OF FIRE DOORS. AS THIS CONDITION IS NOT ALLOWED PER TECH SPEC 3.22.F, THIS INCIDENT IS REPORTABLE PER 10 CFR50.73(A)(2)(I)(B).
Haddam Neck	08/05/1985	09/04/1985	Inoperable Fire Barrier Penetration Abstract: POWER LEVEL - 100%. ON 8-5-85, DURING A FIRE BRIGADE DRILL, A BRIGADE MEMBER DISCOVERED AN OPEN FIRE BARRIER PENETRATION BETWEEN THE CABLE SPREADING AREA AND THE MAINTENANCE HOT SHOP. UPON DISCOVERY, A FIRE WATCH PATROL WAS IMMEDIATELY ESTABLISHED UNTIL THE PENETRATION WAS SEALED. THE PENETRATION AS FOUND WAS A SMALL HOLE IN THE WALL, APPROX 1 INCH IN DIAMETER. A FURTHER PROBLEM NOTED WAS IN THAT THE SECTION OF WALL WHICH CONTAINED THIS PENETRATION WAS CONSTRUCTED OF SHEET METAL AND DID NOT CONSTITUTE A RATED FIRE BARRIER. THE SHEET METAL SPANNED THE 12-INCH GAP BETWEEN THE END OF THE BLOCK WALL AND THE EXTERIOR SIDING. A REVIEW OF THE FIRE BARRIER PENETRATION PROGRAM REVEALED THAT THIS SHEET METAL WALL SECTION WAS NOT INCLUDED AS PART OF THE PROGRAM. THIS RESULTED FROM AN INTERPRETATION THAT THIS PORTION OF THE WALL WAS TO BE TREATED AS AN EXTERIOR WALL, NOT PART OF THE FIRE BARRIER. AS THIS CONDITION IS NOT ALLOWABLE BY TECH SPEC 3.22.F, THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I)(B).
Haddam Neck	08/13/1985	09/12/1985	Inoperable Fire Barrier Abstract: POWER LEVEL - 100%. ON 8-13-85 A FIRE BARRIER PENETRATION WAS DISCOVERED INOPERABLE BY PLANT ENGINEERING. THIS DISCOVERY WAS THE RESULT OF A QUESTION RAISED BY CONSTRUCTION PERSONNEL WORKING IN THE AREA. IMMEDIATELY UPON DISCOVERY, THE CONTROL ROOM WAS NOTIFIED AND A HOURLY FIRE WATCH WAS ESTABLISHED. ACTION WAS ALSO INITIATED TO REPAIR THE FIRE BARRIER AND THIS WORK WAS COMPLETED THE SAME DAY. THE WALL IN WHICH THE OPEN PENETRATION WAS FOUND SEPARATES THE TURBINE HALL FROM THE CABLE SPREADING AREA. THE TURBINE HALL IS PROTECTED IN THIS AREA BY AUTOMATIC SPRINKLERS. THE CABLE SPREADING AREA IS PROTECTED BY AUTOMATIC SPRINKLERS IN THE CABLE TRAYS AND SMOKE DETECTION THROUGHOUT. AS THIS CONDITION IS NOT IN COMPLIANCE WITH TECH SPEC 3.22.F, THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I)(B).
Haddam Neck	11/05/1985	12/02/1985	Open Fire Barrier Penetrations Abstract: POWER LEVEL - NG %. DURING A PRELIMINARY WALKDOWN OF FIRE BARRIERS PRIOR TO THE 18 MONTH SURVEILLANCE INSPECTION ON 11-5-85, AN ENGINEERING TECHNICIAN DISCOVERED 4 OPEN FIRE BARRIER PENETRATIONS. THE PENETRATIONS WERE 1 INCH DIAMETER HOLES THROUGH THE EXISTING BLOCK WALL AT THE SOUTH END OF THE SWITCHGEAR ROOM. UPON DISCOVERY THE CONTROL ROOM WAS NOTIFIED AT 1400 HRS, AND A FIRE WATCH WAS POSTED IN COMPLIANCE WITH TECH SPEC 3.22.F. ACTION WAS ALSO INITIATED TO REPAIR THE OPEN PENETRATIONS. AS THIS BARRIER WAS BELIEVED TO HAVE BEEN IN A NON-CONFORMING CONDITION FOR A PERIOD GREATER THAN THAT ALLOWED BY TECH SPEC 3.22.F, THIS INCIDENT IS REPORTABLE UNDER 10 CFR 50.73(A)(2)(I).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Haddam Neck	01/07/1986	02/05/1986	Inoperable Fire Doors Abstract: POWER LEVEL - 000%. WHILE OPERATING IN THE COLD SHUTDOWN CONDITION, 2 TECH SPEC FIRE DOORS WERE DISCOVERED TO BE IN AN INOPERABLE CONDITION. ON 1-7-86 AT 1230 OPERATIONS PERSONNEL NOTICED THE DOUBLE DOOR LEADING FROM THE TURBINE BLDG INTO THE ELECTRICAL SWITCHGEAR ROOM HAD BEEN PROPPED OPEN TO FACILITATE THE BRINGING IN OF SCAFFOLDING MATERIALS FOR A PLANT MODIFICATION PROJECT. NO FIRE WATCH WAS POSTED SO THE DOOR WAS IMMEDIATELY CLOSED. SUBSEQUENT INVESTIGATION SHOWED THAT THE DOOR HAD BEEN OPEN FOR 5 HRS. ON 1-12-86 AT 0245 SECURITY PERSONNEL DISCOVERED TAPE COVERING THE LATCHING MECHANISM ON THE DOOR LEADING FROM THE PRIMARY AUX BLDG TO THE WASTE DRUMMING ROOM. THE TAPE WAS IMMEDIATELY REMOVED AND THE DOOR WAS PROPERLY LATCHED. SUBSEQUENT INVESTIGATION SHOWED THAT THE DOOR HAD BEEN IN THIS INOPERABLE CONDITION FOR APPROX 1 DAY. BOTH EVENTS ARE CONSIDERED SEPARATE INCIDENTS, HOWEVER SINCE BOTH INVOLVE CONTRACTOR PERSONNEL ERRORS A SINGLE REPORT IS BEING ISSUED. THESE INCIDENTS ARE REPORTABLE UNDER 10 CFR 50.73(A)(2)(I) SINCE BOTH INVOLVED INOPERABLE PERIODS OF TIME IN EXCESS OF THAT SPECIFIED IN TECH SPEC 3.22-F.
Haddam Neck	01/15/1986	02/14/1986	ELECTRIC SWITCHGEAR ROOM HALON FIRE PROTECTION SYSTEM Abstract: POWER LEVEL - 000%. ON 1-15-86 WITH THE PLANT IN THE COLD SHUTDOWN CONDITION, THE ELECTRIC SWITCHGEAR ROOM'S HALON FIRE SUPPRESSION SYSTEM'S AUTOMATIC ACTUATION CAPABILITY WAS REMOVED FROM SERVICE. SPURIOUS FIRE DETECTION ALARMS WERE BEING CAUSED BY WORK IN THE SWITCHGEAR ROOM IN SUPPORT OF THE NUREG 0737 MODIFICATION FOR THE INADEQUATE CORE COOLING INSTRUMENTATION SYSTEMS. THE SYSTEM'S AUTOMATIC ACTUATION FEATURE WAS TEMPORARILY DEFEATED TO PREVENT AN INADVERTENT DISCHARGE OF HALON, WHICH WOULD BE A SAFETY HAZARD TO PERSONNEL WORKING IN THE VICINITY OF THE DISCHARGE. THE MANUAL INITIATION METHOD OF THE HALON SYSTEM IS STILL OPERATIONAL AND A CONTINUOUS FIRE WATCH HAS BEEN POSTED FOR THE AFFECTED AREAS PER TECH SPECS. SINCE IT HAS BEEN DETERMINED THAT THE HALON SYSTEM AUTOMATIC ACTUATION CAN NOT BE RETURNED TO SERVICE WITHIN 14 DAYS, AN LER PURSUANT TO TECH SPEC 3.22-C.3 IS BEING SUBMITTED.
Haddam Neck	02/28/1986	03/31/1986	INOPERABLE FIRE HOSE CABINET AND SPRINKLER SYSTEM Abstract: POWER LEVEL - 000%. ON 2-28-86, WITH THE PLANT SHUTDOWN FOR REFUELING (MODE 6), OPERATIONS PERSONNEL DISCOVERED THAT A FIRE PROTECTION WATER SYSTEM LINE SUPPLYING A FIRE HOSE CABINET AND A SPRINKLER LINE IN THE CIRCULATING WATER STRUCTURE (SCREENWELL) WAS INADVERTENTLY ISOLATED ON 2-26-86 WHEN ISOLATING A PORTION OF THE WATER SYSTEM FOR MAINTENANCE. A FIRE WATCH WAS ESTABLISHED AND AN EQUIVALENT CAPACITY HOSE WAS RUN TO THE AFFECTED AREA FOR BACKUP SUPPRESSION CAPABILITY WITHIN AN HOUR OF DISCOVERY OF THE PROBLEM. TECH SPEC SECTIONS 3.22.D.1 AND 3.22.G.1 RESPECTIVELY REQUIRE THAT FIRE WATER STATIONS AND SPRINKLER SYSTEMS BE OPERABLE. ACTIONS TO MITIGATE INOPERABLE CONDITIONS MUST BE ACCOMPLISHED WITHIN ONE HOUR. SINCE APPROXIMATELY 2 DAYS HAD LAPSED BETWEEN THE INADVERTENT TAGOUT AND DISCOVERY OF THE CONDITION, THE TECH SPECS WERE VIOLATED. THIS EVENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I)(B).
Haddam Neck	03/12/1986	06/10/1986	INOPERABLE CO2 SYSTEM Abstract: POWER LEVEL - 000%. DURING THE PERFORMANCE OF THE 18 MONTH SURVEILLANCE TEST OF THE CONTAINMENT CABLE VAULT CO(2) SYSTEM ON MARCH 12, 1986, IT WAS DISCOVERED THAT THE SYSTEM WAS INOPERABLE. AT THE TIME OF DISCOVERY A FIRE WATCH WAS POSTED FOR THE TESTING. THIS FIRE WATCH WAS CONTINUED UNTIL THE SYSTEM WAS RESTORED TO AN OPERABLE STATUS. AS THE DETERMINATION OF THE CAUSE WAS WEATHER RELATED AND IT IS REASONABLE TO BELIEVE THAT THE SYSTEM WAS INOPERABLE FOR A PERIOD OF TIME GREATER THAN THAT ALLOWED BY TECH SPECS, THIS EVENT HAS BEEN DETERMINED TO BE REPORTABLE PER 10CFR50.73(A)(2)(I)(B).
Haddam Neck	06/10/1986	01/16/1987	Inoperable Halon System in Switchgear Room Abstract: POWER LEVEL - 100%. ON JUNE 10, 1986, AT 1600, THE SWITCHGEAR ROOM HALON SYSTEM WAS DECLARED INOPERABLE. THIS DECISION WAS BASED UPON CONSULTATION WITH THE CORPORATE GENERATION FIRE PROTECTION ENGINEERING DEPARTMENT, WHO DETERMINED THAT THE SYSTEM CANNOT BE ADEQUATELY DEMONSTRATED TO MEET THE ORIGINAL DESIGN BASIS. A CONTINUOUS FIRE WATCH WAS POSTED AT THE TIME OF NOTIFICATION IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.22.C.2. THIS FIRE WATCH WILL CONTINUE UNTIL THE SYSTEM IS RESTORED TO AN OPERABLE CONDITION. AS THE HALON SYSTEM HAS BEEN INOPERABLE FOR A PERIOD OF TIME GREATER THAN THAT ALLOWED BY TECHNICAL SPECIFICATION 3.22, THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I)(B). REVISION 1 TO THIS LER DOCUMENTS A DEFERRAL OF THE COMPLETION DATE LONG-TERM CORRECTIVE MODIFICATION UNTIL THE 1987 REFUELING OUTAGE.
Haddam Neck	11/14/1986	12/12/1986	TURBINE SPRINKLER SYSTEM DISABLED TO PERFORM APPENDIX R MODIFICATIONS Abstract: POWER LEVEL - 100%. ON NOVEMBER 14, 1986, WITH THE PLANT, OPERATING IN MODE 1, AT 100 PERCENT POWER A PORTION OF THE TURBINE BUILDING SPRINKLER SYSTEM WAS REMOVED FROM SERVICE TO ALLOW COMPLETION OF MODIFICATIONS TO MEET APPENDIX R COMMITMENTS RESULTING FROM NRC INSPECTION NO. 86-17. THESE MODIFICATIONS WILL RESOLVE DESIGN CRITERIA QUESTIONS RAISED BY THE NRC REVIEWER CONCERNING THE EXISTING SPRINKLER SYSTEM. THIS REPORT IS SUBMITTED PURSUANT TO TECHNICAL SPECIFICATION 3.22.G.3 WHICH REQUIRES THAT A SPECIAL REPORT BE SUBMITTED WITHIN 30 DAYS OF SPRINKLER SYSTEM IMPAIRMENT UNLESS REPAIRS ARE COMPLETED WITHIN 14 DAYS. THE MODIFICATIONS HAVE REQUIRED LONGER THAN THE 14 DAY PERIOD TO COMPLETE. A CONTINUOUS FIRE WATCH HAS BEEN POSTED AND WILL REMAIN UNTIL THE SYSTEM IS RETURNED TO SERVICE. ALL WORK WILL BE COMPLETED BY JANUARY 1, 1987.
Haddam Neck	08/05/1987	06/30/1988	Inoperable Fire Suppression System Due to Personnel Error Abstract: POWER LEVEL - 000%. ON AUGUST 5, 1987, AT APPROXIMATELY 1600, WITH THE PLANT SHUTDOWN IN MODE 6, AN INSTRUMENT AND CONTROL (1&C) SPECIALIST ENTERED THE CONTAINMENT PENETRATION CABLE VAULT. UPON ENTERING, THE I&C SPECIALIST CALLED THE CONTROL ROOM TO REQUEST THE DISABLING OF THE CABLE VAULT FIRE SUPPRESSION SYSTEM, AND THEN ASSUMED THE FIRE WATCH IN ACCORDANCE WITH THE APPLICABLE PROCEDURE. UPON COMPLETION OF HIS WORK, THE I&C SPECIALIST LEFT THE CABLE VAULT BUT FAILED TO NOTIFY THE CONTROL ROOM SO THAT THE FIRE SUPPRESSION SYSTEM COULD BE REACTIVATED AS REQUIRED BY THE PROCEDURE. AT 1915 IT WAS NOTED BY PLANT OPERATORS THAT THE CABLE VAULT WAS NOT ATTENDED BY A FIRE WATCH. THE FIRE SUPPRESSION SYSTEM WAS IMMEDIATELY REENABLED. THE CAUSE OF THE EVENT WAS PERSONNEL ERROR. THE INDIVIDUAL INVOLVED KNEW THE REQUIREMENTS, BUT FAILED TO MEET THEM. CORRECTIVE ACTION INVOLVED COUNSELING OF THE INDIVIDUAL, REVIEW OF THE INCIDENT WITH DEPARTMENT PERSONNEL, AND NEW SIGNS POSTED AT THE CABLE VAULT DOOR TO REMIND PERSONNEL OF THE TECHNICAL SPECIFICATION FIRE PROTECTION REQUIREMENTS IN THE AREA. THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I) SINCE IT INVOLVED A DEVIATION FROM TECHNICAL SPECIFICATIONS. THIS SUPPLEMENTAL REPORT HAS BEEN ISSUED TO REVISE THE SAFETY ASSESSMENT SECTION SO THAT IT IS
Haddam Neck	08/11/1987	09/10/1987	Inadequate Contractor Training/Awareness Results In Inoperable Fire Barriers Abstract: POWER LEVEL - 000%. DURING THE PERIOD BETWEEN AUGUST 11, 1987 AND AUGUST 14, 1987, WITH THE PLANT SHUT DOWN IN MODE 5, THREE FIRE BARRIER BREACHES OCCURRED DURING OUTAGE CONSTRUCTION ACTIVITIES IN THE SWITCHGEAR ROOM. EACH INCIDENT RESULTED IN THE AFFECTED FIRE BARRIER BEING DECLARED INOPERABLE. UPON DISCOVERY, EACH BREACH WAS TEMPORARILY RESEALED AND THE CONTINUOUS FIRE WATCH WAS SPECIFICALLY ADVISED OF THE EXISTENCE OF THE BREACH(ES). DURING THIS PERIOD, A CONTINUOUS FIRE WATCH WAS STATIONED IN THE SWITCHGEAR ROOM BECAUSE THE HALON FIRE SUPPRESSION SYSTEM WAS OUT OF SERVICE. IN ADDITION, A 20 MINUTE FIRE PATROL WAS COVERING THE SWITCHGEAR ROOM AND ADJACENT FIRE ZONES. THE CAUSE OF THESE EVENTS WAS INADEQUATE CONTRACTOR AWARENESS OF PLANT FIRE BARRIER REQUIREMENTS AND INSUFFICIENT REVIEW BY THE JOB SUPERVISOR OF THE POTENTIAL EFFECTS OF THE WORK ACTIVITIES ON FIRE BARRIERS AND PENETRATION SEALS. RESEALING THE OPENINGS AND THE ENHANCEMENT OF EMPLOYEE/CONTRACTOR TRAINING PROGRAMS TO MORE CLEARLY INDICATE THE REQUIREMENTS FOR MAINTAINING FIRE BARRIER INTEGRITY. THIS EVENT IS REPORTABLE PER 1OCFR50.73(A)(2)(I) SINCE IT INVOLVES A CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Haddam Neck	10/23/1987	11/19/1987	Inoperable Fire Protection System Due to Personnel Error Abstract: POWER LEVEL - 000%. AT 1700 HOURS ON OCTOBER 23, 1987, WITH THE PLANT SHUTDOWN IN MODE 6, A CONTINUOUS FIRE WATCH LEFT HIS POST BEFORE THE SERVICE WATER PUMP WATER CURTAIN SYSTEM WAS RETURNED TO SERVICE. SINCE THIS SYSTEM IS REQUIRED TO BE OPERABLE, OR A CONTINUOUS FIRE WATCH POSTED, THIS EVENT IS A VIOLATION OF TECHNICAL SPECIFICATION 3.22. THE FIRE WATCH NOTIFIED MAINTENANCE SUPERVISION THAT WORK ON THE SYSTEM WAS COMPLETE AND IT COULD BE RETURNED TO SERVICE. THE EVENT WAS DISCOVERED AT 1830 HOURS (AFTER ABOUT 1-1/2 HOURS) BY THE PLANT OPERATOR WHO WAS DISPATCHED TO RETURN THE SYSTEM TO SERVICE. THE ROOT CAUSE OF THIS EVENT WAS INADEQUATE PERSONNEL FAMILIARITY WITH THE STATION FIRE PROTECTION PROGRAM REQUIREMENTS. CORRECTIVE ACTIONS INCLUDE REVIEW OF THE INCIDENT FOR LESSONS LEARNED AND UPGRADES TO THE STATION TRAINING PROGRAM. THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I) SINCE IT INVOLVES A DEVIATION FROM TECHNICAL SPECIFICATIONS.
Haddam Neck	01/10/1988	02/19/1988	Fire Detection Subsystem Declared Inoperable Due to Damaged Heat Detectors Abstract: POWER LEVEL - 000%. AT 0500, ON 1/10/88, WITH THE PLANT IN MODE 6 WITH THE REACTOR CORE OFFLOADED, FIRE DETECTION SUBSYSTEM PANEL FDS-2 WAS DECLARED INOPERABLE DUE TO A SYSTEM FAILURE INDICATED BY BOTH 'SYSTEM TROUBLE' AND GROUND ALARMS. THE AFFECTED PANEL PROVIDES FIRE DETECTION FOR THE REACTOR CONTAINMENT BUILDING, AUXILIARY FEEDWATER PUMP AREA, AND CONTAINMENT CABLE VAULT. IN ACCORDANCE WITH TECH SPEC 3.22.E.2.A, A FIRE WATCH PATROL WAS ESTABLISHED TO INSPECT THE ZONES WITH THE INOPERABLE INSTRUMENTS. THE CAUSE OF THE INOPERABILITY WAS PHYSICAL DAMAGE TO TWO HEAT DETECTORS LOCATED NEAR THE REACTOR COOLANT PUMPS AND THE DAMAGE OF THE CONDUIT FEED TO A THIRD. IN ADDITION, COLD AIR INTRUSION MAY HAVE AFFECTED THE BACK-UP POWER SUPPLY (INTERNAL BATTERY) IN THE PANEL. THE HEAT DETECTORS WERE REPLACED, THE CONDUIT WAS REPAIRED, THE BATTERY WAS REPLACED, AND THE SYSTEM WAS RETURNED TO SERVICE ON 2/11/88. 3.22.E.2.B WHICH STATES THAT IF THE FIRE DETECTION SYSTEM CANNOT BE RESTORED TO OPERABLE STATUS WITHIN 14 DAYS, A SPECIAL REPORT WILL BE SUBMITTED WITHIN THE NEXT 30 DAYS.
Haddam Neck	02/27/1988	03/18/1988	Leak Path Renders Cable Vault CO2 System Inoperable Abstract: POWER LEVEL - 000%. ON FEBRUARY 27, 1988, AT 0900, WITH THE PLANT IN THE COLD SHUTDOWN CONDITION (MODE 5), THE CONTAINMENT CABLE VAULT C02 SUPPRESSION SYSTEM WAS DECLARED INOPERABLE. THIS DECISION WAS BASED UPON RESULTS OBTAINED FROM A FULL DISCHARGE TEST OF THE SYSTEM. THESE RESULTS INDICATED THAT THE SYSTEM DID NOT MEET THE ORIGINAL DESIGN BASIS. THE CAUSE OF THE FAILURE WAS EXCESSIVE LEAKAGE OF C02 FROM THE LOWER LEVEL OF THE VAULT. APPROXIMATELY 90 UNSEALED CONDUIT PENETRATIONS EXISTED WHICH ALLOWED C02 TO VENT FROM THE AREA REDUCING THE OVERALL CONCENTRATION TO AN UNACCEPTABLE LEVEL. A CONTINUOUS-FIRE WATCH WAS POSTED AT THE TIME OF NOTIFICATION IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.22.B.2. THIS FIRE WATCH WILL CONTINUE UNTIL THE SYSTEM IS RESTORED TO AN OPERABLE CONDITION. THE CONDUITS WILL BE SEALED WITH A SUITABLE MATERIAL AND THE SYSTEM RETESTED TO VERIFY THE C02 CONCENTRATION IS ACCEPTABLE BEFORE DECLARING THE SYSTEM OPERABLE. THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I)(B) SINCE THE C02 SYSTEM HAS BEEN INOPERABLE FOR A PERIOD OF TIME GREATER THAN THAT ALLOWED BY TECHNICAL SPECIFICATION 3.22. THIS EVENT IS ALSO REPORTABLE PER TECHNICAL SPECIFICATION 3.22.B.3 WHICH REQUIRES A SPECIAL REPORT TO BE SUBMITTED WITHIN 30 DAYS IF THE SYSTEM IS NOT RESTORED
Haddam Neck	08/31/1988	09/28/1988	Switchgear Room Fire Watch Improperly Secured Due to Personnel Error Abstract: POWER LEVEL - 100%. ON AUGUST 31, 1988 AT APPROXIMATELY 0800 HOURS WITH THE PLANT OPERATING AT 100% POWER IN MODE 1, THE SWITCHGEAR ROOM HALON FIRE SUPPRESSION SYSTEM WAS REMOVED FROM SERVICE. THIS WAS DONE TO PREVENT AN INADVERTANT OPERATION OF THE HALON SYSTEM WHILE CONSTRUCTION ACTIVITIES WERE UNDERWAY IN THE AREA. AS A RESULT, THE SYSTEM WAS DECLARED INOPERABLE AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.22.C.2. AT 1749 HOURS THAT SAME DAY, THE FIRE WATCH WAS TERMINATED PRIOR TO RETURNING THE HALON SYSTEM TO OPERABLE STATUS DUE TO A HUMAN ERROR. THE AREA WAS WITHOUT A CONTINUOUS FIRE WATCH FOR SIXTEEN MINUTES. ALL INDIVIDUALS INVOLVED IN OR AFFECTED BY THE INCIDENT HAVE BEEN MADE AWARE OF THE VIOLATION AND MEASURES HAVE BEEN TAKEN TO PREVENT RECURRENCE. THIS IS REPORTABLE UNDER 1OCFR50.73(A)(2)(I)(B) SINCE IT INVOLVES A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.
Haddam Neck	01/06/1989	01/09/1991	Inoperable Fire Barrier Seal Due to Procedural Deficiencies Abstract: POWER LEVEL - 100%. ON JANUARY 6, 1989, AT 1400, WITH THE PLANT IN MODE 1 AT 100% POWER, AN ENGINEERING REVIEW OF THE RESULTS OF A FIRE BARRIER WALKDOWN DETERMINED THAT A TEMPORARILY SEALED SLEEVE WHICH PENETRATED THE HYPOCHLORITE ROOM WALL IN THE SCREENWELL BUILDING WAS INOPERABLE. UPON DETERMINATION OF THE INOPERABLE SEAL, AN HOURLY FIRE WATCH PATROL WAS ESTABLISH IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.22F.2 UNTIL THE SEAL WAS REPLACED WITH A PERMANENT RATED FIRE SEAL ON JANUARY 16, 1989. THE INOPERABLE SEAL WAS DETERMINED TO BE THE RESULT OF PAST FIRE SEAL PROGRAM PROCEDURAL DEFICIENCIES. PROCEDURE MODIFICATIONS HAVE BEEN MADE THAT WILL PRECLUDE RECURRENCE. ADDITIONALLY, A SEAL PROGRAM UPGRADE PROJECT, WAS CONDUCTED IN RESPONSE TO I&E NOTICE 88-04, AND THIS WILL PROVIDE FURTHER ASSURANCE AGAINST RECURRENCE. SINCE IT COULD NOT BE DETERMINED WHEN THE TEMPORARY MATERIAL WAS INSTALLED OR FOR WHAT LENGTH OF TIME THE BARRIER PENETRATION SEAL WAS NOT FUNCTIONAL, IT IS ASSUMED THAT THE LCO ACTION STATEMENT WAS NOT MET. THIS SUPPLEMENTAL REPORT PROVIDES INFORMATION DESCRIBING FIVE ADDITIONAL FIRE BARRIER DEFICIENCIES NOTED DURING THE COMPLETION OF THE PENETRATION SEAL UPGRADE PROJECT.
Haddam Neck	09/05/1989	10/03/1989	EG-2A Emergency Diesel Generator Room fire Door Inoperable Abstract: POWER LEVEL - 000%. ON 9/5/89, AT APPROXIMATELY 1200 HOURS, WITH THE PLANT IN MODE 5 (COLD SHUTDOWN) THE EG-2A EMERGENCY DIESEL GENERATOR ROOM WAS DEVITALIZED, FROM A SECURITY STANDPOINT, TO ALLOW UNRESTRICTED ACCESS TO THE ROOM TO SUPPORT MAINTENANCE ACTIVITIES. IT WAS NOT RECOGNIZED THAT THIS CONDITION RENDERED THE DIESEL ROOM TECH SPEC FIRE DOOR INOPERABLE AND A FIRE WATCH WAS NOT ESTABLISHED IN ACCORDANCE WITH THE TECH SPECS. AT APPROXIMATELY 1630 HOURS THE SAME DAY THE CONDITION WAS IDENTIFIED DURING OPERATOR ROUNDS AND AN HOURLY FIRE WATCH PATROL WAS IMMEDIATELY ESTABLISHED. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR. ALL PERSONNEL INVOLVED IN THE EVENT HAVE BEEN MADE AWARE OF THE VIOLATION AND APPROPRIATE PROCEDURES WILL BE REVISED TO PREVENT RECURRENCE. THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I)(B) SINCE IT INVOLVED A CONDITION PROHIBITED BY THE PLANT'S TECH SPECS.
Haddam Neck	10/23/1989	11/20/1989	Inoperable Fire Barrier Identified In Screenwell Building Abstract: POWER LEVEL - 000%. ON 10/23/89, AT 1300 HOURS, WITH THE PLANT SHUT DOWN IN MODE 6, AN AUXILIARY OPERATOR, PERFORMING ROUTINE ROUNDS IN THE SCREENWELL BUILDING NOTED THAT THERE WERE FOUR HOLES (APPROXIMATELY ONE-HALF INCH IN DIAMETER) IN A FIRE WALL. UPON DETERMINATION OF THE INOPERABLE FIRE BARRIER, AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED IN ACCORDANCE WITH TECH SPEC 3.22.F.2. EQUIPMENT ON 10/22/89 WHICH UTILIZED THROUGH WALL BOLTING FOR SUPPORT. THE ROOT CAUSE WAS THE REMOVAL OF EQUIPMENT WITHOUT PERFORMING A DESIGN CHANGE REVIEW. CORRECTIVE ACTION CONSISTED OF COUNSELING THE SUPERVISOR INVOLVED. IN ADDITION, INSTRUCTIONS WILL BE ISSUED BY 12/1/89 TO ALL APPROPRIATE PERSONNEL RE-EMPHASIZING THE REQUIREMENTS REGARDING REMOVAL OF HARDWARE FROM FIRE BARRIERS. THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I)(B) SINCE IT INVOLVED A CONDITION PROHIBITED BY THE PLANT'S TECH SPECS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Haddam Neck	12/23/1989	01/19/1990	Inoperable Fire Barrier Switchgear Room and Cable Spreading Area Abstract: POWER LEVEL - 000%. ON DECEMBER 23, 1989, AT APPROXIMATELY 2200 HOURS WITH THE PLANT SHUT DOWN IN MODE 6 (REFUELING), THE FIRE BARRIER WHICH SEPARATES THE 'A' SWITCHGEAR ROOM AND THE CABLE SPREADING AREA IN THE SERVICE BUILDING WAS DECLARED INOPERABLE. THIS WAS A RESULT OF A BREACH IN THE FLOOR/CEILING ASSEMBLY DISCOVERED BY SECURITY DEPARTMENT PERSONNEL ON ROUTINE ROUNDS. THIS BREACH, WHICH OCCURRED DURING A PLANT MODIFICATION PERFORMED SEVERAL YEARS EARLIER, WAS NOT DETECTED UNTIL THIS TIME AS IT WAS CONCEALED BY CONSTRUCTION FEATURES IN THE SWITCHGEAR ROOM WHICH WERE RECENTLY REMOVED AS PART OF THE APPENDIX 'R' SWITCHGEAR BUILDING PROJECT. THE CAUSE OF THIS EVENT WAS THE FAILURE TO ADEQUATELY RESEAL THE BARRIER FOLLOWING WORK ASSOCIATED WITH STRUCTURAL MODIFICATIONS PERFORMED IN 1982. IMMEDIATE CORRECTIVE ACTION INCLUDED ESTABLISHING AN HOURLY FIRE WATCH PATROL IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.22F.2 AND TEMPORARILY SEALING THE OPENING WHILE AN ENGINEERING EVALUATION OF THE BREACH WAS CONDUCTED. THIS EVENT IS BEING REPORTED UNDER 10CFR50.73(A)(2)(I)(B) SINCE IT INVOLVES A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.
Haddam Neck	02/14/1990	03/14/1990	Fire Barrier With Temporary Seal Determined Inoperable Abstract: POWER LEVEL - 000%. ON 2/14/90 AT 1000 HOURS, WITH THE PLANT SHUT DOWN IN MODE 6 (REFUELING), PLANT PERSONNEL WORKING IN THE 'A' EMERGENCY DIESEL GENERATOR CONTROL PANEL IN THE CONTROL ROOM NOTED A TEMPORARILY SEALED PENETRATION FIRE BARRIER FOR WHICH NO FIRE WATCH WAS ESTABLISHED. A SMALL DIAMETER CABLE HAD PREVIOUSLY BEEN PULLED OUT OF THE ELECTRICAL PENETRATION IN THE FLOOR OF THE CONTROL ROOM. TEMPORARY SEALING MATERIAL WAS INSERTED INTO A HOLE CREATED IN THE PERMANENT SILICONE FOAM FIRE SEAL LOCATED WITHIN A FOUR INCH DIAMETER ELECTRICAL PENETRATION. THIS TEMPORARY SEAL REQUIRED AN HOURLY FIRE WATCH PATROL IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.22.F.2 UNTIL THE SEAL WAS REPAIRED WITH A RATED CONFIGURATION. CONTRARY TO THIS, THE FIRE WATCH WAS NOT ESTABLISHED AS REQUIRED BY THE TECHNICAL SPECIFICATIONS. THE ROOT CAUSE OF THE EVENT CAN BE ATTRIBUTED TO PAST PROCEDURE DEFICIENCIES WITH THE PENETRATION FIRE SEAL PROGRAM. IMMEDIATE CORRECTIVE ACTION INVOLVED THE ESTABLISHMENT OF A FIRE WATCH PATROL AND THE PERMANENT SEALING OF THE PENETRATION. CORRECTIVE ACTION TO PREVENT RECURRENCE HAS PREVIOUSLY BEEN ACCOMPLISHED WITH THE ELIMINATION OF THE USE OF TEMPORARY UNRATED FIRE SEALS. THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(I)(B) SINCE IT INVOLVED A CONDITION PROHIBITED BY
Haddam Neck	06/11/1990	07/09/1990	Failure to Establish Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 000%. ON JUNE 11, 1990, AT 0130 HOURS, WITH THE PLANT SHUT DOWN IN MODE 6 (REFUELING), AN AUXILIARY OPERATOR, PERFORMING ROUTINE ROUNDS IN THE SCREENWELL BUILDING, IDENTIFIED AN ALARM CONDITION ON LOCAL FIRE DETECTION PANEL FDS-1. ALSO, UPON FURTHER INVESTIGATION, HE FOUND THAT THE FIRE DETECTOR ABOVE THE DIESEL DRIVEN FIRE PUMP WAS IN ALARM. SINCE THERE WAS NO EVIDENCE OF A FIRE, IT APPEARED THAT THE DETECTOR WAS FAULTY AND THEREFORE INOPERABLE. IT WAS DETERMINED THAT A FIRE WATCH HAD NOT BEEN ESTABLISHED WITHIN ONE HOUR AS REQUIRED BY THE TECHNICAL SPECIFICATIONS. THE FIRE WATCH WAS NOT ESTABLISHED WITHIN THE PRESCRIBED TIME BECAUSE OF PERSONNEL ERROR. IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH A CONTINUOUS FIRE WATCH IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. THE CAUSE OF THE ALARM WAS FOULING OF THE DETECTOR. THE DETECTOR WAS REPLACED AND THE SYSTEM WAS RETURNED TO SERVICE ON JUNE 14, 1990. SUBSEQUENT CORRECTIVE ACTION WAS TO COUNSEL ALL OPERATORS ON THE REQUIREMENT FOR MAINTAINING A HIGH LEVEL OF ALERTNESS RELATIVE TO FIRE DETECTION SYSTEM OPERABILITY REQUIREMENTS. THIS EVENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I)(B) SINCE IT INVOLVES A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.
Haddam Neck	11/26/1990	12/24/1990	Failure to Establish Fire Watch for Inoperable Fire Door Abstract: POWER LEVEL - 100%. ON 11/25/90, AT 2245 HOURS, WITH THE PLANT IN MODE 1 AT 100% POWER THE SECURITY SHIFT SUPERVISOR INFORMED THE CONTROL ROOM OPERATIONS SHIFT SUPERVISOR THAT THE CARD READER FOR THE CENTRAL ALARM STATION DOOR WAS INOPERABLE AND THAT THE DOOR WOULD BE CONTINUALLY ACCESSED WITH A GUARD POSTED. AT 2247 THE OPERATIONS SHIFT SUPERVISOR GAVE PERMISSION TO ACCESS THE DOOR. AT 0015 ON 11/26/90 (1 HOUR AND 28 MINUTES LATER) AN AUXILIARY OPERATOR DISCOVERED THAT THIS DOOR WAS LACKING THE REQUIRED FIRE WATCH. A FIRE WATCH WAS IMMEDIATELY POSTED IN ACCORDANCE WITH TECH SPEC 3.7.7. AT 0046 THE CARD READER WAS RETURNED TO SERVICE AND THE FIRE WATCH WAS TERMINATED. THE ROOT CAUSE OF THE EVENT WAS PERSONNEL ERROR DUE TO THE FAILURE TO ESTABLISH THE REQUIRED FIRE WATCH. CORRECTIVE ACTION CONSISTED OF COUNSELING THE OPERATIONS SHIFT SUPERVISOR AND MODIFYING THE LICENSED OPERATOR REQUALIFICATION PROGRAM TO PLACE ADDITIONAL EMPHASIS ON THE IDENTIFICATION AND IMPLEMENTATION OF LIMITING CONDITIONS FOR OPERATION (LCO). THIS EVENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I)(B) SINCE IT RESULTED IN A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATION.
Haddam Neck	11/30/1990	12/24/1990	Surveillance Frequency Exceeded for Fire Penetration Seals Abstract: POWER LEVEL - 100%. ON 11/30/90, AT 1345 HOURS, WITH THE PLANT IN MODE 1 AT 100 PERCENT POWER, ENGINEERING DEPARTMENT PERSONNEL, DURING AN ADMINISTRATIVE REVIEW OF TECHNICAL SPECIFICATION SURVEILLANCE PERFORMANCE, NOTED THAT THE EIGHTEEN MONTH SURVEILLANCE FREQUENCY FOR INSPECTION OF FIRE PENETRATION SEALS REQUIRED BY PREVIOUS TECHNICAL SPECIFICATION SECTION 4.15.F.1(A) (NOW 4.7.7.1) WAS NOT MET. THE INSPECTION WAS REQUIRED TO BE COMPLETED BY MAY 7, 1989, BUT WAS INSTEAD ONGOING AT THAT TIME. THE INSPECTION WAS NOT COMPLETED UNTIL APRIL 4, 1990. THIS INSPECTION IS NORMALLY COMPLETED WITH SURVEILLANCE PROCEDURE 5.7-109; FIRE PROTECTION PROGRAM/APPENDIX R EQUIPMENT & COMPONENT INSPECTION. HOWEVER, FOR THIS INSPECTION CYCLE, THE INSPECTION WAS PERFORMED IN CONJUNCTION WITH THE PENETRATION SEAL UPGRADE PROGRAM PROJECT INITIATED IN RESPONSE TO NRC I&E NOTICE 88-04. THE ROOT CAUSE OF THE EVENT WAS PERSONNEL ERROR IN THE TRACKING OF THE REQUIRED COMPLETION DATE FOR THE SURVEILLANCE. CORRECTIVE ACTION FOR THE EVENT CONSISTS OF COUNSELING THE APPROPRIATE PERSONNEL AND INCLUDING THE TECHNICAL SPECIFICATION FIRE BARRIER INSPECTION IN THE TECHNICAL SURVEILLANCE TRACKING PROGRAM BEING IMPLEMENTED BY THE ENGINEERING DEPARTMENT.
Haddam Neck	10/04/1991	11/01/1991	Fire Protection Sprinklers Declared Inoperable Due to Erection of Staging Abstract: POWER LEVEL - 100%. AT 0230 HOURS ON OCTOBER 4, 1991, WITH THE PLANT IN MODE 1 AT 100 PERCENT POWER A PLANT OPERATOR REPORTED THAT STAGING ERECTED UNDER THE HIGH PRESSURE TURBINE WAS PARTIALLY OBSTRUCTING THE FLOW PATTERN OF 3 FIRE PROTECTION PIPING SPRINKLER HEADS. THE AREA INVOLVED HAS A TOTAL OF 6 SPRINKLER HEADS FOR FIRE PROTECTION. THE STAGING WAS INSTALLED AT APPROXIMATELY 1500 HOURS ON OCTOBER 3, 1991. OPERATORS DETERMINED THAT THE SPRINKLER HEADS WERE UNABLE TO PERFORM THEIR DESIGN FUNCTION AND DECLARED THEM INOPERABLE. THIS CONDITION IS A VIOLATION OF TECHNICAL SPECIFICATION 3.7.6.2A.4. THE REQUIRED ACTION WAS TAKEN BY POSTING AN HOURLY FIRE WATCH PATROL. THE ROOT CAUSE OF THIS EVENT WAS THE UNFAMILIARITY OF THE REQUIREMENT FOR A FIRE SPRINKLE HEAD TO BE CAPABLE OF ACHIEVING 100 PERCENT OF ITS FLOW PATTERN. CORRECTIVE ACTIONS TAKEN INCLUDED THE REMOVAL OF STAGING THAT BLOCKED THE FLOW PATTERN OF THE SPRINKLER HEADS. IN ADDITION, A MEETING WITH JOB SUPERVISORS AND WORKERS WAS HELD IN WHICH THE LESSONS LEARNED FROM THIS EVENT WERE DISCUSSED. THIS EVENT IS REPORTABLE PER 10FR5C.73(A)(2)(I)(B) SINCE IT RESULTED IN A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.
Haddam Neck	02/26/1992	03/20/1992	Inoperable Fire Barrier Due to a Degraded Fire Seal Abstract: POWER LEVEL - 000%. ON FEBRUARY 26, 1992, AT 1400 HOURS, WITH THE PLANT IN MODE 3 (HOT STANDBY), AN ENGINEERING REVIEW OF THE AS-FOUND CONDITION OF A DEGRADED FIRE BARRIER PENETRATION SEAL LOCATED IN THE PRIMARY AUXILIARY BUILDING DETERMINED THAT THE SEAL HAD BEEN INOPERABLE. THIS SEAL IS REQUIRED TO BE OPERABLE BY TECHNICAL SPECIFICATION 3.7.7 IN MODES 1 THROUGH 4. THE DEGRADED SEAL WAS DISCOVERED ON FEBRUARY 7, 1992, AT 0755 HOURS, WITH THE PLANT IN MODE 5 AND WAS REPAIRED BEFORE THE PLANT WENT INTO MODE 4. THE EXACT CAUSE OF THE INOPERABLE SEAL IS UNKNOWN BUT IS SUSPECTED TO BE IMPROPER WORK PRACTICES WHICH FAILED TO ADEQUATELY CONTROL WORK PERFORMED ON THE FIRE BARRIER OR INADEQUATE EVALUATION OF THIS BARRIER WHEN IT WAS DESIGNATED AS AN APPENDIX R BARRIER. CORRECTIVE ACTION CONSISTED OF REPAIRING THE SEAL SO IT CONFORMED TO THE APPROVED FIRE RATED CONFIGURATION. SINCE IT COULD NOT BE DETERMINED WHEN THE SEAL BECAME DEGRADED, IT IS BEING ASSUMED THAT THE TECHNICAL SPECIFICATION REQUIREMENTS OF THE ACTION STATEMENT WERE NOT MET. THEREFORE, THIS EVENT IS BEING REPORTED UNDER 10CFR50.73 (A)(2)(I)(B) AS A CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Haddam Neck	06/27/1992	07/21/1992	Missed Hourly Fire Watch Patrol Abstract: POWER LEVEL - 100%. On June 27, 1992, at 0215, with the plant operating in mode i at 99 percent power, the Secondary Side Auxiliary Operator notified the Control Room that he had inadvertently failed to perform the hourly fire watch on both Emergency Diesel Generator rooms for the hour between 0100 and 0200. Immediately after notifying the Control Room, the operator proceeded to the Diesel Rooms to perform a fire watch patrol. No problems were found. The operator involved was counseled on the need to remain aware of his responsibilities and the lessons learned were reviewed with all operators. The root cause of the event was personnel error in failing to perform a required hourly fire watch. This event is reportable under 10CFR50.73 (a) (2) (i) (B) as a condition prohibited by the plant's Technical Specifications.
Haddam Neck	06/30/1992	12/31/1992	Invalidated Manufacturer Testing Renders Fire Wrap Inoperable Abstract: POWER LEVEL - 100%. On June 30, 1992, at 1300, with the plant operating in Mode 1 at 100% power, the Containment Cable Vault Fire Wrap system protecting Appendix R related low voltage cabling was conservatively declared inoperable. This determination was based on review of NRC Bulletin 92-01 which indicated that the Thermal Science Inc., Thermal Lag 330 Fire Barrier System may not be qualified for the full one hour rating for which it is credited. Evaluations of the material tests are ongoing and will determine final actions to re-store operability of the fire wrap system. The cause of the event is indeterminate qualifications of the Thermal Science Inc., Thermo-Lag 330 fire wrap system on a junction box/conduit installation, due to apparently inadequate test methods and documentation by Thermal Science, Inc. An hourly fire watch patrol of the area was initiated within one hour of the event as required by Technical Specification 3.7.7. However, as the fire wrap system has been inoperable for a period of time greater than that allowed by Technical Specification 3.7.7, this event is reportable per 10CFR50.73(a)(2)(i)(B). This supplement retracts LER 92-18 based on CYAPCo's review of Generic Letter 9118 which indicates that the original operability assessment was incorrect and that the installation
Haddam Neck	09/04/1992	09/23/1992	Missed Hourly Fire Watch Patrol Abstract: POWER LEVEL - 100%. On September 4, 1992, at 0800, with the plant operating in Mode 1 at 99.5 percent power, the dedicated fire watch notified the Control Room that there was no signature on the 'Fire Watch Documentation Sheet' for either Emergency Diesel Generator EG-2A or EG-2B for the hour between 0700 to 0800. It was then confirmed that the previous shifts' dedicated fire watch had performed the hourly fire watch patrols for the Cable Vault and Residual Heat Removal area but had inadvertently failed to perform the fire watch patrol in the Emergency Diesel Generator areas for the hour between 0700 to 0800. Immediately after notifying the Control Room, the on-shift dedicated fire watch performed the 0800 to 0900 fire watch in both Emergency Diesel Generator Rooms. No problems were found. To ensure no further fire watch patrols are missed, additional administrative controls have been implemented. The root cause of the event was personnel error in failing to perform a required hourly fire watch. This event is reportable under 10CFR50.73(a) (2) (i) (B) as a condition prohibited by the plant's Technical Specifications.
Haddam Neck	01/07/1993	04/01/1993	Fire Door Opened Without Entering LCO and Establishing Fire Watch Abstract: POWER LEVEL - 100%. On January 7, 1993, at 1039 hours, with the plant operating in Mode 1 at 100% power, a door in a Technical Specification fire barrier protecting the 'A' Switchgear Room from the Turbine Building was found open for other than routine access without establishing the appropriate fire watch. This door, which was opened so it could be painted by plant personnel, is covered by Haddam Neck Technical Specification 3.7.7, Fire Rated Assemblies. The cause of the event was personnel error since the required administrative controls were not adhered to. Since the door was opened without first implementing the required LCO Action, this event is conservatively judged to be reportable per the requirements of 10CFR50 50.73 (a)(2)(i)(B) as a condition prohibited by Technical Specifications. This Supplemental Report is being submitted to provide the results of a review of past corrective actions for previous fire door related events and to describe corrective action plans for this event.
Haddam Neck	03/24/1993	04/28/1993	Fire Barriers Inoperable Due to Fire Seal Deficiencies Abstract: POWER LEVEL - 000%. On March 24, 1993, with the plant in Mode 3 (Hot Standby), a plant employee conducting a fire barrier inspection found two fire barrier penetrations in two separate Technical Specification controlled fire barriers which did not have qualified fire seals installed within the openings. One penetration was unsealed and the other penetration was found with only temporary seal material installed in the penetration. This temporary material provided some fire resistance for the opening but did not provide a fire rated design. These fire barriers are required to be operable by Technical Specification 3.7.7. The cause of the event can be attributed to past procedure deficiencies with the penetration seal program as well as an isolated omission in the sealing of penetrations. Immediate corrective action involved the establishment of a fire watch and the permanent sealing of the openings with rated fire seals. Corrective action to prevent recurrence has been accomplished with the elimination of the use of temporary unrated fire seals and the completion of the penetration fire seal upgrade program. This event is reportable per 10CFR50.73 (a) (2) (i) (B) since it involved a condition prohibited by the plant's Technical Specifications.
Haddam Neck	12/17/1993	01/14/1994	Incorrect Action Statement Applied to Inoperable Fire Door Abstract: POWER LEVEL - 100%. On December 17, 1993, at 1000 hours, with the plant in Mode 1 at 100 percent power, plant personnel determined that an inappropriate ACTION statement had been used while attempting to comply with the requirements of Technical Specification 3.7.7, 'Fire Rated Assemblies'. On December 13, 1993, at 1857 hours a fire door (T594) which separates the turbine building upper level from the service building access hallway was declared inoperable due to damage to the door. An hourly fire watch patrol was established in accordance with ACTION statement a.1. On December 17, 1993, it was determined that the conditions allowing the use of ACTION statement a.1 did not exist and that a continuous fire watch was required in accordance with ACTION statement a.2. The cause was misinterpretation of the Technical Specification ACTION statement. This interpretation had been used in the past for similar occurrences and was determined to be appropriate at the time. Immediate corrective action was to establish a continuous fire watch at 1000 hours on December 17, 1993. Additional corrective action will consist of issuing a clarification of Technical Specification 3.7.7 ACTION statements to plant operators. This event is reportable under 10CFR50.73 (a) (2)(i)(B) since it resulted in a condition prohibited by the plant's Technical Specifications.
Haddam Neck	01/18/1995	09/05/1997	Service Building Technical Specification Fire Barrier Deficiencies Abstract: On January 18, 1995, with the plant in Mode 1, at 98 percent power, the Station Fire Protection Engineer conducting a fire barrier inspection found deficiencies in two separate Technical Specification controlled fire barriers which affected operability of the barriers. one grout fire seal was found in a degraded condition around mechanical penetrations in a four inch diameter core bored opening in a Control Room fire barrier. The second deficiency was noted in a Turbine Building fire barrier. This deficiency involved a 2 inch by 7 inch through wall opening at the top of the wall just below the metal roof deck. The cause of the first deficiency was an inadequate original seal installation which lead to degradation over time due to vibration of the mechanical penetrating items. The second deficiency can be attributed to incomplete original installation detail in the construction of the wall immediate corrective action involved the establishment of a fire watch and the permanent sealing of the openings. Additional deficiencies were noted during and directly following the 18 month fire barrier inspection. This supplemental LER reflects changes in the originally proposed corrective action due to the Haddam Neck plant being in a permanently defueled state.
Haddam Neck	10/19/1995	01/17/1996	Service Water to Fire Water System Cross Tie Valve Opened Abstract: On October 19, 1995, at 2350 hours, with the plant in Mode 1 at 100% power, while restoring the diesel fire pump to service following maintenance, control room operators noted high amps on the electric fire pump and upon local inspection found the ten inch, manual cross connect valve between the fire water supply system and the service water system in the open position. diverted to the service water system resulting in reducing the fire water system pressure to 75 psig. Operators closed the valve and fire water system pressure returned to normal. It's estimated that the valve was open for approximately 15 to 27 minutes. The valve is normally locked closed and had been tagged closed to support repairs on the diesel fire pump. It was determined that an operator had opened the valve, along with two other valves, as required by the tagging order, to perform a leak check of the repairs prior to declaring the diesel fire pump operable. The cause of the event was personnel error due to inadequate review of the tagging order by the Supervising Control Operator. Corrective action consisted of counseling the operator involved. In addition, the lessons learned have been discussed with the other shifts. This LER is being submitted as a voluntary report.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Haddam Neck	04/21/1998	05/19/1998	18 Month Visual Inspection of Fire Sprinkler System Not Performed When Formerly Required by the Technical Specifications (Historical) Abstract: On April 21, 1998 at approximately 1624 hours, with the plant permanently shut down and in a defueled condition, Operations Department personnel performing an annual review of surveillance procedures determined that a visual inspection of the switchgear cable shaft sprinkler system was not being performed once per 18 months as required by the Technical Requirements Manual. Upon further review, on April 27, 1998, it was determined that the sprinkler system was not inspected during the period that fire protection systems were previously included in the plant's Technical Specifications (between April 26, 1990 and February 1, 1995). The cause of the event was inadequate implementation of a License amendment. Corrective actions consisted of establishing a fire watch patrol and performing an operability evaluation which determined that the sprinklers were currently operable. Also, the Technical Requirements Manual was revised to address those inspections that are currently required. Historically, the lack of inspection during the period required by the Technical Specifications constituted a missed surveillance and is considered reportable under 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.
Harris	09/27/2004	11/26/2004	Unanalyzed Condition Due to Inadequate Separation of Associated Circuits Abstract: On September 27, 2004, the Harris Nuclear Plant (HNP) identified that certain cables for redundant components credited by the Safe Shutdown Analysis (SSA) lack the required degree of separation in one fire area. This discovery was identified during a comprehensive review of the HNP SSA as part of the corrective actions for previously reported conditions (reference HNP LER 2002-004-05 submitted November 15, 2004). As a potential result, spurious opening of multiple valves in the Reactor Coolant System (RCS) could transfer some coolant inventory to containment. However, by the design of this potential pathway, any transfer of coolant inventory is less than the make-up capacity of one charging pump. The most probable cause of this historical condition is that the drawing change requiring these cables to be protected by fire barrier material was apparently never issued during plant construction. Subsequently, the fire barrier material was never installed as required by the SSA. At the time of this discovery, a roving fire watch was already posted in the fire area of concern and remains posted. Design changes or other methods approved by the NRC will be used to restore
Harris	08/30/2005	10/28/2005	Unanalyzed Condition due to Inadequate Separation of Associated Circuits Abstract: On December 20, 2002, inspection of the Harris Nuclear Plant (HNP) Safe Shutdown Analysis (SSA) identified that postulated fires could cause spurious actuation of certain valves. Valve actuation in the flowpath for the protected Charging/Safety Injection Pump (CSIP) could result in loss of the pump. Similarly, simultaneous spurious closure of multiple valves in the flowpaths to the Reactor Coolant Pump (RCP) seals could result in the loss of RCP seal cooling. HNP implemented interim compensatory actions upon discovery. During review and validation, HNP identified other postulated fires could cause spurious actuation of certain valves or components that could also result in the conditions described above and other similar conditions. These additional conditions were discovered on January 29 and July 23, 2003; February 13, August 13, September 14 & 15, October 4, 20, 26 & 29, 2004; and January 18, July 22, August 4 & 30, 2005. The cause of these conditions is inadequate original Safe Shutdown Analysis of certain conductor-to-conductor interactions or certain operator manual actions. Design changes or other methods approved
Harris	10/08/2014	12/08/2014	Diesel Fuel Oil Storage Building Moderate Energy Line Break Design Deficiency Abstract: On October 8, 2014, while operating at 100 percent power in Mode 1, Harris Nuclear Plant (HNP) personnel determined that the calculation for Diesel Fuel Oil Storage Building (DFOSB) Internal Flooding was invalid during an extent of condition evaluation. The evaluation determined that the calculation identified a single active failure to occur by the failure of a single sump pump and neglected the fact that the power source to both sump pumps was the common Motor Control Center (MCC-1-4B13). It was also determined that the internal flood event postulated for a moderate energy line break would challenge Operations' capability to respond to the event and to isolate the pipe break, prior to the flood water affecting the safety related Diesel Fuel Oil (DFO) Transfer Pumps. The DFO Transfer Pumps are used to refill the Emergency Diesel Generator (EDG) Day Tanks when the EDGs are running for an extended period of time in response to a loss of offsite power. The DFOSB fire suppression system supply was isolated promptly and a compensatory fire watch was placed at the DFOSB. Backup fire suppression is provided by staged fire extinguishers. The apparent cause was identified as a historical deficiency associated with the original design of the plant and inadequate technical rigor used to revise the
Hatch 1	07/02/1980	07/17/1980	Smoke Detectors for Seven plant areas not Included in the Procedure Data Sheets Abstract: A review of smoke detection surveillance procedures revealed that smoke detectors for seven plant areas had not been included in the procedure data sheets. The 62 day and 6 month surveillance per tech specs had not been performed for these areas. This is a non-repetitive occurrence. The cause was an oversight in the review of the surveillance procedure after installation of new detectors in the seven plant areas. Corrective action consisted of establishing a fire watch, revising the surveillance procedure and performing the procedure.
Hatch 1	12/08/1981	12/28/1981	Two Fire Doors were Open on the 112 EL. Turbine Building Abstract: Plant personnel discovered that two fire doors were open on the 112 EL. Turbine building. These fire doors were required to be operable per tech. Spec. 3.13.6.a. A continuous fire watch was posted immediately. This is a repetitive occurrence as reported on LER #50-321/1981-073. Fire doors were open to transfer water from unit 1 radwaste to unit ii radwaste. Fire watch was not transmitted to the following shift. Procedure HNP-17, relief of personnel, has been revised to include a section to track fire watch requirements.
Hatch 1	08/13/1982	09/10/1982	A Fire Wall Separting the Control & Service Bldg. was found Breached Abstract: A weekly fire hazards inspection was being performed and a fire barrier in a 3 hour rated fire wall separating the Control & Service Bldg, was found breached. A fire watch had not been established as required by Tech Spec Section 3.13.6. This is a repetitive event with the last occurrence reported on RO 50-321/1982-042. Contract personnel were performing work activities per a design change request. Piping was removed from a penetration seal without a fire watch being established after normal working hours. Upon discovery of the event, a fire watch was immediately established. The AE's will be contacted to request identification of fire walls in the DCR packages.
Hatch 1	03/20/1983	08/11/1983	Update on Numerous Safety Related Cable Tray Deficiencies Abstract: On 3/29/83, the PRB determined that a lack of administrative control existed in complying with the 'Cable and Cable Ways Installation' procedure (HNP-6921) because of the material condition of the cable trays. Engineering evaluation revealed that plant operating safety was not affected. Cable tray discrepancies were restored to acceptable limits. This is a non-repetitive event. The cause of this event is the lack of specific procedure instructions delineating responsibilities. The procedure has been revised to clearly specify supervisory and quality control inspection responsibilities. Also, design acceptance criteria is available for installation and maintenance and inspection.
Hatch 1	08/19/1983	09/15/1983	Four Fire Doors Fail to Latch or are Damaged Abstract: While performing the "CONTROL OF TRANSIENT COMBUSTIBLES PROCEDURE" (HNP-559), plant personnel discovered that fire doors C3, C15, and 2R52 would not close and latch, and that door R24 was damaged. These events are contrary to the requirements of Unit 1 Tech. Specs. Section 3.13.6 and Unit 2 Tech. Specs. Section 3.7.7. Plant operation was not affected.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Hatch 1	09/13/1983	10/06/1983	Fire Watch not Established when Required Abstract: On 9/6/83, during performance of the 'FIRE DETECTOR SURVEILLANCE SAFETY RELATED' procedure, it was observed that the fire protection instrumentation supervisory circuit panel 1Z43-P001 gave a trouble light and alarm which could not be reset and cleared. The failure was not reported in writing until 9/13/83. Thus, a fire watch patrol was not established within one hour as required by Tech Spec 3.13.1, action 1. This event was caused by four relays which did not properly close in panel 1Z43-P001. The relays were adjusted and the system trouble light and alarm cleared. The supervisory circuit was satisfactorily functionally tested and returned to service per HNP-2-3360 on 9/12/83.
Hatch 1	11/14/1983	10/25/1984	Controlller Fails to Follow Procedures Abstract: On 11-14-83, plant personnel determined that silicone foam had been applied as a substitute for nelson blocks in nelson frames 1R43-1Z2B1 and 1R43-1Z2B2, thus degrading the fire protection capability of both penetrations. This event is contrary to the requirements of Tech Specs section 3.13.6. A fire watch was established per Tech Specs section 3.13.6, action a. The cause of this event is contractor personnel failing to follow procedure. The silicone foam was removed from the penetrations. They were then returned to their design configuration and satisfactorily visually inspected per the 'INSTALLATION AND REPAIR OF FIRE BREAKS AND PENETRATIONS: FIRE BARRIERS AND SEALS' procedure (HNP-6908) and returned to service on 12-06-83.
Hatch 1	12/09/1983	12/22/1983	Fire Door Fails to Close Completely Abstract: On 12/09/83, during performance of the 'CONTROL OF TRANSIENT COMBUSTIBLEs' procedure (HNP-559), plant personnel noted that fire door 1L48-C22 would not close completely. This is contrary to the requirements of Tech Spec section 3.13.6 (i.e., penetration fire barriers shall be functional at all times). A fire watch was established within 1 hour per Tech Spec 3.13.6, action a. Plant operation was not affected by this event. This event is the result of component failure due to normal wear. The fire door was replaced within approximately 6 hours and returned to service on 12/09/83.
Hatch 1	10/10/1986	11/10/1986	PERSONNEL FAIL TO DEVELOP PROCEDURE TO IMPLEMENT TECH SPEC SURVEILLANCE REQUIREMENT Abstract: POWER LEVEL - 100%. ON 10/10/86 AT APPROXIMATELY 1100 CDT, UNIT 1 WAS IN THE RUN MODE AT AN APPROXIMATE POWER OF 2430 MWT (100 PERCENT OF RATED THERMAL POWER). AT THIS TIME, PLANT PERSONNEL WERE PERFORMING A VALIDATION REVIEW OF A PLANT PROCEDURE AND DETERMINED THAT THE SIX MONTH SURVEILLANCE HAD NOT BEEN PERFORMED ON NINE FIRE DETECTORS. THE DETECTORS ARE LOCATED IN THE LOW PRESSURE COOLANT INJECTION (LPCI) INVERTER ROOM. THE VALIDATION THAT DETECTED THIS ERROR IS A PART OF THE PROCESS REQUIRED BY THE PROCEDURES UPGRADE PROGRAM (PUP), AND IS TO VERIFY THAT PROCEDURES ARE TECHNICALLY ADEQUATE AND INCORPORATE ALL REQUIRED LICENSE CONDITIONS. THE VALIDATION PROCESS IS PART OF THE CORRECTIVE ACTIONS FOR A PREVIOUS SIMILAR EVENT. THE ROOT CAUSE OF THE EVENT IS PERSONNEL ERROR IN THAT THE ADMINISTRATIVE CONTROL PROCEDURE WHICH REQUIRES THE TIMELY DEVELOPMENT OF SURVEILLANCE PROCEDURES (WHICH IMPLEMENT AMENDMENTS TO THE TECHNICAL SPECIFICATIONS) WAS NOT FOLLOWED. CORRECTIVE ACTIONS INCLUDE DEVELOPING THE SURVEILLANCE PROCEDURE, SUCCESSFULLY PERFORMING THE SURVEILLANCE, EMPHASIZING TO PERSONNEL THEIR RESPONSIBILITY TO GENERATE PROCEDURES IN A TIMELY FASHION, AND CONTINUING TO IMPLEMENT THE PUP.
Hatch 1, Hatch 2	05/31/1988	06/29/1988	Lack Of Administrative Control Causes Potential Emergency Diesel Generator Inoperability Abstract: POWER LEVEL - 000%. ON 04/30/88 AT APPROXIMATELY 1410 CDT, UNIT 1 WAS IN COLD SHUTDOWN AT AN APPROXIMATE POWER LEVEL OF 0 MWT AND UNIT 2 WAS IN POWER OPERATION AT APPROXIMATELY 2428 MWT. UNIT 2 WAS INVOLVED IN THIS EVENT BECAUSE DIESEL GENERATOR (D/G) LR43-S00LB (EIIS CODE EK) IS SHARED BETWEEN UNIT 1 AND UNIT 2. ON 04/13/88 ITS ROLLUP FIRE DOOR (EIIS CODE IC) WAS FOUND BROKEN. THE DOOR WAS CLOSED IN ORDER TO PRESERVE ITS FIRE BARRIER INTEGRITY. ON 05/01/88 THE FIRE DOOR WAS OPENED AND A FIRE WATCH WAS POSTED DUE TO A QUESTION OF D/G 1B OPERABILITY WITH THE FIRE DOOR CLOSED. ON 05/24/88 D/G 2A, WHICH IS SIMILAR TO D/G 1B, WAS TESTED WITH ITS FIRE DOOR CLOSED AND TEST DATA INDICATED THE D/G ROOM TEMPERATURE COULD HAVE EXCEEDED DESIGN CONDITIONS. THE EVENT WAS DETERMINED TO BE REPORTABLE ON 5/31/88. THE ROOT CAUSE OF THIS EVENT IS A LACK OF ADMINISTRATIVE CONTROLS TO INDICATE THAT CLOSURE OF THE FIRE DOOR MAY AFFECT D/G OPERABILITY. CORRECTIVE ACTIONS FOR THIS EVENT INCLUDED PLACING SIGNS AT EACH D/G ROOM REQUIRING SHIFT SUPERVISOR NOTIFICATION IF THE FIRE DOOR IS FOUND CLOSED. OPERATIONS PERSONNEL WERE GIVEN WRITTEN NOTIFICATION OF THE RELATIONSHIP BETWEEN FIRE DOOR POSITION AND D/G OPERABILITY.
Hatch 2	08/05/1980	08/29/1980	A Fire Barrier Penetration Seal Extending through the Floor of the Control Room and Containing Temporary Cabling was Found Breached Abstract: QA department personnel performed an audit surveillance of housekeeping and operations. A fire barrier penetration seal extending through the floor of the control room and containing temporary cabling was found breached. This is a repetititve occurrence with the last event occurring on 11-6-79, and reported on LER # 50-321/1979-091. Temporary monitoring cable used during unit startup testing had been removed from the penetration without resealing it per repair procedures. A maintenance request was issued for repair of the seal with the work successfully completed.
Hatch 2	10/14/1980	11/07/1980	Surveillance Personnel Identified a Break in a Three Hour Fire Rated Wall Abstract: Surveillance personnel identified a break in a three hour fire rated wall. The wall was between the east cableway and the 2D 600 volt switchgear room. The break consisted of a 2 1/2 diameter hole drilled through the wall. This event is repetitive/ LER No. 50-366/1980-119. The cause was personnel oversite in the follow-up of sealing the new penetrations. The penetration was drilled to provide additional conduit for plant modification. Immediate corrective action was to post a fire watch and then seal the penetration. Personnel were re-instructed on the necessary control of this type work.
Hatch 2	02/04/1981	02/24/1981	A Design, Manufacturing, Construction/Installation Error Abstract: A survey of penetration fire barriers was being performed. It was discovered that a nonrated window existed in a 3 hour rated fire wall. Repetitive occurrence: LER #50-366/1980-142. The cause has been attributed to design, manufacturing, construction/installation error; a nonrated window had been installed in a 3 hour fire barrier. DCR 81-48 has been submitted to correct the problem and a fire watch was established. The problem will be corrected as soon as materials are available.
Hatch 2	12/15/1981	01/14/1982	A Fire Main Ruptured in the Unit 2 low voltage switchyard on the West side of the Unit 2 Abstract: A fire main ruptured in the Unit 2 low voltage switchyard on the West side of the Unit 2. The leak was isolated, it was discovered that fire protection on the East side of Unit 2 was also isolated rendering Unit 2 fire protection completely isolated. Tech Spec 3.7.6.c, 3.7.6.2.a and 3.7.6.4.a, requires a continuous fire watch and backup fire suppression within one hour. Operations was unaware that unit 2 fire protection was completely isolated. Fire protection to unit 2 was returned to service at 0945 EST. A more positive means will be developed to track fire system outage by 03-01-82.
Hatch 2	10/22/1982	11/19/1982	Abstract: QC PERSONNEL WERE WITNESSING REPAIR OF A SILICONE FOAM FIRE BARRIER IN THE CABLE SPREAD ROOM WHEN IT WAS NOTED THAT AN ADJACENT BARRIER HAD BEEN BREACHED. TECH SPECS SECTION 3.7.7 REQUIRES A FIRE WATCH OR EQUIVALENT MONITORING WHICH WAS IMMEDIATELY ESTABLISHED UPON DISCOVERY OF THE BREACHED BARRIER. THE PENETRATION WAS APPARENTLY LEFT UNSEALED AFTER INSTALLATION OF CONDUIT THROUGH THE SEAL. A MAINTENANCE REQUEST WAS INITIATED AND THE SEAL WAS SUCCESSFULLY REPAIRED ON 11-02-82. THE PLANT IS NOW IN FULL COMPLIANCE.
Hatch 2	12/28/1982	01/18/1983	Abstract: DURING THE WEEKLY PLANT FIRE INSPECTION IT WAS DISCOVERED THAT THE NORTH WALL OF THE CONTROL ROOM AIR LOCK HAD BEEN BREACHED AND LEFT UNATTENDED. TECH SPEC SECTION 3.7.7 REQUIRES ALL PENETRATION FIRE BARRIERS TO BE FUNCTIONAL AT ALL TIMES. LAST REPORTED ON R.O. 50-366/1982-120. CAUSE OF THE EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. PERSONNEL FAILED TO RECOGNIZE THE WALL AS A FIRE BARRIER, PROCEEDED TO BREACH THE WALL, AND LEFT IT UNATTENDED. UPON FINDING BREACHED WALL, LCO AND CONTINUOUS FIRE WATCH WERE ESTABLISHED; THE WALL WAS REPAIRED. PERSONNEL HAVE BEEN COUNSELED AND ACTIONS HAVE BEEN TAKEN TO INSTRUCT OTHER PLANT PERSONNEL.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Hatch 2	12/08/1983	01/07/1984	Fire Watch not Implemented After Door Failure Abstract: While reviewing a maintenance request to repair a fire door (2L48-2R53) on 01/03/84, plant personnel determined that the LCO required by Tech Specs section 3.7.7, action a (i.e., establish a continous fire watch within one hour) had not been implemented when the door was determined to be inoperable. This is a non-repetitive event. The cause of this event was personnel error and component failure. The responsible person was disciplined about his actions. The fire door's closure was adjusted and the fire door (2L48-2R53) was returned to service on 01/04/84.
Hatch 2	08/10/1984	11/21/1984	Obstructed Fire Door Abstract: POWER LEVEL - 000%. ON 8-10-84, DURING PERFORMANCE OF THE 'CONTROL OF TRANSIENT COMBUSTIBLES' PROCEDURE (40-AC-FPX01-0), PLANT PERSONNEL DETERMINED THAT THE SLIDING FIRE DOOR FOR THE 600V STATION SERVICE SWITCHGEAR ROOM 2-C WAS OBSTRUCTED BY THE DOOR OF SWITCHGEAR CABINET 2H21-P051. IT IS POSTULATED THAT THE SWITCHGEAR CABINET'S DOOR HAD BEEN LEFT IN THE OPEN POSITION BY CONTRACTOR PERSONNEL. THE CABINET DOOR OPENED INTO THE CLOSING PATH OF THE SWITCHGEAR ROOM'S SLIDING FIRE DOOR, AND WOULD HAVE PREVENTED THE FIRE DOOR'S COMPLETELY CLOSING IN THE EVENT OF A FIRE. THIS EVENT IS CONTRARY TO THE REQUIREMENTS OF TECH SPECS SECTION 3.7.7. THE SWITCHGEAR CABINET'S PANEL DOOR WAS CLOSED BY FIRE PROTECTION PERSONNEL ON 8-10-84, THUS RESTORING THE SLIDING FIRE DOOR'S FIRE PROTECTION INTEGRITY. THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(3)(I)(B).
Hope Creek	06/02/1986	07/02/1986	INSTALLATION OF COMBUSTIBLE MATERIAL IN THE TRAVELING SCREEN MOTOR ROOM Abstract: POWER LEVEL - 000%. DURING THE ENGINEERING REVIEW OF A PROPOSED DESIGN CHANGE IN THE TRAVELING SCREEN MOTOR ROOM IN THE SERVICE WATER INTAKE STRUCTURE (SWIS), IT WAS DETERMINED THAT APPROXIMATELY 4800 POUNDS OF FIBERGLASS REINFORCED PLASTIC (FRP) WAS PRESENT. FRP IS CONSIDERED TO BE A COMBUSTIBLE MATERIAL. THIS IS CONTRARY STATEMENTS IN FSAR SECTION 9A.6.16.1 CONCERNING THE LACK OF IN-SITU COMBUSTIBLES AS THE BASIS FOR THE ACCEPTABILITY OF THE SAFE SHUTDOWN DIVISIONAL SEPARATION DEVIATION FOR THE SUBJECT AREA. VERIFICATION OF FIRE DETECTOR OPERABILITY AND AN HOURLY FIRE WATCH IN THE SWIS HAS BEEN ESTABLISHED AND WILL BE MAINTAINED UNTIL THIS ISSUE IS RESOLVED. A REVIEW OF SAFETY RELATED AREAS OF THE PLANT HAS BEEN INITIATED TO ASSURE THAT ALL COMBUSTIBLE LOADS HAVE BEEN ADEQUATELY QUANTIFIED. UNREVIEWED SAFETY QUESTION. A REVISED SAFE SHUTDOWN DIVISIONAL SEPARATION DEVIATION IS BEING SUBMITTED UNDER SEPARATE COVER PURSUANT TO 10CFR50.59.
Hope Creek	12/02/2009	01/29/2010	Post-fire Safe Shutdown Analysis Error Abstract: On December 2, 2009, during a review of the post-fire safe shutdown analysis, it was noted that conditions existed whereby the requirements of the Hope Creek (HC) fire protection program (BTP CMEB 9.5-1) for the required degree of separation for redundant safe shutdown trains were not met. Contrary to the Updated Final Safety Analysis Report (UFSAR) Section 9A, a postulated fire in either of the reactor building fire areas (RB1 or RB2) could have tripped, and prevented the start of both chilled water pumps, thus causing a loss of HVAC to several areas. The loss of the HVAC system is due to a logic system interrelationship that the post-fire safe shutdown analysis does not specifically address. This is a condition that has existed since the initial post-fire safe shutdown analysis was performed. In accordance with the example provided in NUREG 1022 (Rev. 2), this event is reportable under 10CFR50.73(a)(2)(ii)(B) as an unanalyzed condition that significantly degraded plant safety. An 8-hour NRC ENS notification was made in accordance with 10CFR50.72(b)(3)(ii)(B) on 12/02/09 (event number 45536). At the time, HC was at 100% power. Corrective actions were initiated to establish immediate compensatory fire watches until the fire response procedures were revised. The post-fire safe shutdown
Indian Point 2	07/27/1983	08/26/1983	Abstract: DURING NORMAL FULL POWER OPERATION AN HOURLY FIRE WATCH ROUND REQUIRED BY TECH SPEC 3.13.C.2 WAS NOT PERFORMED FOR THE TIME PERIOD FORM 1:00 A.M. TO 2:00 A.M. THERE WERE NO SIMILAR EVENTS. SECURITY GUARD ASSIGNED TO FIRE WATCH PATROL WAS ORDERED BY SECURITY LIEUTENANT TO MAN A FIXED POST WHICH INTERRUPTED HIS ASSIGNED PATROL. SUBSEQUENTLY THE SECURITY GUARD WAS PERMITTED TO CONTINUE HIS ASSIGNED PATROL WHICH WAS RESUMED BEGINNING AT 2 A.M. THE LIEUTENANT WAS DISCIPLINED AND SECURITY FORCES REINSTRUCTED.
Indian Point 2	07/11/1984	08/10/1984	Failure to Maintain Continuous Fire Watch Abstract: POWER LEVEL - 000%. THIS REPORT SATISFIES THE REQUIREMENTS FOR THE SPECIAL REPORT REQUIRED BY TECH SPEC 3.13 F AND 10CFR73. AN OPERABILITY TEST FOR THE HALON FIRE PROTECTION SYSTEM FOR THE CABLE SPREADING ROOM WAS PERFORMED ON JUN 1, 1984. THE SYSTEM DID NOT FULLY MEET THE ACCEPTANCE CRITERIA AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED. SUBSEQUENTLY ON JUN 2, 1984 A UNIT SHUTDOWN WAS INITIATED FOR A REFUELING AND MAINTENANCE OUTAGE. ADDITIONAL MAINTENANCE AND TESTING ON THE SYSTEM TOOK PLACE DURING THIS OUTAGE. ON JULY 11, 1984 IT WAS DETERMINED THAT THE POSTED CONTINUOUS FIRE WATCH WAS INTERRUPTED FOR APPROX A 4 HR PERIOD.
Indian Point 2	09/20/1984	10/22/1984	Deficient Fire Dampers Abstract: POWER LEVEL - 000%. AS A RESULT OF AN EVALUATION PERFORMED FOR THE PURPOSE OF DETERMINING COMPLIANCE WITH THE 3 HR FIRE BARRIER REQUIREMENTS OF APPENDIX R TO 10 CFR 50, WE IDENTIFIED FIRE DAMPERS WHOSE UL RATING COULD NOT BE DOCUMENTED. SUBSEQUENT REVIEW REVEALED A TOTAL OF 23 DAMPERS IN THE CABLE SPREADING ROOM AND 480V SWITCHGEAR ROOM IN THAT CATEGORY. ALTHOUGH THE SPECIFICATION FOR PROCUREMENT AND INSTALLATION REQUIRED UL APPROVED 3 HR DAMPERS, THE INSTALLED DAMPERS DID NOT HAVE DOCUMENTATION OF COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICATION. THE PLANT WAS AT COLD SHUTDOWN FOR A REFUELING-MAINTENANCE OUTAGE WHEN THE DAMPERS IN QUESTION WERE IDENTIFIED.
Indian Point 2	10/26/1984	11/26/1984	Inoperable Fans in Cable Tunnel Abstract: POWER LEVEL - 050%. ON 10-26-84, NO AIR FLOW WAS DETECTED IN THE CABLE TUNNEL WHEN THE FANS WERE TURNED ON DURING A SURVEILLANCE TEST. THE CAUSE OF THE EVENT WAS LOUVERS FOUND IN THE CLOSED POSITION. THE PLANT WAS AT 50% REACTOR POWER AT THE TIME OF DETECTION.
Indian Point 2	03/29/1996	04/29/1996	Potential Challenge of High/Low Pressure Interface [Appendix R] Abstract: On March 29, 1996, it was determined based upon the preliminary results of an engineering re-analysis, that the facility may be in a condition that is outside its licensing design basis for the facility fire protection program (10 CFR 50, Appendix R). For assumed fires in certain areas, the potential for hot shorts may exist which may challenge a reactor coolant system high/low pressure interface (Pressurizer PORV/block valve). Until the analysis can be completed and reviewed, compensatory actions of a fire watch and procedure change have been put in place.
Indian Point 2	03/20/1997	04/21/1997	Open Electric Penetration Area Door creates Unanalyzed Condition Abstract: POWER LEVEL - 100%. On March 20, 1997, with reactor power at 100 percent, non-operations personnel were transporting scaffolding materials through the pipe penetration area (PPA) to the electrical penetration area (EPA). A door between these two areas was held open longer than needed for personnel passage to facilitate the transfer of the scaffold material. This door is an environmental barrier intended to preclude postulated design basis accident harsh environments from entering the EPA. This area has not been evaluated or qualified for harsh environs per 10CFR50.49. The result of keeping the door to the EPA open longer than needed for personnel passage is the that the EPA becomes unanalyzed for that period of time. Nuclear Plant Operators (NPO's), as part of their routine inspections, check that the door remains in the closed position. This activity is procedurally required to be performed four times a day (approximately, every 6 hours). The door was immediately closed once discovered by a nuclear plant operator on routine tour of the plant. The plant remained in operation throughout this event.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Indian Point 2	02/19/1999	03/22/1999	Missed Technical Specifications Surveillance Interval Abstract: On February 19, 1999, with the unit at approximately 99 percent power, it was discovered that the surveillance test for PT-M72, Liquid Process Radiation Monitor Functional Test, had not been performed in its entirety and two monitors (R-39, liquid effluent monitor for Service Water from the Component Cooling Water heat exchanger outlet and R-59, house service boiler condensate return line) had exceeded the surveillance test interval specified by Technical Specification. Further, the subsequent investigation revealed that R-8, an area radiation monitor for the Unit 2 Drumming Station, also exceeded the surveillance test interval specified by Technical Specification. Subsequently, the required surveillances for R-39 and R-59 were performed successfully, and the limiting condition of operation was exited. R-8 currently remains out of service pending completion of repairs to the drumming station door which is difficult and unsafe to operate. The door inoperability results in the door being maintained in the closed position thereby making entry and completion of the R-8 surveillance test not practicable. A Request for Engineering Services (RES) has been made to permanently retire the R-8 area radiation monitor. Human error has been cited as the cause of the test completion being incorrectly reported. Process enhancements to
Indian Point 2	03/14/2000	04/13/2000	Failure of Cable Spreading Room Fire Dampers To Close During Survillance Testing Abstract: On March 14, 2000, with the unit in cold shutdown condition, four of ten fire dampers in the Cable Spreading Room (CSR) failed to close during the performance of a main transformer deluge test. The cause of the failure of one of the dampers was due to part of the damper being bent. The cause of the failure of the other three dampers has been attributed to the improper installation of "electro-thermal" links (ETL) that are designed to melt when exposed to heat, or in response to an electrical voltage. During the test, the circuits for the ETLs are deenergized by placing the ETL switch in the "Test" position. However, during this deluge test, the ETL5 in all ten dampers were inadvertently energized. The ETL switch is being sent to a laboratory for evaluation.
Indian Point 2	09/01/2010	10/30/2010	This report is being made per 10CFR50.73(a)(2)(ii)(B) as a condition found to be outside the design basis of the plant. Pursuant to 10CFR50.72(b)(1)(ii)(B), this event was reported to the NRC on March 16,2000. The health and safety of the public was not affected by this event. Safety System Functional Failure due to Inoperable Reactor Coolant Loop 21 and 22 Wide Range Hot Leg Temperature Indicators Credited for Remote Shutdown per Technical Specification 3.3.4 Abstract: On September 1, 2010, during performance of 2-PT-Q017C (Alternate Safe Shutdown Supply Verification to 23 CCP), the Reactor Coolant System (RCS) Wide Range Hot Leg Temperature Instruments TI-5139 (Loop 21) and TI-5141 (Loop 22) test readings were found out of specification. Technical Specification Basis 3.3.4 (Remote Shutdown), Table 3.3.4-1, Function 3.b Decay Heat Removal via Steam Generators, RCS Hot Leg (HL) Temperature requires one operable function. The RCS HL Temperature is also credited in Technical Requirements Manual (TRM) 3.3.D (Appendix R Alternate Safe Shutdown Instrumentation). After verification of proper performance of the test, Operations concluded the function for RCS HL Temperature was inoperable and entered TS 3.3.4 Action Statement A.1. The apparent cause was indeterminate. A Failure Modes and Effect Analysis identified two possible causes: PC-1) A test process failure. The test has had historical problems with the test sequence where the instruments are powered prior to start of the 23 CCP and starting currents impacted instrument readout. Also the instruments and circuit is required to warm up and stabilize after establishing power. To mitigate these effects the test was revised. PC-2) Component failure. A complete failure of the R/I converter (TM)
Indian Point 3	11/18/1982	08/03/1995	Lack Of Surveillance Testing on Smoke Detectors Due To Personnel Error Placed The Plant In a Condition Prohibited By Technical Specification Abstract: On July 6, 1995, at approximately 0950 hours, with the plant in power operation, the fire protection system engineer reported that surveillance testing had never been performed for six fire protection system duct smoke detectors located in the control room return air duct. The six detectors were required to be tested and three were required to be operable by Technical Specifications 3.14.D.1 and 4.12.D.1, from November 18, 1982 through January 13, 1995 and, subsequently, by administrative controls. The six detectors were declared inoperable and a fire watch was established in accordance with Indian Point Unit 3 Operational Specification 3.5.4. Two detectors failed a subsequent, July 18, 1995 surveillance test and troubleshooting will be performed prior to further testing. This event was caused by personnel error. There was no significant effect on public health and safety. Corrective action includes: the existing procedure for formal Technical Specification change and control of the interpretation Technical Specifications; the planned removal of the six smoke detectors from administrative requirements for smoke detectors; and, upgrading the surveillance test to identify detectors by location. An assessment found the event was limited to these
Indian Point 3	05/10/1989	06/06/1989	Unsupervised Fire Protection Heat Detectors Abstract: POWER LEVEL - 000%. ON MARCH 10, 1988 AN INSPECTION CONDUCTED BY AMERICAN NUCLEAR INSURANCE COMPANY IDENTIFIED A CONCERN RELATED TO THE SUPERVISION OF ELECTRICAL INITIATING CIRCUITS BETWEEN THE LOCAL FIRE PROTECTION CONTROL PANELS AND THE HEAT DETECTORS FOR VARIOUS FIRE PROTECTION SYSTEMS. A MODIFICATION TO ELECTRICALLY SUPERVISE THESE HEAT DETECTORS WAS INITIATED AND SCHEDULED FOR COMPLETION DURING THE 1989 STEAM GENERATOR REPLACEMENT OUTAGE. DURING A SUBSEQUENT REVIEW CONDUCTED IN MAY OF 1989 IT WAS DETERMINED THAT THE HEAT DETECTORS FOR THE ELECTRICAL TUNNELS WERE SUPPOSED TO HAVE BEEN ELECTRICALLY SUPERVISED AS A CONDITION OF LICENSE AMENDMENT 24 ISSUED MARCH 6, 1979. IT HAS BEEN DETERMINED THAT ONLY A PORTION OF THE ELECTRICAL SUPERVISION REQUIRED BY THE AMENDMENT CONDITION WAS COMPLETED WITHIN SCHEDULE. CONTROL LESS THAN ADEQUATE. A PRELIMINARY REVIEW OF AMENDMENT 24 COMMITMENTS INDICATES THAT ALL OTHER REQUIRED MODIFICATIONS WERE COMPLETED AS SCHEDULED. THE MODIFICATION TO COMPLETE THE ELECTRICAL TUNNEL HEAT DETECTOR SUPERVISION WILL BE INSTALLED PRIOR TO THE END OF THE PRESENT OUTAGE.
Indian Point 3	08/23/1992	09/16/1993	Failure to Carry Out Compensatory Actions Required by Technical Specifications Associated with CO sub 2 Fire Protection System Abstract: POWER LEVEL - 100%. On August 23, 1992, with the plant operating at 100 percent power, the damper for exhaust fan 316 in the 32 Emergency Diesel Generator (EDG) room failed to close upon fan shutdown. The technical specifications requiring the compensatory actions for this event were not implemented until September 22, 1992. The root cause was a failure of the plant staff to recognize that this event required technical specification compensatory actions. The specification was contained in the surveillance section and not the limiting conditions for operation section of technical specifications. On September 22, 1992, the compensatory action to post a fire watch was taken. Corrective action involved operator training on the CO sub 2 Fire Protection System. Exhaust fan 316 and its associated damper were returned to service on October 8, 1992.
Indian Point 3	05/11/1993	07/06/1993	Electrical Tunnel Fire Protection Sprinkler Zone 15 Inoperable Due To Personnel Error Abstract: POWER LEVEL - 000%. On June 5 1993, with the plant in the cold shutdown condition, Instrumentation and control (I&C) technicians determined that electrical tunnel fire protection sprinkler zone 15 had been made inoperable during the performance of a surveillance test performed on May 11, 1993. This condition remained unknown to plant personnel despite the presence of a trouble alarm on the subject zone. As a result, no compensatory action was taken as required by Technical Specification section 3.14.B.2.a. The cause of this event was personnel error. Corrective actions included apprising test personnel of the need to question system operability when systems do not respond as expected, and revising surveillance test 3PT-A13 to include new operability criteria. The electrical tunnel fire protection sprinkler zone 15 was declared operable on June 11, 1993. This Licensee Event Report (LER) also satisfies the requirement in Technical Specification section 3.14.B.2.b to provide a Special Report to the Commission when a fire protection sprinkler system has been inoperable for greater than 14 days.
Indian Point 3	08/19/1993	09/16/1993	Technical Specification Violation Caused by Nonfunctional Penetration Fire Seals and Fire Barriers Due to Personnel Error When Specified Penetration Material Was Not Installed per Design Drawings. Abstract: POWER LEVEL - 000%. On August 19, 1993, with the plant in cold shutdown, a Nuclear Engineering and Design (NED) Fire Protection Engineer identified that two penetration fire seals and their associated fire barriers were nonfunctional. The nonfunctional fire seals are located in the walls between the 31/32 and 32/33 Emergency Diesel Generator (EDG) cells, respectively. The nonfunctionality of the seals and barriers is due to their physical configuration which does not conform to a qualified 3 hour fire rated assembly. Specification section 3.14.C and has existed since the issuance of Amendment 24 to the Indian Point 3 (IP3) Operating License dated March 6, 1979. The cause of this event was personnel error in that a previous analysis of the assemblies in 1992 (for which a Special Report was sent) did not consider all possible fire effects on the assemblies. The ongoing inspection of 100% of the IP3 penetration fire seals will be completed prior to unit startup from the current plant outage to address all penetration fire seal deficiencies. In addition, a modification to the affected EDG penetration fire seals to provide a qualified 3 hour fire rated assembly will be completed prior to unit

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Indian Point 3	10/07/1994	11/07/1994	A Surveillance Test of the CO sub 2 Fire Protection System Resulted in a Condition Prohibited by Technical Specifications due to a Procedural Deficiency and Personnel Error Abstract: On October 7, 1994, at approximately 1500 hours, with the plant in cold shutdown, Technical Services concluded that at least two Emergency Diesel Generators were inoperable during a June 1992 surveillance test. During this event and seven prior surveillance tests, IP3 was in violation of Technical Specification 3.7.F.4. This event was caused by a procedural deficiency and personnel error. Corrective actions include correction of the surveillance test, a revision of the writers guide to require consideration and identification of system inoperability induced by surveillance test and counseling of plant personnel. These actions correct the deficiency and prevent recurrence. The extent of condition and corrective action that may be required are under evaluation. The effects on public health and safety were negligible.
Indian Point 3	01/01/1995	01/28/1995	Interruption of Continuous Fire Watch Duties in the Switchgear Room Placed the Plant in a Condition Prohibited by the Technical Specifications Abstract: On January 1, 1995, between 0720 hours and 0744 hours, and on January 4, 1995, between 1102 hours and 1125 hours, with the plant in the cold shutdown condition, the reactor coolant system depressurized, and the carbon dioxide (CO sub 2) fire protection system out of service, a fire watch was not maintained in the switchgear room as required. During these events, the plant was in a Limiting Condition for Operation required by Technical Specifications section 3.14.G.3.a, 'CO sub 2 Fire Protection System,' which requires a continuous fire watch in the switchgear room when this CO sub 2 fire protection system is not in service. This event occurred when the fire watch left the room to assist in ventilating the Control Room. The cause of the event was that Operations and Security personnel were not aware that the interpretation of the continuous fire watch requirement was to mean that the fire watch person was to be within the unprotected area, with no other concurrent responsibilities. Corrective actions include enhanced training for Senior Reactor Operators and fire watch personnel, mandatory fire watch briefings, and a procedure revision.
Indian Point 3	02/27/1995	03/27/1995	Automatic Actuation of Emergency Diesel Generators Following a Loss of Offsite Power Due to Improper Crane Operation Abstract: At 1345 hours on February 27, 1995, with the plant at cold shutdown, Indian Point 3 lost 138KV power. The loss of power occurred when a crane, operated by Consolidated Edison in the Indian Point 2 Owner Controlled Area, shorted the 'C' phase of the 138KV electrical feeder 95331 to ground. No one was injured. Emergency power was provided by Emergency Diesel Generators (EDG) 31 and 33 until offsite power was restored at 1623 hours. One of the two EDG 31 ventilation exhaust fans was manually started when it failed to automatically start as designed due to thermostat setpoint drift. Compensatory action was required due to loss of the fire display in the control room and the plant page phone which were powered from the out of service EDG 32. Corrective action includes an assessment of the loss of reset for a group of annunciators, a testing - calibration procedure for thermostats, and an assessment of lessons learned from the event. There was no effect on public health and safety.
Indian Point 3	06/18/1997	10/14/1997	Less than the required number of Emergency Diesel Generators were Operable Due to Loss of Ventilation resulting from an Inadvertent Operation of a Carbon Dioxide Systems; A Condition Prohibited By Tech Specs Abstract: On June 18, 1997 at approximately 0845 hours with the plant in cold shutdown and the 31 Emergency Diesel Generator (EDG) inoperable for maintenance, Operations concluded 32 Emergency Diesel Generator (EDG) was inoperable. This resulted in less than the required number of EDGs operable; a condition prohibited by Technical Specifications. The inoperability of 32 EDG was based on the loss of 32 EDG room ventilation. The loss of 32 EDG room ventilation was caused by inadvertent operation of the carbon dioxide (CO2) system provided for 32 EDG room. This did not result in a CO2 discharge. Lack of ventilation could have allowed the temperature to exceed design temperature in 32 EDG room if 32 EDG had started. 32 EDG would have operated reliably until room temperature exceeded equipment qualification temperature of 126 degrees Fahrenheit. EDG combustion air is supplied by a snorkel to ensure continued operation of the EDGs with a fire in the associated diesel room. Subsequent investigation determined that all three EDGs could be susceptible to a similar failure due to inadvertent operation of a similar relay in each of the other EDG CO2 panels during an earthquake. A four hour report was made to the NRC pursuant to 10 CFR 50.72 (b)(2)(iii)(A) at 2212 hours on July 2, 1997. The cause of this failure was personal error due to inadequate failure and effects analysis for
Indian Point 3	02/25/1998	03/19/2002	Potential Failure or Inadvertent Operation of Fire Protection Systems, Caused by Personnel Error In Design, Could Cause a Loss of Cable Spreading Room Cooling, Placing Outside Design Basis Abstract: On February 25, 1998, with the plant at 100% power, Operations found that the plant was outside its design basis because a loss of ventilation to the cable spreading room could result from a failure of the cable spreading room C02 fire suppression system, a failure of the electrical tunnel fire detection system, or a design basis event (loss of offsite power or safety injection). This condition could have adversely affected the operation of safety-related systems and/or components located in the room. This event was caused by human error during the design process. Immediate corrective action was taken to post a fire watch, disable the C02 control circuitry interlock (affects fire dampers), and restrain the fire door from automatically shutting. This event was identified as part of the extent of condition for LER 97-010 and was reported to the NRC as a one hour report. Corrective actions included modifying the fire protection system, clarifying the design criteria, and assessing past event evaluations. There is no significant effect on public health and safety from postulated events.
Kewaunee	04/01/1986	05/14/1986	Failure of Fire Dampers Due to Improper Application Abstract: POWER LEVEL - 000%. ON APRIL 1, 1986, WITH THE ANNUAL REFUELING/MAINTENANCE OUTAGE IN PROGRESS, PLANT MANAGEMENT CONCLUDED THAT THERE WAS A CONCERN WITH THE OPERABILITY OF NON-SPRING ASSISTED FIRE DAMPERS AT THE KEWAUNEE PLANT. ON THE MORNING OF APRIL 1, FUNCTIONAL TESTS WERE PERFORMED ON TWO VENTILATION FIRE DAMPERS TO ENSURE THAT THEY WOULD AUTOMATICALLY CLOSE WITH MAXIMUM EXPECTED AIR FLOW. THIS TESTING WAS PERFORMED IN RESPONSE TO RECENT INFORMATION PROVIDED BY INPO AND THE NRC ON FIRE DAMPER PROBLEMS. IN BOTH TEST CASES THE DAMPERS BECAME MECHANICALLY BOUND IN AN INTERMEDIATE POSITION; SECURING THE OPERATING VENTILATION SYSTEM DID NOT RESULT IN FURTHER DAMPER CLOSURE. THE SUBJECT DAMPERS PROVIDE ISOLATION OF FIRE ZONES WITH SAFETY RELATED EQUIPMENT. THE ROOT CAUSE OF THE FAILURE IS USE OF THE DAMPERS IN AN APPLICATION FOR WHICH THEY WERE NOT TESTED; INDUSTRY STANDARDS DO NOT REQUIRE THAT FIRE DAMPERS BE FUNCTIONALLY TESTED TO DEMONSTRATE PERFORMANCE UNDER AIR FLOW CONDITIONS. THIS EVENT DOES NOT MEET THE REPORTING CRITERIA CONTAINED IN 10CFR 50.73(A), HOWEVER THE TEST RESULTS ARE BELIEVED TO BE OF GENERIC INTEREST. AS INTERIM ACTION, AN HOURLY FIRE WATCH HAS BEEN ESTABLISHED. TESTING OF FIRE DAMPERS IS CONTINUING, AND A DESIGN CHANGE HAS BEEN INITIATED FOR THE
Kewaunee	03/10/1989	09/06/1991	Inspection of Diesel Generator Start Up Air System Deficiencies That Could Render Both Diesel Generators Inoperable Abstract: POWER LEVEL - 000%. ON 3/10/89, WITH THE PLANT IN REFUELING SHUTDOWN, A MANAGEMENT REVIEW OF THE INSTRUMENT AIR SYSTEM SAFETY SYSTEM FUNCTIONAL INSPECTION FINDINGS CONCLUDED THAT DEFICIENCIES IN THE DESIGN OF THE EMERGENCY DIESEL GENERATOR AIR START SYSTEM COULD RENDER BOTH DIESEL GENERATORS INOPERABLE. THESE DEFICIENCIES INCLUDE: 1) A LACK OF SEISMIC DOCUMENTATION, 2) COMPONENTS IN THE SYSTEM EXPOSED TO PRESSURES GREATER THAN THEIR DESIGN PRESSURES. ONE ITEM OF POTENTIAL GENERIC INTEREST WAS ALSO IDENTIFIED. IT CONCERNS LONG TERM POST-ACCIDENT OPERABILITY OF THE DIESEL GENERATOR VENTILATION DAMPERS. THESE DEFICIENCIES WERE THE RESULT OF INADEQUATE DESIGN AND INADEQUATE SECOND LEVEL REVIEWS OF MODIFICATIONS AND ENGINEERING EVOLUTIONS. THE MODIFICATIONS RELEVANT TO THIS REPORT OCCURRED IN 1973 DURING ORIGINAL PLANT CONSTRUCTION AND AS A RESULT OF A SUBSEQUENT MODIFICATION IN 1981. A CONTRIBUTING FACTOR WAS AN INAPPROPRIATE CHANGE MADE TO THE QUALITY ASSURANCE TYPE OF A PORTION OF THE SYSTEM AS PART OF A MODIFICATION. THE DEFICIENCIES IDENTIFIED IN THIS REPORT WERE CORRECTED DURING THE 1989 REFUELING OUTAGE. THE PROCEDURES FOR PROVIDING SECOND LEVEL REVIEWS OF PROPOSED DESIGN CHANGES HAVE BEEN REVISED SINCE THE END OF
Kewaunee	01/08/1990	02/07/1990	HUMAN ERROR RESULTS IN FIRE DOOR BEING PLACED IN A DEGRADED CONDITION Abstract: POWER LEVEL - 100%. ON JANUARY 8, 1990, AT 1128, WITH THE REACTOR AT 100% POWER, A FIRE BARRIER DOOR WAS DISCOVERED UNLATCHED. THIS IS CONTRARY TO THE AS TESTED CONDITION OF THE DOOR AS DESCRIBED IN THE UNDERWRITER'S LABORATORY REPORT, WHICH ASSUMED THAT THE DOOR WOULD BE LATCHED THROUGHOUT A FIRE. THE EVENT WAS DISCOVERED BY THE NUCLEAR FIRE PROTECTION COORDINATOR DURING A ROUTINE INSPECTION OF THE AUXILIARY BUILDING. THE DOOR WAS PLACED IN ACCESS AND UNLATCHED ON DECEMBER 27, 1989, DURING THE IMPLEMENTATION OF DESIGN CHANGE REQUEST (DCR) 2325. THE CHANGE WAS IMPLEMENTED TO RELOCATE THE VITAL AREA BOUNDARY IN THE AUXILIARY BUILDING. ONCE THE VITAL AREA BOUNDARY WAS MOVED, THE DOOR IN QUESTION NO LONGER SERVED A SECURITY FUNCTION AND THE DOOR WAS PLACED IN ACCESS. THIS DEFEATED THE DOOR'S LATCHING MECHANISM AND ALLOWED IT TO BE OPENED BY PUSHING OR PULLING ON IT. THIS EVENT OCCURRED BECAUSE THE PERSONNEL INVOLVED IN IMPLEMENTING AND REVIEWING THE DCR DID NOT RECOGNIZE THAT FIRE DOORS MUST BE LATCHED TO BE CONSIDERED OPERABLE. CONTRIBUTING TO THIS EVENT WAS THE LIMITED INFORMATION AVAILABLE TO THE DESIGN REVIEWERS. SINCE THE DCR INVOLVED SECURITY SAFEGUARDS INFORMATION, THE DESIGN DESCRIPTION AVAILABLE FOR GENERAL REVIEW WAS INTENTIONALLY VAGUE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Kewaunee	02/01/1991	04/18/1991	Securing of Pressure Relief Path in the Turbine Driven Auxiliary Feedwater Pump Room Results in Potential Inability to Meet High Energy Line Break Criteria Abstract: POWER LEVEL - 100%. AT 1505 CST ON 2/1/91 WITH PLANT AT 100% POWER, A CONCERN WAS IDENTIFIED REGARDING THE ABILITY TO MEET DESIGN BASIS REQUIREMENTS FOR STEAM EXCLUSION IN THE EVENT OF A HIGH ENERGY LINE BREAK (HELB) AT KNPP. IT WAS DISCOVERED THAT A BLOW-OUT PANEL PREVIOUSLY INSTALLED IN A PENETRATION OF THE WALL IN THE TURBINE DRIVEN AUXILIARY FEEDWATER PUMP (TDAFWP) ROOM DID NOT APPEAR TO BE IN A CONDITION THAT WOULD MEET ITS ORIGINAL DESIGN INTENT. THIS OPENING WAS DESIGNED TO PROVIDE A RELIEF PATH TO LIMIT THE PRESSURE INCREASE IN THE TDAFWP ROOM FOLLOWING A POSTULATED STEAM RELEASE FROM THE STEAM SUPPLY PIPING TO THE TDAFWP. IF PRESSURE RELIEF WERE NOT PROVIDED, OVERPRESSURIZATION OF THE TDAFWP ROOM COULD OCCUR. THIS OVERPRESSURIZATION COULD RESULT IN A RELEASE OF STEAM TO ADJACENT ROOMS WHICH CONTAIN SAFEY-RELATED ELECTRICAL EQUIPMENT. THE AS-FOUND CONDITION OF THE TDAFWP ROOM OPENING INDICATED THAT A MODIFICATION HAD BEEN MADE TO THE OPENING WHICH DEFEATED THE RELIEF CAPABILITY. BASED ON THE AS-FOUND CONDITION AND THE INFORMATION AVAILABLE AT THE TIME, IT WAS CONCLUDED THAT THE BLOW-OUT PANEL COULD NOT PERFORM ITS DESIGN FUNCTION AND THE PLANT WAS IN A CONDITION OUTSIDE OF ITS DESIGN BASIS. CAUSE OF
Kewaunee	02/28/1991	04/01/1991	Inadequate Review of Fire Penetration List by Fire Watch Patrol Results in Violation of Technical Specification 3.15.f Abstract: POWER LEVEL - 095%. AT 0245 ON MARCH 3, 1991, AND AT 0146 ON MARCH 4, 1991, WITH THE PLANT AT 95% POWER, IT WAS DISCOVERED THAT HOURLY FIRE WATCH INSPECTIONS HAD NOT BEEN PERFORMED AS REQUIRED BY TECHNICAL SPECIFICATION 3.15.F. THE SPECIFICATION REQUIRES THAT A HOURLY FIRE WATCH INSPECTION BE PERFORMED, ON AT LEAST ONE SIDE OF A PENETRATION, IF THE FIRE BARRIER IS NOT INTACT. THE NON-PERFORMANCE OF INSPECTIONS WAS DISCOVERED BY A CONTRACT SECURITY SHIFT CAPTAIN DURING REVIEW OF THE SECURITY COMPUTER PERSONNEL ACCESS PRINTOUTS. THE MARCH 3, 1991, REVIEW REVEALED THAT AN AREA IN WHICH A PENETRATION FIRE BARRIER WAS NOT INTACT HAD NOT BEEN INSPECTED BY THE ASSIGNED SECURITY OFFICER DURING THE TIME PERIODS OF 1300-1500 ON FEBRUARY 28, 1100-1300 ON MARCH 1, AND 0900-1100 ON MARCH 2, 1991. THE MARCH 4, 1991, REVIEW REVEALED THAT AN AREA IN WHICH A PENETRATION FIRE BARRIER WAS NOT INTACT HAD NOT BEEN INSPECTED DURING THE TIME PERIOD OF 1000-1100 ON MARCH 3, 1991. THE ROOT CAUSE OF THE EVENT WAS DETERMINED TO BE INATTENTION TO DETAIL BY THE TWO SECURITY OFFICERS INVOLVED. CORRECTIVE ACTIONS WILL INCLUDE REFORMATTING OF THE OPEN/DEGRADED FIRE PENETRATION LIST TO GROUP AFFECTED PENETRATIONS WITH THE ASSOCIATED AREA; AND PERFORMING A REVIEW OF THE FIRE
Kewaunee	06/07/1992	07/07/1992	Open Steam Exclusion Door to Turbine Driven Auxiliary Feedwater Pump Room Resulted in Potential Inability to Meet High Energy Line Break Criteria Abstract: POWER LEVEL - 100%. ON 6/7/92 AT APPROXIMATELY 1130, WITH THE PLANT AT 100% POWER A SECURITY OFFICER ON A ROUTINE TOUR FOUND STEAM EXCLUSION DOOR #244, SAFEGUARDS ALLEY TO TURBINE DRIVEN AUXILIARY FEEDWATER PUMP (TDAFWP) ROOM, FULL OPEN AND UNOBSTRUCTED. THE DOOR WAS IMMEDIATELY CLOSED. THE DOOR HAD APPARENTLY BEEN OPENED, ON A PREVIOUS ENTRY, FAR ENOUGH FOR THE DOOR CLOSING MECHANISM HOLD OPEN FEATURE TO ENGAGE. IT WAS DETERMINED THAT THE HOLD OPEN FEATURE COULD BE DEFEATED BY REMOVING THE FUSIBLE LINK. THE FUSIBLE LINK IS DESIGNED TO MELT AND AUTOMATICALLY CLOSE THE DOOR DURING A FIRE. THE OTHER DOOR IN THE TDAFWP ROOM (DOOR #243) WAS ALSO INSPECTED AND FOUND TO HAVE THE SAME CLOSURE MECHANISM. THE FUSIBLE LINKS ON BOTH DOORS WERE IMMEDIATELY REMOVED. A REVIEW OF ALL OTHER STEAM EXCLUSION DOORS WAS PERFORMED AND TWO OTHER DOORS WERE IDENTIFIED AS HAVING THE POTENTIAL TO CAUSE A SIMILAR OCCURRENCE. THE FUSIBLE LINKS ON THE TWO ADDITIONAL DOORS WERE PROMPTLY REMOVED. THE ROOT CAUSE OF THIS EVENT HAS BEEN DETERMINED TO BE THE MIS-APPLICATION OF A FIRE DOOR DESIGN FEATURE TO DOORS WITH MULTIPLE FUNCTIONS. A SECONDARY CAUSE OF THIS EVENT IS PERSONNEL ERROR. CORRECTIVE ACTIONS INCLUDED
Kewaunee	06/29/1992	07/29/1992	Unanalyzed Condition Identified in Steam Exclusion System Design Abstract: POWER LEVEL - 100%. At 1600 on June 29, 1992, an unanalyzed condition was identified in the Kewaunee Nuclear Power Plant steam exclusion design. During an internal Safety System Functional Inspection it was theorized that a rupture in either feedwater or main steam piping located in the contaminated material storage room could overpressurize the room and result in a failure of the steam exclusion boundaries. The boundaries isolate steam areas from non-steam areas following a high energy fine break outside containment. This event is being reported as an unanalyzed condition which could compromise plant safety. The potential for the contaminated material storage room to become overpressurized has existed since initial plant operation. The cause of the event was inadequate design reviews for the steam exclusion system. Actions have been taken to prevent overpressurization of the contaminated material storage room. The doors in the room were opened to provide a relief path if a break occurred in the room. The doors that were opened do not serve as steam exclusion boundary doors and lead to a common ventilation area. The doors have since been removed and appropriate documentation and drawings are being revised to reflect the change. WPSC is continuing to evaluate the situation to determine the
Kewaunee	02/14/2001	08/26/2003	Non-Rated Fire Barrier Separating Redundant Appendix R Safe Shutdown Capabilities Abstract: On February 14, 2001, with the reactor at 96 percent power, Kewaunee Engineering staff determined there was insufficient test documentation available to support the fire rating of a 10CFR50, Appendix R, fire barrier. The barrier, Identified as PB 2105, was constructed to separate Train "A" (dedicated) safe shutdown equipment cables that are routed in a Train "B" (alternate) safe shutdown equipment room. This event is being reported because barriers constructed to demonstrate conformance with 10CFR50, Appendix R, are required to have a three-hour fire rating. The barrier was installed in the 1984 to 1985 time frame. Subsequent inspections of the barrier also recognized the configuration not being in accordance with Appendix R. The root cause analysis of the event determined that Kewaunee plant staff failed to provide adequate fire protection program monitoring and management because the significance of fire protection as a licensing basis program was not emphasized. Significant contributing factors identified were; 1) Fire Protection lacked in-house expertise, which contributed to inadequate verification of contractor-supplied engineering evaluations, and 2) fire protection program engineering evaluations did not require independent review. A fire hazards analysis calculated the equivalent fire loading in the area of PB 2105 to be thirty minutes. Underwriters Laboratory approved testing was conducted on an identical enclosure design. The testing showed that the enclosure would survive an equivalent fire for the area. Analysis and testing showed the condition to be of very low safety significance.
Kewaunee	09/11/2008	11/07/2008	Pressurizer PORV and Reactor Coolant System Vent Valves Appendix R Spurious Operation Concern Abstract: On September 11, 2008, while responding to a question during a NRC Triennial Fire Protection Inspection, the control cabling for pressurizer PORV PR-2B was found to be vulnerable to spurious operation due to hot shorts in the event of a fire in the relay room as defined in NRC guidance and NRC endorsed NEI guidance for circuit analysis for reactor coolant system high-low pressure interfaces. Additionally, on October 15, 2008, a similar condition was identified for pressurizer and reactor head vent valves. A fire in the relay room would require use of an Appendix R fire shutdown procedure that would deenergize the PR-2B and vent valves' 125-volt direct current (DC) circuits. The procedural action to deenergize the valves was previously accepted by the NRC as a post-fire mitigating action for these high-low pressure interface valves. Subsequently, modifications were made to the valves' cabling to enhance protection from a hot short by routing cabling in dedicated conduit. However, some of the cabling was left in cable trays in the relay room. Spurious opening of the valves could be postulated as follows: Control cable for the valves has fire damage resulting in an internal short between conductors; and, an external cable-to-cable hot short occurs with the power supply cable and another energized

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Kewaunee	02/22/2012	04/19/2012	Pressurizer PORV and Reactor Coolant System Vent Valves Appendix R Spurious Operation Concerns Abstract: On February 22, 2012, while developing Design Change KW-12-01049 to address inadequate Appendix R reactor coolant system high/low interface valve cable separation issues for pressurizer power operated relief valves (PORVs) PR-2A and PR-2B, additional concerns were raised regarding the condition originally identified in Condition Report CR109107 and discussed in LER 2008-001-00. Subsequently, on February 28, 2012, additional Appendix R fire spurious operation concerns (related to a postulated fire in the relay room or 480 volt Bus 51/52 area) were identified for the pressurizer and reactor head vent valves PR-33A, RC-45A, and RC-46 than as originally identified in Condition Report CR114409 and discussed in LER 2008-001-00. An evaluation of these concerns determined that the control cables for the valves in question were not adequately protected from potential fire damage in the alternate and dedicated safe shutdown areas and spurious opening of these high/low interface valves could be postulated in the event of a fire.
La Crosse	12/02/1980	12/03/1980	This event is being reported pursuant to 10 CFR 50.73(a)(2)(ii)(B) for any event that resulted in the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety. Abstract: SMALL HOLES WERE DRILLED THROUGH TURBINE BUILDING FIRE BARRIERS DURING INSTALLATION OF NRC-REQUIRED FIRE PROTECTION AND SAMPLING SYSTEMS. AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED WITHIN ONE HOUR OF THE DETERMINATION THAT IT WAS NECESSARY, BUT NOT WITHIN ONE HOUR OF DRILLING. INVOLVED JOB COORDINATORS WERE REMINDED FIRE BARRIER REQUIREMENTS ARE APPLICABLE AT ALL TIMES.
La Crosse	01/21/1982	02/19/1982	Abstract: THE CONTAINMENT BUILDING FIRE DETECTION ZONE WAS PLACED IN BYPASS DUE TO SPURIOUS ALARMS TO PREVENT MASKING ON AN ACTUAL FIRE IN ANY OF THE OTHER ZONES. A FIRE WATCH PATROL WAS ESTABLISHED. THE PLANT WAS IN THE COLD SHUTDOWN CONDITION WHILE THE ZONE WAS BYPASSED. THE DETECTOR HEAD CAUSING THE SPURIOUS FIRE ALARMS WAS CLEANED AND THE ZONE WAS RETURNED TO NORMAL. NO FURTHER CORRECTIVE ACTION IS NECESSARY.
La Crosse	04/03/1984	09/24/1984	Discovery of Unsealed Fire Barrier Penetrations Abstract: POWER LEVEL - 099%. DURING PLANT INSPECTIONS PROMPTED BY REVIEW OF 10CFR50, APPENDIX R CRITERIA, 3 PENETRATIONS WERE FOUND, WHICH HAD NOT BEEN PROPERLY SEALED WHERE THEY PASSED THROUGH A BARRIER BETWEEN FIRE AREAS. APPROX 80 OTHER FIRE BARRIER PENETRATIONS HAD BEEN IDENTIFIED AND SEALED APPROX 5 YEARS AGO WHEN FIRE BARRIER PENETRATIONS WERE FIRST REVIEWED AT LACBWR. CURRENT TECH SPECS REQUIRE THAT ALL PENETRATION FIRE BARRIERS PROTECTING SAFETY-RELATED AREAS BE FUNCTIONAL. EACH PENETRATION WAS SEALED THE DAY IT WAS NOTICED BY THE METHODS USED IN SEALING OTHER PENETRATIONS. THE 3 PENETRATIONS WILL BE ADDED TO THE LIST OF FIRE BARRIERS INSPECTED DURING THE 18 MONTH SURVEILLANCE TEST.
La Crosse	06/11/1984	07/10/1984	Lack of Hourly Fire Patrol While Fire Door Was Open Abstract: POWER LEVEL - 065%. ON JUNE 11, 1984, THE DOOR BETWEEN THE MACHINE SHOP AND THE ELECTRICAL PENETRATION ROOM WAS BLOCKED OPEN TO ALLOW VENTILATION OF THE ELECTRICAL PENETRATION ROOM DUE TO AN INCREASE IN ROOM TEMPERATURE. ON JUNE 12, IT WAS DETERMINED THAT AN HOURLY FIRE WATCH PATROL WAS REQUIRED FOR THE AREA WHILE THE DOOR WAS BLOCKED OPEN. THE DOOR WAS THEN CLOSED. AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED DURING SUBSEQUENT VENTILATING PERIODS. TO PREVENT FUTURE REOCCURRENCE OF SIMILAR EVENTS, THE FIRE DOORS PROTECTING SAFETY RELATED AREAS ARE BEING LABELED AS FIRE DOORS. AN AIR CONDITIONER WAS INSTALLED TO PROVIDE A PERMANENT METHOD OF ELECTRICAL PENETRATION ROOM COOLING.
La Crosse	05/12/1986	05/29/1986	DEGRADED FIRE BARRIER Abstract: POWER LEVEL - 000%. DURING PERFORMANCE OF THE 18-MONTH FIRE BARRIER SURVEILLANCE, A SMALL OPENING, APPROXIMATELY 1 SQUARE INCH, WAS FOUND IN A CABLE TRAY BARRIER LOCATED BETWEEN THE ELECTRICAL EQUIPMENT ROOM AND THE TURBINE BUILDING. AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED UNTIL THE BARRIER WAS REPAIRED. MAINTENANCE HAD BEEN PERFORMED IN THAT AREA DURING THE REFUELING OUTAGE AND THE BARRIER HAD NOT BEEN PROPERLY RESTORED. INFORMATION ON THIS INCIDENT IS BEING DISSEMINATED TO APPROPRIATE PERSONNEL TO REMIND THEM OF THE NEED FOR REPAIRING AND INSPECTING FIRE BARRIERS FOLLOWING MAINTENANCE INVOLVING SUCH BARRIERS.
La Crosse	04/12/1995	04/17/1995	LOSS OF CONTAINMENT BUILDING FIRE STATION OPERABILITY Abstract: The La Crosse Boiling Water Reactor (LACBWR) Technical Specifications (T.S.) 4.4.5 states, 'The fire hose stations in the following locations shall be operable.' This statement is followed by a list of five stations that includes the Containment Building Basement.' This requirement is applicable at all times. The action step of this T.S. states, 'With a hose station inoperable, establish a 1-hour fire watch, or route an additional hose of equivalent capacity to the unprotected area within one hour.' On April 12, 1995, it was noted by a LACBWR staff member that the High Pressure Service Water to the Containment Building, which supplies water pressure to the Containment Building Basement hose station, was isolated.
La Crosse	06/16/1995	06/26/1995	LOSS OF CONTAINMENT BUILDING BASEMENT FIRE HOSE STATION OPERABILITY Abstract: The La Crosse Boiling Water Reactor (LACBWR) Technical Specifications (T.S.) 4.4.5 states, 'The fire hose stations in the following locations shall be operable.' This statement is followed by a list of five stations that includes the 'Containment Building Basement.' action step of this T.S. states, 'With a hose station inoperable, establish a 1-hour fire watch, or route an additional hose of equivalent capacity to the unprotected area within one hour.' On June 16, 1995, at 1930, it was noted by a LACBWR staff member that the High Pressure Service Water to the Containment Building, which supplies water pressure to the Containment Building Basement hose station, was isolated.
LaSalle 1	04/21/1982	05/20/1982	The Water Being Used Actuated the Control Room Alarm Abstract: The smoke detector in the Div. I Switchgear Batt Room ceiling was being grouted, the water being used actuated the control room alarm. An hourly fire watch of the area had been in effect since 4/18/82. Penetrations require a 24 hour water soak prior to grouting. The fire detector was wetted and alarmed. The penetration was sealed and the detector replaced and declared operable 4/22/82. Construction has been notified to take actions to prevent recurrence.
LaSalle 1	05/04/1982	05/24/1982	Prevent Damage to the Fire Detectors While Welding Abstract: An hourly fire watch was established in accordance with tech specs 3.3.7.9 and had been in effect since april 17, 1982. Tech spec 3.3.7.9 requires the fire detection system to be operable. On may 5, 1982 the ultraviolet fire detectors to the refuel floor were de-energized to complete welding on unit 2 reactor side. The fire detectors were de energized to prevent them from being damaged. The cause of this occurrence was to prevent damage to the fire detectors while welding on unit 2 reactor side was being completed. The welding has been completed and the ultraviolet fire detectors were placed back in service.
LaSalle 1	12/27/1983	01/10/1984	Diesel Fire Pump Fails on Reverse Rotation Abstract: On Dec. 27, 1983 at approx. 0900 oa Diesel Fire Pump (DFP) was damaged because of reverse rotation. OB DFP was also out of service because of maintenance. Service water crosstie valves that supply the fire protection water system were verified open so that service water could supply the fire protection system if needed. This problem has not happened in the past. A block of wood caused the OA DFP discharge check valve to stick open. The stuck open discharge check valve caused the pump and attached engine to rotate backwards. Maintenance on OB DFP was expedited and OB DFP was operational Dec. 28, 1983. OA DFP is expected to be operational Jan. 11, 1984.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

LaSalle 1	04/23/1984	05/15/1984	Electrical Cable Penetrations Inoperable Abstract: POWER LEVEL - 098%. DURING A REINSPECTION OF ELECTRICAL CABLE FIRESTOPS CONDUCTED BY QUALITY CONTROL PERSONNEL IN THE CONTROL ROOM AND THE COMPUTER ROOM AT 768' AUXILIARY BUILDING, FIRESTOPS THAT DID NOT MEET INSPECTION CRITERIA WERE IDENTIFIED. ELECTRICAL CABLE PENETRATIONS AB2214 IN CABINET 2C91-P610 IN THE COMPUTER ROOM AND AB2186 IN CABINET 1H13-P609 IN THE CONTROL ROOM WERE INSPECTED AND DECLARED INOPERABLE ON APR 23, 1984, AND MAY 2, 1984, RESPECTIVELY. BOTH FIRESTOPS HAD BREAKTHROUGHS. THE TECHNICAL STAFF IMMEDIATELY NOTIFIED THE STATION FIRE MARSHAL AND INITIATED REPAIRS. AN HOURLY FIRE WATCH WAS PLACED IN EFFECT IN THE REFERENCED AREAS AND FIRE DETECTION WAS VERIFIED OPERABLE. REPAIRS AND INSPECTIONS ON AB2214 WERE COMPLETED ON APR 27, 1984, UNDER WORK REQUEST L35973 AND ON AB2186 ON MAY 4, 1984, UNDER WORK REQUEST L36363. ACTION ITEM RECORD 1-84-67071 HAS BEEN ISSUED TO REVISE ELECTRICAL PROCEDURE LEP GM-111. THE REVISION WILL REQUIRE THAT THE STATION FIRE MARSHAL BE NOTIFIED PRIOR TO A CABLE PULL THROUGH A FIRE BARRIER. APPROPRIATE MANAGEMENT PERSONNEL WILL BE TRAINED ON THE REVISION.
LaSalle 1	05/17/1984	06/08/1984	Electrical Cable Penetrations Inoperable Abstract: POWER LEVEL - 098%. ON MAY 17, 1984, AT APPROX 1300, TRANSCO PERSONNEL WERE PERFORMING REPAIRS ON ELECTRICAL FIRE PENETRATIONS IN THE UNIT 1 AUXILIARY ELECTRICAL EQUIPMENT ROOM WHEN THEY IDENTIFIED AN UNSEALED CONDUIT PENETRATING A FIRESTOP. AFTER FURTHER INVESTIGATION, A TOTAL OF 18 CABINETS/PANELS IN THE AUXILIARY ELECTRICAL EQUIPMENT ROOM WERE IDENTIFIED AS HAVING UNSEALED CONDUIT PENETRATING THE FIELD OF THE FIRESTOP. THE TECHNICAL STAFF NOTIFIED THE STATION FIRE MARSHAL. AN HOURLY FIRE WATCH WAS IN EFFECT. REPAIRS WERE INITIATED BY THE TECHNICAL STAFF. REPAIRS WERE COMPLETED ON MAY 22, 1984 UNDER WORK REQUEST L36892. THE TECHNICAL STAFF ALSO PERFORMED A REINSPECTION OF CABINETS/PANELS IN THE UNITS 1 AND 2 CONTROL ROOMS AND AUXILIARY ELECTRICAL EQUIPMENT ROOMS (SPECIAL TEST LST 84-127). THE REINSPECTION IDENTIFIED 6 OTHER CABINETS IN THE CONTROL ROOM WITH UNSEALED CONDUIT. THESE PENETRATIONS WERE SEALED ON JUN 1, 1984 UNDER WORK REQUEST L37240.
LaSalle 1	06/22/1984	07/17/1984	Unsealed Fire Penetration/Sleeve Abstract: POWER LEVEL - 098%. IN APR 1984, AN OPEN, UNSEALED PENETRATION WAS FOUND DURING A PLANT WALKDOWN. AS CORRECTIVE ACTION, A WORK REQUEST WAS GENERATED TO SEAL THE PENETRATION. AT THE TIME OF THE DISCOVERY, THE PENETRATION WAS NOT IDENTIFIED AS A REQUIRED FIRE STOP. UPON CLOSEOUT OF THE WORK REQUEST, THE PENETRATION WAS FOUND TO BE IMPROPERLY SEALED. LATER THE PENETRATION WAS IDENTIFIED AS REQUIRING FIRE STOP. ANOTHER WORK REQUEST WAS GENERATED, AND IN ACCORDANCE WITH THE ACTION STATEMENT OF TECH SPEC 3.7.6, AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED. THE PENETRATION SHOULD BE RESEALED BY JULY 23, 1984. A RE-EXAMINATION AND INSPECTION OF ALL ACCESSIBLE FIRE WALLS WILL BE CONDUCTED, AND THE SLEEVE SCHEDULE AND SURVEILLANCE PROCEDURE WILL BE UPDATED TO REFLECT ANY ADDITIONAL CHANGES.
LaSalle 1	06/28/1984	07/23/1984	Mechanical Fire Penetrations Abstract: POWER LEVEL - 090%. ON JUN 28, 1984, AT APPROX 1400 THE TECHNICAL STAFF IDENTIFIED 3 MECHANICAL PENETRATIONS ON FIRE RATED WALLS/FLOORS THAT WERE NOT SEALED PROPERLY. THE PENETRATIONS WERE LOCATED IN THE 815' AUX BLDG FLOOR AT COLUMN LINES 14-L AND 16-L, AND IN THE 786' AUX/TURBINE BLDG WALL AT 18-R. THE AFFECTED WALLS/FLOORS SEPARATE FIRE AREAS WITH SAFETY-RELATED EQUIPMENT. THE PENETRATIONS WERE IDENTIFIED DURING THE PERFORMANCE OF A WALKDOWN OF ACCESSIBLE FIRE WALLS IN UNITS 1 AND 2. THE WALKDOWN WAS BEING PERFORMED TO IDENTIFY ANY FIRE PENETRATIONS THAT WERE NOT ON THE SLEEVE/PENETRATION SCHEDULE AND WAS SPECIFIED AS CORRECTIVE ACTION IN LER 373/84-038-00. THE PENETRATIONS WERE SEALED ON JUL 3, 1984, UNDER WORK REQUEST L38390 IN ACCORDANCE WITH TECH SPECS 3.7.6 ACTION A. HOURLY FIRE WATCHES ARE IN EFFECT IN THESE AREAS AT ALL TIMES.
LaSalle 1	10/25/1984	11/15/1984	Mechanical Fire Penetrations Abstract: POWER LEVEL - 000%. ON 10-25-84, THE TECH STAFF BEGAN AN INSPECTION OF MECHANICAL FIRE PENETRATIONS IN ORDER TO IDENTIFY WHICH SLEEVES WERE SEALED WITH GROUT. WHILE PERFORMING THE INSPECTION, THE TECHNICAL STAFF IDENTIFIED 3 PENETRATIONS THAT WERE NOT SEALED PROPERLY. THE STATION FIRE MARSHAL WAS NOTIFIED. HE VERIFIED THAT HOURLY FIRE WATCH PATROLS ARE IN EFFECT IN THE AFFECTED AREAS AT ALL TIMES. PENETRATIONS MK-1RB-501 AND MK-1RB-589 WERE RESTORED TO OPERABLE STATUS UNDER WORK REQUEST L43008 ON 10-31-84, AND 10-27-84, RESPECTIVELY. THE THIRD PENETRATION, A MECHANICAL OPENING LOCATED ON THE WALL SEPARATING THE UNIT 1 HIGH PRESSURE CORE SPRAY DG FROM THE TURBINE BLDG HALLWAY, WAS REPAIRED UNDER WORK REQUEST L43009 ON 11-2-84.
LaSalle 1	01/07/1992	02/05/1992	Average Power Range Monitors (APRM) Set Nonconservatively Due To Communication Error Abstract: POWER LEVEL - 098%. ON JANUARY 7 1992, DURING LASALLE INSTRUMENT SURVEILLANCE LIS-NR-109 'UNIT 1 AVERAGE POWER RANGE MONITOR (APRH) GAIN ADJUSTMENT', A MISCOMMUNICATION EVENT OCCURRED. AT 0740, A CONTROL SYSTEM TECHNICIAN (CST) COMMENCED TO PERFORM THE GAIN ADJUSTMENT FOR THE APRM NEUTRON MONITORING SYSTEM (NR) (IG). HE CONTACTED A QUALIFIED NUCLEAR ENGINEER (QNE) FOR THE VALUE TO WHICH THE GAINS SHOULD BE SET. THE QNE ASSUMED THE CST WAS REFERRING TO LIS-NR-107 'UNIT 1 APRM/ROD BLOCK MONITOR FLOW CONVERTER TO TOTAL CORE FLOW ADJUSTMENT'. THE CST PROVIDED THE QNE WITH THE DRIVE FLOWS FROM THE CORE MONITORING CODE'S CORE POWER TO FLOW LOG, AND THE QNE INSTRUCTED HIM TO SET THE GAINS TO 93 PERCENT WHILE THE REACTOR POWER WAS ACTUALLY 98 PERCENT. THE EVENT RESULTED IN ALL SIX APRHS EXCEEDING THEIR ALLOWABLE TECHNICAL SPECIFIC ATION TOLERANCE, AND THE INTENDED FUNCTION OF THE REACTOR PROTECTION SYSTEM (RPS, RP) 'JC' WAS COMPROMISED. THE TOTAL TIME ELAPSED FROM THE TIME AT WHICH THE FIRST APRM WAS SET NONCONSERVATIVELY TO THE TIME WHEN ALL SIX APRMS WERE SET CORRECTLY WAS 52 MINUTES. THE INDIVIDUALS WERE COUNSELLED ON THE IMPORTANCE OF COMMUNICATION AND HAVING A QUESTIONING ATTITUDE. PROCEDURE REVISIONS WILL BE IMPLEMENTED PROVIDING ADDITIONAL
LaSalle 1	11/02/1992	11/20/1992	Missed Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 000%. On November 2, 1992 between the hours of 0600 through 0800 the required Technical Specification fire watch of the 690 elevation of the Off-Gas Building was not performed. Fire Detection Zone 1-15 which monitors the 690 elevation of the Off-Gas Building was taken out of service (OOS) on November 2, 1992 at 0000 hours. The out of service was taken to allow the Mechanical Maintenance Department (MMD) to perform brazing on the Off-Gas Chiller. The 0600 hour fire watch. tour was not performed due to a miscommunication between individuals performing the fire watch during turnover. The 0700 hour fire watch was not performed in accordance with the approved post order. The 0800 hour fire watch was performed properly and all subsequent fire watch patrols were performed correctly. The safety consequences of this event are minimal as there was no fire. If a fire had started, it would not have affected the safe shutdown of the plant. The detection zone above 690 would have detected a fire. This event is reportable pursuant to 10CFR 50.73(a)(2)(1)(B) a condition prohibited by the Technical Specification.
LaSalle 1	03/02/1993	03/28/1993	Fire Barrier Inoperable Greater Than Seven Days Due To Corebores Not Being Resealed Abstract: POWER LEVEL - 000%. On March 2, 1993 at 2145 hours with Unit 1 in Operational Condition 4 (Cold Shutdown), Operations personnel discovered three open corebore penetrations in the floor of the three Hour Fire Rated Assembly. The Floor Slab is located in the Balance-of-Plant Cable Area at elevation 731' Auxillary Building (AB) Fire Zone 5B13 and was found while performing general plant inspections. The three six inch diameter corebores were drilled in order to run cables into the Demodulator Panel 1PLG3J. However, the corebores were never used or sealed. All cabling to the panel enters 1PLG3J from the top. These open corebores were not detected during the initial Unit I Fire Barrier Integrity Inspection because the corebores were concealed by a piece of material at the base of and inside panel 1PLG3J. Their location from the 710' Turbine Building (TB) elevation below (Fire Zone 5C11) is obstructed by cable trays and pipes. An Hourly Fire Watch was established (Fire Impairment #50-93) at 2145 hours on March 2, 1993 in accordance with LaSalle Technical Specification 3.7.6. Work requst No. L21897 was written to have the corebores filled with grout. The corebores were sealed in accordance with this work request and the barrier was declared operable on March 8, 1993 at 0730 hours.
LaSalle 1	07/10/1995	08/09/1995	Missed Fire Protection Valve Position Verifications Due to Management Deficiency Abstract: On July 10, 1995, operations personnel identified that two fire protection valves, 1FP141 on Unit 1 and 2FP141 on Unit 2, had not been verified to be in the correct position within the last 31 days as required by Technical Specifications. These valves, 1FP141 and 2FP141, are fire water suppression header stop valves for the Auxiliary Building for Units 1 and 2, respectively. The cause of this event was personnel error in that a procedure revision, made in March of 1983, improperly removed the subject valves from a surveillance. The 1FP141 and 2FP141 valves were immediately verified to be in their proper open positions. GSRV revisions have been made to ensure these valves are verified to be in the correct position during all plant conditions.

LaSalle 1	03/23/1996	04/22/1996	Missed Unit One Technical Specification Fire Watch Due To Personnel Error Abstract: On March 24, 1996 at 1400 hours, it was discovered that an hourly Technical Specification required fire watch was not performed on door 406 between the hours of 2300, March 23, 1996 and 0200 hours, March 24, 1996. Door 406 separates the Unit 1 Fire Zone 2F (elevation 740' of the Reactor Building) from Unit 2 Fire Zone 3F (elevation 740' of the Reactor Building). As required by the action statement for Technical Specification 3/4.7.6 'Fire Rated Assemblies', a hourly fire watch was posted on this door. The fire watch inspector attempted to enter the Reactor Building at approximately 2335 on March 23, and was informed he could not enter the building because a secondary containment leak rate test was in progress. The fire watch inspector failed to follow the post orders that direct him to contact the Shift Engineer whenever a fire watch cannot be performed. The cause of the missed fire watch was a failure of the fire watch inspector to comply with post orders. Contributing to the event was a breakdown in communications between the system engineers involved in the test and the fire watch group.
LaSalle 1, LaSalle 2	10/13/1989	11/13/1989	Unsealed Openings in Control Room Due to Original Construction Abstract: POWER LEVEL - 000%. ON 10/13/89 WITH UNIT 1 DEFUELED AND UNIT 2 IN COLD SHUTDOWN AN UNSEALED OPENING IN THE MAIN CONTROL ROOM FLOOR WAS DISCOVERED. SUBSEQUENTLY ON 10/30/89 WITH UNIT 1 DEFUELED AND UNIT 2 IN OPERATIONAL CONDITION 1 (RUN) ANOTHER UNSEALED OPENING IN THE MAIN CONTROL ROOM WEST WALL WAS DISCOVERED. BASED ON A VISUAL INSPECTION OF THE OPENINGS AND THE FACT THAT THEY WERE NOT INTENDED PENETRATIONS, IT WAS DETERMINED THAT THE OPENINGS HAD EXISTED SINCE THE BARRIERS WERE CONSTRUCTED. WORK TO SEAL THESE OPENINGS WAS QUICKLY PERFORMED. IN ADDITION, SMOKE TESTS AND VISUAL INSPECTIONS OF THE ENTIRE CONTROL ROOM FLOOR, WALL, AND CEILINGS WERE PERFORMED TO VERIFY THAT NO OTHER OPENINGS WHICH COULD COMPROMISE THE FIRE RATING OF THE BARRIERS EXISTED. DURING THIS INSPECTION, IT WAS OBSERVED THAT A CONTROL ROOM PENETRATION HAD AN EXCESSIVE GAP BETWEEN A VENTILATION DUCT PASSING THROUGH IT AND THE WALL. THE REASON FOR THIS WAS THAT THE ANGLE IRON DESIGNED TO SEAL THIS GAP HAD MOVED AWAY FROM THE WALL. A WORK REQUEST TO REPAIR THE PENETRATION WAS IMMEDIATELY WRITTEN. NO OTHER DEFICIENCIES IN THE BARRIER WAS OBSERVED. THIS EVENT IS REPORTABLE PURSUANT TO THE REQUIREMENTS OF 10CFR50.73(A)(2)(I) DUE TO A DEVIATION FROM THE PLANT TECH SPECS.
LaSalle 1, LaSalle 2	03/27/1990	04/26/1990	Fire Detection Zone Out of Service Greater than 14 Days Without Submitting Special Report Due to Poor Communication Abstract: POWER LEVEL - 098%. ON 3/27/90, THE FIRE MARSHAL'S REVIEW OF COMPLETED LES-FP-05, 'FIRE ZONE CHANNEL FUNCTIONAL TEST,' REVEALED THAT LES-FP-05 FOR FIRE ZONE 1-6 HAD NOT BEEN COMPLETED. THE FIRE MARSHAL CONTACTED ELECTRICAL MAINTENANCE DEPARTMENT. IT WAS THEN DETERMINED THAT ON 1/3/90, LES-FP-05 FOR FIRE DETECTION ZONE 1-6, WAS NOT PROPERLY DECLARED INOPERABLE PER TECH SPEC 3.3.7.9. THE CAUSE OF THIS EVENT IS FIRE DETECTION ZONE 1-6 WAS NOT DECLARED INOPERABLE WHEN THE SURVEILLANCE APPARENTLY FAILED ON 1/3/90. THIS WAS ATTRIBUTED TO POOR COMMUNICATIONS BETWEEN ELECTRICAL MAINTENANCE, SUB-STATION CONSTRUCTION AND OPERATING DEPARTMENTS. THIS RESULTED IN THE TIMECLOCK NOT BEING INITIATED AND THE SPECIAL REPORT TIME LIMITS TO BE EXCEEDED. ON 3/27/90, ELECTRICAL MAINTENANCE DEPARTMENT PERSONNEL PERFORMED LES-FP-05, ZONE 1-6, WITH SATISFACTORY RESULTS, CONCLUDING THAT THE FIRE DETECTION SYSTEM FOR FIRE DETECTION ZONE 1-6, WAS AVAILABLE TO PERFORM ITS DESIGN FUNCTION THROUGHOUT THIS EVENT. STRESSING ATTENTION TO DETAIL AND VERBAL COMMUNICATION TO THE SHIFT ENGINEER. TAILGATES BY ALL DEPARTMENTS INVOLVED WILL BE CONDUCTED ON THIS EVENT. THIS EVENT IS BEING REPORTED PURSUANT TO THE REQUIREMENTS OF 10CFR50.73(A)(2)(I) DUE TO A DEVIATION FROM PLANT'S TECH
LaSalle 1, LaSalle 2	05/25/1990	06/25/1990	Missed Technical Specification Hourly Fire Watch Due to Miscommunications Abstract: POWER LEVEL - 100%. ON 5/25/90 WITH UNIT 1 IN THE RUN MODE AT 100% POWER AND UNIT 2 IN COLD SHUTDOWN WITH THE REACTOR VESSEL REASSEMBLY IN PROGRESS, THE REACTOR BUILDING REFUEL FLOOR HOURLY FIRE WATCH WAS NOT PERFORMED AT 2300 HOURS AS REQUIRED BY TECH SPECS (DUE TO FIRE DETECTION BEING INOPERABLE). THE MISSED FIRE WATCH OCCURRED DUE TO SEVERAL CAUSES WHICH WERE AS FOLLOW: (1) A MISCOMMUNICATION BETWEEN THE SECURITY PERSONNEL WHO NEEDED TO PERFORM THE FIRE WATCH AND THE RADIATION PROTECTION PERSONNEL WHO NEEDED TO AUTHORIZE SECURITY TO PERFORM THE FIRE WATCH IN A HIGH RADIATION AREA, (2) DUE TO SHIFT TURNOVER TAKING PLACE AT THE TIME OF THIS EVENT, NO PERSONNEL WERE LOCATED ON THE REFUEL FLOOR TO ALLOW SECURITY TO PHONE THEM FOR VERIFICATION THAT NO FIRES WERE PRESENT AND (3) INADEQUATE RADIATION CONTROL PRACTICES LEAD TO SECURITY NOT BEING ABLE TO PERFORM THE FIRE WATCH DUE TO THE SPREAD OF CONTAMINATION. THE FIRE WATCH WAS RE-ESTABLISHED AT 0013 HOURS ON 5/26/90, 1 HOUR AND 27 MINUTES FOLLOWING THE PREVIOUS FIRE WATCH AND ALL RESPONSIBLE DEPARTMENT PERSONNEL WILL BE TAILGATED ON THIS EVENT. THE SAFETY SIGNIFICANCE OF THIS EVENT IS MINIMAL BECAUSE NO WORK WAS IN PROGRESS PRIOR TO THIS EVENT OR DURING THIS EVENT WHICH WOULD HAVE INCREASED THE POTENTIAL FOR A FIRE TO
LaSalle 1, LaSalle 2	08/07/1991	09/06/1991	Actuation Of "B" VE Charcoal Absorber Due To Defective Ionization Detector Abstract: POWER LEVEL - 100%. IN AUGUST 7, 1991 WITH UNITS 1 AND 2 IN OPERATIONAL CONDITION 1 (RUN) AT 100% POWER, A 'B' AUXILIARY ELECTRIC EQUIPMENT ROOM VENTILATION (VE) RETURN AIR FIRE ALARM WAS RECEIVED IN THE CONTROL ROOM FIRE PROTECTION PANEL. CONCURRENT WITH RECEIPT OF THE ALARM THE 'B' VE CHARCOAL ADSORBER DAMPERS AUTOMATICALLY REALIGNED TO PLACE THE NORMALLY BYPASSED UNIT IN OPERATION (UNBYPASSED) MODE. AN OPERATOR WHO WAS IMMEDIATELY DISPATCHED TO SURVEY THE SUSPECT AREAS VERIFIED THAT THERE WAS NO FIRE. THE DEFECTIVE DETECTOR WAS THEN IDENTIFIED AND A WORK REQUEST WRITTEN TO REPAIR IT. DUE TO THE DEFECTIVE IONIZATION DETECTOR AN HOURLY FIRE WATCH WAS ALSO ESTABLISHED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.3.7.9. DURING TROUBLESHOOTING ELECTRICAL MAINTENANCE PERSONNEL ATTEMPTED TO RESET THE DETECTOR BUT WERE UNABLE TO CLEAR THE FIRE ALARM. AS A RESULT, THE EXISTING DETECTOR WAS REMOVED AND A NEW ONE INSTALLED. UPON REPLACEMENT OF THE DETECTOR THE FIRE ALARM CLEARED AND THE 'B' VE CHARCOAL ADSORBER DAMPERS REALIGNED TO PLACE THE UNIT IN ITS NORMALLY BYPASSED MODE. AT THIS TIME THE HOURLY FIRE WATCH WAS TERMINATED. THIS EVENT DID NOT IMPACT THE SAFE OPERATION OF THE PLANT BECAUSE A FIRE DID NOT ACTUALLY OCCUR. THE AUTOMATIC ACTUATION OF THE CHARCOAL
LaSalle 1, LaSalle 2	03/10/1992	04/09/1992	Technical Specification Surveillance Not Completed By Critical Due Date Due To Personnel Error Abstract: POWER LEVEL - 100%. ON MARCH 13, 1992, UNIT 1 WAS IN OPERATIONAL CONDITION 1 (RUN). AT 1500 IT WAS DISCOVERED THAT LMS-FP-15, 'MONTHLY FIRE INSPECTION OF TECHNICAL SPECIFICATION FIRE HOSE STATIONS', WAS NOT COMPLETED BY THE CRITICAL DUE DATE MARCH 10, 1992. TECHNICAL SPECIFICATION 4.7.5.4.A REQUIRES THAT HOSE STATIONS BE VISUALLY INSPECTED EVERY 31 DAYS. THE SURVEILLANCE SCHEDULER INADVERTENTLY LEFT THIS SURVEILLANCE OFF THE WEEKLY LIST OF SURVEILLANCES TO BE PERFORMED. ALSO WHEN THE SURVEILLANCES WERE PERFORMED THE SCHEDULER SIGNED THIS SURVEILLANCE OFF AS BEING PERFORMED WHEN REVIEWING LMP-FP-10. AT 1500 HOURS ON MARCH 13, 1992, A NUCLEAR QUALITY PROGRAMS (NQP) ENGINEER QUESTIONED THE DATES ON SEVERAL FIRE HOSE STATIONS THAT INDICATED THE SURVEILLANCE BEING PAST DUE. UPON FURTHER INVESTIGATION IT WAS DETERMINED THE SURVEILLANCE, LMS-FP-15, HAD NOT BEEN PERFORMED AND WAS PAST ITS CRITICAL DUE DATE. THE SHIFT ENGINEER WAS IMMEDIATELY NOTIFIED. LMS-FP-15 WAS COMPLETED ON MARCH 14, 1992, AT 2215 HOURS. DURING THE PERIOD OF TIME IN WHICH THE HOSE STATIONS WERE DECLARED INOPERABLE THE HOSE STATIONS WERE FUNCTIONAL. IN ADDITION THERE ARE VARIOUS TYPES AND SIZES OF FIRE EXTINGUISHERS PROVIDED THROUGHOUT THE PLANT.
LaSalle 1, LaSalle 2	06/21/1995	07/20/1995	Hourly Firewatch Not Performed Correctly Abstract: On June 21, 1995, during a routine inspection of the Fire Protection Program, an NRC inspector noted that Firewatch/Compensatory Measure Logs showed that Technical Specification hourly fire watches (3/4.3.7.9, 3/4.7.5.2, 3/4.7.5.3, and 3/4.7.6) were frequently performed at intervals exceeding one hour. No explanations for the late fire watch rounds were documented in the logs. The root cause of the condition was a lack of proper management oversight of the Fire Protection Program. Upon notification of the discrepancy, the Station immediately began performing hourly fire watches every 60 minutes. Station administrative procedures and security post orders were revised to require that hourly fire watches be performed every 60 minutes, by personnel dedicated solely to fire watch duties.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

LaSalle 1, LaSalle 2	08/24/1995	01/19/1999	Missed Technical Specification Fire Protection Valve Surveillance Abstract: On August 24, 1995, during a review of the LaSalle Fire Protection Program (FP) surveillances, it was discovered that valve 1FP228, Cable Spreading Room (CSR) Sprinkler System Isolation Valve, was not included in Procedure LOS-FP-M3, "Fire Protection Flow Valve Check Program". Valve 1FP228 was installed as part of the Unit 1 CSR sprinkler system modification in 1985-1986 but was never added to the FP valve surveillance procedure. This created a condition outside the surveillance requirement of Technical Specifications 4.7.5.2.a and 4.7.5.2.b. The valve was immediately verified to be in its correct position and was exercised through one cycle of full travel. The root cause of this event can be attributed to an insufficient review of Technical Specification Fire Surveillances during the modification process. The corrective actions to prevent recurrence included revising the Fire Protection Design Checklist to be more comprehensive, and the addition of a discussion of the event in the Engineering and Support Training module. This report is being submitted per 10 CFR 50.73(a)(2)(i)(B).
LaSalle 1, LaSalle 2	01/31/1998	03/02/1998	Missed Technical Specification Fire Watch Due To Personnel Error Abstract: On January 31, 1998, it was discovered that two (2) hourly fire watch inspections were intentionally missed by the same contracted fire watch inspector. A check for extended conditions revealed that a second contracted inspector also missed two hourly fire watch inspections. Both inspectors were immediately terminated. The events described above occurred as a result of personnel errors. The contributing causes are due to insufficient fire watch supervision and inadequate motivation on the part of the responsible fire watch inspectors. The impact of this event on plant safety was minimal because there were no fires during these events and other personnel frequently toured the affected areas. Additional corrective actions taken include: training all fire watch inspectors on this event; revising the hourly fire watch post order; and increasing fire watch supervision and oversight. There were two previous missed Technical Specification fire watches due to personnel errors. This event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B).
LaSalle 1, LaSalle 2	02/27/1998	03/27/1998	Missed Technical Specification Fire Watch Due to Human Performance Error Abstract: On February 27, 1998, the hourly fire watch inspection of the Auxiliary, Diesel Generator, and Turbine Buildings was not performed during the 1800 hour. As a result, the hourly inspections within the Auxiliary and Diesel Generator Buildings were not performed as required by plant Technical Specifications. The root cause of this event was human performance error due to lack of procedural adherence. Contributing factors included poor communication and inadequate process controls. Corrective actions taken included: discipline of the responsible individuals, establishment of policies to ensure that hourly inspections are started as scheduled, and training on communication techniques and Shift Manager expectations. The impact of this event on nuclear and personnel safety was minimal because there were no fires during the event, and other personnel frequently tour the affected areas. There have been three previous missed Technical Specification fire watches due to personnel errors. This event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B).
LaSalle 2	12/22/1990	01/21/1991	Insulation Fire On The 2A Turbine Driven Reactor Feedwater Pump Due To Oil Leak On Insulation Abstract: POWER LEVEL - 080%. AT APPROX. 0745 HOURS ON 12/22/90 WITH UNIT 2 IN OPERATIONAL CONDITION 1 (RUN) AT 80% POWER, SECURITY PERSONNEL NOTIFIED THE CONTROL ROOM THAT A FIRE WATCH ON ELEVATION 815 OF THE AUX. BLDG. NOTICED A SMELL OF SOMETHING BURNING ON THAT ELEVATION. THE CENTER DESK DISPATCHED AN OPERATOR TO INVESTIGATE. AT THE SAME TIME A SHIFT FOREMAN WAS IN THE AUX. BLDG. AND NOTICED THE SMELL. THE SHIFT FOREMAN PROCEEDED TO THE TURBINE DRIVEN REACTOR FEEDWATER PUMP (TDRFP) ROOMS TO INVESTIGATE. UPON ARRIVING AT THE 2A TDRFP, HE NOTICED SMOKE COMING FROM THE FRONT AREA OF THE TDRFP. HE THEN NOTIFIED THE CONTROL ROOM. A FIRE WATCH WAS ESTABLISHED AND ADDITIONAL FIRE SUPPRESSION EQUIPMENT WAS BROUGHT TO THE AREA. REACTOR POWER WAS REDUCED TO 900 MWE AT 0845 HOURS IN PREPARATION FOR TAKING THE 2A TDRFP OFF-LINE. AT 0915 HOURS THE MOTOR DRIVEN REACTOR FEEDWATER PUMP (MDRFP) WAS ON-LINE AND THE 2A TDRFP WAS SHUT DOWN. AT 0925 HOURS THERE WAS A REPORT OF FLAMES IN THE 2A TDRFP ROOM. THE FIRE BRIGADE RESPONDED AT 0927 HOURS. AT THIS TIME, THE CONTROL ROOM OPERATORS CLOSED THE HIGH PRESSURE AND LOW PRESSURE OIL SUPPLIES TO THE TURBINE IN ORDER TO PREVENT THE FIRE FROM SPREADING. AT 0945 HOURS THE FIRE WAS EXTINGUISHED. THE FIRE BRIGADE WAS NOT ABLE
LaSalle 2	01/10/1991	06/04/1991	High Pressure Core Spray Pump Room And Turbine Building Fire Rated Barrier Found Degraded During Inspection Abstract: POWER LEVEL - 100%. STATION TECHNICAL STAFF WAS PERFORMING TECHNICAL SURVEILLANCE LTS-1000-42 AND FOUND OPEN PENETRATION IN TECH SPEC RELATED FIRE RATED WALLS. AT 0830 ON 1/10/91 WHILE IN OPERATIONAL CONDITION 1 (RUN) AT 100% POWER, 3 OPEN PENETRATIONS WERE FOUND IN THE HIGH PRESSURE CORE SPRAY ROOM (HPCS). A 1 HOUR FIRE WATCH WAS INITIATED IN ACCORDANCE WITH LASALLE TECH SPEC 3.7.6 ACTION REQUIREMENT A. A WORK REQUEST WAS INITIATED TO SEAL THE PENETRATION AND WAS COMPLETED ON 1/15/91. AT 1400 ON 4/10/91 WHILE IN OPERATIONAL CONDITION (RUN) AT 100% POWER AND UNIT 1 IN THE REFUEL MODE, OPENINGS WERE FOUND BETWEEN THE METAL DECKING AND STEEL BEAM SEPARATING THE TURBINE BUILDING AND THE AUXILIARY BUILDING. A 1 HOUR FIRE WATCH WAS ESTABLISHED BETWEEN COLUMNS 13 -15 AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED FOR COLUMNS 15-17 IN ACCORDANCE WITH LASALLE TECH SPEC 3.7.6 ACTION REQUIREMENT A. A WORK REQUEST WAS INITIATED TO SEAL THE PENETRATION AND WAS COMPLETED ON 4/16/91. BECAUSE THE DEGRADATION OF THE FIRE BARRIER WOULD NOT HAVE IMPAIRED SAFE SHUTDOWN OF UNIT 2, THE SAFETY SIGNIFICANCE OF THIS IS CONSIDERED TO BE MINIMAL. THE ROOT CAUSE OF THIS EVENT IS THE FAILURE TO INSTALL THESE REQUIRED FIRE BARRIERS DURING INITIAL CONSTRUCTION AND ANNOTATE
LaSalle 2	08/11/1991	09/11/1991	Turbine Driven Reactor Feed Pump Insulation Fire Due To Lube Oil Leakage Through a Pinched Flange Gasket Abstract: POWER LEVEL - 091%. AT 0855 HOURS ON 8/11/91 WITH UNIT 2 IN OPERATIONAL CONDITION 1 (RUN) AT 91% POWER (1020 MWE), SMOKE DETECTORS ALARMED AND INVESTIGATORS REPORTED A FIRE IN THE 2B TURBINE-DRIVEN REACTOR FEED PUMP (TDRFP) ROOM. THE FIRE BRIGADE RESPONDED AND THE FIRE WAS EXTINGUISHED USING CARBON DIOXIDE AND WATER. THE FIRE APPARENTLY ORIGINATED FROM OIL-SOAKED INSULATION RESULTING FROM A LUBRICATING OIL LEAK. UNIT LOAD WAS REDUCED TO 87% (965 MWE) TO ALLOW REMOVAL OF THE 2B TDRFP FROM SERVICE AND PLACING THE MOTOR-DRIVEN REACTOR FEED PUMP (MDRFP) ON-LINE. AFTER THE TDRFP WAS TRIPPED, A FIRE WATCH WAS ESTABLISHED UNTIL ALL INSULATION COULD BE REMOVED AND THE POTENTIAL OF RE-FLASH ELIMINATED. THE FIRE WAS EXTINGUISHED WITHIN APPROXIMATELY ELEVEN MINUTES OF THE ARRIVAL OF THE FIRE BRIGADE AT THE SCENE. THIS EXCEEDED THE TEN MINUTE MAXIMUM TIME LIMIT AND A GENERATING STATION EMERGENCY PLAN (GSEP) UNUSUAL EVENT WAS DECLARED AT 0913 HOURS. THE GSEP REMAINED IN EFFECT UNTIL THE POTENTIAL FOR A RE-FLASH WAS ELIMINATED AT 1725 HOURS. WORK REQUEST 109573 WAS GENERATED TO REPAIR THE OIL LEAK. THIS REPORT IS BEING REPORTED PURSUANT TO 10CFR50.73(A)(2)(X); A FIRE OF GREATER THAN TEN MINUTES WHICH COULD HAVE HAMPERED SITE PERSONNEL IN THE PERFORMANCE OF THEIR
LaSalle 2	02/23/1995	03/24/1995	Missed Technical Specification Hourly Fire Watches Due to Management Deficiency Abstract: On February 28, 1995 at 1200 hours, it was determined that on 3 separate occasions between February 20, 1995 at 1430 hours and February 24, 1995 at 1200 hours, hourly fire watches were not performed as required by Technical Specification 3.3.7.9. The cause of the missed fire watches was a management deficiency in that changes were made to the organization of the personnel in the Main Control Room (MCR) without the affected personnel being trained on all of their new roles and responsibilities. When the first missed fire watch was discovered, an immediate investigat ion was conducted to ensure all active Fire Impairments had the required fire watch in place, and all active Out of Services (OOS) that affected the Fire Protection System had an active Fire Impairment in place. Immediate corrective actions were taken to develop and implement improvements to the Fire Impairment process. This is reportable per 10CFR50.73(a)(2)(i)(B), 'Any operation or condition prohibited by the Plant's Technical Specifications'.
LaSalle 2	10/07/1995	11/06/1995	Unit Two Fire Door 615 left Open due to Personnel Error Abstract: At 0630 hours on October 7, 1995, a security officer, while performing routine security rounds, found fire door 615 open. Security notified the shift engineer that door 615 was open and the shift engineer verified that there was not an active fire impairment in the fire impairment log. Fire door 615 is a roll-up door, in the Unit 2 Auxiliary Electric Equipment Room (AEER),and requires a fire impairment be issued and an hourly fire watch be implemented whenever the door is opened. Tech Spec 3.7.6.a, 'Fire Rated Assemblies', requires that when a fire door is left open, within one (1) hour either establish a continuous fire watch or verify the operability of the fire detectors and establish an hourly fire watch patrol on at least one side of the door. These actions had not been taken. Operating personnel inspected the door for obstructions and it was closed at approximately 0700 hours. The root cause of this event was due to personnel error. An equipment operator had opened the door while performing panel readings and did not close fire door 615 before leaving the area.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

LaSalle 2	01/17/1996	02/16/1996	Missed Unit Two Technical Specification Fire Watch Due to Personnel Error Abstract: At 1500 hours, on January 17, 1996, it was discovered that during a Technical Specification hourly fire watch surveillance (3.3.7.9.), in effect on Unit 2 Division I, II, and III Core Spray Cooling Pump(CSCS) rooms, that the Division I room was not being observed as required. During an approximate six hour period when the Division I room was not under fire watch, there were no fires in the room and no activities or conditions which could have increased the potential for a fire. At 1500 hours, a fire watch surveillance for the Division I room was established. The cause of this event was inadequate procedural guidance and personnel errors by the WCC SRO and the Unit Supervisor.
LaSalle 2	07/31/1996	08/30/1996	Missed Technical Specification Fire Watch Due To Incomplete Fire Impairment Permit. Abstract: At 0600 hours on July 31, 1996, fire protection inverter 2FP03E was taken out-of-service (OOS) for scheduled maintenance. The OOS and associated fire impairment were prepared and reviewed prior to taking the inverter OOS. The individuals that prepared and reviewed the OOS and associated fire impairment failed to recognize that all power would be lost to main fire detection control panel 2FP04JA and the control room remote annunciator panel when the inverter was taken OOS. Fire detection and fire detection indication were lost as a result of the OOS. The full impact of the OOS was not recognized and the appropriate fire watches were not established as required by the 'action statement' of Technical Specification 3.3.7.9 (Fire Detection Instrumentation). At 0900 hours, an operator recognized that power to main fire detection control panel 2FP04JA had been lost and immediately notified the Fire Marshal. The Fire Marshal immediately established the required compensatory measures (i.e., fire watches). Power to main fire detection control panel 2FP04JA and the control room remote annunciator panel was restored at approximately 1900 hours on July 31, 1996 when inverter 2FP03E was returned to service. Human Performance Issue.
Limerick 1	01/21/1985	03/06/1985	Failure to Establish Fire Watches Abstract: POWER LEVEL - 004%. WITH UNIT 1 IN THE STARTUP MODE AT 3.6% POWER, WHILE PERFORMING AN INSPECTION OF THE FIRE SUPPRESSION SYSTEM, IT WAS DISCOVERED THAT THE SPRINKLER SYSTEM FOR THE CABLE SPREADING ROOM WAS OUT-OF SERVICE. SUBSEQUENTLY, THE SPRINKLER SYSTEM FOR THE CONTROL ENCLOSURE FAN ROOM WAS ALSO FOUND OUT-OF-SERVICE. BOTH SYSTEMS WERE IMMEDIATELY RETURNED TO SERVICE. SINCE BOTH SPRINKLER SYSTEMS WERE OUT-OF-SERVICE WITHOUT A CONTINUOUS FIRE WATCH, THIS EVENT IS A VIOLATION OF TECH SPEC 3.7.6.2. INVESTIGATION OF THE EVENT REVEALED THAT CONTRACTOR PERSONNEL WORKING ON THE BLOCKED PORTION OF THE SYSTEM PERFORMED A MODIFICATION HYDROSTATIC TEST AND CLOSED THE 2 SUPPLY VALVES FOR THESE SYSTEMS WITHOUT PROPERLY NOTIFYING OPERATING PERSONNEL. FOLLOWING COMPLETION OF THE MODIFICATION, OPERATING PERSONNEL CLEARED THE BLOCK WITHOUT PERFORMING ADEQUATE OPERATIONAL VERIFICATION.
Limerick 1	03/01/1985	03/29/1985	Inadequate Fire Seals in the Diesel Generator Corridor and Cells Abstract: POWER LEVEL - 002%. WITH THE UNIT AT APPROX 2.5% POWER, AT 10:30 AM, 3-1-85, IT WAS DETERMINED THAT INTERNAL SEALS FOR HOT GAS AND SMOKE PROTECTION WERE NOT PRESENT IN CONDUITS 1BI647, 1CL048 AND 1DL046. THESE CONDUITS PENETRATE THE SECTION OF DG CELLS B, C & D FROM THE SERVICE WATER PIPE TUNNEL FLOOR SLAB. THE PROPER SEALS WERE PRESENT ON THE SERVICE WATER SIDE OF THE TUNNEL; HOWEVER, NO SEALS WERE INSTALLED ON THE DG SIDE OF THE TUNNEL. AS AN IMMEDIATE CORRECTIVE ACTION, AN HOURLY FIRE WATCH WAS ESTABLISHED IN THE SERVICE WATER PIPE TUNNEL AND THE SMOKE AND FIRE DETECTORS WERE DETERMINED TO BE OPERABLE IN C AND D DIESEL CELLS, AS DIRECTED BY TECH SPEC 3.7.7.A. THE B DIESEL CELL WAS ALREADY UNDER A CONTINUOUS FIRE WATCH DUE TO AN INOPERABLE SMOKE DETECTOR SYSTEM IN THIS CELL. INSTALLATION OF INTERNAL CONDUIT SEALS ON THE DG SIDE OF THE CONDUITS WERE COMPLETED ON 3-8-85.
Limerick 1	03/14/1985	04/18/1985	Technical Specification Violation as the Result of an Inoperable Fire Damper Abstract: POWER LEVEL - 000%. ON 3-14-85 AT 3:45 PM WITH UNIT NO. 1 IN THE COLD SHUTDOWN CONDITION DURING SURVEILLANCE TESTING, IT WAS DISCOVERED THAT A FIRE DAMPER IN THE REACTOR ENCLOSURE WAS PHYSICALLY HELD IN THE OPEN POSITION WITH WIRE INSTEAD OF THE FUSIBLE LINK, THUS RENDERING IT INOPERABLE. TECH SPEC 3.7.7 WAS VIOLATED SINCE THE APPROPRIATE FIRE WATCH HAD NOT BEEN ESTABLISHED. UPON IDENTIFICATION, THE FIRE DAMPER WAS CLOSED, THE FUSIBLE LINK WAS REPLACED AND THE FIRE DAMPER WAS RETURNED TO SERVICE. THE CAUSE OF THIS EVENT IS A PERSONNEL ERROR BY UNDETERMINED INDIVIDUALS. THERE WERE NO FIRES DETECTED IN THE AREA OF THE INOPERABLE FIRE DAMPER. A MEMO WAS ISSUED TO INFORM PLANT SUPERVISORY PERSONNEL OF THE REQUIREMENTS FOR OPERABILITY OF FIRE DAMPERS.
Limerick 1	03/21/1985	04/22/1985	Hourly Fire Watch Violation Abstract: POWER LEVEL - 000%. WITH THE UNIT IN COLD SHUTDOWN ON 3-21-85 DURING A REVIEW OF FIRE WATCH INSPECTION DOCUMENTATION IT WAS DETERMINED THAT THE REQUIRED HOURLY FIRE WATCH HAD NOT BEEN PERFORMED WITHIN THE ALLOTTED TIMES FOR THE RHR ROOM #102. ON 3-3-85, THIS AREA WAS PATROLLED AT 7:24 AM AND WAS NOT INSPECTED AGAIN UNTIL 8:44 AM, 80 MINS AFTER THE FIRST INSPECTION. THIS AREA WAS BEING PATROLLED DUE TO AN INOPERABLE FIRE BARRIER AND TECH SPEC 3/4.7.7 WHICH REQUIRES AN HOURLY FIRE WATCH. THE CAUSE OF THIS EVENT WAS A RESULT OF INADEQUATE COMMUNICATION BETWEEN FIRE WATCH PERSONNEL AT SHIFT TURNOVER. THIS REPORT IS BEING SUBMITTED BECAUSE A VIOLATION OF TECH SPEC OCCURRED.
Limerick 1	04/02/1985	05/02/1985	Failure to Perform Required Hourly Fire Watches Abstract: POWER LEVEL - 002%. ON 4-2-85 THE REQUIRED HOURLY FIRE WATCH WAS NOT PERFORMED WITHIN THE TIME SPECIFIED BY TECH SPEC 3/4.7.7 FOR 3 AREAS ON ELEVATION 283 OF THE REACTOR ENCLOSURE. THESE FIRE WATCH PATROLS WERE REQUIRED BECAUSE OF MISSING INTERNAL CONDUIT SEALS FOR TELEPHONE LINES. EACH OF THESE AREAS WERE PATROLLED APPROX 91 MINS AFTER AN EARLIER PATROL. ONE INDIVIDUAL WAS RESPONSIBLE FOR THE 3 AREAS ON THE SAME ELEVATION AND FAILED TO INSPECT THESE AREAS OF THE REACTOR ENCLOSURE. THIS INDIVIDUAL HAS BEEN COUNSELLED ON THE IMPORTANCE OF PERFORMING AND SIGNING OFF THESE INSPECTIONS WITHIN THEIR DESIGNATED TIME PERIODS.
Limerick 1	04/10/1985	05/21/1985	Main Control Room Ventilation Isolation Abstract: POWER LEVEL - 003%. ON 4-10-85 THE AUX EQUIPMENT ROOM 'A' SUPPLY FAN TRIPPED DUE TO ELECTRICAL INTERFERENCE CAUSED BY A RADIO TRANSMISSION FROM A PORTABLE, HAND-HELD TRANSMITTER/RECEIVER UNIT BEING UTILIZED WITHIN AN ELECTRICAL CABINET. TECHNICIANS WERE PERFORMING WORK ON TEMPERATURE CONTROL VALVES FOR THE AUX EQUIPMENT ROOM 'A' SUPPLY FAN COILS. WHEN THE 'B' SUPPLY FAN AUTOMATICALLY STARTED, A HALON INJECTION INTO THE AUX EQUIPMENT ROOM OCCURRED. SUBSEQUENTLY, A 'HIGH TOXIC CHEMICAL CONCENTRATION' ALARM WAS RECEIVED IN THE CONTROL ROOM AND AT 1:42 PM, A MAIN CONTROL ROOM VENTILATION ISOLATION WAS MANUALLY INITIATED IN ACCORDANCE WITH SPECIAL EVENT PROCEDURE SE-2, 'TOXIC GAS'. THE ALARM WAS A DIRECT RESULT OF THE HALON INJECTION AND NO ACTUAL FIRE CONDITION EXISTED IN THE AUX EQUIPMENT ROOM. THE HALON INJECTION WAS CAUSED BY A HEAT DETECTOR WHICH IS SENSITIVE TO THE RAPID INCREASE IN PRESSURE RESULTING FROM THE TRIPPING OF THE NORMAL SUPPLY FAN AND SUBSEQUENT AUTO-START OF THE STANDBY SUPPLY FAN. AN INVESTIGATION INTO THE PURCHASE OF NEW HEAT DETECTORS WHICH ARE NOT PRESSURE SENSITIVE IS BEING CONDUCTED. ALL SMOKE DETECTORS AND HEAT DETECTORS IN THE AUX EQUIPMENT ROOM ARE OPERABLE FOR ALARM PURPOSE; HOWEVER, THE AUTOMATIC INJECTION OF HALON HAS BEEN DISARMED AS AN
Limerick 1	04/15/1985	07/01/1985	Failure to Perform Hourly Fire Watch Abstract: POWER LEVEL - 000%. ON APRIL 15, 1985 WITH THE UNIT IN COLD SHUTDOWN, THE REQUIRED HOURLY FIRE WATCH PATROL WAS NOT PERFORMED WITHIN THE ALLOTED TIME FOR SWITCHGEAR ROOM 428 (AREA 8 ELEVATION 239). THIS AREA WAS PATROLLED AT 9:19 A.M. AND WAS NOT INSPECTED AGAIN UNTIL 10:58 A.M., 99 MINUTES LATER. DURING THIS TIME, AN UNPLANNED SECURITY COMPUTER OUTAGE PREVENTED ACCESS TO THE SWITCHGEAR ROOM. THIS AREA WAS BEING PATROLLED BECAUSE A CONDUIT SEAL HAD BEEN DECLARED INOPERABLE, AND FOR THAT SITUATION TECHNICAL SPECIFICATION 3.7.7 REQUIRES AN HOURLY FIRE WATCH PATROL. THIS EVENT WAS DISCOVERED ON MAY 10, 1985 WHILE CLOSING A MAINTENANCE REQUEST FORM AND REVIEWING FIRE WATCH DOCUMENTATION. ON JUNE 27, 1985 ADDITIONAL PRACTICES WERE OUTLINED TO FACILITATE MORE RAPID RESPONSE BY SECURITY FORCE PERSONNEL TO FIRE WATCH PERSONNEL IN THE EVENT OF A COMPUTER OUTAGE OR CARDREADER FAILURE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Limerick 1	04/28/1985	08/01/1985	Failure to Perform Hourly Fire Watch Abstract: POWER LEVEL - 000%. ON 7-4-85 PERSONNEL DISCOVERED THAT THE 1 HR LIMIT OF A FIRE WATCH PATROL, REQUIRED BY TECH SPEC 3.7.7.A, WAS EXCEEDED BY 34 MINS ON 4-28-85. THE PURPOSE OF THE FIRE WATCH WAS TO INSPECT THE SERVICE WATER PIPE TUNNEL BECAUSE OF AN INOPERABLE INTERNAL SEAL FOR A CONDUIT ROUTED TO A DG BAY. UNIT 1 WAS IN COLD SHUTDOWN AT THE TIME OF THE EVENT. SIMILAR EVENTS 352/85-033, 352/85-043 AND 352/85-053.
Limerick 1	05/17/1985	06/14/1985	B' Diesel Generator Sprinkler Inoperability Abstract: POWER LEVEL - 000%. ON MAY 17, 1985, DURING THE PERFORMANCE OF SURVEILLANCE TEST ST-2-022-613-1 WHICH TESTS DIESEL GENERATOR SMOKE, HEAT, AND INFRARED FLAME DETECTORS, THE ACTUATION RELAY IN THE 'B' DIESEL GENERATOR FIRE SUPPRESSION RELEASE CONTROL PANEL (RCP) 10C976 DID NOT ACTIVATE THE DELUGE VALVE ALONG WITH THE AUDIO/VISUAL ALARMS WHEN ITS HEAT DETECTORS WERE ACTUATED. INVESTIGATION REVEALED THAT THE CONTACTS OF THE PANEL'S ACTUATION RELAY HAD BEEN TAPED WITH ELECTRICAL TAPE, RENDERING THE ACTUATION RELAY INOPERABLE. CONSEQUENTLY, THIS CAUSED THE 'B' DIESEL GENERATOR SPRINKLER SYSTEM AND NOTIFICATION SYSTEM TO BE INOPERABLE AND RESULTED IN THE FAILURE TO COMPLY WITH TECH SPECS 3.7.6.2 AND 3.3.7.9 SINCE NO FIRE WATCH HAD BEEN ESTABLISHED. THIS PANEL IS BELIEVED TO HAVE BEEN OPERABLE PRIOR TO MARCH, 1985. SMOKE AND FLAME DETECTION WITHIN THE 'B' DIESEL GENERATOR AREA WAS OPERABLE DURING THE TIME PERIOD THE SPRINKLER SYSTEM WAS BELIEVED TO BE INOPERABLE. ADDITIONALLY, HAD A FIRE OCCURRED DURING THAT PERIOD, THE CAPABILITY STILL EXISTED FOR MANUAL INITIATION OF THE SPRINKLER SYSTEM. THIS EVENT IS THE RESULT OF AN ERROR BY UNIDENTIFIED PERSONNEL. THE TAPE WAS REMOVED FROM THE CONTACTS AND ST-2-022-613-1 WAS SATISFACTORILY COMPLETED.
Limerick 1	06/07/1985	07/05/1985	Reactor Core Isolation Cooling Cables Not Encapsulated Abstract: POWER LEVEL - 000%. ON 6-7-85 TWO CABLES ASSOCIATED WITH RCIC TURBINE SPEED CONTROL AND THE REMOTE SHUTDOWN PANEL WERE DISCOVERED NOT ENCLOSED BY 3-HR RATED FIRE BARRIERS IN ACCORDANCE WITH THE FIRE PROTECTION EVALUATION REPORT. THESE CABLES, LOCATED IN THE AUX EQUIPMENT ROOM, HAVE BEEN REROUTED INTO ENCLOSED RACEWAYS AND A REVERIFICATION HAS BEEN PERFORMED TO ASSURE THAT THERE ARE NO FURTHER NONCONFORMANCES OF THIS TYPE. CONDITION 2F.
Limerick 1	06/23/1985	07/22/1985	Failure to Perform Hourly Fire Watch Abstract: POWER LEVEL - 000%. ON 6-23-85 WITH THE UNIT IN COLD SHUTDOWN, A FIRE WATCH PATROL FAILED TO MAKE AN INSPECTION OF THE 'B' DG BAY WITHIN THE 1 HR TIME LIMIT REQUIRED BY TECH SPEC 3.7.7. THIS AREA WAS INSPECTED AT 2:08 PM AND THEN AGAIN AT 3:39 PM, 91 MINS LATER. AN INOPERABLE CARD READER PREVENTED ACCESS TO THE AREA. THIS AREA WAS BEING PATROLLED BECAUSE OF AN INOPERABLE INTERNAL CONDUIT FIRE SEAL BETWEEN THE 'B' AND 'C' DG BAYS. THE 'B' DG BAY TO THE 'C' BAY. ON 6-27-85, ADDITIONAL PRACTICES WERE OUTLINED TO FACILITATE MORE RAPID RESPONSE BY SECURITY FORCE PERSONNEL TO FIRE WATCH PERSONNEL IN THE EVENT OF A CARD READER FAILURE. SIMILAR EVENTS: 352/84-033, 352/84-043, AND 352/84-053.
Limerick 1	08/14/1985	09/13/1985	Ineffective Fire Seals Abstract: POWER LEVEL - 011%. ON 8-14 THE FIRE SEAL 763-E009 BETWEEN THE STATIC INVERTER ROOM AND UNIT 1 CABLE SPREADING ROOM WAS DETERMINED TO BE INEFFECTIVE. THE FIRE SEAL WAS EXAMINED DURING INSTALLATION OF A PERMANENT PLANT CABLE THROUGH THE PENETRATION AND VOIDS WERE DISCOVERED IN THE SEAL MATERIAL. THIS TYPE OF FIRE SEAL IS CONSTRUCTED BY PLACING FIBERBOARD SEAL FORMS INSIDE OR AT THE SURFACE OF THE PENETRATION AND COMPLETELY FILLING THE SPACE BETWEEN WITH SILICONE FOAM SEALANT. THE FIBERBOARD SEAL FORMS REMAIN AS PERMANENT PARTS OF THE FIRE SEAL. THE FIRE WATCH ESTABLISHED FOR THE CABLE INSTALLATION WAS CONTINUED AND FIRE SEAL 763-E009 WAS REPAIRED. DURING A SUBSEQUENT INVESTIGATION, 100% OF THE FIRE SEALS OF THE SAME TYPE WERE EXAMINED AND DEFECTS WERE FOUND IN APPROX 54%. THE REPAIRS TO THESE DEFECTIVE FIRE SEALS, APPROX 40, ARE SCHEDULED TO BE COMPLETED BY 10-11-85. THE EIIS CODE FOR THE AFFECTED SYSTEM IS KP AND THE EIIS CODE FOR THE DEFECTIVE COMPONENT IS SEAL.
Limerick 1	11/05/1985	12/09/1985	Reactor Core Isolation Cooling Cables Not Encapsulated Abstract: POWER LEVEL - 065%. ON NOVEMBER 5, 1985, A REVIEW OF A SUPPLEMENTARY EVALUATION OF FIRE PROTECTION SAFE SHUTDOWN CAPABILITY DETERMINED THAT THREE CABLES WERE NOT ADEQUATELY PROTECTED FROM FIRE DAMAGE AS SPECIFIED IN THE FIRE PROTECTION EVALUATION REPORT (FPER). TWO CONTROL CABLES FOR THE UNIT COOLER SERVING THE REACTOR CORE ISOLATION COOLING (RCIC) COMPARTMENT AND ONE CONTROL CABLE FOR THE RCIC PUMP RECIRCULATION VALVE WERE NOT ENCLOSED IN FIRE PROTECTED RACEWAYS. A POSTULATED FIRE IN THE AUXILIARY EQUIPMENT ROOM COULD DAMAGE THESE THREE CABLES AND POSSIBLY RENDER THE RCIC SYSTEM, WHICH IS REQUIRED TO ACHIEVE HOT SHUTDOWN, INOPERABLE UNDER CERTAIN CONDITIONS. THE CONTROL CIRCUITRY FOR THE COMPARTMENT UNIT COOLER WILL BE MODIFIED TO PREVENT FIRE DAMAGE TO THE CABLES FROM RENDERING IT INOPERABLE. THE CIRCUIT FOR THE RCIC RECIRCULATION VALVE HV-49-1F019 WILL BE REDESIGNED SUCH THAT THE CONTROL CABLE FOR THIS VALVE WILL BE ENCAPSULATED BY A 3-HOUR FIRE BARRIER IN THE AUXILIARY EQUIPMENT ROOM. THESE MODIFICATIONS ARE SCHEDULED TO BE ISSUED TO THE SITE BY DECEMBER 15, 1985. A FIRE WATCH WILL BE MAINTAINED IN THE AUXILIARY EQUIPMENT ROOM UNTIL THESE MODIFICATIONS HAVE BEEN COMPLETED. THIS DISCOVERY IS REPORTED PURSUANT TO LICENSE CONDITION 2F.
Limerick 1	11/21/1985	05/16/1986	Fire Protection Seals Missing in Fire Electrical Penetrations Abstract: POWER LEVEL - 000%. ON MARCH 3, 1986, OPERATING PERSONNEL DETERMINED THAT INTERNAL FIRE PROTECTION SEALS WERE MISSING IN 4 ELECTRICAL GUTTERS (1AG035, 1CG016, 2AG037, AND 2BG033). A FIREWATCH WAS IMMEDIATELY POSTED. THESE GUTTERS PENETRATE CONTROL ENCLOSURE FIRE BARRIERS BETWEEN THE 4KV SWITCHGEAR ROOMS AND ACCESS CORRIDOR. FURTHER, IT WAS DETERMINED THAT A MISSING INTERNAL SEAL HAD BEEN IDENTIFIED IN A SIMILAR GUTTER (1BG032) ON NOVEMBER 21, 1985. THREE OF THE FIVE FIRE PROTECTION SEALS ARE SUBJECT TO TECHNICAL SPECIFICATION 3.7.7 REQUIREMENT 'WITH ONE OR MORE OF THE ABOVE REQUIRED FIRE RATED ASSEMBLIES AND/OR SEALING DEVICES INOPERABLE, WITHIN 1 HOUR ... VERIFY THE OPERABILITY OF FIRE DETECTORS .... AND ESTABLISH AN HOURLY FIRE WATCH PATROL'. BECAUSE FIREWATCHES WERE NOT ESTABLISHED WITHIN ONE HOUR OF SEAL INOPERABILITY FOR ELECTRICAL GUTTERS IBG032, 1AG035, AND 1CG016, THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.7 WERE NOT MET. ALL FIVE GUTTERS WERE PROPERLY SEALED BY MARCH 20, 1986. A FIELD WALKDOWN WAS CONDUCTED TO IDENTIFY AND VERIFY PROPER SEALING OF ELECTRICAL GUTTERS IN BLOCK WALLS IN SAFETY-RELATED STRUCTURES. A MEMORANDUM WAS ALSO ISSUED TO SUPERVISION OF VARIOUS WORK GROUPS WITHIN THE PLANT DISCUSSING THIS EVENT AND THE NEED TO PROVIDE TIMELY NOTIFICATION TO PLANT STAFF OF
Limerick 1	12/26/1985	01/24/1986	Failure to Meet Hourly Fire Watch Requirements in Technical Specifications Abstract: POWER LEVEL - 098%. ON 12-26-85 HOURLY FIRE WATCH INSPECTIONS FOR 4 FIRE BARRIERS LOCATED IN THE REACTOR ENCLOSURE WERE NOT PERFORMED WITHIN 1 HR OF THE PREVIOUS INSPECTIONS. THE 4 INSPECTION INTERVALS EXCEEDED THE 1-HR LIMITATION OF TECH SPEC 3.7.7. THE MAXIMUM INSPECTION INTERVAL, WHICH BEGAN AT 1408 HRS, WAS 1 HR AND 21 MINS. THE REACTOR ENCLOSURE SUPPLY FANS HAD TRIPPED AND THE EXHAUST FANS CONTINUED TO OPERATE, WHICH RESULTED IN NEGATIVE REACTOR ENCLOSURE PRESSURE. AS A RESULT OF THE NEGATIVE PRESSURE IN THE REACTOR ENCLOSURE, THE FIRE WATCH WAS UNABLE TO OPEN THE AIRLOCK DOORS AND ENTER THE POSTED AREAS.
Limerick 1	04/02/1986	05/30/1986	Technical Specification Firewatch violation Due to Missing Penetration Plugs Abstract: POWER LEVEL - 100%. ON APRIL 2, 1986 WITH UNIT 1 IN OPERATIONAL MODE 1 AT 100 PERCENT POWER, IT WAS DISCOVERED THAT THE PLUGS WERE MISSING FROM A SPARE ONE INCH ELECTRICAL CONDUIT PENETRATION, THEREBY VIOLATING THE REQUIREMENT OF TECHNICAL SPECIFICATION 3.7.7 WHICH REQUIRES THAT WITH THE SEALING DEVICE INOPERABLE, FIRE DETECTORS BE OPERABLE AND A FIREWATCH ESTABLISHED. THE OPEN PENETRATION WAS DISCOVERED BY A CONTRACTOR EMPLOYEE WORKING IN THE AREA AND WAS THEN IDENTIFIED TO A PHILADELPHIA ELECTRIC COMPANY (PECO) EMPLOYEE. SHIFT SUPERVISION WAS IMMEDIATELY NOTIFIED AND AN HOURLY FIRE WATCH WAS POSTED. THE PLUGS WHICH ARE THREADED INTO THE CONDUIT WERE REPLACED AND THE FIREWATCH TERMINATED THE FOLLOWING DAY. AN INVESTIGATION OF THE MISSING PLUGS HAS NOT BEEN ABLE TO DETERMINE THE ROOT CAUSE OF THIS EVENT. A WALKDOWN WAS PERFORMED OF A SAMPLE AREA OF THE PLANT. NO FURTHER OPEN CONDUIT PENETRATIONS WERE FOUND AND THIS EVENT IS REGARDED AS AN ISOLATED INCIDENT.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Limerick 1	04/05/1986	05/05/1986	Failure to Perform Hourly Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 100%. ON APRIL 5, 1986 AT 0046 HOURS THE FIRE WATCH INSPECTION INTERVAL FOR AN INEFFECTIVE PENETRATION SEAL (PSA-110-Z043) LOCATED BETWEEN THE RHR PUMP ROOM AND THE SERVICE WATER PIPE TUNNEL EXCEEDED THE ONE-HOUR LIMIT OF TECHNICAL SPECIFICATION 3.7.7. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR. THE FIRE WATCH COORDINATOR FAILED TO LIST THE PENETRATION SEAL ON THE FIRE WATCH PATROL ROUNDS SHEET AND THE FIRE WATCH PERSON FAILED TO NOTICE THE DISCREPANCY BETWEEN THE FIRE WATCH LOG AND THE ROUNDS SHEET. CONSEQUENTLY, THE FIRST FIRE WATCH PATROL FAILED TO INSPECT THE AFFECTED FIRE AREA. THE AREA WAS INSPECTED DURING THE SECOND ROUND OF THE FIRE WATCH PATROL WHEN THE FIRE WATCH INSPECTION SHEET, WHICH WAS POSTED IN THE AREA, WAS NOTICED BY THE FIRE WATCH PERSON. THE FIRE WATCH PATROL ROUNDS SHEET WAS THEN COMPARED TO THE FIRE WATCH LOG TO ENSURE THAT ALL OTHER FIRE AREAS LISTED IN THE LOG WERE LISTED ON THE ROUNDS SHEET. THE FIRE PROTECTION ADVISOR, FIRE WATCH COORDINATOR, AND FIRE WATCH PERSON INVOLVED IN THIS EVENT WERE COUNSELED ON THE IMPORTANCE OF PROPER COMMUNICATION AND PERFORMING EACH INSPECTION.
Limerick 1	05/23/1986	06/20/1986	Technical Specification Fire Watch Violation Due to Personnel Error Abstract: POWER LEVEL - 000%. AT 1400 HOURS ON MAY 23, 1986, WITH THE UNIT IN OPERATIONAL MODE 4 AT 0 PERCENT POWER, THE SHIFT SUPERVISOR DISCOVERED A CONDITION WHICH CONSTITUTED A VIOLATION OF TECHNICAL SPECIFICATION 3.7.7. A DRAIN HOSE HAD BEEN ROUTED THROUGH A PROPPED OPEN FIRE DOOR, UP A STAIRWELL, AND THROUGH ANOTHER PROPPED OPEN FIRE DOOR. THERE WAS NO FIRE WATCH ON DUTY AT EITHER DOOR. THE OPEN FIRE DOORS PLACED THE ESTABLISHED FIRE BARRIERS IN A DEGRADED CONDITION. THE HOSES WERE DISCONNECTED AND THE DOORS SECURED. IT WAS DETERMINED THAT THE CONDITION EXISTED NO LONGER THAN 8 HOURS. THE CAUSE OF THE EVENT WAS PERSONNEL ERROR ON THE PART OF THE NONLICENSED PLANT OPERATOR WHO RAN THE HOSE TO DRAIN THE REACTOR ENCLOSURE COOLING WATER SYSTEM. THIS PERSON HAS BEEN COUNSELED AS TO THE IMPORTANCE OF MAINTAINING FIRE BARRIERS.
Limerick 1	07/07/1986	08/01/1986	Open Fire Door Without a Posted Firewatch Due to Personnel Error Abstract: POWER LEVEL - 000%. TECH SPEC REQUIRES '...ALL FIRE RATED ASSEMBLIES, INCLUDING...FIRE DOORS...SHALL BE OPERABLE...(AT ALL TIMES' (OR) '...WITHIN 1 HOUR ESTABLISH A...FIRE WATCH...' DURING AN OUTAGE FOR MAINTENANCE ON JULY 7, 1986, A HEALTH PHYSICS (HP) TECHNICIAN LEFT A FIRE DOOR BLOCKED OPEN (IT BECAME THEREFORE INEFFECTIVE AS A FIRE BARRIER) FOR A PERIOD OF APPROXIMATELY 5 1/2 HOURS WITHOUT A FIRE WATCH BEING ESTABLISHED. THE FIRE DOOR WAS BLOCKED OPEN BY THE TECHNICIAN WHILE COMPLETING A SURVEY OF THE MAIN STEAM ISOLATION VALVE (MSIV) ROOM TO ALLOW ENTRY BY A NONLICENSED OPERATOR SO THAT THE OPERATOR COULD BLOCK OUT/SAFETY TAG EQUIPMENT IN THE ROOM. BECAUSE OF THE NATURE OF THE SURVEY WHICH CREATED THE NEED FOR REPEATED ENTRIES INTO THE ROOM, THE TECHNICIAN BLOCKED THE DOOR OPEN AT APPROXIMATELY 0300 HOURS. BARRIER DOOR AT APPROXIMATELY 0830 HOURS AND CLOSED/LOCKED THE FIRE BARRIER ON SHIFT SUPERVISION ORDERS. THE FAILURE TO COMPLY WITH THE TECHNICAL SPECIFICATION WAS CAUSED BY NON-COGNIZANT PERSONNEL ERROR WHEN THE HP TECHNICIAN LEFT THE AREA WITHOUT FIRST CLOSING/LOCKING THE DOOR.
Limerick 1	07/08/1986	08/07/1986	FAILURE TO PERFORM HOURLY FIRE WATCH REQUIRED BY TECHNICAL SPECIFICATIONS Abstract: POWER LEVEL - 000%. ON JULY 8, 1986, WITH THE UNIT IN COLD SHUTDOWN, THE REQUIRED TECHNICAL SPECIFICATION HOURLY FIRE WATCH INSPECTIONS FOR FIVE FIRE BARRIERS WERE NOT PERFORMED WITHIN ONE HOUR OF THE PREVIOUS INSPECTIONS. THE NORMAL CARD ACCESS DOOR CONTROL SYSTEM WAS INOPERABLE DUE TO AN UNSCHEDULED SECURITY COMPUTER OUTAGE THEREFORE THE FIRE WATCH WAS UNABLE TO ENTER THE AREAS TO INSPECT THE BARRIERS. THE INSPECTION INTERVAL FOR THESE FIRE BARRIERS, WHICH WERE BEING PATROLLED AS A RESULT OF INOPERABLE VENTILATION DUCT FIRE DAMPERS AND OPEN FIRE DOORS, WAS EXCEEDED BY APPROXIMATELY TWENTY MINUTES. FIRE WATCH PERSONNEL NOTIFIED SECURITY FORCE PERSONNEL OF THE NEED TO ENTER THESE AREAS FOR INSPECTION PURPOSES. DUE TO A LACK OF PROPER COMMUNICATIONS THE SECURITY FORCE PERSONNEL ARRIVED WITHOUT THE DOOR KEYS NECESSARY TO ACCESS THE FIRE BARRIERS, THEREBY CAUSING THE TWENTY MINUTE DELAY IN THE INSPECTIONS. FIRE DETECTORS IN THE AFFECTED AREAS REMAINED OPERABLE, THEREFORE THERE WERE NO ADVERSE CONSEQUENCES AS A RESULT OF THE EVENT. BY AUGUST 14, 1986, SECURITY POST ORDERS AND PROCEDURES WILL BE REVISED, AND A MEMORANDUM WILL BE ISSUED TO FIRE WATCH PERSONNEL STIPULATING METHODS TO BE USED TO GAIN ACCESS TO FIRE BARRIERS WHICH REQUIRE INSPECTION IN THE EVENT
Limerick 1	10/25/1986	11/24/1986	Technical Specification Fire Watch Deficiency Due to a Missing Penetration Plug Abstract: HOURS WITH UNIT 1 IN OPERATING CONDITION 1 AT 70 PERCENT POWER, IT WAS DISCOVERED THAT THE PLUG WAS MISSING FROM A SPARE 1-INCH ELECTRICAL CONDUIT PENETRATION. CONSEQUENTLY, THE REQUIREMENTS WERE NOT MET FOR TECHNICAL SPECIFICATION 3.7.7. IT REQUIRES THAT WHEN A SEALING DEVICE IS INOPERABLE, FIRE DETECTORS ARE TO BE OPERABLE AND A FIRE WATCH IS TO BE ESTABLISHED. THE OPEN PENETRATION WAS DISCOVERED BY A PHILADELPHIA ELECTRIC COMPANY MAINTENANCE WORKER. SHIFT SUPERVISION WAS IMMEDIATELY NOTIFIED AND AN HOURLY FIRE WATCH WAS POSTED. THE PLUG, WHICH IS THREADED INTO THE CONDUIT, WAS REPLACED AT 1947 HOURS AND THE FIRE WATCH TERMINATED. A WALKDOWN OF RANDOMLY SELECTED SPARE ELECTRICAL CONDUIT PENETRATIONS IN THE REACTOR ENCLOSURE REVEALED NO SIMILAR DEFICIENCIES. THIS EVENT IS REGARDED AS AN ISOLATED INCIDENT.
Limerick 1	12/19/1986	01/20/1987	Reactor Core Isolation Cooling Cables Fire Protection Deficiency Abstract: POWER LEVEL - 100%. ON DECEMBER 19, AT APPROXIMATELY 1100 HOURS, THREE TEMPORARY CABLES WHICH TRANSMITTED REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM DATA SIGNALS TO THE EMERGENCY RESPONSE FACILITY DISPLAY SYSTEM (ERFDS) WERE DETERMINED TO BE INADEQUATELY PROTECTED FROM FIRE DAMAGE AS SPECIFIED IN THE FIRE PROTECTION EVALUATION REPORT (FPER). THE CABLES WERE INSTALLED TO COLLECT DATA DURING UNIT 1 STARTUP. ALTHOUGH THESE CABLES ARE LIMITED TO PROVIDING INDICATION OF RCIC TURBINE CONTROL SIGNALS, ANALYSIS HAS DETERMINED THAT FIRE DAMAGE TO THESE CABLES, WHICH ARE ROUTED IN THE AUXILIARY EQUIPMENT ROOM AND THE CONTROL ROOM, COULD AFFECT THE RCIC TURBINE CONTROL SYSTEM. THE FIRE PROTECTION DEFICIENCY RESULTED FROM AN OVERSIGHT DURING THE INSTALLATION OF THE ERFDS/RCIC CABLES. THE EVALUATION AT THE TIME OF INSTALLATION DID NOT RECOGNIZE THAT FAILURE OF ONE OR MORE OF THESE CABLES COULD AFFECT THE RCIC TURBINE CONTROL SYSTEM. THE THREE TEMPORARY ERFDS CABLES HAVE BEEN DISCONNECTED. THE REVIEW OF THE TEMPORARY ERFDS DATA INPUTS, WHICH DISCOVERED THE CONDITION BEING REPORTED, HAS BEEN COMPLETED AND NO OTHER TEMPORARY ERFDS DATA. INPUT INSTALLATIONS WERE FOUND TO BE IN NON- COMPLIANCE WITH FPER REQUIREMENTS. THIS DISCOVERY IS REPORTED PURSUANT TO LICENSE CONDITION 2F.
Limerick 1	06/10/1987	05/07/1993	Failure to Perform Hourly firewatch Required by Technical Specifications Abstract: POWER LEVEL - 000%. On June 10, 1987 between the hours of 0600 and 0800 the hourly fire watch inspections required by Technical Specification 3.7.7, of the designated rooms on the 254' and 239' elevations of the Control Enclosure, were not performed during a security computer outage within one hour of the previous inspection. The cause of the event was the failure of the roving firewatch and the security guard tasked with escorting the roving firewatch, to take the appropriate actions during a security computer outage. There were no adverse consequences and no release of radioactive material as a result of this event. The fire detection and suppression systems within the applicable inspection areas were operable and would have provided early detection and suppression. When the firewatch supervisor learned that the roving firewatch was having difficulty completing his inspections on time, he dispatched another firewatch to aid the roving firewatch. A letter was issued from the Fire Protection Assistant to all contracted firewatches and firewatch supervision outlining the duties of the roving firewatch. This letter was discussed with the firewatches during three training sessions. Security Post Order #39 was revised to streamline security response to firewatch needs during a security computer
Limerick 1	11/16/1987	12/24/1987	Fire Suppression Water System Technical Specification Violation due to Personnel Error Abstract: POWER LEVEL - 085%. ON NOVEMBER 16, 1987, A TECHNICAL SPECIFICATIONS VIOLATION OCCURRED WHEN AN UNAPPROVED BLOCKING PERMIT WAS MISTAKENLY APPLIED, REMOVING FROM SERVICE SEVERAL REQUIRED FIRE SUPPRESSION SYSTEMS. TWO COGNITIVE PERSONNEL ERRORS BY A LICENSED AND A NONLICENSED OPERATOR LED TO THE VIOLATION. THE OPERATORS FAILED TO FOLLOW TWO ADMINISTRATIVE PROCEDURES, AND CONSEQUENTLY SHIFT SUPERVISION WAS UNAWARE THAT EQUIPMENT WAS INOPERABLE AND THEREFORE DID NOT IMPLEMENT THE APPROPRIATE TECHNICAL SPECIFICATIONS REQUIREMENTS. ONCE THE CONTROL SUPERVISOR WAS MADE AWARE OF THE CLOSED VALVES, HE IMMEDIATELY DIRECTED REMOVAL OF THE PERMIT BLOCKING. THE FIRE SUPPRESSION SYSTEMS WERE OUT OF SERVICE FOR 4 HOURS AND 15 MINUTES. THERE WERE NO ADVERSE CONSEQUENCES AND NO RELEASE OF RADIOACTIVE MATERIAL TO THE ENVIRONMENT AS A RESULT OF THIS EVENT. THE PERSONNEL INVOLVED WERE COUNSELED ABOUT ADHERENCE TO ADMINISTRATIVE PROCEDURES AND A MEMO TO ALL SHIFT PERSONNEL WAS ISSUED STRESSING ATTENTION TO DETAIL. IN ADDITION, THIS AND OTHER RECENT EVENTS WERE REVIEWED FOR SIMILAR CAUSES, THE RESULTS OF WHICH WILL BE INCORPORATED INTO FUTURE REQUALIFICATION TRAINING.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Limerick 1	03/23/1988	07/08/1988	Non-Compliance with Technical Specifications due to Missing and Incorrectly Installed Fire Rated Penetration Conduit Seals Abstract: POWER LEVEL - 099%. ON MARCH 23, 1988, AT 1430 HOURS, IT WAS DISCOVERED THAT AN ELECTRICAL CONDUIT, PENETRATING A FIRE RATED FLOOR SEPARATING SAFE SHUTDOWN FIRE AREAS, LACKED FIRE RATED INTERNAL CONDUIT SEALS. INVESTIGATION REVEALED THAT COMPENSATORY FIREWATCH MEASURES WERE NOT IN PLACE FROM RECEIPT OF THE LICENSE ON OCTOBER 26, 1984, THROUGH NOVEMBER, 1986 AS REQUIRED BY TECH SPEC 3.7.7. IN NOVEMBER, 1986 AN HOURLY FIRE WATCH PATROL WAS INSTITUTED FOR CONTROL ENCLOSURE FIRE AREAS DUE TO UNIT 2 CONSTRUCTION ACTIVITIES. THE CONDUIT PENETRATES A CONTROL ENCLOSURE FIRE RATED FLOOR BETWEEN ACCESS CORRIDOR ROOM 437, AND THE UNIT 2 CABLE SPREADING ROOM. FIRE RATED INTERNAL CONDUIT SEALS WERE INSTALLED ON APRIL 15, 1988. UPON FURTHER EXAMINATION OF THE SEALS FOR CONDUITS, RUNNING FROM ROOM 437 AND TERMINATING IN SWITCHGEAR ROOMS 428 AND 434, IT WAS DETERMINED THAT THEY HAD BEEN INSTALLED IN COMPLIANCE WITH INSTALLATION SPECIFICATIONS AND THE LIMITERICK FIRE PROTECTION EVALUATION REPORT (FPER) CONTRARY TO THE REPORT IN LER 88-008 REV. 00. HOWEVER, SUBSEQUENT INSPECTION HAS REVEALED FOUR ADDITIONAL CONDUITS EACH WITH INTERNAL FIRE RATED SEAL PROBLEMS. A NONCONFORMANCE REPORT HAS BEEN INITIATED TO DISPOSITION THE RECENTLY
Limerick 1	08/30/1988	09/29/1988	Noncompliance with Technical Specification Due to Inattentiveness of an Individual Maintaining a Firewatch post Abstract: POWER LEVEL - 082%. AN INDIVIDUAL RESPONSIBLE FOR MAINTAINING A CONTINUOUS FIREWATCH POST WAS DISCOVERED INATTENTIVE ON AUGUST 30, 1988 AT 0244 HOURS. THIS CONDITION RESULTED IN NONCOMPLIANCE TO THE REQUIREMENTS OF THE ACTION STATEMENT IN TECH SPECS SECTION 3.7.6.2. THE EVENT INVOLVED THE INATTENTIVENESS OF AN INDIVIDUAL RESPONSIBLE FOR MAINTAINING A CONTINUOUS FIREWATCH POST. THERE WERE NO ADVERSE CONSEQUENCES AND NO RELEASE OF RADIOACTIVE MATERIAL AS A RESULT OF THIS EVENT. WAS OPERABLE AND WOULD HAVE PROVIDED EARLY DETECTION TO CONTROL ROOM PERSONNEL IN THE EVENT OF A FIRE. THE FIRE BRIGADE COULD THEN HAVE BEEN DISPATCHED TO MITIGATE THE EFFECTS OF THE FIRE. THE INDIVIDUAL ON DUTY WAS RELIEVED OF HIS RESPONSIBILITIES AND REPLACED WITH ANOTHER FIREWATCH PERSON. THE FIREWATCH PERSON RESPONSIBLE FOR THIS INCIDENT HAD HIS EMPLOYMENT TERMINATED. OTHER FIREWATCH PERSONNEL HAVE BEEN COUNSELED ON THE IMPORTANCE OF BEING ATTENTIVE WHILE ON FIREWATCH DUTY.
Limerick 1	10/06/1988	04/05/1989	Plant in Non-Compliance with the Fire Protection Evaluation Report Due to Unavailability of Certain Safe Shutdown Instruments Controls Abstract: POWER LEVEL - 062%. ON 10/6/88 AT 2115 HOURS, IT WAS DETERMINED THAT LIMERICK GENERATING STATION UNIT 1 WAS NOT IN COMPLIANCE WITH THE FIRE PROTECTION EVALUATION REPORT, WHICH IS REPORTABLE IN ACCORDANCE WITH LICENSE CONDITION 2.F, AND IN A CONDITION THAT IS OUTSIDE OF THE DESIGN BASIS. IN MAY 1988, AN ENGINEERING REVIEW INDICATED THAT A DESIGN BASIS FIRE IN THE CONTROL STRUCTURE WOULD CAUSE A TEMPORARY LOSS OF REACTOR VESSEL WATER LEVEL AND PRESSURE INDICATION AT THE REMOTE SHUTDOWN PANEL (RSP). IN OCTOBER 1988, THE CONTINUED REVIEW INDICATED THAT THE SAME FIRE WOULD ALSO CAUSE LOSS OF REACTOR CORE ISOLATION COOLING (RCIC) CONTROL AT THE RSP. THE ROOT CAUSE OF THIS EVENT IS TWO FOLD: 1) A LACK OF DETAILED PROCEDURES USED IN PERFORMING THE SAFE SHUTDOWN ANALYSIS, AND 2) A MISUNDERSTANDING AND MISAPPLICATION OF THE DETAILED REGULATORY REQUIREMENTS. A JUSTIFICATION FOR CONTINUED OPERATION, INCLUDING THE ESTABLISHMENT OF A ROVING FIRE WATCH IN THE AFFECTED AREAS OF THE CONTROL STRUCTURE WAS PREPARED AND APPROVED. MODIFICATIONS ARE SCHEDULED TO ENSURE THE AVAILABILITY OF THE REACTOR WATER LEVEL AND VESSEL PRESSURE INDICATION, AND RCIC FLOW INDICATION AND CONTROL AT THE RSP IN THE EVENT OF A FIRE IN THE CONTROL STRUCTURE. THE
Limerick 1	12/02/1988	01/03/1989	A Diesel Generator Cable Associated with Safe Shutdown Was Incorrectly Routed through Cable Spreading Room and Therefore Not Adequately Protected from Fire Damage Abstract: POWER LEVEL - 051%. ON DECEMBER 2, 1988, STATION PERSONNEL DETERMINED THAT LIMERICK GENERATING STATION UNIT 1 WAS NOT IN COMPLIANCE WITH THE FIRE PROTECTION EVALUATION REPORT, UPON CONFIRMATION THAT A FIRE IN THE CABLE SPREADING ROOM COULD AFFECT A CERTAIN CABLE WHICH COULD CAUSE A TRIP SIGNAL TO BE SENT TO THE D11 EMERGENCY DIESEL GENERATOR (EDG). THE EDG IS LISTED IN TABLE A-22 OF THE FPER WHICH IDENTIFIES EQUIPMENT REQUIRED FOR SAFE SHUTDOWN METHOD R. THIS CONDITION IS REPORTABLE UNDER LICENSE CONDITION 2.F. THE PROXIMATE CAUSE OF THIS EVENT IS PERSONNEL ERROR. THE POTENTIAL CONSEQUENCES OF THIS EVENT INCLUDE THE UNAVAILABILITY OF SAFEGUARD AC POWERED EQUIPMENT. THESE CONSEQUENCES ARE MINIMIZED BY EXISTING STATION PROCEDURES. FURTHER, A FIRE WATCH WAS ESTABLISHED IN THE AREA, AND A MODIFICATION WILL BE PERFORMED TO ENSURE ADEQUATE PROTECTION OF THIS CABLE. ROOT CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE WILL BE DESCRIBED IN A SUPPLEMENT TO LER 88-031.
Limerick 1	12/08/1988	01/09/1989	A Fire in the Control Complex Could Result in the Unavailability of the Division I Emergency Diesel Generator Due to a Blown Fuse in the Control Circuitry Abstract: POWER LEVEL - 051%. ON DECEMBER 8, 1988, AT 1735 HOURS, STATION PERSONNEL DETERMINED THAT LIMERICK GENERATINQ STATION (LGS) UNIT 1 WAS NOT IN COMPLIANCE WITH THE FIRE PROTECTION EVALUATION REPORT IN THAT A FIRE IN THE CONTROL COMPLEX COULD RESULT IN THE UNAVAILABILITY OF THE EMERGENCY DIESEL GENERATORS (EDGS) DUE TO BLOWN FUSES IN THE CONTROL CIRCUITRY CAUSED BY A FIRE- INDUCED FAULT. FPER AS BEING AVAILABLE FOR SAFE SHUTDOWN METHOD R. THIS IS REPORTABLE IN ACCORDANCE WITH LICENSE CONDITION 2.F AND 10 CFR 50.73(A)(2)(II)(B). THE APPROXIMATE CAUSE OF THIS CONDITION IS PERSONNEL ERROR. THE LOSS OF ONSITE AC POWER THAT COULD OCCUR DUE TO A FIRE IN THE CONTROL COMPLEX IS ADDRESSED BY EXISTING STATION PROCEDURES. A ROVING FIRE WATCH HAD BEEN ESTABLISHED IN THE AFFECTED AREAS OF THE CONTROL COMPLEX DUE TO A SIMILAR CONDITION PREVIOUSLY REPORTED BY LER 88-031. THE MODIFICATION IDENTIFIED ABOVE, TO INSTALL ADDITIONAL FUSES IN THE CONTROL CIRCUIT OF THE DIVISION I EDG, WILL BE COMPLETED DURING THE UPCOMING REFUELING OUTAGE. THE ROOT CAUSE, THE CORRECTIVE ACTIONS TO PREVENT RECURRENCE, AND A SCHEDULE FOR COMPLETION OF THESE ACTIONS WILL BE PROVIDED IN THE SUPPLEMENT TO LER 88-031. THIS CONDITION WAS NOT REPORTED IN A TIMELY MANNER DUE
Limerick 1	01/04/1989	03/31/1989	Unavalability of the Reactor Cor Isolation Cooling System due to Insufficient Protection of Various Control and Power Cables from Postulated Fire Damage Abstract: POWER LEVEL - 041%. ON 1/4/89, AT 1730 HOURS, STATION PERSONNEL DETERMINED THAT UNIT 1 WAS NOT IN COMPLIANCE WITH THE FIRE PROTECTION EVALUATION REPORT (FPER), IN THAT A FIRE IN CERTAIN AREAS OF THE PLANT COULD RESULT IN THE UNAVAILABILITY OF THE REACTOR CORE ISOLATING COOLING (RCIC) SYSTEM DUE TO INSUFFICIENT PROTECTION OF CONTROL AND POWER CABLES FROM FIRE DAMAGE. FIRE DAMAGE TO CONTROL CABLES FOR THE RCIC INBOARD STEAM SUPPLY ISOLATION VALVE COULD CAUSE THE VALVE TO CLOSE, AND FIRE DAMAGE TO POWER CABLES FOR THIS VALVE COULD PREVENT IT FROM BEING REOPENED. SECONDLY, A FIRE IN SOME OF THE SAME AREAS COULD CAUSE FIRE DAMAGE TO THE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM CONTROL CABLES RESULTING IN A SPURIOUS HPCI SYSTEM INITIATION AND COINCIDENT LOSS OF REMOTE OR AUTOMATIC ABILITY TO SHUTDOWN THE SYSTEM. THIS WOULD RESULT IN OVERFILLING THE REACTOR VESSEL AND WATER CARRYOVER INTO THE RCIC STEAM SUPPLY LINE, THEREBY RENDERING THE RCIC SYSTEM UNAVAILABLE. THIS IS REPORTABLE UNDER LICENSE CONDITION 2.F. THE PROXIMATE CAUSE IS PERSONNEL ERROR ASSOCIATED WITH THE ORIGINAL SAFE SHUTDOWN ANALYSIS. A ROVING FIRE WATCH WAS ESTABLISHED IN THE AFFECTED FIRE AREAS. CORRECTIVE ACTIONS ARE SCHEDULED FOR RCIC AND
Limerick 1	03/17/1989	04/14/1989	Missed Firewatch Due to Procedure Deficiency Abstract: POWER LEVEL - 000%. ON 3/17/89, BETWEEN THE HOURS OF 0600 AND 0800, THE HOURLY FIREWATCH INSPECTION OF ROOMS 542 (AUXILIARY EQUIPMENT ROOM) AND 540 (REMOTE SHUTDOWN PANEL ROOM) ON ELEVATION 289' IN THE CONTROL ENCLOSURE, WERE NOT PERFORMED WITHIN ONE HOUR OF THE PREVIOUS INSPECTION. THIS IS A VIOLATION OF TECHNICAL SPECIFICATION SECTION 3.7.7. THERE WERE NO ADVERSE CONSEQUENCES AS A RESULT OF THIS EVENT AS THE INSTALLED FIRE DETECTION AND SUPPRESSION EQUIPMENT WAS OPERABLE. AT THE TIME OF THE EVENT, THE REACTOR WAS DEFUELED AND THE INTEGRITY OF THE FIRE BARRIERS TO PROTECT SAFE SHUTDOWN EQUIPMENT WAS NOT REQUIRED. THE CAUSE OF THE EVENT WAS AN INADEQUATE PROCEDURE WHICH CAUSED A DELAYED RESPONSE OF THE SECURITY FORCE MEMBER WITH THE CORRECT KEY TO THE FIRE WATCH ASSISTANCE REQUEST. THE AREAS WERE PROPERLY INSPECTED AT 0719 HOURS ON MARCH 17, 1989. THE PROCEDURE WAS REVISED TO CORRECT ITS DEFICIENCY.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Limerick 1	02/11/1990	03/12/1990	Failure to comply with technical Specifications one hour fire watch inspection due to personnel error. Abstract: POWER LEVEL - 100%. ON FEBRUARY 11, 1990, BETWEEN 1116 AND 1252 HOURS, AN INTERVAL OF 1 HOUR AND 36 MINUTES, NO FIREWATCH (FW) INSPECTIONS FOR ROOMS 103, 114, AND 117 ON ELEVATION 177' IN THE REACTOR ENCLOSURE WERE PERFORMED BY FW PERSONNEL. THIS WAS A FAILURE TO PERFORM THE REQUIRED INSPECTIONS WITHIN ONE HOUR AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS. THIS CONDITION WAS DISCOVERED WHEN THE NEXT FW PERSON PERFORMED THE INSPECTION OF THESE ROOMS, AT 1252 HOURS. NO PROBLEMS WERE IDENTIFIED DURING THIS INSPECTION. IF A FIRE HAD OCCURRED IN THESE ROOMS, VARIOUS SAFE SHUTDOWN METHODS WERE AVAILABLE TO SAFELY SHUTDOWN THE PLANT. THE CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR DUE TO THE INATTENTIVENESS OF THE PERSON RESPONSIBLE FOR PERFORMING THE FW INSPECTION. THE FW PERSON RESPONSIBLE FOR THIS INCIDENT WAS DISCIPLINED. FW PERSONNEL HAVE BEEN REINSTRUCTED BY THE FW COORDINATOR ON THE IMPORTANCE OF BEING THOROUGH AND VIGILANT WHILE ON FW DUTY. FIRE PROTECTION PERSONNEL PERFORMED A REVIEW OF FW PROCEDURES AND PRACTICES AND DETERMINED THAT THEY ARE ADEQUATE. THE FW CONTRACTOR HAS IMPROVED PATHWAY DEFINITION FOR INSPECTION AREAS, AND HAS INITIATED SHIFT MEETINGS EMPHASIZING CHANGES IN IMPAIRMENT POSTINGS AND GOOD WORK PRACTICES
Limerick 1	12/02/1990	12/20/1990	Firewatch Employees did not Perform the Daily Unit 1 Fire Door Check therefore Failing to verify the Operability of the Fire Doors as Required by Technical Specifications Abstract: POWER LEVEL - 000%. ON 12/3/90, AT 0850 HOURS, A CONTRACT FIREWATCH COORDINATOR DISCOVERED THAT SURVEILLANCE TEST (ST) PROCEDURE ST-7-022-037-1, 'UNIT 1 FIRE DOOR DAILY POSITION CHECK,' HAD NOT BEEN PERFORMED ON 12/2/90. INSTEAD, ST PROCEDURE ST-7-022-371-2, 'UNIT 2 FIRE DOOR DAILY POSITION CHECK,' WAS INADVERTENTLY PERFORMED TWICE ON 12/2/90. THE UNIT 1 TECH SPECS (TS) SURVEILLANCE REQUIREMENT (SR) 4.7.7.2 WAS NOT MET AND THE TS ACTION OF ESTABLISHING A FIRE WATCH WITHIN ONE HOUR WAS NOT TAKEN IN THE REQUIRED TIME. THE CONSEQUENCES OF THIS EVENT WERE MINIMAL, AND THERE WAS NO RELEASE OF RADIOACTIVE MATERIAL TO THE ENVIRONMENT. THE CAUSE OF THIS EVENT WAS TWO PERSONNEL ERRORS AND AN INFORMAL WORK PRACTICE. THE FIRE WATCH SUPERVISOR (FWS) FAILED TO RECOGNIZE AND HAND OUT THE CORRECT FIRE DOOR DAILY POSITION CHECK ST PROCEDURE TO BE PERFORMED. THE FIREWATCH, AFTER PERFORMING THE ST PROCEDURE, FAILED TO OBSERVE THAT AN INCORRECT PROCEDURE HAD BEEN USED. A WHITE PHOTOCOPY, INSTEAD OF THE UNITIZED YELLOW COLORED COPY OF THE UNIT 1 ST PROCEDURE, WAS USED DURING THE ACTUAL PLANT INSPECTION OF THE FIRE DOORS WHICH IS AN INFORMAL WORK PRACTICE. THE FWS AND FIREWATCH INVOLVED IN THIS EVENT WERE COUNSELED
Limerick 1	02/26/1991	07/26/1991	Condition Prohibited by Technical Specifications in that Surveillance Requirements were not performed for a Fire Rated Barrier due to Procedural Deficiency. Abstract: POWER LEVEL - 100%. ON 2/26/91, WE DETERMINED THAT A TECH SPEC (TS) SURVEILLANCE REQUIREMENT (SR) HAD NOT BEEN SATISFIED FOR TS SEC. 3.7.7, WITHOUT THE ASSOCIATED TS ACTIONS BEING TAKEN IN THE SPECIFIED TIME PERIOD. THIS CONDITION HAS EXISTED SINCE THE 4/89 PERFORMANCE OF SURVEILLANCE TEST (ST) PROCEDURE ST-7-022-920-1, WHEN AN INAPPROPRIATE TEMPORARY PROCEDURE CHANGE WAS IMPLEMENTED. UPON DISCOVERY OF THE CONDITION, FIRE PROTECTION PERSONNEL VERIFIED OPERABILITY OF THE FIRE DETECTION EQUIPMENT, AND POSTED THE APPROPRIATE FIREWATCH. UPON VISUAL INSPECTION OF THE INVOLVED FIRE RATED BARRIER, WE DETERMINED THAT NO DEGRADATION OF THE BARRIER EXISTED AND THEREFORE, IT WAS CAPABLE OF PERFORMING ITS INTENDED FUNCTION DURING THE PERIOD IN QUESTION. THIS, COMBINED WITH THE EXISTING AUTOMATIC DETECTION AND SUPPRESSION CAPABILITY ON THE OPPOSITE SIDE OF THE FIRE RATED BARRIER, AND THE LOW COMBUSTIBLE LOADING, LEAD US TO CONCLUDE THAT THE POTENTIAL CONSEQUENCES OF THIS EVENT WERE MINIMAL. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR LEADING TO A PROCEDURAL DEFICIENCY. ON 3/25/91, THE MISSED TS SR WAS COMPLETED SATISFACTORILY. A COMPREHENSIVE REVIEW OF THE ST PROCEDURE WAS PERFORMED TO ENSURE THAT ALL OTHER FIRE
Limerick 1, Limerick 2	10/26/1984	04/11/1997	Failure to Provide Sufficient Repair Actions Needed to Achieve Cold Shutdown for Fire Safe Shutdown Capability. Abstract: On 12/5/96, a review associated with the Thermo-Lag reduction project determined that a fire Safe Shutdown (SSD) repair would not function as desired due to an incorrect assumption made in the fire SSD design analysis. Following proceduralized repairs, pressurized gas might not remain available to operate the Main Steam Relief Valves (MSRVs) which are required for depressurization control for Unit 1 and Unit 2 in the event of a postulated fire in certain areas of the plant. Actual pressurized gas system operating characteristics were not fully considered when developing the repair actions. This resulted in a failure to maintain the provisions of the Fire Protection Program (FPP) and is a violation of a License Condition. Sufficient plant equipment would have remained available to maintain the plant in a hot shutdown condition until necessary repairs could be made to achieve cold shutdown. The potential consequences of this event are further minimized by other permanent design and administrative features of the FPP. The ongoing Thermo-Lag reduction project includes a comprehensive review of all of the assumptions made in the fire SSD analysis, a verification of all of the fire SSD repairs, and a review of all the fire SSD systems to verify physical capability to
Limerick 1, Limerick 2	08/15/1990	09/14/1990	Violation of Technical Specifications by firewatch employees due to the failure to properly perform firewatch Surveillance Procedure Abstract: PERSONNEL IDENTIFIED A CONDITION WHEREBY A TECH SPECS (TS) SURVEILLANCE REQUIREMENT HAD NOT BEEN SATISFIED DUE TO A COGNITIVE PERSONNEL ERROR, AND AS A RESULT, THE ASSOCIATED TS LIMITING CONDITION FOR OPERATION (LCO) ACTION HAD NOT BEEN IMPLEMENTED WITHIN THE REQUIRED TIME PERIOD. ON 8/14/90, PHILADELPHIA ELECTRIC COMPANY CORPORATE SECURITY PERSONNEL WERE INFORMED OF AN ALLEGATION INDICATING THAT A VENDOR EMPLOYEE MAY HAVE BEEN INVOLVED IN THE FALSIFICATION OF SURVEILLANCE TEST (ST) PROCEDURES REGARDING FIRE DOOR POSITION VERIFICATION. INVESTIGATION INTO THE ALLEGATION REVEALED THAT THE FIRE WATCH EMPLOYEE HAD INDEED BEEN FALSIFYING RECORDS. DURING AN INTERVIEW, THE FIREWATCH EMPLOYEE ADMITTED TO DELIBERATELY FALSIFYING THE ST RECORDS. THE CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR. THE FIREWATCH EMPLOYEE HAD DELIBERATELY FALSIFIED FIRE DOOR STS ON NUMEROUS OCCASIONS AND KNOWINGLY CIRCUMVENTED ESTABLISHED PROCEDURES. THE FIREWATCH EMPLOYEE INVOLVED IN THE FALSIFICATION OF RECORDS WAS IMMEDIATELY REMOVED FROM THE JOB-SITE AND WAS TERMINATED. RANDOM SAMPLING OF DOOR STS PERFORMED BY ALL THE OTHER FIREWATCH EMPLOYEES WAS DONE TO VERIFY THE VALIDITY OF THEIR TESTS. ONE ADDITIONAL VIOLATION WAS
Limerick 1, Limerick 2	05/30/1991	07/09/1991	Failure to perform Technical Specifications Surveillance Requirements as a result of procedural deficiencies caused by personnel error. Abstract: POWER LEVEL - 100%. ON 5/30/91, FOLLOWING REVIEW OF UNIT 1 AND UNIT 2 FIRE RATED ASSEMBLY SURVEILLANCE TEST (ST) PROCEDURES, IT WAS DETERMINED THAT TECH SPECS (TS) SURVEILLANCE REQUIREMENTS (SRS) FOR BOTH UNITS HAD NOT BEEN SATISFIED FOR TS 3.7.7, 'FIRE RATED ASSEMBLIES,' THEREBY RENDERING THE AFFECTED ASSEMBLIES INOPERABLE AND THE ASSOCIATED TS ACTIONS WERE NOT TAKEN IN THE SPECIFIED TIME PERIOD. THESE CONDITIONS HAVE EXISTED SINCE ISSUANCE OF THE FUEL LOADING LICENSES. UPON DISCOVERY OF THE CONDITIONS, FIRE PROTECTION PERSONNEL VERIFIED OPERABILITY OF FIRE DETECTION EQUIPMENT, AND POSTED THE APPROPRIATE FIREWATCHES. UPON VISUAL INSPECTION OF THE INVOLVED ACCESSIBLE FIRE RATED ASSEMBLIES, IT WAS DETERMINED THAT NO DEGRADATION OF THE ASSEMBLIES EXISTED AND THEY WERE CAPABLE OF PERFORMING THEIR INTENDED FUNCTION. FIREWATCHES HAVE BEEN ESTABLISHED APPROPRIATELY TO SATISFY TS ACTIONS FOR THE INACCESSIBLE ASSEMBLIES. THE PROCEDURE WRITER WAS NOT THOROUGH IN IDENTIFYING ALL TS FIRE RATED ASSEMBLIES IN THE ORIGINAL REVISION OF THE ST PROCEDURE. THE CAUSE OF THIS EVENT WAS
Limerick 1, Limerick 2	05/06/1992	06/01/1992	PERSONNEL ERROR RESULTING IN PROCEDURAL DEFICIENCIES. THE ST PROCEDURES WILL BE REVISED PRIOR TO THEIR NEXT PERFORMANCE TO ENSURE COMPLETION OF ALL TS SRS. REVIEW OF FIRE Condition Prohibited by Technical Specifications in that Surveillance Requirements were not met for certain fire-rated encapsulations due to procedural deficiencies. Abstract: POWER LEVEL - 000%. ON 5/1/92, FOLLOWING COMPLETION OF A REVIEW OF THE LIMERICK GENERATING STATION (LGS) TECHNICAL SPECIFICATION (TS), THE POST-FIRE SAFE SHUTDOWN ANALYSIS, AND SURVEILLANCE TEST (ST) PROCEDURES ST-7-022-920-1 AND ST-7-022-9202, 'FIRE RATED ASSEMBLY INSPECTION,' FIRE PROTECTION PERSONNEL DETERMINED THAT EIGHTEEN FIRE RATED ENCAPSULATIONS HAD NOT BEEN INCLUDED IN THE ST PROCEDURES. AFTER FURTHER REVIEW ON MAY 6, 1992, PLANT PERSONNEL DETERMINED THAT THESE ENCAPSULATIONS HAD NOT BEEN INSPECTED, WERE THEREFORE INOPERABLE, AND THE REQUIRED TS SECTION 3.7.7 ACTION WAS NOT PERFORMED SINCE THEIR INSTALLATION, RESULTING IN A CONDITION PROHIBITED BY TS. UPON INSPECTION OF THE EIGHTEEN MISSED ENCAPSULATIONS, ALL EIGHTEEN WERE FOUND TO BE ENCAPSULATED AND THEREFORE WOULD HAVE PROVIDED PROTECTION IN THE EVENT OF A FIRE SINCE THEIR INSTALLATION. THEREFORE, THERE WAS NO ADVERSE AFFECT ON SAFE SHUTDOWN CAPABILITY AS A RESULT OF THESE UNINSPECTED ENCAPSULATIONS. THE CAUSES OF THIS EVENT WERE DRAWING DEFICIENCIES AND PROCEDURAL DEFICIENCIES RESULTING FROM INADEQUATE REVIEWS. ALL IDENTIFIED DRAWING DISCREPANCIES WILL BE ADDRESSED THROUGH DISPOSITION OF A NON-CONFORMANCE REPORT. PROCEDURES ST- 7-

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Limerick 1, Limerick 2	06/26/1992	07/24/1992	Thermo-Lag Fire Rated Barriers Inoperable Resulting in a Tech Spec Violation due to Personnel Error in Determining Applicable Tech Spec ACTION. Abstract: POWER LEVEL - 000%. On November 16, 1990, Thermo-Lag fire rated barriers surrounding electrical junction boxes for Unit 1 and Unit 2 cables located in the Common Control Enclosure were found to be damaged due to water intrusion. Station Fire Protection personnel immediately posted an hourly fire watch intended to Satisfy Technical Specifications (TS) Section 3.7.7, 'Fire Rated Assemblies,' ACTION for an inoperable assembly with fire detection operable on one side of the assembly. On June 26, 1992, as a result of NRC Bulletin 92-01, 'Failure of Thermo-Lag 330 Fire Barrier System to Maintain Cabling in Wide Cable Trays and Small Conduits Free from Fire Damage,' a detailed review of the locations where Thermo-Lag fire rated assemblies are installed in the plant was conducted. This review identified that no fire detection existed in the immediate room with the damaged assemblies and therefore a continuous fire watch was required per TS, and was immediately posted. There were no fires experienced in the affected area during the period of noncompliance, therefore the degraded Thermo-Lag assemblies were never challenged. The cause of the event was personnel error on the part of Fire Protection personnel in the misinterpretation of
Limerick 1, Limerick 2	11/03/1992	06/17/1996	Improper Fuse Sizing resulting in Potential Loss of Emergency Diesel Generator Control Following a Fire Abstract: On 05/16/96, during a special review, offsite engineering personnel identified oversized sacrificial fuses in circuits needed to maintain safe shutdown in the event of a fire in certain locations in the plant. The fuses are designed to provide fire damage isolation and to assure that local control for the Unit 1 D11 and the Unit 2 D21 Emergency Diesel Generators (EDGs) remain available for the remote shutdown method. The fuses were installed by a modification on 04/16/93 for the D11 EDG and 11/03/92 for the D21 EDG. This resulted in a failure to maintain the provisions of the Fire Protection Program (FPP) and is a condition that alone could prevent the fulfillment of the safety function of a system needed to maintain safe shutdown. The actual consequences for this condition are minimal since a fire did not occur. Defense-in-depth features of the FPP minimize the potential consequences of a fire. During the modification design process, the design engineer and the independent reviewer failed to identify that the fuses were required for safe shutdown and incorrectly specified a larger fuse size. Roving fire watch patrols will remain in place until the fuses are replaced. Procedures have been revised to assist in the identification of associated circuits required for safe shutdown. Reviews of safe
Limerick 1, Limerick 2	09/11/1998	10/09/1998	Potential Loss of Emergency Diesel Generator Control in the Event of a Fire due to Fire-induced Damage to Unprotected Voltage and Speed Control Cables Abstract: On 9/11/98, a review associated with the Thermo-Lag reduction project determined that local emergency diesel generator (EDG) control may not be available to support Safe Shutdown (SSD) of the plant in the event of a fire due to fire-induced damage to unprotected speed and voltage control cables. An assumption in the original (pre-Unit 1 licensing) SSD analysis took credit for transfer to local control stations, prior to the occurrence of fire-induced damage. Following the issuance of Information Notice 85-09, the SSD analysis was reviewed and modifications were implemented to address "damage before transfer" concerns. However, the subsequent SSD evaluations failed to recognize the potential impact of fire damage to the voltage and speed control circuits for three out of eight EDGs. This resulted in a failure to maintain the provisions of the Fire Protection Program (FPP) and is a violation of License Condition 2.C.(3) for both units. Therefore, this report is being submitted in accordance with License Conditions 2.F and 2.E for Units 1 and 2, respectively, and 10CFR50.73(a)(2)(ii)(B) as a condition that is outside the design basis of the plant. The potential consequences of this event are minimized by other permanent design and
Limerick 1, Limerick 2	10/03/2012	12/03/2012	Unanalyzed Condition Due to a Fire Safe Shutdown Analysis Error Abstract: An unprotected control cable was identified during a detailed logic and cable routing review for the Multiple Spurious Operations (MSO) 5f scenario. The review identified that a D22 Emergency Diesel Generator (EDG) output breaker control cable could fail due to postulated fire damage in fire area 067W. The event was caused by an error during the Fire Safe Shutdown (FSSD) analysis. The D22 EDG output breaker control logic was rewired to eliminate the deficiency.
Limerick 2	08/11/1990	11/21/1990	Failure to meet Technical Specification 3.7.6.4 since the Halon system had been inoperable and the TS Action was not taken in the appropriate time period. Abstract: POWER LEVEL - 100%. ON JULY 5, 1990, UNIT 2 SURVEILLANCE TEST (ST) PROCEDURE ST-7-022-353-2, 'HALON SYSTEM INVENTORY,' WAS PERFORMED FOR THE AUXILIARY EQUIPMENT ROOM (AER) HALON FIRE SUPPRESSION SYSTEM. THIS ST IDENTIFIED ONE WEIGHT DEFICIENT BOTTLE IN THE HALON SYSTEM MAIN BANK. THE MAIN BANK WAS DECLARED INOPERABLE AND THE 'MAIN/RESERVE' SWITCH (HS-22-283A) WAS PLACED IN THE 'RESERVE' POSITION SWITCHING THE HALON SYSTEM TO ITS REDUNDANT RESERVE BANK. THE DEFICIENT BOTTLE WAS REMOVED ON JULY 24, 1990 TO BE REFILLED AND HS-22-283A WAS STILL IN THE 'AS LEFT' POSITION OF 'RESERVE.' HOWEVER, ON AUGUST 13, 1990, WHILE PREPARING TO REPLACE THE REFILLED MAIN BANK BOTTLE, STATION PERSONNEL DISCOVERED THAT HS-22-283A WAS IN THE 'MAIN' POSITION. HS-22-283A WAS IMMEDIATELY PUT IN THE 'RESERVE' POSITION BY THE FIRE PROTECTION SYSTEM ENGINEER AND HALON SYSTEM OPERABILITY WAS RESTORED. THERE WERE NO ADVERSE CONSEQUENCES IN THAT NO FIRES OCCURRED IN THE UNIT 2 AER DURING THIS TIME PERIOD. FURTHER INVESTIGATION INTO THIS EVENT IDENTIFIED THE CAUSE TO BE: 1) A LACK OF ADEQUATE JOB PLANNING AND COORDINATION AND 2) USE OF A TAGGING SYSTEM THAT HAS BEEN DETERMINED TO BE INADEQUATE FOR THIS HALON SYSTEM APPLICATION. CORRECTIVE ACTIONS
Limerick 2	02/04/1992	02/28/1992	A watertight door, which separates the Residual Heat Removal pump rooms, was discovered open, resulting in a condition outside of the Moderate Energy Pipe Break design basis. Abstract: POWER LEVEL · 100%. ON 2/4/92, DURING PERFORMANCE OF THE DAILY FIRE DOOR POSITION VERIFICATION SURVEILLANCE TEST, A FIREWATCH DISCOVERED THAT WATERTIGHT DOOR NO. 75 WAS OPEN AND UNSUPERVISED. DOOR NO. 75 SEPARATES THE RESIDUAL HEAT REMOVAL (RHR) 2A/2C AND 2B/2D PUMP ROOMS. THE FIREWATCH IMMEDIATELY CLOSED AND DOGGED THE DOOR AND NOTIFIED THE MAIN CONTROL ROOM. AN EVALUATION CONCLUDED THAT THE DOOR WAS OPEN FOR A PERIOD OF 22 MINUTES. DOOR NO. 75 IS REQUIRED TO BE ALWAYS CLOSED AND DOGGED FOR MODERATE ENERGY PIPE BREAK (MEPB) CONSIDERATIONS. THEREFORE, WITH THE DOOR OPEN, THE MEPB BARRIER BETWEEN THE RHR PUMP ROOMS WAS OUTSIDE THE MEPB DESIGN BASIS. ADDITIONALLY, DOOR NO. 75 IS REQUIRED FOR FIRE PROTECTION CONSIDERATIONS PER THE TECHNICAL SPECIFICATIONS (TS) SECTION 3.7.7. HOWEVER, SINCE THERE WERE OPERABLE FIRE DETECTORS IN BOTH RHR PUMP ROOMS, AND THE DOOR WAS CLOSED IN LESS THAN ONE HOUR, THE ACTION ASSOCIATED WITH TS 3.7.7 WAS SATISFIED. THE ACTUAL CONSEQUENCES OF THIS EVENT WERE MINIMAL IN THAT NO FIRE OR MEPB OCCURRED IN EITHER RHR PUMP ROOM DURING THE 22 MINUTE TIME PERIOD IN WHICH THE DOOR WAS OPEN. THE PROXIMATE CAUSE OF THIS EVENT IS THAT DOOR NO. 75 WAS NOT
Limerick 2	02/19/1994	05/31/1994	Failure to comply with Technical Specifications Section 3.7.7 in that a one hour firewatch inspection was not performed due to cognitive personnel error. Abstract: On 02/19/94, at 1000 hours, contracted security force personnel identified that the two previous hourly firewatch patrols of an area in the Unit 2 Reactor Enclosure had not been performed by the assigned Security Force Member (SFM). The patrol was required per the action of Technical Specification (TS) Section 3.7.7 due to an inoperable fire rated boot seal contained in the floor of the specific area. The patrol was performed at 1006 hours. This event was originally determined to be not reportable since adequately trained workers were in the area at the time of the missed inspections. The NRC concluded that such workers did not meet the TS requirements and the event resulted in a condition prohibited by TS. The defense in depth concept utilized in the design and operation of the plant make the actual and potential consequences of this event extremely minimal. The primary cause of this event was personnel error. The SFM became focused on the other responsibilities and forgot to perform the patrol as stipulated in the written post orders. The specific SFM was appropriately disciplined. All SFMs have been briefed on the event. A shift security supervisor will notify the assigned security responder prior to the time that the next
Limerick 2	12/14/1996	01/15/1997	Two Breakers Not Locked Open Contrary to Fire Protection Program Analysis Abstract: On 12/16/96, two closed Primary Containment Isolation Valves were discovered with their motor operator breakers closed (i.e., energized) contrary to the Technical Specifications and the high/low pressure system interface analysis of the Fire Protection Program (FPP). Postulated fire damage could result in opening of these valves allowing high pressure water to be discharged to the main condenser during fire recovery operations. During performance of the plant start-up procedure for Unit 2 on 12/14/96, the valves were required to be closed and their breakers locked open. A licensed shift supervisor failed to thoroughly review the panel indications and then incorrectly interpreted the indications during performance of the start-up procedure. This resulted in a failure to maintain the provisions of the FPP and is a violation of a Unit 2 License Condition. Incomplete system filling and venting instructions and a failure to use the Locked Valve and Device Log contributed to the event. The actual consequences are minimal since the duration of the non-compliance was short and a fire did not occur. The ongoing Operation Department self assessment will be used to monitor for the consistent application of self check behaviors. Procedure enhancements and reviews of requirements with appropriate Operations personnel

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Limerick 2	01/21/1999	02/17/1999	Unavailabilities of Safe Shutdown Equipement in the Event of a Fire Due to Inadequate Circuit Breaker Coordination for the 2B Reactor Enclosure Cooling Wate Pump Abstract: On 01/22/99, an Engineering review determined that in the event of a fire in Fire Area 64, "Reactor Enclosure Cooling Water Equipment Area," fire-induced damage to an auto-start pressure switch in the control circuit for the 2B Reactor Enclosure Cooling Water (RECW) pump could create a hot short that would cause the pump to auto-start, if the pump control switch is in the 'RUN' or 'AUTO' position. Additionally, the same fire could induce a fault in the 480 VAC power cable to the pump motor which could open the load center (LC) breaker to its associated motor control center (MCC). This would result in the loss of equipment required for safe shutdown in the event of a fire in that area. This condition is due to less than adequate circuit breaker coordination between the MCC and LC breakers. This represents a condition that is outside the design basis of the plant and is a violation of LGS, Unit 2, Operating License Condition 2.C.(3). This condition is reportable in accordance with the requirements of License Condition 2.E for Unit 2 and 10CFR50.73(a)(2)(ii)(B). The potential consequences of this event are minimal based on design and administrative features of the Fire Protection Program. Compensatory measures were put in place
Maine Yankee	05/29/1984	06/29/1984	Inadvertent SIAS During Calibration of Input to Safety Parameter Display System Abstract: POWER LEVEL - 000%. ON 29 MAY 1984, THE PLANT WAS IN A REFUELING SHUTDOWN CONDITION WITH THE HEAD REMOVED AND THE CORE UNLOADED. BOTH TRAINS OF THE SAFETY INJECTION ACTUATION SIGNAL (SIAS) SYSTEM WERE IN BLOCK MODE. DURING THE CALIBRATION OF A REACTOR COOLANT SYSTEM (RCS) PRESSURE INPUT TO THE SAFETY PARAMETER DISPLAY SYSTEM (SPDS), AN INADVERTENT SIAS ACTUATION OCCURRED. THE PRESSURE CALIBRATION SIGNAL WAS REDUCED BELOW THE SIAS AUTO UNBLOCK SETPOINT. OPERATORS THEN BLOCKED AND RESET TRAIN B SIAS, BUT WERE UNABLE TO BLOCK TRAIN A SIAS. THE CAUSE OF THE SIAS WAS AN OPEN BREAKER IN CONJUNCTION WITH THE CALIBRATION SIGNAL. TRAIN A SIAS COULD NOT BE BLOCKED BECAUSE OF THE OPEN BREAKER AND A NONCONDUCTING CONTACT IN A TYPE BFD RELAY IN THE TRAIN A SIAS LOGIC. THE BREAKER WAS SHUT AND OPERATORS THEN BLOCKED AND RESET TRAIN A SIAS. SINCE THE PLANT WAS IN A REFUELING SHUTDOWN, THE SIAS IMPACT ON PLANT OPERATIONS WAS MINIMAL. TO PRECLUDE FUTURE INCIDENTS INVOLVING NONCONDUCTING CONTACTS IN THIS TYPE OF RELAY, ALL TYPE BFD RELAYS IN THE SAFEGUARDS SYSTEMS HAVE BEEN EITHER REPLACED OR DISASSEMBLED AND CLEANED. A PREVENTATIVE MAINTENANCE PROGRAM FOR ECCS RELATED RELAYS IS BEING DEVELOPED. PROCEDURAL METHODS TO PREVENT INADVERTENT SAFETY INJECTION ACTUATION FROM AFFECTING PLANT
Maine Yankee	10/11/1984	11/13/1984	Unsealed Cable Penetration in Control Room Abstract: POWER LEVEL - 100%. WHILE OPERATING AT 100% POWER DURING AN INSPECTION OF CABLE PENETRATIONS IN SAFETY RELATED AREAS, AN UNSEALED PENETRATION BETWEEN THE CONTROL AND COMPUTER ROOMS WAS LOCATED AT 1042 ON 10-11-84. A CONTINUOUS FIRE WATCH WAS ESTABLISHED WITHIN 1 HR IN ACCORDANCE WITH TECH SPEC 3.23.E. THE PENETRATION WAS SEALED AND FIRE WATCH REMOVED BY 1435 THAT SAME DAY. COMPLETION OF THIS INSPECTION ALONG WITH CURRENT REQUIREMENTS FOR PROPER REPLACEMENT AND INSPECTION OF ANY SEALS OPENED DURING MAINTENANCE ENSURES PENETRATIONS WILL REMAIN EFFECTIVELY SEALED IN THE FUTURE.
Maine Yankee	10/23/1984	11/21/1984	Three Fire Protection Deficiencies Required by 10CFR50 Appendix R Abstract: POWER LEVEL - 100%. DURING THE WEEK OF 10-21-84, WHILE AT 100% POWER, MAINE YANKEE IDENTIFIED THREE FIRE PROTECTION DEFICIENCIES ASSOCIATED WITH THE DEGREE OF FIRE PROTECTION REQUIRED BY 10 CFR 50, APPENDIX R. THIS REPORT DOCUMENTS THE DEFICIENCIES IDENTIFIED IN THE DG FIRE AREA BOUNDARY, A MOTOR CONTROL CENTER SUPPRESSION SYSTEM, AND THE BOUNDARIES FOR FIRE AREAS ADJACENT TO CONTAINMENT. MAINE YANKEE ESTABLISHED A CONTINUOUS FIRE WATCH FOR THE DG ROOM BOUNDARIES AND A ROVING FIRE PATROL FOR THE OTHER AREAS FOUND TO BE DEFICIENT. THE DG DOORS WERE REPLACED WITH THREE HR RATED FIRE DOORS AND THE DERATED FIRE AREA BOUNDARIES WILL BE UPGRADED.
Maine Yankee	09/30/1985	10/29/1985	Fire Sprinklers Isolated Without Proper Fire Watch Abstract: POWER LEVEL - 000%. ON 9-12-85 WHILE THE PLANT WAS IN THE REFUELING SHUTDOWN CONDITION, SPRINKLER SYSTEMS FOR THE TURBINE LUBE OIL RESERVOIR AND THE GENERATOR SEAL OIL SYSTEM WERE ISOLATED. THE SPRINKLER SYSTEMS REMAINED OUT OF SERVICE WHILE FIRE SYSTEM SUPPLY LINES WERE RELOCATED. THE MODIFICATION WAS COMPLETED AND THE SPRINKLER SYSTEMS WERE RETURNED TO SERVICE ON 10-1-85. WHILE THESE SYSTEMS WERE OUT OF SERVICE, BACKUP FIRE SUPPRESSION FOR THE AFFECTED EQUIPMENT WAS PROVIDED. THE TECH SPEC FOR THIS PORTION OF THE FIRE PROTECTION SYSTEM REQUIRES THE ESTABLISHMENT OF HOURLY FIRE WATCHES IN ADDITION TO THE BACKUP FIRE SUPPRESSION EQUIPMENT. AS A RESULT OF PERSONNEL ERROR, THESE FIRE WATCHES HAD NOT BEEN ESTABLISHED. BACKUP EQUIPMENT WAS AVAILABLE, THE SMOKE DETECTION SYSTEMS REMAINED OPERABLE, AND THE AREAS WERE VERY HEAVILY TRAVELED BY MAINTENANCE WORKERS.
Maine Yankee	08/10/1986	09/09/1986	Plant Trip on Low Steam Generator Level due to Static Failure Abstract: POWER LEVEL - 099%. ON AUGUST 10, 1986, AT 0403, THE PLANT TRIPPED FROM 99% POWER DUE TO LOW STEAM GENERATOR LEVEL. AN AUTOMATIC POWER TRANSFER SWITCH DEVICE FOR THE NUMBER ONE FEEDWATER REGULATING SYSTEM (FRS) HAD FAILED AT SOME PREVIOUS TIME AND TRANSFERRED NUMBER ONE FRS POWER TO THE ALTERNATE POWER SUPPLY. WHEN THE ALTERNATE POWER SUPPLY WAS LOST DUE TO A FAILED STATIC INVERTER, THE NUMBER ONE MAIN FEEDWATER REGULATING VALVE CLOSED. THE PARTIAL LOSS OF FEEDWATER RESULTED IN A LOW STEAM GENERATOR LEVEL REACTOR PROTECTIVE SYSTEM TRIP OF THE REACTOR. THE INVERTER WAS REPAIRED, THE TRANSFER SWITCH WAS REPLACED, AND THE TRANSFER SWITCHES FOR NUMBERS TWO AND THREE FRS WERE VERIFIED OPERABLE BEFORE THE PLANT WAS RESTARTED. AFTER THE PLANT TRIP, AN UNRELATED CARDOX FIRE PROTECTION SYSTEM ALARM OCCURRED. INVESTIGATION REVEALED A GROUND IN THE MASTER SUPPLY VALVE SOLENOID HAD TRIPPED THE CARDOX SYSTEM POWER SUPPLY BREAKER, MAKING THE SYSTEM INOPERABLE.
Maine Yankee	04/29/1987	06/08/1987	Fire Barrier Door blocked partially open Abstract: POWER LEVEL - 000%. DURING THE 1987 REFUELING OUTAGE, A FIRE BARRIER DOOR WAS BLOCKED OPEN FOR MORE THAN ONE WEEK. TECH SPECS REQUIRE A FIRE WATCH TO BE POSTED WITHIN ONE HOUR OF DEGRADING A FIRE BARRIER. OPERATIONS PERSONNEL OPENED THE DOOR TO ALLOW PASSAGE OF A HOSE BUT THEY FAILED TO IDENTIFY THE DOOR AS A FIRE BARRIER DOOR. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR. UPON DISCOVERY, THE HOSE WAS REMOVED AND THE DOOR CLOSED. LOCATED IN THE UPPER LEVEL SPRAY BUILDING, THE OPEN DOOR DEGRADED THE WEST WALL FIRE BARRIER. THIS CONDITION DID NOT ADVERSELY AFFECT EQUIPMENT OR POSE A SIGNIFICANT SAFETY CONCERN. ALL FIRE DETECTION AND SUPPRESSION EQUIPMENT INSIDE AND OUTSIDE THE SPRAY BUILDING WAS IN SERVICE. PERSONNEL WERE CONSTANTLY MOVING THROUGH THE AREA AND FIRE LOADING WAS LOW. THE RESIDUAL HEAT REMOVAL/LOW PRESSURE SAFETY INJECTION PUMPS, RESIDUAL HEAT REMOVAL HEAT EXCHANGERS, AND CONTAINMENT SPRAY PUMPS LOCATED IN THE SPRAY BUILDING. THE FOLLOWING ACTIONS WERE TAKEN: 1. THE PERSONNEL INVOLVED WERE COUNSELED AND ALL OPERATORS WERE REQUIRED TO REVIEW A REPORT OF THE EVENT AND THE PROCEDURE FOR ACCESSING SECURITY/FIRE DOORS. 2. OPERATIONS LOGS AND SHUTDOWN CHECKLISTS WERE REVIEWED TO ENSURE FIRE DOOR INSPECTIONS WERE INCLUDED. MINOR CHANGES WERE MADE. ADDITIONALLY, ALL
Maine Yankee	04/01/1988	05/02/1988	Potentially Degraded Fire Doors Abstract: POWER LEVEL - 100%. ON APRIL 1, 1988, MAINE YANKEE IDENTIFIED SEVEN FIRE BARRIER DOORS WHICH MAY NOT HAVE PERFORMED THEIR INTENDED FUNCTION UNDER ALL CIRCUMSTANCES. THE SEVEN DOORS WERE DESIGNED TO UNLATCH ON LOSS OF POWER TO THE SOLENOID OPERATED LATCHING MECHANISM. THE NATIONAL FIRE CODES REQUIRE THAT FIRE BARRIER DOORS BE EQUIPPED WITH LATCHING MECHANISMS TO ENSURE THAT THE DOORS ARE LATCHED DURING A FIRE. IT IS POSTULATED THAT AN INTENSE FIRE COULD RESULT IN FAILURE OF NON-QUALIFIED WIRING DISRUPTING POWER TO THE SOLENOID LATCHING MECHANISM PERMITTING THE DOORS TO UNLATCH. AS A PRECAUTIONARY MEASURE, MAINE YANKEE ESTABLISHED A ROVING FIRE WATCH, WITH NO OTHER ASSIGNED DUTIES, TO ENSURE THERE WERE NOT FIRE HAZARDS IN THE AFFECTED AREAS. BY APRIL 6, 1988, MODIFICATIONS WERE COMPLETED SO THE DOORS REMAIN LATCHED ON LOSS OF POWER TO THE SOLENOID LATCHING MECHANISM.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Maine Yankee	06/18/1993	07/18/1993	Incorrect Compensatory Action for Inoperable Fire Hose Station Abstract: POWER LEVEL - 095%. On June 18, 1993, with the plant at 95% power, preparations were made to isolate firemain branch cutout valve FS-289 for repair. It was recognized this work would also isolate two firehose stations required to be operable by Technical Specifications and that compensatory actions were necessary. With a required firehose station inoperable, Technical Specifications require routing of additional hoses of equivalent capacity, to the unprotected area from an operable hose station, within one hour. The Fire Protection Coordinator (FPC) and the Shift Operating Supervisor (SOS) responsible for isolating and tagging out the cutout valve each performed an independent review of system drawings to identify other operable hose stations for supplying the additional hoses. However, in an effort to expedite the installation of the additional hoses, the FPC departed from his pre-planned hose routing and elected to use a different hose station for the alternate water supply. Approximately twelve hours later, it was discovered that this hose station was inside the tagging boundary for the isolation of the branch cutout valve; and thus was itself inoperable. Immediate corrective action was taken to re-route the hose to an operable station. However, for approximately 12-1/2 hours, Maine Yankee was in noncompliance
Maine Yankee	07/02/1996	08/28/1996	Fire Barrier Penetration Seal Discrepancy Abstract: On July 02, 1996 Maine Yankee was steady state at 90% power. During a scoping study (in preparation for Fire Barrier Penetration Inspection Program walkdowns), field observations identified fire barrier wall penetration seals which did not have damming material in the proper location. These observations prompted examination of the criteria for penetration seals and a request for a technical review of the Maine Yankee Penetration Seal Design Parameters. The conclusion of this review identified discrepancies between available Test Reports, procedural guidance and the configuration of some penetration seals in the plant. No test reports could be found to support some of the penetration seal configurations found at the plant. Compensatory hourly fire rounds for all zones potentially affected were implemented immediately per the Fire Protection Plan and appropriate procedures. Planned corrective actions for fire barrier penetration seals include: o Effort to determine why previous reviews of procedures did not identify discrepancies. o Evaluate adequacy of procedures, test reports, acceptance criteria and field inspections. o Evaluate existing configurations for adequacy. o Inspection of all fire barrier penetrations. Revision 1 update: o Three additional types of deficiencies have been identified: o Inadequate thickness of silicone foam.
McGuire 1	04/08/1981	05/08/1981	A Firestop was Found Open Abstract: A penetration was discovered open in the floor of the health physics change room. The hole had not been sealed and no fire watch had been posted. This particular fire barrier was obscured by a trunk and was not sealed by construction personnel. A firewatch was established and a work order was written to repair the firestop.
McGuire 1	06/12/1981	07/08/1981	Several Fire Zones were Declared Inoperable Due to an Insuffcient Quantitiy of Installed Instruments Abstract: Routine surveillance discovered that the quantity of fire detection equipment installed in 5 fire zones did not comply with the minimum required in T.S. and subsequently were declared inoperable. The discrepancy from the T.S. in one fire zone was the result of a typographical error. The other 4 zone's discrepancies were due to incorrect blueprints, the reason for which is unknown. Hourly firewatches were established, and it was determined that the other zone's fire protection equipment was adequate. Nrc approval of the existing equipment and ts changes were requested and received.
McGuire 1	07/06/1981	08/04/1981	the Halon System Protecting the Turbine Driven Auxiliary Feedwater Pump Abstract: During performance of preventative maintenance/periodic testing, the reserve cylinder of the Halon System protecting the turbine driven auxiliary feedwater pump (AFWPT) was inadvertently discharged while the main cylinder was inoperable. Malfunction (Cutler-Hammer E30DM), in conjunction with a mixup in communications, resulted in an equipment operation error causing the reserve Halon cylinder to discharge. A fire watch was posted, the main halon cylinder made operational, and the reserve cylinder replaced. The sticking pushbutton will be repaired, and the work request used to perform the PM/PT corrected.
McGuire 1	07/10/1981	08/07/1981	All Fire Barrier Penetrations in Fire Zone Boundaries Protecting Safety-Related Areas, Shall be Functional Abstract: The NRC Resident Inspector found a fire door open. Aware that the door was open. Upon notification, the door was declared inoperable per Tech. Spec. If a fire had broken out in the area, the open fire door could have made it more difficult to control the fire. The door was held open by tie-wraps, and an electrical cord was running through the doorway to a receptacle. Apparently personnel working in the area did not let operations know that the fire door would be left open, did not post a fire-watch, and failed to close the door when they left. The door was closed, and various departments were made aware of the problem.
McGuire 1	04/25/1982	05/25/1982	Loss of Nitrogen Pressure Which Opens the Halon Cylinder Valves Abstract: The diesel generator Halon Fire Protection System was declared inoperable on April 25 and again on April 26 due to the loss of nitrogen pressure which opens the halon cylinder valves. This violates Tech Spec 3.7.10.3 which is reportable per Tech Spec 6.9.1.13(b). Since the electrical and detection portions of the system were unaffected by the nitrogen leak, the system would have functioned, if required, after the Halon cylinder bank manual loader had been actuated. The leaking nitrogen supply for the automatic actuation of the D/G Halon Fire Protection System resulted from a metal burr found on the Halon System nitrogen cylinder connector. The burr is believed to have been formed during maintenance activities on April 24. The burr was removed from the connector and the threads cleaned before the system was returned to service on April 26.
McGuire 1	07/01/1982	08/10/1982	Water Leaking into the Data Gathering Panel (DGP) Causing the Failure of Several Components Abstract: Investigation of fire detection system (EFA) trouble alarms which could be cleared on July 1, 6, and 13, resulted in EFA zones 63 and 64 (Residual heat removal pump room) being declared inoperable on each day. This violates Tech Spec 3.3.3.7 which is reportable pursuant to Tech Spec 6.9.1.13(b). These were the result of water leaking into data gathering panel (DGP) No. 1 causing the failure of several components due to corrosion (water was from condensation on the Nuclear Service Water (RN) piping). Failed components were replaced, and subsequent efforts to prevent water corrosion included drilling holes in bottom of DGP-1, sealing panel door and cable penetrations, and covering DGP-1 with plastic. The RN piping will be insulated to prevent condensation.
McGuire 1	08/20/1982	09/17/1982	Inspectio of Fire Barrier Penetrations Abstract: During performance of the "Inspection of Fire Barrier Penetrations" periodic test it was discovered that fire retardant material was not installed in a fire stop penetration (located on a duct shaft wall near the boric acid tank rooms -- Aux. Building). This violates Tech Spec 3.7.11 which is reportable per Tech Spec 6.9.1.13(b) and similar to previous ROs #369/81-16 and 81-41. Since the penetration did not contain any residual fire retardant material the fire stop was apparently overlooked by Construction when all the fire barrier penetrations were sealed. A fire watch was established in the area until the fire stop was sealed and declared operable on 8/23/82.
McGuire 1	09/03/1982	10/01/1982	Abstract: INVESTIGATION OF SEVERAL SPURIOUS FIRE DETECTION SYSTEM (EFA) ZONE ALARMS RESULTED IN THE EFA SYSTEM BEING DECLARED INOPERABLE PER TECH SPEC 3.3.3.7. THIS IS REPORTABLE PURSUANT TO TECH SPEC 6.9.1.13(B) AND IS SIMILAR TO PREVIOUS RO 369/82-60. ON 9/13/82 WHILE IN MODE 1, INVESTIGATION OF A FIRE WARNING ALARM FROM ZONE 64 RESULTED IN THE ZONE BEING DECLARED INOPERABLE. INVESTIGATION OF THE 9/3/82 INCIDENT REVEALED THAT WATER HAD GOTTEN INTO DGP-1, CREATING A GROUND CONDITION WHICH AFFECTED THE ENTIRE EFA SYSTEM. AN HOURLY SURVEILLANCE WAS ESTABLISHED, THE PANEL DRIED OUT, AND THE EFA SYSTEM DECLARED OPERABLE (9/3/82). INVESTIGATION OF THE 9/13/82 INCIDENT REVEALED THAT WATER HAD GOTTEN INTO THE SMOKE DETECTOR IN ZONE 64. A FIRE WATCH WAS ESTABLISHED, THE WATER REMOVED AND THE DETECTOR BASE REPLACED, AND THE ZONE DECLARED OPERABLE. DGP-1 AND DGP-2 WILL BE MOVED TO A HIGHER ELEVATION.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

McGuire 1	04/26/1983	05/26/1983	Fire Door NS ll ir'a Parts Broken Abstract: While in Mode 5, maintenance technicians discovered that fire door 1000B was damaged (damage consisted of a bent door, one broken hinge, one bent hinge, a broken door lock, and a broken door closer). The door was declared inoperable per Tech Spec 3.7.11 which is reportable pursuant to Tech Spec 6.9.1.11(b). The fire detectors in the vicinity of the door were verified operable and an hourly fire watch patrol was established per the Tech Spec action statement. The cause of the damage to the door's hardware is unknown, although apparently the door had been abused. A fire watch was established. The door was repaired and declared operable on 4/28/83. Personnel will be counseled on the need to take care of and not abuse fire doors.
McGuire 1	05/08/1983	05/27/1983	Fire Detection Alarms Fail to Clear Abstract: While in Mode 2, Fire Detection System (EFA) zones 72 and 149 were declared inoperable due to the alarms remaining in the alarm condition. This violates Tech Spec 3.3.3.7 which is reportable per Tech Spec 6.9.1.11(b). Fire watch patrols were established as required by the Tech Spec action statement. This incident is attributed to component failure. The control interface module (CIM-connects the operator aid computer to the EFA processor) associated with zone 72 was found latched in the alarm position. The CIM relay was reset, and the alarm on the OAC cleared. Fire zone 149 was reset at data gathering panel 28, clearing the alarm. Fire zones 72 and 149 were declared operable on 5/9/83.
McGuire 1	09/01/1983	09/30/1983	Fire Door Removed Abstract: While in Mode 1, routine auxiliary building surveillance discovered that the screws attaching the door hinges to the door frame of fire door 819A had been removed, and the door was found propped up against a wall. This constitutes a degradation of fire barrier penetrations (tech spec 3.7.11) which is reportable perTech Spec 6.9.1.11(b) and similar to RO's 369/81-117, 83-24. Accordance with the Tech Spec action statements. The fire detectors in the vicinity of the fire door were operable which would have provided early warning of a fire. The bottom of the door had previously been dragging on the floor and a work request written to correct the problem had not yet been performed (the door could be closed manually). Evidently the dragging problem became worse and the door was apparently deliberately removed from the door frame. The door was repaired. All station personnel will be counseled on the importance of reporting inoperable fire doors to the control room.
McGuire 1	09/08/1983	10/21/1983	Fire Doors Operability not Tested Abstract: On 9/22/83, a routine quality assurance audit discovered that the weekly portion of the "Fire Door Inspection" periodic test, which verifies the operability of locked fire doors throughout the auxiliary building, was not performed on 9/8/83 as scheduled. This constitutes a degradation of fire barrier penetrations (tech spec 3.7.11) which is reportable pursuant to Tech Spec 6.9.11(b) and similar to RO's 369/83-83 and 370/83-47, 83-55. These seldom used locked fire doors were verified to be operable on 9/1/83 and 9/15/83. Additionally, the fire detection system provides further protection from fires. This is attributed to personnel error by the contracted security organization for mcguire: a shift lieutenant failed to have the weekly portion of the inspection performed (the daily portion was performed) thinking it would be reassigned to a later shift, and 2 other officers failed to review the procedure for completion of the inspection. Security personnel were counseled, and the fire door surveillances will be added to the shift turnover computer printout.
McGuire 1	09/14/1983	09/28/1983	Auxiliary Building Fire Barrier Found to be Inadequate Abstract: While in Mode 1, review of a condition identified on Catawba Nuclear Station determined that an adequate fire barrier is not provided between electrical penetration rooms located in the Auxiliary Building on Elevations 733' and 750'. This constitutes a degradation of fire barrier penetrations (Tech Spec 3.7.11) which is reportable pursuant to Tech Spec 6.9.1.11(b) and similar to RO-370/83-44. Fire detectors in the area were verified operable and hourly fire watch patrols have been established. The three inch seismic gap in areas where the Auxiliary Building abutts the Reactor and Diesel Generator Building has compressed cork installed as filler material. This situation was inadvertently overlooked during identification of fire barrier penetrations. The cork will be removed and replaced with an approved fire rated material, and the penetration added to surveillance procedures.
McGuire 1	09/26/1983	10/26/1983	Fire Door Declared Inoperable Abstract: While in Mode 1, fire door 819A was found attached to the door frame by the top hinge and door closer mechanism only, with several of the screws from the middle and bottom hinges lying on the floor near the door. The door was subsequently declared inoperable. This constitutes a degradation of fire barrier penetrations (Tech Spec 3.7.11) which is reportable pursuant to Tech Spec 6.9.1.11(b) and similar to RO's 369/81-117, 83-24, and 83-76. An hourly fire watch patrol was established per Tech Spec action statements. Additionally, fire detectors in the vicinity of the door were operable. Possible prior damage to the threads of the screw holes (ref. RO's 369/83-76) may have contributed to the door's inoperability. The screw holes in the door frame were retapped, and new (larger) screws installed.
McGuire 1	09/29/1983	10/13/1983	Fire Watch Patrol not Performed Abstract: While in Mode 1, two scheduled fire watch patrols in the Auxiliary Building Electrical Penetration Rooms (EPRS) were not performed. The hourly patrols had been instituted per Tech Spec 3.7.11 after discovery that a nonfire-retardant material had been installed in the eprs (reference RO-369/83-72). This constitutes a violation of tech spec 3.7.11 which is reportable pursuant to Tech Spec 6.9.1.10(b). During the 2 hours the patrols were not conducted other personnel entered the rooms while inspecting fire doors. Additionally, fire detectors in the area were operable. This is attributed to personnel error, due to neglect by the contracted security officer who should have performed the patrols. Although cognizant of the requirement to perform the patrols, the officer was not aware they were tech spec related or of the severity of failing to perform the patrols. All appropriate security personnel have been given training, and responsibility for the patrol reassigned.
McGuire 1	11/24/1983	12/22/1983	Spurious Alarm from Fire Detector Abstract: While in Mode 1, a trouble alarm for fire detection zone EFA 162 (Unit 1 Reactor Building Annulus) was received in the control room which would not reset. EFA 162 was subsequently declared inoperable. This constitutes a degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable pursuant to Tech Spec 6.9.1.11(b) and similar to RO's 369/83-69, 83-71, 83-88, 83-99, 83-106 and 370/83-41. An hourly fire watch patrol was established in accordance with the Tech Spec action statement, restoring early detection capability. This is attributed to unusual service conditions due to moisture accumulation in the detector and its base. One ionization type detector (Honeywell TC100A) and base were found badly corroded. The source of water could not be determined. This was the first time this year that EFA 162 has been declared inoperable. The detector and base were replaced, the alarm reset, and the zone declared operable.
McGuire 1	12/02/1983	12/29/1983	Fire Detector Fails Abstract: While in Mode 1, a fire alarm for fire detection Zone EFA 40 (Control Room) was received in the control room which was determined to be invalid but would not reset. EFA 40 was subsequently declared inoperable. This constitutes a degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable pursuant to Tech Spec 6.9.1.11(b) and similar to previous incidents referenced in RO-370/83-81. An hourly fire watch patrol was established in accordance with the Tech Spec action statement, restoring early detection capability. This is attributed to component malfunction due to dust and dirt accumulation inside one of the ionization type detectors (Honeywell TC100a). An exhaust fan located in front of the detector probably contributed to the dust accumulation. The detector was removed, cleaned and reinstalled. The sensitivity level of the detector was adjusted to compensate for the environmental conditions (air flow, dust) in the area. The alarm was reset and the zone declared operable.
McGuire 1	12/06/1983	01/06/1984	Fire Alarm Received in Control Room Twice Abstract: While in Mode 1, on 12/6/83 and again on 12/8/83, a fire alarm for fire detection zone EFA77 (716' elevation reciprocating charging pump room) was received in the control room which would not reset. EFA77 was declared inoperable each time. These constitute degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable per Tech Spec 6.9.1.11(b) and similar to previous incidents referenced in RO-369/81-113. Accordance with the Tech Spec action statement, restoring early detection capability. The 12/6/83 incident is attributed to unusual service conditions due to water accumulation in one of the two detectors (Honeywell TC100A) and base. The water leaked into the room from a higher elevation through a crack around the ceiling hatch plug. The source of water could not be determined. The cause of the other detector's 12/8/83 alarm could not be determined. Both detectors were replaced, sealant applied to the detector's electrical boxes, and the zone declared operable.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

McGuire 1	12/14/1983	01/13/1984	Invalid Fire Alarm Received in Control Room Abstract: While in Mode 1, an invalid fire alarm for fire detection zone EFA 76 (centrifugal charging pump 1A room, 716' elevation) was received in the control room which would not reset. EFA 76 was subsequently declared inoperable. This constitutes a degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable per Tech Spec 6.9.1.11(b) and similar to previous incidents referenced in RO-369/83-81 and 83-112. Hourly fire watch patrols were established in accordance with the Tech Spec action statement, restoring early detection capability. This is attributed to component malfunctioning due to the spurious alarm. Although investigation found none of the zone's detectors in alarm, corrosion and dirt were found inside a detector base. The detector (Honeywell TC100A) and detector base were replaced, the alarm reset, and the detection system returned to service.
McGuire 1	12/21/1983	01/20/1984	Fire Barrier Penetration Declared Inoperable Abstract: While in Mode 1, the fire retardant packing of a fire barrier penetration (an approximately 3 1/2' diameter opening on the north central stairwell of the auxiliary building which accomodates a 3'x1' cable tray) was discovered missing. The penetration was subsequently declared inoperable. This constitutes a degradation of fire barrier penetrations (Tech Spec 3.7.11) which is reportable per tech spec 6.9.1.11(b). The small size of the penetration would have made fire spread through it unlikely. In addition, no combustible material exists inside the stairwell. All fire barrier penetrations (including this one) were identified, inspected and labelled Jan - Feb 1983. Investigation could not establish a time or reason for removal of the original fire retardant packing. During the time the penetration was inoperable, the operability of the fire detection system in the area was verified, and an hourly fire watch patrol established. New packing was installed and the penetration tested and declared operable.
McGuire 1	12/31/1983	01/30/1984	Invalid Fire Alarm Received in Control Room Abstract: While in Mode 1, an invalid fire alarm for fire detection zone EFA 116 (heating ventilation equipment area on 767' elevation) was received in the control room. EFA 116 was subsequently declared inoperable. This constitutes a degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable per Tech Spec 6.9.1.11(b) and similar to previous events referenced in RO-370/83-91. Hourly fire watch patrols were initiated per Tech Spec action statement, restoring early detection capability. Investigation found one detector in alarm which was covered with carbon dust (which caused the detector to alarm). The carbon dust came from changing out the carbon filter in the area. The detector (Honeywell TC 100A ionization type), along with the other detectors located in the zone, was cleaned, and the alarm reset. Proper alarm functions were verified and the zone declared operable.
McGuire 1	04/16/1985	05/16/1985	Missed Daily Fire Door Inspections Abstract: POWER LEVEL - 034%. FROM 2-14-85 UNTIL 4-25-85, FIRE DOORS PD-1 AND PD-2 WHICH ARE NORMALLY LOCKED CLOSED, WERE UNLOCKED. THESE DOORS ARE NORMALLY VERIFIED CLOSED WEEKLY IN ACCORDANCE WITH PT/0/A/4250/12 AND TECH SPECS. WHILE UNLOCKED, THE DOORS WERE NOT VERIFIED CLOSED DAILY NOR WAS A FIRE WATCH POSTED AS REQUIRED BY TECH SPECS. UNIT 1 WAS IN MODE 1 AT THE TIME OF DISCOVERY; UNIT 2 WAS IN MODE 5 FOR A REFUELING OUTAGE. THE CAUSE OF THE EVENT IS AN ADMINISTRATIVE/PROCEDURAL DEFIENCY. CORRECTIVE ACTIONS CONSISTED OF IMPLEMENTING THE REQUIRED SURVEILLANCE, AND CLARIFYING THE RESPONSIBILITY FOR CARRYING OUT SURVEILLANCE AND THE REPORTING AND CORRECTING OF DISCREPANCIES.
McGuire 1	05/30/1985	06/28/1985	Missed Eighteen Month Surveillance on Cable Transits Abstract: POWER LEVEL - 000%. WHILE REVIEWING FIRE BARRIERS ON MAY 29, 1985, IT WAS DISCOVERED THAT THE CABLE TRANSITS THAT PENETRATE THE UNIT 1 AND UNIT 2 REACTOR BUILDING WALLS ARE INDEED FIRE BARRIERS BUT WERE NEVER INCLUDED IN THE PERIODIC TEST PROCEDURE 'FIRE BARRIER INSPECTION.' THIS DETERMINATION WAS CONFIRMED AT 0900 ON MAY 30, 1985. THESE BARRIERS HAD NOT BEEN INSPECTED ON AN EIGHTEEN MONTH FREQUENCY AS REQUIRED BY TECH SPECS 3.7.11. FIRE WATCHES WERE ESTABLISHED AS REQUIRED BY TECH SPEC 3.7.11 UNTIL THE FIRE BARRIER INSPECTIONS COULD BE PERFORMED. THE SURVEILLANCE WAS COMPLETED BY 0910 ON MAY 31, 1985 AND NO PROBLEMS WERE FOUND WITH THE CABLE TRANSITS. UNIT 1 WAS IN MODE 6 WITH THE CORE UNLOADED AND UNIT 2 WAS IN MODE 1 AT 100% POWER AT THE TIME OF THE DISCOVERY. THIS EVENT IS CLASSIFIED AS AN ADMINISTRATIVE/PROCEDURAL DEFICIENCY. THE EIGHTEEN MONTH SURVEILLANCE WAS NOT PERFORMED AS REQUIRED DUE TO THE OMISSION OF CABLE TRANSITS FROM THE FIRE BARRIER INSPECTION PROCEDURE. THIS OMISSION WAS THE RESULT OF AN OVERSIGHT DURING THE INITIAL DEVELOPMENT OF THE MCGUIRE FIRE BARRIER INSPECTION PROCEDURE. THE CABLE TRANSITS HAVE BEEN INCORPORATED INTO THE PROCEDURE 'FIRE BARRIER INSPECTION.'
McGuire 1	07/03/1985	08/02/1985	Electrical Channel Separation Requirements Violated by Temporary Cable Routing Abstract: POWER LEVEL - 050%. ON 7-3-85, IT WAS DISCOVERED THAT A TEMPORARY CABLE WAS ROUTED WITH YELLOW AND BLUE CHANNEL CABLES. THIS VIOLATED MCGUIRE ELECTRICAL SEPARATION REQUIREMENTS AS DEFINED IN ELECTRICAL INSTALLATION SPECS AND THE FSAR. THE CABLE WAS REMOVED FROM THE BLUE CHANNEL CABLE TRAY, RESTORING CHANNEL SEPARATION. UNIT 1 WAS AT 50% POWER AND UNIT 2 WAS AT 100% POWER AT THE TIME THE PROBLEM WAS IDENTIFIED. THIS INCIDENT IS ATTRIBUTED TO AN ADMINISTRATIVE/PROCEDURAL DEFICIENCY DUE TO A LACK OF CONTROLS ON THE USE AND ROUTING OF NON-SAFETY RELATED TEMPORARY CABLES. THE AFFECTED CABLE WAS PART OF THE PAGING SYSTEM ANTENNA CIRCUITS CARRYING LOW SIGNAL LEVELS AND WOULD HAVE HAD NO SIGNIFICANT ADVERSE IMPACT ON THE CLASS 1E CIRCUITS.
McGuire 1	08/05/1987	09/08/1987	REQUIRED COMPENSATORY MEASURES WERE NOT TAKEN WHEN A DIESEL GENERATOR ROOM FIRE/FLOOD BARRIER WAS BREACHED DUE TO PERSONNEL ERROR - FAILED TO NOTIFY CONTROL ROOM Abstract: POWER LEVEL - 100%. ON JULY 27, 1987 WITH UNIT 1 IN MODE 1, POWER OPERATION AT 100% POWER, DUKE CONSTRUCTION AND MAINTENANCE (CMD) PERSONNEL BREACHED THE FIRE/FLOOD BARRIER BETWEEN DIESEL GENERATOR ROOM 1A AND THE DIESEL LUBE OIL HOLDING TANKS ROOM. ON AUGUST 6, 1987, AT 1140, STATION PROJECTS PERSONNEL WERE ASSISTING CMD IN PREPARING TO FOAM FIRE/FLOOD PENETRATION NO. 1-733-3.1-1 AND DISCOVERED THAT CMD HAD ALREADY CUT OFF THE 2 INCH PIPE ON BOTH SIDES OF THE PENETRATION. PROJECTS NOTIFIED THE CONTROL ROOM AND THE PENETRATION WAS DECLARED INOPERABLE AT 1140. A FIRE WATCH WAS ESTABLISHED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.11. ON AUGUST 7, 1987, AT APPROXIMATELY 1530, CMD SEALED THE FIRE/FLOOD BARRIER PENETRATION AND AT 1550, OPERATIONS DECLARED THE PENETRATION OPERABLE. ON AUGUST 18, 1987, THE CAPPED PIPE WAS REMOVED FROM THE FIRE/FLOOD BARRIER AND THE BARRIER PENETRATION WAS FOAMED PER STATION PROCEDURE. THIS EVENT HAS BEEN CLASSIFIED AS PERSONNEL ERROR BECAUSE A CMD SUPERVISOR FAILED TO NOTIFY CONTROL ROOM PERSONNEL PER STATION DIRECTIVE 2.11.5, THAT A FIRE/FLOOD BARRIER WAS BREACHED SO THAT PROPER COMPENSATORY MEASURES COULD BE
McGuire 1	09/21/1987	06/30/1988	A Fire Barrier Blanket was Breached Without Compensatory Action Due To Personnel Not Recognizing The Blanket As A Fire Barrier Abstract: POWER LEVEL - 000%. ON SEPTEMBER 21, 1987 DURING AN ANNUAL FIRE PROTECTION AUDIT, A BREACHED FIRE BLANKET WAS DISCOVERED. THE FIRE BLANKET COVERED AN AUXILIARY FEEDWATER (CA) PRESSURE SWITCH. THE BLANKET HAD BEEN CUT TO ALLOW PENETRATION TO FACILITATE MAINTENANCE ON THE PRESSURE SWITCH INSTRUMENT. IT WAS DETERMINED THAT THE BREACH OCCURRED ON SEPTEMBER 12, 1987 WHEN INSTRUMENT AND ELECTRICAL PERSONNEL, WHO WERE UNAWARE THE BLANKET WAS A FIRE BARRIER, CUT THE BLANKET TO PERFORM PREVENTATIVE MAINTENANCE. THE CAUSE OF THE EVENT WAS ATTRIBUTED TO MANAGEMENT DEFICIENCY BECAUSE NO TRAINING HAD BEEN GIVEN TO THE TECHNICIANS TO ENABLE THEM TO RECOGNIZE THE COVERING (BLANKET) AS A FIRE BARRIER. PLACARDS WERE ATTACHED TO THE FIRE BLANKETS OVER THE INSTRUMENTATION IN BOTH UNIT 1 AND 2 CA ROOMS IDENTIFYING THEM AS FIRE BARRIERS. TRAINING ALREADY IN PLACE AS A RESULT OF A PREVIOUS EVENT WILL BE MODIFIED TO EMPHASIZE RECOGNIZING FIRE BARRIERS. INSTRUMENTS WHICH HAVE FIRE BLANKET COVERINGS WILL BE IDENTIFIED ON THEIR PREVENTATIVE MAINTENANCE/PERIODIC TESTS WORK REQUESTS AS SUCH TO AID IN IDENTIFYING THIS TYPE OF FIRE BARRIER.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

McGuire 1	11/08/1987	12/30/1987	A Fire Barrier Was Inoperable For An Undetermined Amount Of Time -- The Cause Could Not Be Determined Abstract: POWER LEVEL - 000%. ON 11/08/87 AT 1330, INSTRUMENTATION AND ELECTRICAL (IAE) PERSONNEL DISCOVERED A DAMAGED FIRE BARRIER ON AN AUXILIARY FEEDWATER SYSTEM VALVE ACTUATOR. IAE IMMEDIATELY NOTIFIED THE CONTROL ROOM SENIOR REACTOR OPERATOR OF THE BREACHED FIRE BARRIER. OPERATIONS THEN DECLARED THE FIRE BARRIER INOPERABLE, IMMEDIATELY INITIATED A FIRE WATCH FOR THE ROOM IN WHICH THE VALVE IS LOCATED, AND WROTE A WORK REQUEST TO REPAIR THE FIRE BARRIER. THE FIRE BARRIER WAS REPAIRED BY MECHANICAL MAINTENANCE ON 11/13/87. SIGNS WERE ATTACHED TO ALL TECHNICAL SPECIFICATION FIRE BARRIERS OF THERMALAG 303 TYPE WARNING THAT THE BARRIERS ARE TECHNICAL SPECIFICATION FIRE BARRIERS. A CAUSE OF OTHER HAS BEEN ASSIGNED TO THIS EVENT BECAUSE IT COULD NOT BE DETERMINED WHEN, WHY, OR BY WHOM THE FIRE BARRIER WAS BREACHED, OR WHY IT WAS NOT DECLARED INOPERABLE AS A FIRE BARRIER AS REQUIRED BY TECHNICAL SPECIFICATIONS. IT SHOULD ALSO BE NOTED THAT CORRECTIVE ACTIONS FROM PREVIOUS LICENSEE EVENT REPORTS ARE STILL UNDERWAY AND SHOULD PROVE EFFECTIVE IN PREVENTING FURTHER OCCURRENCES OF THIS TYPE.
McGuire 1	09/22/1988	10/03/1988	A Required Fire Watch was Performed When the Turbine Drive Auxiliary Feedwater Pump Halon Fire Suppression System was Inoperable Abstract: POWER LEVEL - 100%. ON 05/28/87 AT 1022, PERFORMANCE BEGAN TESTING THE HALON FIRE SUPPRESSION SYSTEM FOR THE UNIT 1 TURBINE DRIVEN AUXILIARY FEEDWATER (TD CA) PUMP. OPERATIONS (OPS) DECLARED THE UNIT 1 TD CA PUMP ROOM HALON SYSTEM INOPERABLE. DURING THE TEST, THE FIRE DAMPER IN THE VENTILATION SYSTEM EXHAUST DUCT FAILED TO CLOSE AS REQUIRED. PERFORMANCE NOTIFIED OPS OF THE FAILED FIRE DAMPER. OPS INFORMED PERFORMANCE THAT AN HOURLY FIRE WATCH WOULD NEED TO BE PERFORMED AND THAT OPS WOULD PERFORM THE FIRE WATCH. OPS AND PERFORMANCE DECLARED THE UNIT 1 TD CA PUMP ROOM HALON SYSTEM OPERABLE AT 1122. INSTRUMENTATION AND ELECTRICAL REPAIRED THE FIRE DAMPER AND PERFORMANCE SUCCESSFULLY TESTED THE FIRE DAMPER BY 06/03/87. IN SEPTEMBER 1988, QUALITY ASSURANCE PERSONNEL WERE PERFORMING A ROUTINE AUDIT OF FIRE PROTECTION AND DISCOVERED THAT AN HOURLY FIRE WATCH WAS NOT PERFORMED BETWEEN 05/28/87 AND 06/03/87 FOR THE INOPERABLE HALON FIRE SUPPRESSION SYSTEM AS REQUIRED. THIS EVENT IS ASSIGNED A CAUSE OF OTHER BECAUSE OF A POSSIBLE PERSONNEL ERROR AND/OR A POSSIBLE MANAGEMENT DEFICIENCY BETWEEN PERFORMANCE AND OPS PERSONNEL. RESULTS OF THIS INVESTIGATION WERE INCONCLUSIVE IN DETERMINING WHY THE TD CA PUMP HALON
McGuire 1	11/12/1988	12/21/1988	A Fire Barrier Was Compromised for an Unknown Period of Time For Unknown Reasons Abstract: POWER LEVEL - 000%. ON 11/12/88, AT 0600, OPERATIONS (OPS), CONDUCTING A ROUTINE SURVEILLANCE, DISCOVERED A SMALL HOLE IN FIRE BARRIER PENETRATION NO. 750-10.1-3. THERE WAS ALSO A PIECE OF 1/4 INCH DIAMETER PLASTIC TUBING PROTRUDING THROUGH THE HOLE. THIS PENETRATION IS LOCATED ON THE 750 ELEVATION IN THE SERVICE BUILDING CABLE SPREADING ROOM BETWEEN COLUMNS AA-55 AND AA-56. OPS DECLARED THE PENETRATION INOPERABLE AT 0630 AND BEGAN AN HOURLY FIRE WATCH OF THE CABLE SPREADING ROOM. OPS ALSO INITIATED A WORK REQUEST TO HAVE THE FIRE BARRIER PENETRATION REPAIRED. AT ABOUT 1300, MECHANICAL MAINTENANCE BEGAN REPAIRING THE HOLE IN FIRE BARRIER PENETRATION NO. 750-10.1-3 BY INJECTING FOAM SEALANT. AT 1615, REPAIRS WERE COMPLETED. AT 1719, OPS RETURNED FIRE BARRIER PENETRATION NO. 750-10.1-3 TO OPERABLE STATUS AND SECURED THE HOURLY FIRE WATCH. THIS EVENT IS ASSIGNED A CAUSE OF UNKNOWN BECAUSE IT COULD NOT BE DETERMINED DURING THIS INVESTIGATION WHEN, WHY, OR BY WHOM THE HOLE IN THE FIRE BARRIER PENETRATION WAS MADE.
McGuire 1	01/17/1989	02/16/1989	Failure to Take Compensatory Measures When Both Trains of Control Room Area Ventilation Were Inoperable Abstract: POWER LEVEL - 100%. ON 01/17/89, MAINTENANCE REPLACED THE SEAL AND ADJUSTED THE CLOSURE MECHANISM ON CONTROLLED ACCESS DOOR (CAD) 501. BECAUSE OF INADVERTENT WORK REQUEST SCHEDULING AND MISLEADING WORK DESCRIPTION WORDING, THE CAD DOOR WORK WAS CARRIED OUT AT A TIME IN WHICH COORDINATION OF ADMINISTRATIVE PROVISIONS NECESSARY TO ENSURE OPERABILITY OF THE CONTROL ROOM VENTILATION (VC) SYSTEM DID NOT TAKE PLACE. SINCE THE PROVISIONS WERE NOT IMPLEMENTED DURING OR AFTER COMPLETION OF THE WORK ACTIVITY, VC SYSTEM OPERABILITY WAS AFFECTED FROM THE TIME THE DOOR SEAL WAS REMOVED AT APPROX. 0400 UNTIL THE DOOR FACE WAS SEALED WITH DUCT TAPE AT APPROX. 0905 AFTER THE PROBLEM WAS IDENTIFIED. THE CONDITION WAS DISCOVERED WHEN PERFORMANCE WAS NOTIFIED TO PERFORM A POST-MAINTENANCE RETEST OF THE DOOR. IMMEDIATELY UPON DISCOVERY OF THE INOPERABLE CONDITION, THE CAD DOOR WAS SEALED WITH TAPE. THIS EVENT HAS BEEN ASSIGNED A CAUSE OF INAPPROPRIATE ACTION BECAUSE OF A LACK OF ATTENTION TO DETAIL BY PLANNER A IN SCHEDULING A PENDING WORK REQUEST. A CONTRIBUTING CAUSE OF MANAGEMENT DEFICIENCY IS ASSIGNED BECAUSE OF INADEQUATE MANAGEMENT CONTROLS IN THE HANDLING OF WORK REQUESTS HAVING A PENDING STATUS. A SECOND CONTRIBUTING CAUSE OF
McGuire 1, McGuire 2	02/24/1987	03/26/1987	Inoperable Fire Barriers Due To Inadequate Wall Thickness For Required Fire Protection Abstract: POWER LEVEL - 100%. ON FEBRUARY 19, 1987, WHILE DRILLING HOLES IN DRYWELL TO INSTALL A SECURITY BARRIER ON THE UNIT 2 SIDE OF THE BATTERY CHARGER ROOM, IT WAS DISCOVERED THAT A SECTION OF THE WALL FACING THE DUCT SHAFT HAD ONLY TWO OF THE REQUIRED THREE LAYERS OF DRYWELL INSTALLED. AN INSPECTION OF THE CORRESPONDING UNIT 1 SIDE OF THE BATTERY CHARGER ROOM WALL SECTION REVEALED THE SAME CONSTRUCTION DEFICIENCY. FROM FEBRUARY 20 THROUGH FEBRUARY 23, A SEARCH FOR DOCUMENTATION TO SUPPORT THE INSTALLATION OF ONLY TWO LAYERS OF DRYWELL ON TWO WALL SECTIONS OF THE BATTERY CHARGER ROOM WAS PERFORMED, BUT NONE WAS FOUND. ON FEBRUARY 24, IT WAS DETERMINED THAT THE WALL SECTIONS WITH ONLY TWO LAYERS OF DRYWELL DID NOT MEET THE NRC COMMITMENT FOR FIRE BOUNDARY SPECIFICATIONS. AT 1105, THE DEFICIENT BATTERY CHARGER ROOM FIRE WALLS WERE DECLARED INOPERABLE, AREA FIRE DETECTORS WERE VERIFIED OPERABLE, AND AN HOURLY FIRE WATCH WAS ESTABLISHED IN THE BATTERY CHARGER ROOM. UNIT 1 AND UNIT 2 WERE IN MODE 1, POWER OPERATION, AT 100 PERCENT POWER AT THE TIME THE WALLS WERE DECLARED INOPARABLE. THIS INCIDENT HAS BEEN ATTRIBUTED TO A CONSTRUCTION/INSTALLATION DEFICIENCY SINCE THE WALL SECTIONS WERE IMPROPERLY CONSTRUCTED, THUS UNABLE TO MEET THE REQUIRED FIRE
McGuire 1, McGuire 2	03/17/1987	04/16/1987	Diesel Generator Halon Fire Suppression Systems Inoperable due to Incorrect Tubing Connections Because of a Defective Procedure Abstract: POWER LEVEL - 100%. ON MARCH 17, 1987 AT 1800, WHILE PERFORMING MAINTENANCE, INCORRECT ACTUATION TUBING CONNECTIONS ON THE UNIT 2 DIESEL GENERATOR (D/G) HALON FIRE SUPPRESSION (HFS) SYSTEM WERE DISCOVERED. SUBSEQUENT INVESTIGATION REVEALED INCORRECT TUBING CONNECTIONS ALSO EXISTED ON THE UNIT 1 D/G HFS SYSTEM. THE TUBING CONNECTIONS ON THE UNIT 2 AND UNIT 1 D/G HFS SYSTEMS WERE CORRECTED AT 1900 AND 2045 RESPECTIVELY. UNITS 1 AND 2 D/G HFS SYSTEMS WERE DETERMINED TO BE OPERABLE ON MARCH 17, 1987, AT 2045. UNIT 1 AND UNIT 2 WERE IN MODE 1, POWER OPERATION, AT 100% POWER AT THE TIME OF THIS INCIDENT. THIS INCIDENT HAS BEEN ATTRIBUTED TO A DEFECTIVE PROCEDURE. THE MAINTENANCE PROCEDURE INVOLVED DID NOT CONTAIN SUFFICIENT INFORMATION TO ENSURE THAT THE ACTUATION TUBING WAS PROPERLY RECONNECTED AFTER TESTING. THE HEALTH AND SAFETY OF THE PUBLIC WERE NOT AFFECTED AS A RESULT OF THIS INCIDENT.
McGuire 1, McGuire 2	11/09/1987	01/26/1988	Two Fire Doors Were Blocked Open and a Fire Watch was Missed Due to Personnel Error Abstract: POWER LEVEL - 000%. ON 11/09/87 AT ABOUT 1010, WHILE PERFORMING ROUTINE PLANT SURVEILLANCE, QUALITY ASSURANCE (QA) NOTICED THAT TECHNICAL SPECIFICATIONS (TS) REQUIRED FIRE DOOR 819A WAS BLOCKED OPEN, AND THE 'FIRE BARRIER WATCH' TAG INDICATED THAT AN HOURLY FIRE WATCH HAD BEEN PERFORMED. QA CONTINUED SURVEILLANCE AND NOTICED THAT FIRE DOOR 621A WAS ALSO BLOCKED OPEN, AND DISCOVERED THE REQUIRED FIRE WATCH HAD NOT BEEN PERFORMED ON AN HOURLY BASIS. QA NOTIFIED THE CONTROL ROOM ABOUT THE OPENED FIRE DOOR. THE CONTROL ROOM NOTIFIED MECHANICAL MAINTENANCE (MNT) RESPONSIBLE FOR THE FIRE WATCH. MNT CLOSED TS FIRE DOORS 819A AND 621A AND HAD THE DOORS CLEARED FROM THE UNIT 2 TECHNICAL SPECIFICATION ACTION ITEM LOGBOOK AT 1200. THIS EVENT IS ASSIGNED A CAUSE OF PERSONNEL ERROR BECAUSE THE MNT SUPERVISORS INVOLVED DID NOT ADEQUATELY COMMUNICATE PERTINENT INFORMATION ABOUT THE TS FIRE DOORS TO APPROPRIATE MNT PERSONNEL DURING SHIFT TURNOVER. A CONTRIBUTORY CAUSE OF MANAGEMENT DEFICIENCY IS ALSO ASSIGNED BECAUSE MNT SHIFT DOES NOT MAINTAIN A LOGBOOK OR TURNOVER SHEET. MNT WILL ESTABLISH A LOGBOOK FOR TS ITEMS THEY ARE RESPONSIBLE FOR AND WILL REVIEW THIS REPORT WITH MNT SHIFT PERSONNEL.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

McGuire 1, McGuire 2	09/19/1988	12/29/1988	The Standby Shutdown Facility Was Inoperable Because Required Surveillances Were Cancelled - Management Deficiency Abstract: POWER LEVEL - 095%. ON 09/19/88, CONTRACT SERVICES (CS) CANCELLED FIRE WATCH SURVEILLANCE OF AREAS IN WHICH CONTROL CABLES FOR THE PRESSURIZER PORVS ARE ROUTED AND TERMINATED. THE SURVEILLANCE WHICH HAD BEEN IN EFFECT FOR APPROX. ONE YEAR WAS NOT INTERPRETED BY (CS) AS BEING BASED ON ANY NRC COMMITMENT. CONTRACT SERVICES HAD CONSULTED WITH OPERATIONS (OPS) PRIOR TO CANCELLING THE SURVEILLANCE AND OPS CONSENTED TO THE CANCELLATION BECAUSE NO RELATED COMMITMENT FOR THE SURVEILLANCE WAS IDENTIFIED. ON 10/27/88 CS AND OPS WERE INFORMED BY DESIGN ENGINEERING (DE) THAT THE SURVEILLANCE WAS REQUIRED FOR OPERABILITY OF THE STANDBY SHUTDOWN FACILITY AND THAT THE SURVEILLANCE WAS BASED ON A JUSTIFICATION FOR CONTINUED OPERATION (JCO) ISSUED APPROX. 1 YEAR EARLIER. ON 10/27/88, CS REINSTATED THE SURVEILLANCE. THIS EVENT IS ASSIGNED A CAUSE OF MANAGEMENT DEFICIENCY DUE TO INADEQUATE GUIDELINES FOR HANDLING JCOS. AS A RESULT OF THIS DEFICIENCY, THE JCO WAS MISSING FROM THE CONTROL ROOM WHEN OPS WAS INITIALLY CONTACTED BY CS. ALSO, THE DEEVALUATION WAS NOT CLEARLY DESIGNATED AS A JCO RESULTING IN THE FAILURE TO RECOGNIZE THE EVALUATION AS A JCO. THIS EVENT IS ALSO ASSIGNED A CONTRIBUTORY CAUSE OF PERSONNEL ERROR BECAUSE CS DID NOT
McGuire 1, McGuire 2	10/05/1988	03/10/1989	Unit 1 and 2 Fire Barriers Were Breached Due To Management Deficiency and Unknown Reasons Abstract: POWER LEVEL - 100%. 0N 09/30/88, VENDORS (BAHNSON) IMPLEMENTING A MODIFICATION (MG-20397) ROUTED ELECTRICAL CONDUIT THROUGH PENETRATION NO. 2-733-155.1-3 AND BREACHED THE FIRE BARRIER. ON 10/05/88 QUALITY ASSURANCE (QA) DISCOVERED THAT PENETRATION NO. 2-733-155.1-3 WAS NOT PROPERLY SEALED. AT 1530, OPERATIONS (OPS) DECLARED FIRE/FLOOD BARRIER PENETRATION NO. 2-733-155.1-3 INOPERABLE. A FIRE WATCH WAS ESTABLISHED. COVER PLATES WERE INSTALLED ON AN ELECTRICAL CONDUIT ELBOW AND AT 1800, OPS DECLARED THE PENETRATION OPERABLE. ON 10/06/88, QA DISCOVERED UNIT 1 FIRE BARRIER PENETRATION NO. 1-767-EPR-2 WAS NOT PROPERLY SEALED. OPS DECLARED THE FIRE BARRIER INOPERABLE AT 172O AND ESTABLISHED A FIRE WATCH. THE PENETRATION WAS SEALED AND AT 1138 ON 10/07/88, OPS DECLARED IT OPERABLE. ON 10/11/88, QA DISCOVERED PENETRATIONS 1-750-6.0-1 AND 1-750-25-0-S WERE NOT PROPERLY SEALED. AT 1830, OPS DECLARED THE PENETRATIONS INOPERABLE AND ESTABLISHED FIRE WATCHES. THE PENETRATIONS WERE SEALED AND AT 0825 ON 10/12/88, OPS DECLARED THE PENETRATIONS OPERABLE. THE EVENT OF 09/30/88 IS ASSIGNED A CAUSE OF MANAGEMENT DEFICIENCY BECAUSE VENDORS INVOLVED HAD NOT RECEIVED APPROPRIATE TRAINING. THE OTHER EVENTS ARE ASSIGNED A CAUSE OF OTHER BECAUSE IT COULD NOT BE DETERMINED WHY THE THREE
McGuire 1, McGuire 2	12/18/1991	01/17/1992	Both Trains Of The Annulus Ventilation System Were Inoperable Due To Management Deficiency And Deficient Communication Abstract: POWER LEVEL - 100%. On December 18, 1991, Instrumentation and Electrical personnel were performing the semi-annual calibration on loop 2IAE-9060, Lower Personnel Air Lock Leak Rate Monitor. During this calibration, door AD 3321, Annulus Ventilation Bypass Door, was latched open to allow for communication between personnel working on the pneumatic module and remote control unit associated with the loop. This door is a Selected Licensee Commitment Fire Door and serves as a pressure boundary for the Annulus Ventilation (VE) system. The door must be posted with a fire barrier tag, and adequate compensatory measures must be implemented to ensure operability of the VE system if the door is opened for periods longer than normal access during Modes 1 (Power Operation), 2 (Startup), 3 (Hot Standby), and 4 (Hot shutdown). During the calibration no fire tags or VE system compensatory measures were in effect. Therefore, both trains of the VE system were inoperable while the door was open. Unit 2 was in Mode 1 at 100 percent power at the time of the event discovery. Further investigation has revealed that door AD 3321 on Unit 2 and door AD 3311, Annulus Ventilation Bypass Door, on Unit 1 have been latched open whenever the semi-annual calibration of the respective Lower Personnel Air Lock Leak Rate monitor has been performed. Since no compensatory actions had been established during those time periods, both trains of
McGuire 1, McGuire 2	09/06/1997	10/06/1997	Reactor Trip On Both Units Due To An Equipment Failure And Operation Prohibited by Technical Specifications Due To Failure To Comply With Required Action Statements Abstract: Unit Status: Units 1 and 2 were in Mode 1 (Power Operation) at 100 percent power. Event Description: On September 6, 1997, at 2146, the trip of an auxiliary supply breaker, while the Units were in an abnormal alignment, caused the loss of non-vital power to plant components on both Units. For Unit 1, this resulted in a trip of both Main Feedwater Pumps followed by a main Turbine and subsequent Reactor trip. For Unit 2, it resulted in the closure of the Main Steam Isolation Valves followed by a Reactor trip on Pressurizer high pressure. Additionally, the power loss resulted in loss of the automatic operating function for the Pressurizer Power Operated Relief Valves (PORVs) on both Units, and loss of indication from the Process Radiation Monitor associated with one set of the Control Room Ventilation Outside Air Intakes. This equipment was inoperable for a period of 62.5 minutes, exceeding Technical Specification (TS) limits of 60 minutes without implementation of required actions. Event Cause: The cause of the breaker trip has been determined to be heat build-up created by a loose cable connection on the load side of the breaker, actuating breaker thermal trip units. The cause of the loose connection is a construction/installation deficiency. A contributing factor is management deficiency due to lack of establishing adequate preventive maintenance. Failure to implement required TS actions with regard to the Pressurizer PORVs and Process Radiation Monitor is attributed to failure of Control Room personnel to recognize the need to do so. With the loss of KXA, multiple Control Room indications were lost.
McGuire 2	04/27/1983	05/27/1983	Fire Dectector Data Gathering Panels Inoperable Abstract: While in Mode 3, data gathering panels (DGP) 7 and 23 would not respond to the Fire Detection System (EFA) processor and were declared inoperable. Therefore fire zones 83,85, 88 and 90 (controlled by DGP7) and zone 125 (controlled by DGP 23) were declared inoperable. This violates Tech Spec 3.3.3.7 which is reportable per Tech Spec 6.9.1.11(b) and similar to RO's 369/82-60 and 82-69. Fire watch patrols were established as required by the tech spec action statement. Water was found in the bottom of DGP 23 and at the W1020A enclosure (a utility crew was washing down the area around this panel--water believed to have resulted from this cleaning). Water was removed and the printed circuit boards in the W1020A enclosure replaced. Investigation of DGP7 revealed no problems--wiring was checked and circuit boards sprayed with contact cleaner. The DGPs were declared operable on 4/27/83.
McGuire 2	04/30/1983	05/27/1983	Spurious Operation of Several Fire Alarms on Different Occassions Abstract: On 4/29-30/83, while in Mode 3, fire detection zones EFA 87, 88, and 100 were declared inoperable due to constant invalid alarms. On 5/9/83, while in Mode 3, Zone EFA 177 was declared inoperable due to constant invalid alarm. On 5/13/83 while in Mode 2, zone efa 102 was declared inoperable due to an invalid alarm. These violate tech spec 3.3.3.7 which is reportable per tech spec 6.9.1.11(b). Fire watches and containment temperature monitoring were established as required by the Tech Spec action statement. Zones 87, 88, and 100 alarms were apparently caused by dirt accumulation in the smoke detectors (Firemark Model 9620 ionization type). The detectors were replaced. Zone 177 alarms originated from a fenwal 225f heat detector cable located on the pump. The cables was checked, and the alarm reset. The Zone 102 alarm was a result of a high area temperature. The detector was replaced and ventilation louvers redirected.
McGuire 2	05/26/1983	07/06/1983	Several Fire Alarm Zones Declared Inoperable Abstract: On 5/26/83 thru 6/10/83, while in Mode 3 (5/26/83) and Mode 1 (5/29-6/10/83), fire detection zones EFA 179, 189, 182, 81, 102, 174 and 163 were declared inoperable due to invalid alarms. These violate Tech Spec 3.3.3.7 which is reportable per Tech Spec 6.9.1.11(b) and similar to RO's 369/83-25, 83-33 and 370/83-13. Fire watches and containment temperature monitoring were established during the times the zones were inoperable. Zone 179's invalid alarm was apparently spurious and the alarm was reset. Zones 189, 81, 174, and 163 alarms were apparently caused by dirt accumulation in their smoke detectors (firemark 9620 ionization type). The detectors were cleaned. Zone 182's alarm was caused by a loose contact on the back of a Firemark detector. The connection was repaired, zone 102's alarm resulted from a tripped rate of rise detector, which was replaced with a higher capacity detector.
McGuire 2	08/01/1983	08/31/1983	Invalid Fire Alarms Abstract: While in Mode 5, invalid alarms were received for fire detection zones EFA 175 (reactor building 768 elevation) and 186 (reactor building annulus) which would not clear. The zones were declared inoperable per Tech Spec 3.3.3.7 which is reportable per Tech Spec 6.9.1.11(b) and similar to RO's 369/83-40, 83-52, 83-64, 83-66 and 370/83-13, 83-24, 83-30. Hourly fire watch patrols were initiated as required by the Tech Spec action statements. These alarms are attributed to environmental conditions near the monitored zones: dust and/or welding fumes associated with maintenance activities during the outage. The alarms were reset and the annunciators (Firemark 9620, ionization type detectors) declared operable.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

McGuire 2	08/23/1983	09/22/1983	Fire Barrier Penetration Found Open Abstract: During unrelated activities in the turbine building an operator noted that a fire barrier penetration located between the turbine building 739' elevation and the Auxiliary Building switchgear room was open (the six inch pipe cap used to seal the penetration was missing). This constitutes a degradation of fire barrier penetration (Tech Spec 3.7.11) which is reportable pursuant to Tech Spec 6.9.1.11(b). A fire watch was established during the time the penetration was inoperable in accordance with the Tech Spec action statement. No reasons for the removal of the pipe cap from this penetration could be determined. The originally installed pipe cap for the penetration was not found. The penetration was last verified to be sealed during performance of an 18 month fire barrier inspection from 4/28/83 to 5/3/83. A new six inch pipe cap was installed and the penetration declared operable.
McGuire 2	09/08/1983	10/21/1983	Missed Weekly Fire Door Inspection Abstract: On 9/22/83, a routine quality assurance audit discovered that the weekly portion of the 'Fire Door Inspection' periodic test, which verifies the operability of locked fire doors throughout the Auxiliary Building, was not performed on 9/8/83 as scheduled. This constitutes a degradation of fire barrier penetrations (Tech Spec 3.7.11) which is reportable pursuant to Tech Spec 6.9.1.11(b) and similar to RO's 369/83-83, 83--87, and 370/83-47. These seldom used locked fire doors were verified to be operable on 9/1/83 and 9/15/83. Additionally, the fire detection system provides further protection from fires. This is attributed to personnel error by the contracted security organization for Mcguire: a shift lieutenant failed to have the weekly portion of the inspection performed (the daily portion was performed) thinking it would be reassigned to a later shift, and 2 other officers failed to review the procedures for completion of the inspection. Security personnel were counseled, and the fire door surveillances will be added to the shift turnover computer printout.
McGuire 2	09/15/1983	09/28/1983	Auxiliary Building Fire Barrier Found to be Inadequate Abstract: While in Mode 1, review of a condition identified on Catawba Nuclear Station determined that an adequate fire barrier is not provided between electrical penetration rooms located in the Auxiliary Building on elevations 733' and 750'. This constitutes a degradation of fire barrier penetrations (Tech Spec 3.7.11) which is reportable pursuant to Tech Spec 6.9.1.11(b) and similar to RO-369/83-72. Fire detectors in the area were verified operable and hourly fire watch patrols have been established. The three inch seismic gap in areas where the auxiliary building abutts the reactor and Diesel Generator Building has compressed cork installed as filler material. This situation was inadvertently overlooked during identification of fire barrier penetrations. The cork will be removed and replaced with an approved fire rated material, and the penetration added to surveillance procedures.
McGuire 2	09/29/1983	10/13/1983	Missed Fire Watch Patrols in the Electrical Penetration Rooms Abstract: While in Mode 1, two scheduled fire watch patrols in the Auxiliary Building Electrical Penetration Rooms (EPRs) were not performed. The hourly patrols had been instituted per Tech Spec 3.7.11 after discovery that a nonfire-retardant material had been installed in the EPRs (reference RO-370/83-44). This constitutes a violation of Tech Spec 3.7.11 which is reportable pursuant to Tech Spec 6.9.1.10(b). During the 2 hours the patrols were not conducted other personnel entered the rooms while inspecting fire doors. Additionally, fire detectors in the area were operable. This is attributed to personnel error, due to neglect by the contracted security officer who should have performed the patrols. Although cognizant of the requirement to perform the patrols, the officer was not aware they were tech spec related or of the severity of failing to perform the patrols. All appropriate security personnel have been given training, and responsibility for the patrol reassigned.
McGuire 2	11/25/1983	12/22/1983	Fire Dectector Fails Abstract: While in Mode 1, a fire alarm for fire detection zone EFA 188 (Unit 2 reactor building annulus) was received in the control room which was determined to be invalid but would not reset. EFA 188 was subsequently declared inoperable. This constitutes a degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable pursuant to Tech Spec 6.9.1.11(b) and similar to previous incidents referenced in RO-369/83-94, 83-112 and 370/83-66. An hourly fire watch patrol was established in accordance with the tech spec action statement, restoring early detection capability. This is attributed to component malfunction due to dirt accumulation in one ionization type detector (Firemark 9620). This was the first incident this year in which EFA 188 has been declared inoperable. A new detector was installed, the alarm reset, a functional verification performed, and the zone declared operable on 11/25/83.
McGuire 2	12/12/1983	01/11/1984	Invalid Fire Alarm Received Twice Abstract: While in Mode 1, on 12/12/83 and again on 12/13/83, an invalid fire alarm for fire detection zone EFA 107 (MCC 2EMXA (600V) cabinet on the 750; elevation) was received in the control room which would not reset. EFA 107 was declared inoperable each time. These constitute degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable per Tech Spec 6.9.1.11(b) and similar to previous incidents referenced in RO-369/83-116. Hourly fire watch patrols were established per Tech Spec action statement, restoring early detection capability. One detector (Firemark 9620) was found in alarm on 12/12/83, and after cleaning it the alarm cleared and EFA 107 was returned to service. However, the same detector was in alarm the next day and it was discovered that several of the ionization chamber mounting pins were broken (cause unknown) creating a gap through which broken pieces of the pins (or dust, etc.) Could enter, generating an alarm. The detector was replaced and the alarm reset.
McGuire 2	12/19/1983	01/18/1984	Invalid Fire Alarm Recieved for Fire Detection Zone Abstract: While in Mode 1, an invalid fire alarm for fire detection zone EFA 128 (716' cable room, Unit 2 nuclear sampling (NM) lab, Unit 2 nuclear service water pumps) was received in the control room which would not reset. EFA 128 was subsequently declared inoperable. This constitutes a degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable per tech spec 6.9.1.11(b). Hourly fire watch patrols were established per Tech Spec action statement, restoring early detection capability. This is attributed to a spurious alarm. The detector (Firemark 9620) in alarm was located near an open penetration in the back of the NM lab. Replacing the detector did not clear the alarm. The lab door remained open while work was being performed on EFA 128 and it is believed that the alarm resulted from a draft (through the penetration) caused by the open door. The alarm was later reset with no maintenance being performed.
McGuire 2	12/24/1983	01/23/1984	Invalid Fire Alarm Recieved for Fire Detection Zone Abstract: While in Mode 4, an invalid fire alarm for fire detection zone EFA 170 (area beneath the unit 2 reactor building operating floor at 329 degrees - 347 degrees, including the 2D safety injection accumulator room) was received in the control room which would not reset. EFA 170 was subsequently declared inoperable. This constitutes a degradation of the fire detection instrumentation (Tech Spec 3.3.3.7) which is reportable per Tech Spec 6.9.1.11(b) and similar to events referenced in RO-369/83-116. Fire watch patrols were initiated every 8 hours in accordance with the Tech Spec action statement, restoring early detection capability. This is attributed to unusual service conditions due to dust accumulation in one of the detectors as a result of maintenance activities (filters in an air handling unit in the SI accumulator room were being changed). In addition, the detector was near one of the vents of the air handling unit. The detector (Firemark 9620) was replaced, the alarm reset, and EFA 170 tested and declared operable.
McGuire 2	02/04/1985	03/07/1985	Fire Barrier Penetration Inoperable Abstract: POWER LEVEL - 000%. ON 2-4-85, A SMALL HOLE WAS DISCOVERED IN THE FLOOR OF THE CONTROL ROOM. THE HOLE WAS IN A METAL PLATE WHICH COVERED A FIRE BARRIER PENETRATION, THUS RENDERING THE FIRE BARRIER INOPERABLE. THE ORIGIN OF THE HOLE IS UNKNOWN. FOLLOWING THE DISCOVERY, A FIRE WATCH WAS ESTABLISHED, PENDING REPAIR OF THE HOLE. THE UNIT WAS IN MODE 5 AT THE TIME OF DISCOVERY.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

McGuire 2	02/13/1986	09/22/1986	FIRE WATCH PATROLS WERE NOT PERFORMED DUE TO A PERSONNEL ERROR Abstract: POWER LEVEL - 000%. ON MARCH 26, 1986, IT WAS DISCOVERED THAT REQUIRED FIRE BARRIER WATCH PATROLS IN THE UNIT 2 CABLE ROOM WERE NOT PERFORMED FROM FEBRUARY 13, 1986 THROUGH MARCH 26, 1986. HOURLY PATROLS HAD BEEN INSTITUTED ON FEBRUARY 6, 1986 IN RESPONSE TO TECHNICAL SPECIFICATION (T.S.) 3.7.11 WHEN FIRE RETARDANT MATERIAL WAS REMOVED FROM A PENETRATION IN THE FLOOR OF THE UNIT 2 CABLE ROOM. THE FIRE RETARDANT MATERIAL WAS REMOVED FROM THE PENETRATION TO ROUTE CABLES THROUGH THE FLOOR TO A NEW CABINET INSTALLED FOR THE INADEQUATE CORE COOLING MONITOR SYSTEM. UNIT 2 WAS IN MODE 6, REFUELING, AT THE TIME OF THE DISCOVERY. THIS INCIDENT IS ATTRIBUTED TO A PERSONNEL ERROR DUE TO THE INCORRECT DECLARATION OF THE PENETRATION AS OPERABLE BY THE SHIFT ENGINEER. A CONTRIBUTING CAUSE IS A MANAGEMENT DEFICIENCY DUE TO AN INADEQUACY IN THE ADMINISTRATIVE CONTROLS FOR ENSURING THE OPERABILITY OF EQUIPMENT. HOURLY FIRE BARRIER WATCH PATROLS FOR THE SUBJECT PENETRATION WERE RESUMED BY SECURITY PERSONNEL ON MARCH 26, 1986, AT 1257, AND WERE MAINTAINED UNTIL THE FIRE PENETRATION WAS DECLARED OPERABLE ON APRIL 5, 1986, AT 1930. THE FIRE ZONE DETECTORS IN THE SUBJECT AREA WERE OPERABLE DURING THE TIME THE FIRE WATCH PATROLS WERE MISSED. NO FIRES OCCURRED IN THE SUBJECT AREA WHILE THE FIRE WATCH
McGuire 2	06/09/1987	07/13/1987	Inoperable Auxiliary Building Fire Barrier Due to a Wall Section Constructed Without Proper Joint Treatment Abstract: POWER LEVEL - 000%. AT APPROXIMATELY 1600 ON JUNE 9, 1987 WHILE PERFORMING AN UNRELATED INSPECTION, A QUALITY ASSURANCE INSPECTOR DISCOVERED A SMALL GAP BETWEEN THE DRYWELL AND CONCRETE ABOVE A WALL SECTION BETWEEN THE 750 FT ELEVATION ELECTRICAL PENETRATION AND SWITCHGEAR ROOMS ON THE UNIT 2 SIDE OF THE AUXILIARY BUILDING. THE NEXT DAY QA REVIEWED ARCHITECTURAL DRAWINGS AND FOUND THAT THE WALL WAS A FIRE BARRIER THAT SHOULD HAVE BEEN SEALED WITH CAULK DURING CONSTRUCTION. MAINTENANCE INVESTIGATED AND DETERMINED THAT WITHOUT THE PROPER JOINT TREATMENT THE FIRE BARRIER WAS INOPERABLE. OPERATIONS WAS INFORMED OF THE INOPERABLE FIRE BARRIER AND A WORK REQUEST WAS WRITTEN TO REPAIR THE WALL. OPERATIONS IMMEDIATELY DECLARED THE FIRE BARRIER INOPERABLE AT 2200 AND INITIATED AN HOURLY FIRE WATCH. THE WALL SECTION WAS REPAIRED ON JUNE 18, AND AT 1335 OPERATIONS DECLARED THE FIRE BARRIER OPERABLE. UNIT 2 WAS IN MODE 6, REFUELING OPERATIONS, AT THE TIME OF DISCOVERY; HOWEVER, UNIT 2 HAD OPERATED IN ALL MODES DURING THE PERIOD OF TIME THE DEFICIENCY EXISTED. THIS INCIDENT HAS BEEN ATTRIBUTED TO A CONSTRUCTION/INSTALLATION DEFICIENCY BECAUSE THE FIRE BARRIER SECTION WAS CONSTRUCTED WITHOUT PROPER JOINT TREATMENT. A
McGuire 2	08/10/1987	09/28/1987	A Fire Barrier Was Breached Without Compensatory Action Due To Management Deficiency - Station Directive And Procedure Inadequate Abstract: POWER LEVEL - 100%. ON AUGUST 5, 1987 AT 1900, MCGUIRE MAINTENANCE (MNT) AND INTEGRATED SCHEDULING (IS) BECAME AWARE OF CUTS IN INSULATED BLANKETS SURROUNDING TWO AUXILIARY FEEDWATER VALVES. MNT WAS UNAWARE THE BLANKETS WERE FIRE BARRIERS AND IS ASSUMED THE FIRE BLANKETS WOULD BE REPAIRED BEFORE THE VALVES WERE DECLARED OPERABLE. FACT THAT THE FIRE BLANKETS NEEDED REPAIR BUT IS DID NOT RECOGNIZE THE BLANKETS WERE FIRE BARRIERS. WAS CONSIDERED. A WORK REQUEST WAS WRITTEN TO REPAIR THE FIRE BLANKETS AND THE REPAIRS WERE COMPLETED ON AUGUST 12, 1987. TAGS WERE PLACED ON OTHER FIRE BARRIERS OF THIS TYPE IDENTIFYING THEM AS TECH SPECS BARRIERS. A CLASSIFICATION OF MANAGEMENT DEFICIENCY WAS ASSIGNED DUE TO SHORTCOMINGS IN STATION DIRECTIVES, PROCEDURES, AND TRAINING REGARDING INSULATED BLANKET FIRE BARRIERS. THE FIRE BARRIER INSPECTION PROCEDURE WILL BE REVISED, THE STATION DIRECTIVE WILL BE REVISED, AND EXISTING TRAINING WILL BE ENHANCED. THE NEXT STATION SAFETY MEETING WILL INCLUDE INFORMATION TO INCREASE AWARENESS OF INSULATED BLANKET FIRE BARRIERS.
McGuire 2	09/21/1987	02/15/1988	Inoperable Fire Barrier Due To A Wall Section Being Constructed Without Proper End Connection Treatment Abstract: POWER LEVEL - 100%. ON 9/21/87, A QUALITY ASSURANCE (QA) INSPECTOR DISCOVERED SMALL GAPS BETWEEN CONCRETE COLUMNS AND THE ADJOINING WALL SECTION BETWEEN TWO ROOMS ON THE 733' ELEVATION OF THE AUXILIARY BUILDING. THE FIRE BARRIER WAS DECLARED INOPERABLE AT 1430 AND A FIRE WATCH WAS INITIATED. ON 9/23/87 THE FIRE BARRIER WAS REPAIRED IN ACCORDANCE WITH FIELD SEALANT SPECIFICATION 7005 AND WAS DECLARED OPERABLE AT 1230. THE CAUSE OF THE EVENT WAS CONSTRUCTION/INSTALLATION DEFICIENCY BECAUSE THE FIRE BARRIER SECTION WAS CONSTRUCTED WITHOUT PROPER END CONNECTION TREATMENT. A CONTRIBUTORY CAUSE OF QA DEFICIENCY HAS BEEN ASSIGNED BECAUSE OF QA FAILURE TO VERIFY THAT THE WALL SECTION WAS CONSTRUCTED ACCORDING TO APPLICABLE DRAWINGS. THE QA INSPECTION PROCEDURE USED DURING THE CONSTRUCTION (PRE-STARTUP) HAS BEEN INACTIVE SINCE APRIL 1987. THE FIRE BARRIER INSPECTION PROCEDURE WILL BE REVISED TO ENSURE THAT THE ENTIRE FIRE BARRIER IS INSPECTED (NOT JUST PENETRATIONS). THE QA CONDITION 3 FIRE WALL REPAIR PROCEDURE WILL BE REVISED TO INCLUDE SPECIFIC PROVISIONS FOR REPAIR OF GAPS BETWEEN GYPSUM DRYWALL AND CONCRETE. A COMPLETE INSPECTION OF GYPSUM DRYWALL FIRE BARRIERS WILL BE CONDUCTED TO VERIFY THEIR INTEGRITY AND/OR ANY REMAINING
McGuire 2	05/27/1988	04/24/1989	Both Trains of the Annulus Ventilation System Were Made Inoperable Due to Deficient Communication and Planning/Scheduling Deficiencies Abstract: POWER LEVEL - 000%. ON 05/27/88, AT APPROXIMATELY 1630, UNIT 2 UNKNOWINGLY ENTERED THE ACTION STATEMENTS OF TECH SPEC (TS) 3.0.3 WHEN BOTH TRAINS OF THE ANNULUS VENTILATION (VE) SYSTEM BECAME INOPERABLE DURING A UNIT 2 SHUTDOWN ACTIVITY. ON 05/26/88, IN A UNIT 2 OUTAGE SCHEDULING MEETING, INTEGRATED SCHEDULING (IS), OPERATIONS (OPS), AND INSTRUMENTATION AND ELECTRICAL (IAE) MANAGEMENT CONCURRED THAT TEMPORARY CONTROLLED ACCESS DOOR (CAD) READERS COULD BE INSTALLED OUTSIDE THE ENTRANCES TO THE UPPER AND LOWER CONTAINMENT CADS WHILE UNIT 2 WAS OPERATING IF VE OPERABILITY WAS NOT VIOLATED. THIS ACTIVITY WAS SCHEDULED AS AN OPERATIONAL ACTIVITY. THE CAD READERS WERE INSTALLED BY IAE; THEREFORE, INADVERTENTLY VIOLATING VE OPERABILITY. 05/28/88, BECAUSE THE CADS WERE CONTINUOUSLY MONITORED BY SECURITY, AND SECURITY WAS PROVIDED WITH TOOLS TO CUT THE CABLES, ENABLING THEM TO CLOSE THE DOORS UPON REQUEST BY OPS. ALSO, OPS HAD COMMENCED SHUTDOWN OF UNIT 2 FOR THE REFUELING OUTAGE. THIS EVENT IS ASSIGNED A CAUSE OF MANAGEMENT DEFICIENCY BECAUSE OF DEFICIENT COMMUNICATION AND PLANNING/SCHEDULING DEFICIENCIES. THIS EVENT WILL BE REVIEWED WITH APPLICABLE PERSONNEL TO STRESS THE IMPORTANCE OF ADEQUATE COMMUNICATIONS
McGuire 2	06/15/1988	08/08/1988	A Tech. Spec. Required Fire Door Was Blocked Open Without Compensatory Actions Due To Personnel Error. Abstract: POWER LEVEL - 000%. ON 06/15/88 AT APPROXIMATELY 0115, A SECURITY OFFICER PERFORMING ROUTINE FIRE DOOR INSPECTIONS, NOTICED THE SOUTHWEST DOOR OF THE 2B DIESEL GENERATOR (DG) ROOM WAS BLOCKED OPEN AND NO FIRE WATCH TAG WAS POSTED. THE OFFICER IMMEDIATELY NOTIFIED OPERATIONS (OPS). AT 0129, OPS DECLARED THE DOOR INOPERABLE, VERIFIED THAT FIRE DETECTORS IN 2B DG ROOM WERE OPERABLE, POSTED A FIRE WATCH TAG ON THE DOOR, AND ESTABLISHED AN HOURLY FIRE WATCH PATROL AS REQUIRED BY TECHNICAL SPECIFICATION (TS) 3.7.11. THE DOOR HAD BEEN LEFT BLOCKED OPEN BY CONSTRUCTION AND MAINTENANCE DEPARTMENT (CMD) PERSONNEL WHO EXITED THE AREA AT APPROXIMATELY 1630 ON 06/14/88. WHEN CMD RETURNED TO CONTINUE WORK AT APPROXIMATELY 0730 ON 06/15/88, THEY ASSUMED THE FIRE WATCH FROM OPS AND PROPERLY MAINTAINED IT THROUGH JOB COMPLETION. THIS EVENT IS ASSIGNED A CAUSE OF PERSONNEL ERROR BECAUSE CMD PERSONNEL FAILED TO RECOGNIZE THE NEED TO ESTABLISH A FIRE WATCH DURING THE TIME THEY HAD A TS REQUIRED FIRE DOOR BLOCKED OPEN. CMD NORTH WILL REITERATE TO CMD NORTH PAINT CREWS THE PROCESS OF IDENTIFING FIRE DOORS AND ACTIONS THAT SHOULD BE TAKEN, AND WILL REVISE THE APPROPRIATE PROCEDURE TO INCLUDE A PRECAUTION AGAINST OPENING FIRE DOORS FOR VENTILATION.
McGuire 2	08/14/1991	09/13/1991	Both Trains Of The Annulus Ventilation System Were Inoperable Because Of An Inappropriate Action And A Management Deficiency Abstract: POWER LEVEL - 100%. ON 8/14/91, AT 2250, THE SECURITY FORCE OFFICER SERVING AS COMPENSATORY OFFICER FOR CONTROL ACCESS DOOR (CAD) 322 AND POSTING A CONTINUOUS FIRE BARRIER WATCH FOR CIVIL DOOR 713, NOTICED THAT FIRE DOOR (FD) 713A WAS OPEN. THIS DOOR IS A SELECTED LICENSEE COMMITMENT (SLC) FIRE DOOR AND SERVES AS A PRESSURE BOUNDARY FOR THE ANNULUS VENTILATION SYSTEM. THE DOOR MUST BE POSTED WITH A FIRE BARRIER TAG, AND ADEQUATE COMPENSATORY MEASURES MUST BE IMPLEMENTED IF THE DOOR IS OPENED. NO TAGS WERE EVIDENT. THE SECURITY FORCE OFFICE CONTACTED THE SECONDARY ALARM STATION PERSONNEL WHO IN TURN CONTACTED THE UNIT 2 OPERATIONS (OPS) CONTROL ROOM (CR) PERSONNEL. OPS CR PERSONNEL WERE UNAWARE THAT FD 713A WAS OPEN. THE DOOR WAS IMMEDIATELY SECURED AT THE DIRECTION OF THE SENIOR REACTOR OPERATOR (SRO). BECAUSE THE DOOR WAS LEFT OPEN WITH NO COMPENSATORY MEASURES IN PLACE AND WITHOUT THE KNOWLEDGE OF CR PERSONNEL, BOTH TRAINS OF THE ANNULUS VENTILATION SYSTEM WERE INOPERABLE FROM 1630 UNTIL 2250 ON 8/14/91. THE FOUR HOUR NOTIFICATION WAS MADE AT THE NRC AT 0042, AUGUST 15, 1991. UNIT 2 WAS IN MODE 1 (POWER OPERATION) AT 100% POWER AT THE TIME OF EVENT DISCOVERY. THIS INCIDENT IS ASSIGNED CAUSES OF

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Millstone 1	11/29/1982	12/22/1982	Abstract: WHILE PERFORMING A FIRE PROTECTION SURVEILLANCE, A MISSING FIRE BARRIER WAS DISCOVERED IN THE CABLE VAULT AREA WHERE PLUMBING AND STORM DRAINS PASS THROUGH. A CONTINUOUS FIRE WATCH WAS IMMEDIATELY ESTABLISHED. TECH SPEC 3.12.F.1 REQUIRES ALL PENETRATION FIRE BARRIERS TO BE FUNCTIONAL WHEN SAFETY-RELATED EQUIPMENT IN THE AREA IS OPERABLE. DURING THE INITIAL FIRE PROTECTION SURVEY THIS PIPE CHASE PENETRATION WAS EVALUATED AND DISPOSITIONED AS NOT REQUIRING A FIRE BARRIER. DURING A RECENT FIRE INSPECTION, HOWEVER, THE PIPE CHASE WAS RE-EVALUATED WITH ADDITIONAL FACTS AND DISPOSITIONED AS NEEDING A FIRE BARRIER. THE OPENING WAS SEALED WITH 9 INCHES OF SILICONE RTV.
Millstone 1	08/03/1984	08/31/1984	Isolation Condenser Primary Containment Isolation Valve Failure Abstract: POWER LEVEL - 000%. ON 8-3-84, AT 0156 HRS, WHILE STROKING 1-IC-3 (THE OUTBOARD ISOLATION CONDENSER CONDENSATE RETURN VALVE) FOR THE CONTAINMENT ISOLATION VALVE OPERABILITY TEST, OPERATION OF 1-IC-3 BECAME ERRATIC. SUBSEQUENTLY THE MOTOR OVERLOADED AND THE CIRCUIT BREAKER BEGAN TO SMOKE. FIRE WATCH ESTABLISHED. 1-IC-4 (THE REDUNDANT ISOLATION VALVE FOR 1-IC-3) WAS PLACED IN THE CLOSED POSITION AND THE ISOLATION CONDENSER DECLARED INOPERABLE. INVESTIGATION REVEALED AN OUT OF ADJUSTMENT LIMIT SWITCH CAUSED THE MOTOR TO CONTINUE TO RUN BEYOND THE FULL CLOSED POSITION AND OVERHEAT. THIS DAMAGED THE MOTOR EXTENSIVELY AND SUBSEQUENTLY FAILED THE VALVE IN THE FULL CLOSED POSITION. THE MOTOR/CIRCUIT BREAKER FOR 1-IC-3 WAS REPLACED AND ALL LIMIT SWITCHES AND POSITION SWITCHES READJUSTED. THE VALVE WAS SATISFACTORILY RETESTED AND THE ISOLATION CONDENSER PLACED BACK INTO SERVICE. A PROJECT ASSIGNMENT HAS BEEN GENERATED TO REVIEW THE DESIGN OF THIS VALVE TO ITS PRESENT APPLICATION AND TO REPLACE THE MOTOR OPERATOR AND VALVE AS DEEMED NECESSARY.
Millstone 1	05/19/1987	09/29/1987	Diesel Generator Ceiling Fire Coating Degradation Abstract: POWER LEVEL - 100%. ON MAY 19, 1987, AT 1130 HOURS, WITH THE PLANT AT 100% POWER, THE PLANT WAS IN THE PROCESS OF INSTALLING A MONORAIL AND PADEYE LIFTING ASSEMBLY IN THE EMERGENCY DIESEL ENCLOSURE WHEN IT WAS DISCOVERED THE OVERHEAD FIREPROOFING BLANKET MATERIAL WAS INADEQUATE TO PROVIDE THE 3 HOUR FIRE RESISTANCE RATING. THE PRIMARY CAUSE FOR THIS INADEQUACY CAN NOT BE DETERMINED THROUGH AVAILABLE DOCUMENTATION. SINCE THE DISCOVERY, A CONTINUOUS FIRE WATCH HAS BEEN ESTABLISHED IN THE ENCLOSURE AND STEPS HAVE BEEN TAKEN TO BEGIN INSTALLING A REPLACEMENT LAYER OF FIREPROOFING MATERIAL BEFORE THE END OF THE UPCOMING REFUELING OUTAGE. INSTALLATION OF THE REPLACEMENT LAYER OF FIRECOATING WAS STARTED IN AUGUST, 1987, AFTER THE 1987 REFUELING OUTAGE. THE REPLACEMENT FIRECOATING INSTALLATION WAS COMPLETED ON 9/18/87. COATING WAS SATISFACTORY, THE CONTINUOUS FIRE WATCH WAS DISCONTINUED AND NORMAL FIRE DETECTION AND DELUGE SYSTEMS WERE DECLARED OPERATIONAL.
Millstone 1	01/26/1990	02/23/1990	Failure to Comply with Technical Specification 3.12.F.2 Abstract: POWER LEVEL - 100%. ON 1/26/90 AT 1430 HOURS, WITH THE PLANT AT 100% POWER (527F AND 1030 PSIG) IT WAS DETERMINED THAT THE ONE HOUR ROVING FIRE PATROL ESTABLISHED ON 1/25/90 AT 1120 HOURS FOR TWO NON-FUNCTIONAL FIRE BARRIER PENETRATIONS WAS NOT CONSISTENT WITH THE REQUIREMENTS OF TECH SPEC 3.12.F.2. THE ONE HOUR PATROL WAS ESTABLISHED AT THE RECOMMENDATION OF ENGINEERING, AND WAS BASED ON FIRE PROTECTION AND STANDARD TECH SPEC REQUIREMENTS. THIS WAS NOT CONSISTENT WITH THE TECH SPEC REQUIREMENT OF ESTABLISHING A CONTINUOUS FIRE WATCH ON ONE SIDE OF THE BARRIER WITHIN ONE HOUR OF DISCOVERY OF A NON-FUNCTIONAL FIRE BARRIER PENETRATION. FIRE DETECTION AND SUPPRESSION SYSTEMS WERE FUNCTIONAL ON BOTH SIDES OF THE AFFECTED FIRE BARRIER AND NO SAFETY CONSEQUENCES RESULTED FROM THIS EVENT.
Millstone 1	07/20/1990	08/17/1990	Technical Specification Fire Door Found Blocked Open Abstract: POWER LEVEL - 100%. ON 7/4/90, AT 2210 HOURS, WITH THE PLANT AT 100% POWER (528F AND 1032 PSIG), A TECH SPEC FIRE DOOR WAS FOUND TO BE BLOCKED OPEN AND UNGUARDED BY A FIRE WATCH. THIS DOOR, WHICH IS LOCATED BETWEEN THE TURBINE BUILDING UNLOADING AREA AND THE TURBINE BUILDING DECONTAMINATION ROOM, WAS IMMEDIATELY CLOSED AND LOCKED. NO SAFETY RELATED EQUIPMENT IS LOCATED IN EITHER AREA, ONLY SAFE SHUTDOWN EQUIPMENT ASSOCIATED WITH THE SERVICE WATER AND EMERGENCY SERVICE WATER SYSTEM CABLING. SINCE THE DECONTAMINATION ROOM AND UNLOADING AREA ARE CONTAINED IN THE SAME APPENDIX R FIRE AREA, SAFE SHUTDOWN COULD HAVE BEEN ACHIEVED AND MAINTAINED EVEN IN THE UNLIKELY EVENT OF A FIRE SPREADING THROUGH THE TWO ROOMS. THE AUTOMATIC FIRE SUPPRESSION SYSTEM IN THE UNLOADING AREA AND THE AUTOMATIC FIRE DETECTION SYSTEM IN THE DECONTAMINATION ROOM WERE OPERABLE. THE AVAILABLE FIRE PROTECTION FEATURES PROVIDED FOR THE AREAS AND THE LOW COMBUSTIBLE LOADING MINIMIZE ANY POTENTIAL ADVERSE IMPACT ON SAFE SHUTDOWN CAPABILITY, THEREFORE NO SAFETY CONSEQUENCES RESULTED FROM THIS EVENT.
Millstone 1	04/17/1991	05/15/1991	Technical Specification Fire Penetration Abstract: POWER LEVEL - 000%. ON 4/17/91, AT 2000 HOURS, WITH THE PLANT IN COLD SHUTDOWN AND THE CORE OFF-LOADED, (LESS THAN 100F AND 0 PSIG), IT WAS DISCOVERED THAT THE FIRE WATCH REQUIREMENTS SPECIFIED BY WORK ORDER PROCEDURES WERE NOT CORRECTLY IMPLEMENTED AND DID NOT MEET THE REQUIREMENTS OF TECH SPEC 3.12.F.2. UPON DISCOVERY OF THE OPEN FIRE PENETRATION, A TEMPORARY FIRE PENETRATION SEAL WAS INSTALLED UNTIL A FIRE WATCH WAS ESTABLISHED. THE AUTOMATIC FIRE DETECTION SYSTEM AND THE FIRE SUPPRESSION SYSTEMS IN THE TURBINE BUILDING AREA AFFECTED BY THE PENETRATION WERE OPERABLE THROUGHOUT THE EVENT. THE AVAILABLE FIRE PROTECTION FEATURES PROVIDED IN THE AREAS, AND THE LOW COMBUSTIBLE LOADING, MINIMIZED ANY POTENTIAL ADVERSE IMPACT ON MAINTAINING THE SAFE SHUTDOWN CONDITION. NO SAFETY SYSTEMS WERE REQUIRED TO FUNCTION AS A RESULT OF THIS EVENT AND NO SAFETY CONSEQUENCES RESULTED FROM THIS EVENT.
Millstone 1	12/14/1991	01/13/1992	Fire Door Found Open With No Fire Watch Present Abstract: POWER LEVEL - 000%. ON 12/14/91, AT 1030 HOURS, WITH THE PLANT IN COLD SHUTDOWN (130F AND 0 PSIG), A HATCHWAY DOOR FROM THE TURBINE BUILDING 34'6' ELEVATION TO THE CONDENSER BAY MEZZANINE AREA WAS FOUND OPEN WITH NO FIRE WATCH POSTED. THE HATCHWAY DOOR WAS IMMEDIATELY CLOSED. THE TURBINE BUILDING 34'6' ELEVATION CONTAINS SWITCHGEAR THAT SUPPLIES EQUIPMENT REQUIRED TO BE OPERABLE WITH FUEL IN THE REACTOR VESSEL. THERE IS NO EQUIPMENT IMPORTANT TO SAFETY ON THE CONDENSER BAY SIDE OF THE HATCHWAY DOOR. THE AUTOMATIC FIRE DETECTION SYSTEM FOR THE SWITCHGEAR AREA AND THE AUTOMATIC FIRE DETECTION AND SUPPRESSION SYSTEMS FOR THE CONDENSER BAY WERE OPERABLE AT THE TIME OF THE EVENT. THE AVAILABLE FIRE PROTECTION FEATURES AND THE LOW COMBUSTIBLE LOADING OF THE AREAS MINIMIZED ANY POTENTIAL ADVERSE IMPACT OF MAINTAINING THE PLANT IN A SAFE SHUTDOWN CONDITION. NO SAFETY SYSTEMS WERE REQUIRED TO FUNCTION AS A RSULT OF THIS EVENT AND NO SAFETY CONSEQUENCES RESULTED FROM THIS EVENT.
Millstone 1	04/09/1992	05/08/1992	Degraded Structure Steel Fire Coating Abstract: POWER LEVEL - 100%. ON APRIL 9, 1992, AT 1430 HOURS WITH THE PAINT AT 100% POWER, 530 DEGREES FAHRENHEIT, AND 1030 PSIG, THE STRUCTURAL STEEL FIRE COATING INSIDE THE TURBINE LUBE OIL ROOM WAS DETERMINATED TO BE INADEQUATE TO PROVIDE THE REQUIRED THREE HOURS FIRE RESISTANCE RATING. THIS FIRE COATING INSULATION IS NEEDED TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE TURBINE BUILDING TURBINE LUBE OIL ROOM DURING A FIRE. SPECIALLY, DURING A ROUTINE INSPECTION OF THE FIRE COATING INSULATION, SEVERAL SMALL AREAS OF INSULATION HAD SPELLED OFF THE STRUCTURAL STEEL. SUBSEQUENT EXAMINATION OF THE DAMAGED AREA INDICATED THAT THE INSULATION THICKNESS WAS BELOW THE THICKNESS REQUIRED TO MAINTAIN A THREE HOUR FIRE RESISTANCE RATING. SINCE THE DISCOVERY, A CONTINUOUS FIRE WATCH HAS BEEN ESTABLISHED IN THE ROOM. FURTHER INVESTIGATIONS ARE BEING PERFORMED ON ALL STRUCTURAL STEEL FIRE COATING INSULATION TO VERIFY PROPER INSTALLATION. THE INSULATION WILL BE REPAIRED TO PROVIDE THE REQUIRED THREE HOURS FIRE RESISTANCE RATING OF THE BARRIER. NO SAFETY SYSTEMS WERE REQUIRED TO FUNCTION AS A RESULT OF THIS EVENT AND NO SAFETY CONSEQUENCES RESULTED FROM THIS EVENT. THIS FIRE BARRIER IS NOT CREDITED IN THE SAFE SHUTDOWN ANALYSIS OF THE PLANT DUE TO A FIRE CASUALTY (10 CFR 50 APPENDIX R).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Millstone 1	05/20/1992	06/19/1992	Breach of Fire Barrier With No Fire Watch Posted Abstract: POWER LEVEL - 100%. ON 5/20/92, AT 1600 HOURS, WITH THE PLANT AT 100% POWER, A HINGED COVER ON THE DUCT OPENING ON A NORMALLY ISOLATED VENTILATION SUPPLY DUCT TO THE CABLE VAULT WAS FOUND OPEN WITH THE FIRE DAMPER LOUVER DIRECTLY BEHIND IT PROPPED OPEN AND NO FIREWATCH POSTED. UPON NOTIFICATION OF THE SHIFT SUPERVISOR, THE LOUVERS WERE SHUT AND THE COVER CLOSED AND LATCHED. THE CABLE VAULT WHICH CONTAINS ALL WIRING FOR SAFETY RELATED EQUIPMENT REQUIRED TO BE OPERABLE WITH THE PLANT OPERATING IS LOCATED AT THE 25'6' LEVEL OF THE TURBINE BUILDING DIRECTLY BENEATH THE CONTROL ROOM. THE AUTOMATIC FIRE DETECTION AND SUPPRESSION SYSTEMS FOR THE CABLE VAULT WERE OPERABLE AT THE TIME OF THE EVENT. THE AVAILABLE FIRE PROTECTION FEATURES AND EXTREMELY LOW COMBUSTIBLE LOADING ON EITHER SIDE OF THE DAMPER MINIMIZED ANY POTENTIAL ADVERSE IMPACT FOR ACHIEVING A SAFE PLANT SHUTDOWN IF REQUIRED. NO SAFETY SYSTEMS WERE REQUIRED TO FUNCTION AS A RESULT OF THIS EVENT AND NO SAFETY CONSEQUENCES RESULTED FROM THIS EVENT.
Millstone 1	10/29/1992	01/06/1993	Technical Specification Fire Penetration Abstract: POWER LEVEL - 100%. On October 29, 1992, at 1500 hours, with the plant operating at 100% power, it was determined, by way of an engineering evaluation, that certain historical conditions involving open/unsealed fire barrier penetrations were not reported to the NRC under an LER. This LER is required to report that the plant was operating in a condition prohibited by technical specifications prior to the discovery of these open barriers. No safety systems were required to function as a result of this event and no safety consequences resulted from this event.
Millstone 1	06/04/1993	08/10/1993	Technical Specification Fire Penetration Abstract: POWER LEVEL - 100%. ON JUNE 4, 1993, at 1450 hours, with the plant at 100% power (530 degrees Fahrenheit and 1030 psig), while performing the 18 month fire barrier penetration inspection, an unsealed fire barrier penetration was discovered in a Technical Specification fire wall. This penetration is located in a wall between the auxiliary boiler room (fire area T-6) and the maintenance shop (fire area T-7). On June 19, 1993, at 1300 hours, with the plant at 100% power (532 degrees Fahrenheit and 1031 psig), while continuing to perform the 18 month fire barrier penetration inspection, an unsealed fire barrier penetration was discovered in a Technical Specification fire wall. This penetration is located in a wall between the 'B' station battery room (fire area T-19) and the diesel day tank room (fire area T-20). These barriers are Technical Specification fire barriers in accordance with the requirements of 10CFR50 Appendix A, and reduce the potential exposure to safety-related components created by the hazards on one side of the barrier. governed by Technical Specifications, are installed, and were operable, in each fire area. These fire areas are located in the same Appendix R fire area (F-3A), therefore, a postulated fire with an unsealed penetration would not adversely affect Appendix R safe shutdown scenarios. The available fire protection
Millstone 1	10/12/1993	11/12/1993	Fire Watch Found Inattentive Abstract: POWER LEVEL - 100%. On October 12, 1993, at approximately 1030 hours, with the plant at 100% power (530 degrees Fahrenheit and 1030 psig), a Plant Equipment Operator (PEO) discovered that a fire watch was inattentive. Attempts by the PEO to rouse the fire watch were unsuccessful. The Medical Department was contacted and immediately dispatched personnel to the scene. The Emergency Medical Technicians (EMTs) responding to the scene were able to revive the fire watch. Immediate actions were taken to replace the continuous fire watch. This event has been attributed to a medical condition. Subsequent investigation has shown that the fire watch, posted due to degraded ceiling fire proofing material, had called the dispatch desk at 1015, as required by the fire watch contractor's policy. The policy requires each continuous fire watch to call the dispatch desk every fifteen (15) minutes. The PEO entered the area and discovered the inattentive fire watch at 1025. The fire watch has stated that he heard some one enter the area, and his next recollection is that he was being revived by the EMTs. Therefore, the potential existed for a violation of continuous fire watch requirements for a very short period of time. The available fire protection system in this area was operable during this event, minimizing any potential impact on safety related
Millstone 2	06/15/1984	07/05/1985	Missed Fire Protection System Surveillance and Fire Barrier Violation Abstract: POWER LEVEL - 100%. DURING AN UNANNOUNCED NRC AUDIT, 2 PROBLEMS WERE DISCOVERED: 1) THE DOCUMENTATION FOR A SEMI-ANNUAL FIRE DETECTION SYSTEM INSTRUMENTATION SURVEILLANCE FOR 11-83 COULD NOT BE FOUND. INVESTIGATION SHOWED THAT THE SURVEILLANCE WAS PROBABLY PERFORMED BUT NO WRITTEN PROOF COULD BE FOUND. AFTER CONFIRMING THE SURVEILLANCE WAS MISSING, THE 5-84 SURVEILLANCE WAS REVIEWED AND FOUND COMPLETE WITH NO DISCREPANCIES. THIS SURVEILLANCE WAS CONSIDERED PROOF THAT THE FIRE DETECTION SYSTEM WAS OPERABLE AND PLANT SAFETY WAS NOT JEOPARDIZED. PROCEDURES WERE CHANGED TO PREVENT RECURRENCE. 2) A BREACH IN THE FIRE BARRIER IN THE DC SWITCHGEAR ROOM WAS IDENTIFIED. A FIBERGLASS DRAIN PIPE DID NOT HAVE A FIRE RATING AND THE PENETRATIONS WERE NOT FIRE SEALED; THIS CONDITION DID NOT PROVIDE A 3 HR BARRIER BETWEEN REDUNDANT SAFETY RELATED AREAS. AS A TEMPORARY SOLUTION, THE PIPE WAS CUT AT THE WALLS AND THE PENETRATIONS WERE FIRE SEALED. THE PIPE WAS REPLACED DURING THE 1985 REFUEL OUTAGE.
Millstone 2	07/03/1984	07/30/1984	Fire Barrier Violation Abstract: POWER LEVEL - 075%. DURING A WALK-THROUGH FIRE INSPECTION ON JUL 3, 1984 AT 1400 HRS, WHILE THE PLANT WAS AT 75% POWER IT WAS DISCOVERED THAT THE DOOR BETWEEN THE EAST AND WEST 480 VOLT SWITCHGEAR ROOMS DID NOT HAVE THE REQUIRED FIRE RATING. IMMEDIATELY AFTER THE FINDING A CONTINUOUS FIRE WATCH WAS ESTABLISHED IN ACCORDANCE WITH TECH SPEC SECTION 3.7.10, ACTION A. SUBSEQUENT TO POSTING THE FIRE WATCH, AN ENGINEERING REVIEW DETERMINED THE DOOR AS IS, MINUS A U-L RATING, CONSTITUTED A TEMPORARY FIRE BARRIER OF EQUAL EFFECTIVENESS AND THAT A FIRE WATCH WAS NOT REQUIRED. FOR THE COMPLETE ENGINEERING REVIEW PLEASE SEE THE TEXT. CORRECTIVE ACTION TAKEN WAS REPLACEMENT OF THE DOOR WITH A U-L RATED 3 HR FIRE DOOR. TO PREVENT A RECURRENCE, ENGINEERING PERSONNEL HAVE BEEN REMINDED THAT ALL PLANNED CHANGES IN FIRE BARRIERS MUST HAVE A FIRE PROTECTION ENGINEERING REVIEW, BEFORE MAKING THE CHANGES.
Millstone 2	05/16/1986	02/03/1987	Inoperable Fire Dampers Abstract: POWER LEVEL - 100%. ON MAY 16, 1986 AT 1140 HOURS WHILE THE PLANT WAS IN MODE 1, 100% POWER, AN EVALUATION OF FIRE DAMPERS BY A FIRE PROTECTION CONSULTANT WAS RECEIVED IN RESPONSE TO IE INFORMATION NOTICE 83-69, IMPROPERLY INSTALLED FIRE DAMPERS AT NUCLEAR POWER PLANTS AND THE APPENDIX R STUDY. THE EVALUATION DEFINED A TOTAL OF 20 FIRE DAMPERS WHICH WERE EITHER IMPROPERLY INSTALLED OR IMPROPERLY RATED FOR THE FIRE ZONE. PLANT PERSONNEL REVIEWED THE CONSULTANTS EVALUATION WITH THE ZONES AFFECTED. A FIRE PATROL WAS ESTABLISHED IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS TO INSPECT BOTH SIDES OF THE FIRE BARRIER AFFECTED AT LEAST ONCE PER HOUR. A FIRE PATROL WAS ESTABLISHED AND NOT A FIRE WATCH BECAUSE BOTH SIDES OF THE AFFECTED FIRE BARRIERS ARE MONITORED BY EITHER AN OPERABLE FIRE DETECTION OR AUTOMATIC SUPPRESSION SYSTEM. THE FIRE DAMPERS AFFECTED HAVE BEEN INSTALLED, REPLACED OR MODIFIED TO AFFECT PROPERLY INSTALLED AND RATED ASSEMBLIES. WITH VENDOR INSTALLATION INSTRUCTIONS OR APPROVED MODIFIED INSTALLATION INSTRUCTIONS. ALL WORK WAS COMPLETED ON JULY 17, 1986.
Millstone 2	10/04/1986	11/03/1986	Fire Watch Violations Under Limiting Conditions for Operation 3.7.10a.1 Abstract: POWER LEVEL - 000%. THIS LER REPORTS TWO OCCURRENCES THAT TOOK PLACE WHILE THE PLANT WAS IN MODE 6 AND UNDER TECHNICAL SPECIFICATION LIMITING CONDITION FOR OPERATION (LCO) 3.7.10A.1. THE PLANT ENTERED THIS LCO AT 1800 ON OCTOBER 2, 1986 WHEN TWO FIRE DAMPERS (RUSKIN MODEL HVD-2-17 3, EIIS CODE VF) WERE DECLARED INOPERABLE DUE TO THEIR INABILITY TO CLOSE UNDER FLOW CONDITIONS. OCCURRENCE #1: ON OCTOBER 4, 1986 AT 0700 A REVIEW OF THE FIRE WATCH LOG INDICATED ONE OF THE SEVEN AREAS REQUIRING AN HOURLY INSPECTION WAS NOT LOGGED IN FOR A PERIOD OF TWELVE HOURS. AN INVESTIGATION INDICATED THAT THE CONSTRUCTION FIRE WATCH ASSIGNED FOR THAT PERIOD HAD MISSED ADDITIONAL AREAS BUT RECORDED THESE AREAS IN THE LOG AS HAVING BEEN TOURED. CORRECTIVE ACTION INCLUDED AN IMMEDIATE INSPECTION OF THE INVOLVED FIRE AREAS BY OPERATIONS AND THE ESTABLISHMENT OF PERIODIC FIELD CHECKS ON ROVING WATCHES BY CONSTRUCTION SUPERVISION. ADDITIONALLY ROVING FIRE WATCHES WERE REQUIRED TO REPORT THE RESULTS OF THEIR INSPECTIONS HOURLY TO THE SHIFT SUPERVISOR OR HIS DESIGNEE. THE INDIVIDUAL INVOLVED IN THIS INCIDENT TERMINATED EMPLOYMENT. OCCURRENCE #2: THE ABOVE LCO REQUIRES THAT FIRE AREAS ON BOTH SIDES OF THE FIRE RATED AREA BE INSPECTED AT LEAST ONCE PER HOUR.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Millstone 2	11/13/1986	12/12/1986	Fire Damper Missed Surveillance For Operability Abstract: POWER LEVEL - 000%. WHILE IN MODE 6 ON NOVEMBER 13, 1986 AT 1300 HOURS IT WAS DISCOVERED, DURING THE PERFORMANCE OF A ROUTINE SURVEILLANCE ON FIRE DAMPER OPERABILITY (SP 2618G), THAT THREE FIRE DAMPERS WERE NOT ON THE REQUIRED SURVEILLANCE FORM. THIS HAS BEEN DESIGNATED A MISSED SURVEILLANCE. TWO OF THE DAMPERS, ALSO IDENTIFIED ON AN INTERNAL AUDIT, WERE INSTALLED AS PART OF A 1980 MODIFICATION FOR FIRE PROTECTION IMPROVEMENTS. THE OPERATIONS CRITICAL DRAWING WAS NOT CHANGED TO REFLECT THE ADDITION OF THESE DAMPERS. THE THIRD FIRE DAMPER, INSTALLED AS ORIGINAL PLANT EQUIPMENT WAS OMITTED FROM THE UNITS ORIGINAL OPERATIONS CRITICAL DRAWINGS. THE SURVEILLANCE FOR FIRE DAMPER OPERABILITY FORM WAS CREATED UTILIZING THESE OPERATIONS CRITICAL DRAWNINGS, THEREBY RESULTING IN THE OMISSION OF THE THREE FIRE DAMPERS. CORRECTIVE ACTION INCLUDED AN IMMEDIATE INSPECTION OF THE INVOLVED DAMPERS TO THE CRITERIA OF THE OPERABILITY SURVEILLANCE. ALL THREE WERE DETERMINED TO BE OPERABLE. A WALKDOWN OF ALL VENTILATION SYSTEMS DETERMINED THAT NO FURTHER DELETIONS FROM THE SURVEILLANCE FROM EXIST. BOTH SURVEILLANCE PROCEDURE AND OPERATION CRITICAL DRAWINGS WERE UPDATED. CURRENT STATION PROCEDURES PRECLUDE THIS TYPE OF OMISSION FROM OCCURRING IN THE FUTURE AS BOTH PROCEDURES AND
Millstone 2	12/22/1986	03/09/1987	Fire Detection/Protection Systems Out of Service Abstract: POWER LEVEL - 100%. THE FIRE DETECTION/PROTECTION SYSTEMS SHOWN BELOW WERE OUT OF SERVICE FOR A TIME PERIOD EXCEEDING 14 DAYS. PER THE TECHNICAL SPECIFICATIONS A SPECIAL REPORT IS REQUIRED. THE SYSTEMS WERE UPGRADED TO MEET 10CFR50 APPENDIX R, BRANCH TECHNICAL POSITION 9.5-1, AND SAFETY EVALUATION REPORT DATED 9/19/78. THESE MODIFICATIONS WERE COMPLETED AND THE SYSTEMS WERE RETURNED TO SERVICE ON 1/15/87 AT 1021. ON 12/22/86 THE 'C' REACTOR COOLANT PUMP AREA HEAT DETECTORS INDICATED FAILED. ATTEMPTS TO REPAIR THESE INSTRUMENTS WERE HAMPERED BY THEIR INACCESSIBILITY. ON 1/29/87 THE PLANT WENT TO COLD SHUTDOWN. THE DETECTORS WERE REPLACED AND THE SYSTEM WAS RESTORED TO SERVICE AT 2200 ON 2/1/87.
Millstone 2	07/30/1987	09/22/1989	Fire Protection for Raceway Supports Not Adequately Protected Abstract: POWER LEVEL - 100%. ON 7/30/87, AT 1030 HOURS WITH THE PLANT AT 100% POWER, A TECHNICAL EVALUATION WAS RECEIVED WHICH IDENTIFIED INADEQUACIES IN THE FIRE PROTECTION COATING ON RACEWAY SUPPORT STRUCTURES LOCATED IN THE MAIN CABLE VAULT (AUXILIARY BUILDING 25'-6' AND THE HALLWAY LEADING TOE CHARGING PUMPS (AUXILIARY BUILDING -25'-6'). THE FIRE COATING PROTECTS THE CABLE TRAYS, CABLES AND SUPPORT STRUCTURES WERE NOT COVERED AND THUS A FAILURE OF THE SUPPORT SYSTEM COULD OCCUR DURING A SEVERE FIRE. THE IDENTIFIED INADEQUACIES WILL BE CORRECTED BEFORE THE END OF THE NEXT REFUELING OUTAGE. AN IMMEDIATE ROVING HOURLY FIRE WATCH WAS STARTED IN THE TWO AREAS IN ACCORDANCE WITH TECH SPEC 3.7.10.A.1. THERE WERE NO SAFETY IMPLICATIONS AS A RESULT OF THIS EVENT AS THE SUPPORT STRUCTURES WOULD ONLY FAIL DURING A SEVERE FIRE. THE MAIN CABLE VAULT HAS FIRE DETECTION, SPRINKLERS AND A MANUAL DELUGE SYSTEM. THE HALLWAY LEADING TO THE CHARGING PUMPS AND THE CHARGING PUMP AREA HAS FIRE DETECTION AND THE AREAS ARE SEPARATED FROM OTHER EQUIPMENT BY MEANS OF A WATER CURTAIN. THEREFORE THE POSSIBILITY OF A SEVERE FIRE IS REMOTE.
Millstone 2	12/19/1987	01/29/1988	Fire Watch Violations Under Limiting Conditions For Operation 3.7.10.a.1 Abstract: POWER LEVEL - 095%. ON DECEMBER 19, 1987 AT 0845 MILLSTONE UNIT 2 WAS OPERATING IN MODE 1 AT 95% POWER, AND UNDER THE TECHNICAL SPECIFICATION ACTION STATEMENT FOR LIMITING CONDITION FOR OPERATION (LCO) 3.7.10.A.1. AS REQUIRED BY LCO 3.7.10.A.1, A FIRE WATCH PATROL HAD BEEN ESTABLISHED INITIALLY TO INSPECT A CABLE VAULT AREA CONTAINING A NON-QUALIFIED CABLE TRAY ENCLOSURE. THE FIRE WATCH PATROL IS REQUIRED TO INSPECT AFFECTED AREAS ONCE PER HOUR AND RECORD THE INSPECTION IN A FIRE WATCH ROUNDS LOG BOOK LOCATED IN THE MAIN CONTROL ROOM. THIS FIRE WATCH PATROL HAD ORIGINALLY COMMENCED ON JULY 13, 1987 AT 1830 HOURS. THIS LER IS SUBMITTED TO REPORT NON-COMPLIANCE WITH LCO 3.7.10.A.1. THIS OCCURRED WHEN THE FIRE WATCH PATROL FAILED TO CONDUCT AN HOURLY INSPECTION OF AFFECTED AREAS ON DECEMBER 19, 1987 BETWEEN 0745 AND 0945. THE MISSED INSPECTION WAS DETECTED SHORTLY AFTER 0900 BY THE CONTROL ROOM OPERATOR UPON REVIEW OF THE FIRE WATCH ROUNDS LOG BOOK. AN OPERATOR WAS PROMPTLY DISPATCHED TO CONDUCT THE FIRE WATCH PATROL AND THE FIRE WATCH ROUNDS LOG BOOK WAS SIGNED AT 0945. THE FIRE WATCH CONTRACTOR, AND RELOCATING THE LOG BOOK TO A MORE PROMINENT LOCATION WHERE MISSED ENTRIES WILL BE PICKED UP MORE QUICKLY BY THE SENIOR CONTROL ROOM OPERATOR.
Millstone 2	02/02/1989	03/01/1989	Fire Barrier Penetration Seals Inoperable Abstract: POWER LEVEL - 100%. WHILE OPERATING AT 100% POWER ON 2/2/89 AT 1700 HOURS IT WAS DETERMINED THAT TWO FIRE BARRIER CABLE PENETRATION SEALS WHICH HAD BEEN PERMANENTLY RESEALED WERE INOPERABLE. THIS RESULTED IN NON-COMPLIANCE WITH THE TECH SPEC ACTION STATEMENT FOR LIMITING CONDITION FOR OPERATION (LCO) 3.7.10.A.3. AS REQUIRED BY LCO 3.7.10.A.3, TEMPORARY OR INOPERABLE FIRE RATED SEALING DEVICES SHALL BE PERMANENTLY REPAIRED WITHIN 30 DAYS OR A FIRE WATCH SHALL BE SET IN ACCORDANCE WITH LCO 3.7.10.A.1 OR 3.7.10.A.2. CABLE PENETRATION NUMBERS 108 AND 109 LOCATED AT THE 25'6' ELEVATION BETWEEN THE MAIN CABLE VAULT AND THE EAST ELECTRICAL PENETRATION ROOM WERE OPENED 12/28/88 AND 1/3/89 RESPECTIVELY, TO ALLOW THE INSTALLATION OF CABLES. UPON COMPLETION OF INSTALLATION THE PENETRATIONS WERE TEMPORARILY SEALED IN ACCORDANCE WITH PLANT PROCEDURES. PERMANENT RESEALING OF THESE PENETRATIONS WAS PERFORMED ON 1/26/89. SUBSEQUENT REVIEWS SHOWED THE SEALANT WAS AN UNAPPROVED TYPE AND IMMEDIATE ACTION WAS TAKEN TO START A ROVING HOURLY FIRE WATCH IN ACCORDANCE WITH LCO 3.7.10.A.1. SUBSEQUENT ACTION WAS TAKEN TO REMOVE THE UNAPPROVED SEALANT AND INSTALL AN APPROVED FIRE PENETRATION SEALANT. THE PENETRATIONS WERE RESEALED AND DECLARED OPERABLE ON 2/2/89 AT 2345. AT THIS TIME THE FIRE WATCH
Millstone 2	06/12/1992	07/10/1992	Sprinkler System Isolation Abstract: POWER LEVEL - 000%. On June 12, 1992, at 0001 hrs, with the plant in Mode 5, an Auxiliary Building elevation (-)45'-6' sprinkler system, required by Technical Specifications, was isolated for approximately eight hours. This isolation took place while isolating the piping for planned work on three hose stations. The Technical Specification Action Statement was logged for the hose stations (TSAS 3.7.9.3.a), but not for the sprinkler system (TSAS 3.7.9.2.a). Work was stopped, the isolation valve was reopened, the Technical Specification Action Statement was exited. A continuous fire-watch was stationed as directed by TSAS 3.7.9.2.a, and backup suppression was verified. Work was restarted, again, in accordance with the requirements of TSAS 3.7.9.2.a.
Millstone 2	10/18/1994	11/16/1994	Fire Watch Not Established Abstract: On October 18, 1994, at 2100 hours, with the plant in mode 6, a fire watch was not established within the A Diesel Generator room for a period of five hours. The fire watch was required to compensate for two fire doors blocked open to facilitate exhaust ventilation for welding. Upon discovery by Operations, Technical Specification Action Statement 3.7.10.a.2 was entered and a fire watch was established in the A Diesel Generator room. Welding in the adjacent Enclosure Building Filtration System (EBFS) area was then secured, the ventilation removed, the doors shut and the Technical Specification Action Statement was exited.
Millstone 2	11/01/1994	11/29/1994	Spent Fuel Pool Door Opened (Blowdown Room) While Fuel Was Being Moved in SFP Abstract: On November 1, 1994, at approximately 2250 with the plant in Mode 6, the Reactor core was being offloaded. A scheduled Fire Watch turnover was needed in the Blowdown Room, which is accessed via the spent fuel pool area. Fuel handling operations were suspended by the Reactor Engineer (RE) while the fire watch relief was performed. When a longer than normal time had passed, the RE on the Spent Fuel Pool (SFP) floor sent the on duty Health Physics (HP) Technician to locate the fire watch people. HP could not locate the fire watch personnel, and reported this to the RE. Without determining the location of the fire watch personnel, the RE then directed the fuel handler on the Spent Fuel Handling Machine (SFHM) to proceed with moving fuel. This required meeting Technical Specification 3.9.14 for spent fuel pool area ventilation, which requires that the SFP area doors be closed. While a fuel bundle was being moved, one of the Fire Watch individuals exited the Blowdown Room, violating the SFP Area closure requirements during fuel movement. The fuel assembly being moved was placed into its storage location (the closest secure location at the time of the event), and fuel movement activities were suspended until proper conditions could be reestablished. Additional controls to prevent
Millstone 2	11/02/1994	12/02/1994	Failure to Post a Continuous Fire Watch Abstract: On November 2,1994, at approximately 0800, the plant was in Mode 6 and fuel offload was being performed. A discovery was made that the type of fire watch established for a breached electrical penetration did not satisfy the Technical Specification requirements. A roving fire watch was established when the requirement was for a continuous fire watch. Upon discovery, a continuous fire watch was established.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Millstone 2	12/08/1994	01/06/1995	Turbine Building 45'-6" Cable Vault Floor Leak to 31'-6" 4160 Volt Vital Switchgear Room Abstract: On December 8, 1994, at 1600 hours, with the plant defueled, a review of an event which occurred on October 20, 1994, indicated a loss of electrical facility separation due to the degraded condition of the floor drains and leakage collection systems. Due to the clogged drain and the deteriorated cofferdam and floor in the 45'-6' cable vault, water draining from the 54'-6' 4160 volt switchgear room (Z1 facility) leaked through to the 31'-6' 4160 volt switchgear room (Z2 facility). This leak path creates a loss of separation of facilities (required by 10CFR50, Appendix A, Criteria 17 Electric Power Systems and IEEE 308-1971, Standard Criteria for Class IE Systems) which allows a common mode failure to remove redundant facilities from service. Design modifications are being prepared to correct the deteriorated cofferdam and floor, and repairs will be completed prior to startup.
Millstone 2	02/19/1995	03/21/1995	Fire Watch Found Sleeping Abstract: On February 19, 1995, at approximately 0400 hours, with the plant defueled, a continuous fire watch was found sleeping in the Auxiliary Building, Enclosure Building Filtration System (EBFS) area. The root cause of the event was personnel error. Immediate corrective action was to assign a new fire watch to the affected area and to increase tours of all continuous posts by fire watch supervisors. In addition, shift briefs were conducted with all fire watch personnel reenforcing what is expected of personnel performing the function of the fire watch. This event is reportable under 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.
Millstone 2	04/04/1995	05/02/1995	Fire Watch Sleeping in 480 Volt Switchgear Room Abstract: On April 4, 1995, at 0318 hours, with the plant defueled, a contract individual assigned as a continuous fire watch was found sleeping in the West 480 Volt Switchgear Room. The root cause of the event was personnel error. It is believed that the individual blatantly and intentionally disregarded the fire watch position's requirements to stay awake and alert. There were no safety implications as a result of this event. Immediate corrective action was to post another individual as a fire watch to the West 480 Volt Switchgear Room. Long term corrective actions consist of conducting fire watch shift briefings, room temperature monitoring, increased supervisory oversight, and reinforcement of expectations of fire watch personnel while on duty. The event is being reported pursuant to the requirements of 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.
Millstone 2	05/03/1995	05/30/1995	Fire Watch Sleeping in the Auxiliary Building West 480 Volt Switchgear Area Abstract: On May 3, 1995, at 0105 hours, with the plant im mode 6, a contract individual assigned as a continuous fire watch was found sleeping in the West 480 Volt Switchgear Room. The root cause of the event was personnel error. There were no safety implications as a result of this event. Immediate corrective action was to post another individual as a fire watch to the West 480 Volt Switchgear Room. Long term corrective actions to prevent recurrence of this event involve removing chairs from all the fire watch post locations, reducing post assignment times from one hour to one half hour and assigning personnel alarm devices to alert of fatigue. Also, long term corrective actions from previous similar events continue to be reemphasized. These are fire watch shift briefings, room temperature monitoring, increased supervisory oversight, and reinforcement of expectations of fire watch personnel while on duty. The event is being reported pursuant to the requirements of 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.
Millstone 2	06/17/1995	07/14/1995	Fire Watch Not Established Abstract: On June 17, 1995, at 21 00 hours, with the plant in mode 5 a required fire watch was not established in the 45' east cable vault for a period of 1 hour and forty-two minutes. The fire watch was required to compensate for fire door T-45-23 (256) blocked open to facilitate exhaust ventilation. Upon discovery, Technical Specification Action Statement 3.7.10.a.2 was entered and a fire watch was established at the south entrance to the 45' east cable vault. The root cause of the event is personnel error. Corrective action was the immediate establishment of a fire watch, updating of the security computer to provide an on-screen reminder to notify the control room about door status changes, and the review of appropriate procedures with Security personnel. This event is reportable pursuant to the requirements of 50.73(a)(2)(i)(B) 'any operation or condition prohibited by the plants Technical Specifications.' South entrance to the 45' east cable vault fire doors was inoperable and fire watch personnel had not been stationed for a period of approximately one hour and forty-two minutes.
Millstone 2	06/24/1995	07/19/1995	Fire Damper not included in Surveillance Program Abstract: On June 24, 1995 at 1000 hours, with the plant in Mode 5 with Reactor Coolant System temperature 83.5 degrees F, it was identified that a fire damper installed in the Containment Purge ductwork to the Enclosure Building Filtration System had not received any 18 month surveillance testing since the initial testing of fire dampers in September of 1986. The root cause of the event was administrative personnel error. Corrective action was to promptly inspect the damper for proper operation and conduct its surveillance in accordance with Technica Specification requirements. The damper was in good condition and the shutters operated without any deficiencies. The damper was then reopened and reset with fusible links. The damper was also included in the Operations 18 month surveillance for fire dampers and will receive future inspections in accordance with Technical Specification. This event is being re ported pursuant to 10CFR50.73(a)(2)(i)(B), any operation or condition prohibited by the plant's Technical Specifications.
Millstone 2	01/06/1999	02/01/1999	Failure to Perform Required Surveillance on Fire Door Abstract: On January 6, 1999, it was discovered that one of the rated fire doors in the barrier between Unit 2 Turbine Building and Unit 1 Access Control Area consisted of a 3-hour rated roll-up fire door that has not been properly surveilled as required in the Unit 2 Technical Specifications. The door is located in the southeast corner of the 14'-6" elevation and is a 3-hour rated roll-up fire door. The station fire protection program identifies this door as satisfying the Technical Requirements Manual requirement for a fire door in this barrier. There is a double door on the Unit 1 side of the opening that is improperly labeled. The double door is only rated for 1 1/2 hours. As a result of mislabeling the Unit 1 door, surveillances were performed on the 1 1/2 hour fire door, and not performed on the 3-hour rated Unit 2 roll-up door. The 3-hour rated roll-up door has been abandoned in place and has not been maintained operable. The cause of the condition was that the double door on the Unit 1 side of the opening was improperly labeled due to a historical lack of configuration control. As a result of mislabeling the Unit 1 door, surveillances under the plant procedure were performed on the Unit 1 door instead of the Unit 2 roll-up door. Compensatory measures were implemented by establishing fire watches as required by the Unit 2 Technical Requirements Manual and a design change will replace the door with a 3-hour rated fire door. Past configuration management problems will continue to be addressed as found.
Millstone 2	10/18/1999	11/17/1999	Auxiliary Feedwater Pump room High Energy Line Break Door Left Unsecured Abstract: On October 18,1999 at approximately 1532 hours it was discovered that the High Energy Line Break (HELB) door between the two Auxiliary Feedwater (AFW) Pump Rooms was closed, but it's locking mechanism was not secured. This event resulted in the HELB door being inoperable for less than 10 minutes. The cause of this event was a skill based human performance error, a lack of adequate Verification that the HELB door was properly secured. For this event, a briefing was performed for appropriate fire watch and security personnel to emphasize the importance of securing HELB doors and the process used to control compensatory fire watches shall be reviewed and enhanced as necessary to ensure fire watches are terminated when no longer required.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Millstone 2	01/07/2001	02/06/2001	Security Event Report: Vital Area Security Breach in the Auxiliary Building Roof Without Compensatory Security Abstract: On January 7, 2001 at 0300, the Millstone Unit No. 2 Shift Manager questioned the lack of compensatory measures in place for a 20 inch x 20 inch hole in the Auxiliary Building roof. No security guard or fire watch was posted at the hole. The Shift Manager contacted Protective Services at 0500 with what he felt was a potential fire issue. A Security Shift Supervisor was dispatched to the scene. The Security Shift Supervisor determined that a breach in a vital area boundary existed at 0514 due to the size of the hole, which could potentially have allowed undetected access into the area, and remained at the scene until another guard was formally posted. An immediate (1 hour) notification was made on January 7, 2001, pursuant to 10 CFR 73.71(b)(1) and 10 CFR 73.71 Appendix G, "Reportable Safeguards Events." The cause of the event was that the planner did not include the necessary structural barrier breach notification requirements or security guard requirements in the automated work orders (AWOs) in accordance with the established procedures. As a result of this event training will be given to all planners and team leaders to re-enforce the requirement to use the Millstone work control procedures during the preparation and review of AWOs. An interim compensatory action was implemented requiring AWOs that breach a system or boundary to receive a peer check by a qualified planner to ensure that all design functions are considered and
Millstone 3	09/18/1986	10/15/1986	Missed Fire Protection Surveillance Due to Administrative Error Abstract: POWER LEVEL - 100%. AT 1530 ON 9/18/86 WHILE AT 100% POWER IN MODE 1 IT WAS NOTED THAT THE SURVEILLANCE REQUIREMENT TO MEASURE THE WEIGHT AND PRESSURE OF THE FIRE SUPPRESSION SYSTEM HALON BOTTLES WAS NOT PERFORMED WITHIN ITS ALLOTTED TIME AS REQUIRED BY PLANT TECHNICAL SPECIFICATIONS. THE HALON FIRE SUPPRESSION SYSTEM FOR THE INSTRUMENT RACK ROOM WAS DECLARED INOPERABLE AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED. THE CAUSE OF THE ERROR WAS ADMINISTRATIVE. THE SURVEILLANCE RESPONSIBILITY WAS BEING TRANSFERRED FROM THE STATION SERVICES DEPARTMENT TO THE UNIT MAINTENANCE DEPARTMENT AND WAS MISSED IN THE TRANSITION. AS CORRECTIVE ACTION, THE UNIT MAINTENANCE DEPARTMENT ASSUMED COMPLETE RESPONSIBILITY FOR THE HALON SYSTEM. ON 9/19/86, TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENT 4.7.12.4.B WAS MET AND THE SYSTEM DECLARED OPERABLE. THIS REPORT IS BEING SUBMITTED IN ACCORDANCE WITH 10CFR50.73 (A)(2)(I)(B).
Millstone 3	10/30/1986	11/24/1986	FIRE WATCH NOT ESTABLISHED IN REACTOR CONTAINMENT WITHIN ALLOTTED TIME Abstract: POWER LEVEL - 100%. ON 10/30/86 AT 1347 WHILE OPERATING AT 100% POWER IN MODE 1, A VALVE OF THE FIRE PROTECTION WATER SYSTEM (FPW) RUPTURED FROM DAMAGE SUSTAINED DURING EXCAVATION WORK. IMMEDIATE ACTION WAS TO ISOLATE THE DAMAGED PORTION TO RE-ESTABLISH OPERABILITY OF THE REST OF THE FPW SYSTEM. TEMPORARY REPAIRS WERE COMPLETED AT 1535. PORTION WAS ONE HOUR AND 48 MINUTES. PLANT TECHNICAL SPECIFICATIONS WERE VIOLATED BECAUSE A FIRE WATCH WAS NOT ESTABLISHED IN REACTOR CONTAINMENT WITHIN ONE HOUR AS REQUIRED. THE ROOT CAUSE WAS THAT A CONTAINMENT ENTRY COULD NOT BE ACHIEVED WITHIN ONE HOUR. THE CONTAINMENT ENTRY WAS NOT MADE SINCE THE TIME TO EFFECT REPAIRS WAS SHORTER THAN THE TIME TO ENTER CONTAINMENT. AS CORRECTIVE ACTION, A PLANT TECHNICAL SPECIFICATION CHANGE REQUEST WILL BE SUBMITTED REQUESTING RELIEF FROM THE REQUIREMENT TO POST A FIRE WATCH IN CONTAINMENT WITHIN A ONE HOUR TIME SPAN. THIS REPORT IS BEING SUBMITTED IN ACCORDANCE WITH 10CFR5O.73 (A)(2)(I)(B).
Millstone 3	06/07/1987	07/06/1987	Failure to Post Fire Watches Due to Operator Error Abstract: POWER LEVEL - 000%. AT 2210 ON JUNE 7, 1987, WITH THE PLANT AT 0% POWER (IN COLD SHUTDOWN MODE 5), AND AGAIN ON JUNE 24, 1987 WITH THE PLANT AT 100% POWER (MODE 1), TECHNICAL SPECIFICATIONS WERE VIOLATED IN THAT FIRE WATCHES WERE NOT PROPERLY ESTABLISHED IN AREAS WHERE THE FIRE SUPPRESSION SYSTEM WAS REMOVED FROM SERVICE. IN ACCORDANCE WITH EXISTING PROCEDURES, FIRE WATCHES HAD BEEN ESTABLISHED FOR THE MAINTENANCE ACTIVITIES TAKING PLACE. IN ONE EVENT, THE POSTED FIRE WATCHES DID NOT UNDERSTAND THE SCOPE OF THE AREAS TO BE MONITORED. IN THE SECOND EVENT, THE POSTED FIRE WATCHES DID NOT MONITOR THE CORRECT FIRE AREAS. THE IMMEDIATE CORRECTIVE ACTION IN BOTH EVENTS WAS TO RETURN THE FIRE SUPPRESSION SYSTEM TO OPERATION. THE LONG TERM CORRECTIVE ACTION WAS TO MODIFY THE PROCEDURE FOR ESTABLISHING FIRE WATCHES TO INCLUDE A DESCRIPTION OF WHICH AREAS ARE MULTI-LEVEL, AND TO INCLUDE A CHECK BY THE PLANT OPERATORS THAT THE FIRE WATCH IS CORRECTLY IN PLACE. THE HEALTH AND SAFETY OF THE PUBLIC WAS NOT ADVERSELY AFFECTED AS A FULLY. OPERATIONAL FIRE DETECTION SYSTEM WAS OPERABLE AT ALL TIMES MONITORING THE AFFECTED AREA.
Millstone 3	07/06/1987	08/05/1987	Inadvertent Discharge of CO(2) Due to Procedural Defect Abstract: POWER LEVEL - 100%. ON JULY 6, 1987 AT 1232 PM, WHILE OPERATING AT 100% POWER (MODE 1), TECHNICAL SPECIFICATIONS WERE VIOLATED WHEN FIRE WATCHES WERE NOT POSTED DUE TO AN INADVERTENT DISCHARGE OF THE CARBON DIOXIDE (CO2) FIRE SUPPRESSION SYSTEM IN THE EAST MCC/ROD CONTROL AREA. THE DISCHARGE OCCURRED WHILE NON-LICENSED OPERATORS WERE PERFORMING A SURVEILLANCE ON THE FIRE DETECTION SYSTEM, WHICH PROVIDES THE INPUT TO ACTUATE THE CARBON DIOXIDE SYSTEM. THE DISCHARGE WAS DUE TO A PROCEDURAL DEFICIENCY. THE OPERATION OF THE PLANT WAS NOT AFFECTED BY THE DISCHARGE. THERE WERE NO INJURIES. INITIAL OPERATOR ACTIONS WERE TO EVACUATE THE AFFECTED AREA, EVACUATE THE ADJACENT AREAS, AND ALLOW THE CO2 DISCHARGE TO COMPLETE A FULL CYCLE. THE ROOT CAUSE OF THE EVENT WAS A DEFICIENT PROCEDURE IN THAT THE TEST OF THE ZONE MODULES IN THE FIRE DETECTION SYSTEM PANELS WAS ALSO CAPABLE OF ACTUATING THE CO2 SYSTEM, BUT NO PRECAUTIONS OR RESETS WERE INCLUDED IN THE PROCEDURE. IMMEDIATE CORRECTIVE ACTION CONSISTED OF SUSPENDING TESTING UNTIL THE PROCEDURAL DEFICIENCY COULD BE RECTIFIED AND REMOVING THE CO2 SYSTEM FROM SERVICE UNTIL IT COULD BE RESTORED DELIBERATELY AND SAFELY. FIRE SUPPRESSION WAS RESTORED TO MOST AREAS IN APPROXIMATELY 2 HOURS, AND TO ALL AREAS IN APPROXIMATELY 8 HOURS. ACTION
Millstone 3	12/03/1987	01/04/1988	Failure to Monitor Inoperable Fire Assemblies Abstract: POWER LEVEL - 000%. THIS REPORT DOCUMENTS TWO OCCURRENCES OF BREACHED FIRE BARRIERS. THE PLANT CONDITIONS AT THE TIME OF THESE INSTANCES WAS 0% POWER, APPROXIMATELY 110 DEGREES, AND ATMOSPHERIC PRESSURE WHILE SHUTDOWN FOR REFUELING. THE FIRST OCCURRENCE WAS DISCOVERED AT 0600 ON DECEMBER 3, 1987. DRAIN HOSES WERE STRUNG THROUGH TWO LEVELS OF THE B TRAIN RECIRCULATION SPRAY SYSTEM CUBICLE AT 2030 ON DECEMBER 2, 1987. THERE WAS AN OPERATOR IN ATTENDANCE UNTIL THE MIDNIGHT SHIFT TURNOVER, BUT NOT FROM MIDNIGHT TO 0600 DECEMBER 3, WHEN THE PROBLEM WAS DISCOVERED AND CORRECTED. THE IMMEDIATE CORRECTIVE ACTION WAS TO POST A FIRE WATCH. THE SECOND OCCURRENCE WAS DISCOVERED AT 1600 ON DECEMBER 5, 1987. AN AIR HOSE WAS STRUNG THROUGH THE DOOR TO THE CONTROL BUILDING MECHANICAL EQUIPMENT ROOM AT 1300 ON DECEMBER 4, 1987. THE HOSE WAS IN USE AND MONITORED UNTIL 1400, WHEN THE WORK WAS COMPLETED. THE CLEANUP AFTER THE JOB DID NOT REMOVE THE AIR HOSE, AND NO FURTHER ACTION WAS TAKEN UNTIL AN UNLICENSED OPERATOR FOUND THE DOOR BLOCKED OPEN AT 1600 ON DECEMBER 5. IMMEDIATE CORRECTIVE ACTION WAS TO REMOVE THE HOSE AND REESTABLISH THE FIRE BOUNDARY. BOTH OCCURRENCES WOULD HAVE BEEN AVOIDED HAD THE REQUIRED ACTION STATEMENT BEEN ENTERED AT THE TIME THAT THE DOORS WERE OPENED.
Millstone 3	03/18/1988	04/18/1988	Failure to Monitor an Inoperable Fire Boundary Door Abstract: POWER LEVEL - 099%. ON MARCH 18, 1988, AT 1900 HOURS, WHILE OPERATING IN MODE 1 AT 99% POWER, 2250 PSIA AND 586 DEGREES FAHRENHEIT, A FIRE BOUNDARY DOOR WAS FOUND BLOCKED OPEN BY A TEMPORARY AIR HOSE WITHOUT AN HOURLY FIRE WATCH PATROL BEING ESTABLISHED AS REQUIRED BY THE PLANT'S TECHNICAL SPECIFICATIONS. THE DOOR SEPARATES THE AUXILIARY BUILDING GENERAL AREA FROM THE MOTOR CONTROL CENTER/ROD CONTROL AIR CONDITIONER AREA. THE DISCOVERY WAS MADE BY AN UNLICENSED OPERATOR (PEO) DURING ROUTINE ROUNDS. AFTER THE PEO DETERMINED THAT THE HOSE WAS NO LONGER NECESSARY, HE REMOVED THE HOSE AND CLOSED THE DOOR. ROOT CAUSE OF THE EVENT WAS PROCEDURAL DEFICIENCY. THERE WAS NO MEANS FOR PERSONNEL INVOLVED TO READILY DETERMINE THAT THE DOOR WAS A FIRE RATED ASSEMBLY. AS ACTION TO PREVENT RECURRENCE, THE ADMINISTRATIVE PROCEDURE ON WORK PRACTICES HAS BEEN REVISED TO INCLUDE A LISTING OF THE ATTRIBUTES OF DOORS. A MEMO HAS BEEN DISTRIBUTED TO UNIT PERSONNEL DISCUSSING THE INCIDENT AND THE GUIDELINES WHICH HAVE BEEN ESTABLISHED TO PREVENT RECURRENCE OF THIS EVENT. AS DISCUSSED IN LER 87-048-00, FAILURE TO MONITOR INOPERABLE FIRE ASSEMBLIES, A PROGRAM HAS BEEN INSTITUTED TO MARK ALL PLANT DOORS WITH THEIR ATTRIBUTES BY DECEMBER 31, 1988.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Millstone 3	09/13/1988	10/12/1988	Failure To Monitor An Inoperable Fire Assembly Abstract: POWER LEVEL - 100%. ON SEPTEMBER 13, 1988, AT 1105 HOURS, AT 100% POWER, 2250 PSIA AND 586 DEGREES FAHRENHEIT, A NON-LICENSED OPERATOR (PEO) OPENED A FIRE DOOR AND A SECURITY DOOR TO RUN A HOSE THROUGH THE DOORWAYS IN SUPPORT OF AN EVOLUTION IN PROGRESS. THE DOORS WERE REPORTED TO THE SHIFT CONTROL OPERATOR (SCO). THE PEO COULD IDENTIFY THE SECURITY DOOR BY ITS DOOR NUMBER, BUT COULD ONLY PROVIDE AN APPROXIMATE LOCATION OF THE FIRE DOOR DUE TO THE ABSENCE OF A DOOR IDENTIFICATION LABEL. THE SCO INITIATED THE ACTIONS REQUIRED IN RESPONSE TO THE OPENED DOORS AND A HOURLY FIRE WATCH PATROL WAS ESTABLISHED FOR THE DOOR FITTING THE DESCRIPTION AND LOCATION PROVIDED BY THE PEO. AT APPROXIMATELY 0500 ON SEPTEMBER 14, 1988, A SHIFT SUPERVISOR, DURING HIS REVIEW OF DAILY ROUNDS WHICH CHECKED TECH SPEC FIRE BOUNDARY DOORS, DISCOVERED THAT THE HOURLY FIRE WATCH PATROL HAD BEEN INITIATED FOR THE WRONG FIRE DOOR. HOURLY FIRE WATCH PATROL ON THE SUBJECT FIRE DOOR. IDENTIFICATION OF FIRE BOUNDARY DOORS. THIS CAUSED MISCOMMUNICATION BETWEEN THE PEO WHO OPENED THE FIRE BOUNDARY DOOR AND THE ON-DUTY SCO. A PROGRAM TO ENSURE THAT TECH SPEC RELATED FIRE DOORS ARE ADEQUATELY LABELED WITH UNIQUE IDENTIFICATION NUMBERS WILL BE COMPLETED BY 12/15/88.
Millstone 3	11/17/1988	12/16/1988	Failure to Post Firewatch with Degraded Fire Protection Due to Procedural Deficiency Abstract: POWER LEVEL - 100%. ON NOVEMBER 17, 1988 AT 1608 HOURS WITH THE PLANT AT 100% POWER (MODE 1), AN HOURLY FIRE WATCH WAS NOT ESTABLISHED IN THE A TRAIN 4160 VAC SWITCHGEAR ROOM AFTER FIRE DETECTION HAD BEEN DEGRADED. WHILE PERFORMING A CO2 FIRE DETECTION/SUPPRESSION SYSTEM SURVEILLANCE, A FIRE PROTECTION ZONE MODULE SWITCH WAS INADVERTENTLY MISPOSITIONED, REMOVING ONE GROUP OF FIRE DETECTORS FROM SERVICE. THIS CONDITION WAS DISCOVERED AT 1900 HOURS, DURING A REVIEW OF FIRE DETECTION INDICATION AT THE FIRE PROTECTION CONSOLE BY THE SHIFT SUPERVISOR. ROOT CAUSE OF THE EVENT WAS PERSONNEL ERROR. THE NON-LICENSED OPERATOR PERFORMING THE SURVEILLANCE INADVERTENTLY BUMPED A SWITCH ADJACENT TO THE ONE BEING TESTED. THE SURVEILLANCE PROCEDURE DID NOT EXPLICITLY LIST THE FIRE PANEL ALARMS EXPECTED DURING THE TEST. THE FIRE PROTECTION ZONE MODULE SWITCH WAS RETURNED TO ITS INITIAL POSITION, RESTORING FULL FIRE DETECTION CAPABILITY TO THE A TRAIN 4160 VAC SWITCHGEAR ROOM. LONG TERM CORRECTIVE ACTION IS TO MODIFY APPLICABLE PROCEDURES TO ENSURE PROPER LOCAL ZONE PANEL OPERATION, PRIOR AND POST TESTING, AND TO PROVIDE APPROPRIATE MESSAGE RESPONSE BY MARCH 1, 1989.
Millstone 3	12/16/1988	01/18/1989	Mislocated Firewatch Due to Personnel Error Abstract: POWER LEVEL - 100%. ON 12/16/88 AT APPROX. 1400 HOURS, WITH THE PLANT AT 100% POWER (MODE 1), FIRE DETECTION IN THE SOUTH HEATING, VENTILATION AND AIR CONDITIONING (HVAC) UNIT AREA OF THE ENGINEERED SAFETY FEATURES BUILDING WAS DECLARED INOPERABLE AFTER FAILING ITS SURVEILLANCE REQUIREMENTS. AT APPROXIMATELY 1415 HOURS, THE SHIFT SUPERVISOR (SS) ESTABLISHED AN HOURLY FIREWATCH IN THE SOUTHERN AREA OF THE ENGINEERED SAFETY FEATURES BUILDING. THIS AREA DID NOT ENCOMPASS THE SOUTH HVAC UNIT AREA. THE ROOT CAUSE OF THE EVENT WAS PERSONNEL ERROR. MISCOMMUNICATIONS BETWEEN SHIFT PERSONNEL RESULTED IN AN HOURLY FIREWATCH BEING ESTABLISHED IN AN INCORRECT LOCATION. ALSO, THE SS FAILED TO CONSULT THE APPLICABLE PROCEDURE TO PROPERLY IDENTIFY THE AFFECTED AREA. THE INCIDENT WAS DISCOVERED AT APPROXIMATELY 0945 HOURS ON 12/19/88. IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH A FIRE WATCH IN THE SOUTH HVAC AREA. THE SS INVOLVED WAS COUNSELED IN THE IMPORTANCE OF USING THE APPLICABLE PROCEDURE BEFORE ASSIGNING FIREWATCHES. A MEMO WAS ISSUED FROM THE OPERATIONS DEPARTMENT SUPERVISOR TO ALL SHIFT SUPERVISORS EMPHASIZING THE NEED FOR VERIFYING COMMUNICATED INFORMATION AND THAT ALL THE APPLICABLE PROCEDURES MUST BE UTILIZED WHEN STATIONING FIRE WATCHES. ALSO, THE APPLICABLE PROCEDURE WILL BE REVISED
Millstone 3	02/07/1989	03/09/1989	Unidentified Fire Seal Due to Inadequate Design Review Abstract: POWER LEVEL - 100%. ON 2/7/89 AT APPROXIMATELY 1230 HOURS, WITH THE PLANT AT 100% POWER (MODE 1), AN UNIDENTIFIED TEMPORARILY SEALED FIRE PENETRATION WAS DISCOVERED BETWEEN THE 'A' AND 'B' TRAIN CONTAINMENT RECIRCULATION SPRAY SYSTEM (RSS) CUBICLES LOCATED IN THE ENGINEERED SAFETY FEATURES (ESF) BUILDING. THE UNIDENTIFIED FIRE PENETRATION WAS DECLARED INOPERABLE, THE ASSOCIATED FIRE DETECTORS WERE VERIFIED OPERABLE AND AN HOURLY FIRE WATCH WAS IMMEDIATELY ESTABLISHED IN THE AFFECTED AREA. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR. THE UNIDENTIFIED FIRE PENETRATION WAS A 3 1/4' CONSTRUCTION PENETRATION COVERED BY UNI-STRUT ON BOTH SIDES, WITH LESS THAN A 1/4' EDGE VISIBLE. THE SUBJECT PENETRATION WAS NOT DOCUMENTED ON THE APPLICABLE DRAWINGS DUE TO INADEQUATE DESIGN REVIEW. BASED ON AN INSPECTION OF THE WALL FOR OTHER CAMOUFLAGED PENETRATIONS WITH NONE FOUND, THIS IS CONSIDERED AN ISOLATED EVENT.
Millstone 3	02/16/1989	09/29/1989	Inoperable Fire Detection Due to Operator Error Abstract: POWER LEVEL - 000%. ON 2/16/89 AT APPROXIMATELY 2330 HOURS, AT 0% POWER, 133 DEGREES AND 14.7 PSIA, THE SHIFT SUPERVISOR (SS) OBSERVED THAT FIRE DETECTION IN THE 3 FOOT 8 INCH AND 24 FOOT 6 INCH ELEVATIONS OF THE CONTAINMENT BUILDING HAD BEEN INOPERABLE FOR APPROXIMATELY 10 HOURS. ON 2/27/89 AT 0950 HOURS, AT 100% POWER, THE SS WAS INFORMED THAT FIRE DETECTION FOR THE 'B' TRAIN EMERGENCY DIESEL GENERATOR FUEL OIL VAULT HAD BEEN UNAVAILABLE FOR APPROXIMATELY 1 1/2 HOURS. THE CONTROL ROOM OPERATOR (CO) HAD ACKNOWLEDGED THE ALARM INDICATION AT APPROXIMATELY 0800 BUT DID NOT RESET THE FALSE ALARM SIGNAL. THE ROOT CAUSE OF BOTH EVENTS WAS PERSONNEL ERROR. PRESENCE OF AN INDICATED FIRE ALARM MASKED POSSIBLE FUTURE ALARMS RESULTING IN THE APPLICABLE FIRE ZONE BEING INOPERABLE. MISCOMMUNICATIONS BETWEEN OPERATIONS DEPARTMENT PERSONNEL RESULTED IN THE LOSS OF FIRE DETECTION FOR THE FIRST EVENT. IN THE SECOND EVENT, THE CO FAILED TO EVALUATE AN ALARM CONDITION. IMMEDIATE CORRECTIVE ACTION FOR BOTH EVENTS WAS TO ESTABLISH AN HOURLY FIRE WATCH. ALL ON-SHIFT PERSONNEL HAVE BEEN BRIEFED TO REINFORCE THE IMPORTANCE OF PROMPT EVALUATION AND RESPONSE TO ALL FIRE SYSTEM ALARMS.
Millstone 3	02/24/1989	03/27/1989	Missed Fire Detector Surveillance on Six Fire Detectors Due to Administrator Error Abstract: POWER LEVEL - 096%. ON 2/24/89 AT 1445, WHILE IN MODE 1, 96% POWER, 584F, 2250 PSIA, A REVIEW PERFORMED BY OPERATIONS DEPT. PERSONNEL ON SURVEILLANCE PROCEDURE SP 3641D.3 REVEALED A DISCREPANCY WITH TECH SPEC TABLE 3.3-11 REQUIREMENTS. THE SURVEILLANCE PROCEDURE FORM, SP 364-1D.3-3, LISTED 22 SMOKE DETECTORS. UPON INVESTIGATION, IT WAS FOUND THAT THE SURVEILLANCE PROCEDURE WAS IN ERROR AND DID NOT IDENTIFY SIX (6) ADDITIONAL SMOKE DETECTORS WHICH WERE LOCATED WITHIN THE MAIN CONTROL BOARD PANELS. THE 6 DETECTORS WERE INSTALLED VIA A LATE CONSTRUCTION DESIGN CHANGE PRIOR TO INITIAL STARTUP. THE TECH SPEC REQUIREMENT OF VERIFYING SYSTEM OPERABILITY EVERY SIX MONTHS HAD NOT BEEN PERFORMED FOR THESE DETECTORS. NO IMMEDIATE ACTIONS WERE REQUIRED OF PLANT OPERATORS, DUE TO THE CONTROL ROOM BEING CONTINUOUSLY MANNED. THE ROOT CAUSE OF THE EVENT WAS ADMINISTRATIVE ERROR. THE SURVEILLANCE PROCEDURE HAD NOT BEEN UPDATED TO COMPLY WITH THE FINAL SYSTEM DESIGN AND THE TECH SPECS. THE SURVEILLANCE PROCEDURE HAS BEEN REVISED TO INCORPORATE THE 6 MISSING DETECTORS AND DETECTOR TESTING WAS SATISFACTORILY COMPLETED ON 2/28/89. A COMPREHENSIVE REVIEW HAS BEEN PERFORMED ON THE FIRE DETECTION AND CONTROL SYSTEM AND NO OTHER REPORTABLE DISCREPANCIES WERE NOTED.
Millstone 3	06/08/1989	07/10/1989	"A" Train Loss of Power Signal Due to Personnel Error Abstract: POWER LEVEL - 000%. ON 6/8/89 AT 1350 HOURS, WITH THE PLANT AT 0% POWER IN MODE 6 FOR REFUELING OPERATIONS, AN 'A' TRAIN LOSS OF POWER (LOP) SIGNAL WAS INITIATED FROM THE 'A' EMERGENCY DIESEL GENERATOR (EDG) SEQUENCER PANEL. AT THE TIME OF THE LOP SIGNAL, THE 'A' TRAIN 4160 VAC BUSSES AND EDG WERE TAGGED OUT OF SERVICE FOR MAINTENANCE. THE 'A' EDG SEQUENCER PANEL WENT THROUGH ITS SEQUENCING EVOLUTION AS DESIGNED, BUT SINCE THE 'A' TRAIN BUSSES AND EDG WERE OUT OF SERVICE, 'A' TRAIN LOADS DID NOT START. THE EVENT WAS CAUSED BY THE REPLACEMENT OF CONTROL POWER FUSES IN THE 'A' TRAIN 4160 VAC UNDERVOLTAGE AUXILIARY CIRCUIT AFTER COMPLETING CALIBRATION AND TESTING OF CIRCUIT COMPONENTS. THE ROOT CAUSE OF THE EVENT WAS PERSONNEL ERROR. WHILE DEENERGIZING THE 'A' TRAIN 4160 VAC BUSSES ON 6/7/89, THE CONTROL ROOM OPERATORS FAILED TO REFERENCE THE APPROPRIATE PROCEDURE WHICH REQUIRES TAKING THE SEQUENCER OUT OF SERVICE WHEN DEENERGIZING THE VITAL BUS. THE PERSONNEL INVOLVED HAVE BEEN COUNSELED ON THE REQUIREMENTS OUTLINED IN STATION ADMINISTRATIVE GUIDELINES AS TO THE USE OF PROCEDURES FOR NON-ROUTINE AND/OR COMPLEX EVOLUTIONS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Millstone 3	07/03/1989	08/02/1989	Missed Fire Detection Technical Specification Surveillance Due to Personnel Error Abstract: POWER LEVEL - 000%. ON 7/3/89 AT APPROXIMATELY 1200 HOURS AT 0% POWER IN MODE 5 (COLD SHUTDOWN) AT 81F AND ATMOSPHERIC PRESSURE, OPERATIONS DEPARTMENT SUPERVISORY PERSONNEL DISCOVERED THAT THE REQUIRED FIRE DETECTION SURVEILLANCE FOR THE CONTROL BUILDING HEATING, VENTILATION AND AIR CONDITIONING (HVAC), CHILLER AND COMPUTER ROOMS HAD NOT BEEN COMPLETED WITHIN ITS REQUIRED FREQUENCY. ROOT CAUSE OF THE EVENT WAS PERSONNEL ERROR. THE OPERATIONS DEPARTMENT SHIFT SUPERVISORS DID NOT INVESTIGATE TO DETERMINE THE REQUIRED COMPLETION DATE OF THE SURVEILLANCE TO ENSURE CONTINUED OPERABILITY OF THE FIRE DETECTION SYSTEM FOR THE ABOVE MENTIONED AREAS. AS A CONTRIBUTORY CAUSE OF THE EVENT, THE REQUIRED COMPLETION DATES WERE NOT READILY ACCESSIBLE TO THE SHIFT SUPERVISORS. IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH AN HOURLY FIRE WATCH PATROL FOR THE AFFECTED AREAS. THE SURVEILLANCE WAS SUCCESSFULLY COMPLETED ON 7/24/89. THE SHIFT SUPERVISOR TURNOVER LOG AND THE PERSONAL COMPUTER SURVEILLANCE TRACKING SYSTEM HAVE BEEN UPDATED TO INCLUDE REQUIRED COMPLETION DATES FOR SURVEILLANCES.
Millstone 3	01/15/1990	02/14/1990	Missed Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 100%. ON 1/15/90, AT APPROXIMATELY 1530 HOURS, AT 100% POWER (MODE 1), THE SHIFT SUPERVISOR (SS) DISCOVERED THAT THE PROPER FIRE WATCHES HAD NOT BEEN ESTABLISHED PRIOR TO REMOVING THE DELUGE SYSTEMS FOR THE 'A' AND 'B' TRAIN RESERVE STATION SERVICE TRANSFORMERS (RSST) FROM SERVICE. THIS DEFICIENCY WAS FOUND DURING A REVIEW OF COMPLETED AUTOMATED WORK ORDER (AWO) PACKAGES BY THE SHIFT SUPERVISOR. IMMEDIATE CORRECTIVE ACTION WAS TO RESTORE THE DELUGE SYSTEMS TO OPERABLE STATUS. THE ROOT CAUSE OF THE EVENT WAS PERSONNEL ERROR. THE DESIGNATED SENIOR LICENSED OPERATOR (SRO), RESPONSIBLE FOR REVIEWING AND AUTHORIZING AWOS, FAILED TO DOCUMENT THE NEED FOR A FIRE WATCH PATROL AT THE 'A' AND 'B' RSSTS. THE FIRE WATCH PATROL DOCUMENTATION WAS REQUIRED AT THE TIME OF AWO AUTHORIZATION. THE DAY SS FAILED TO REALIZE THAT A FIRE WATCH PATROL HAD NOT BEEN ESTABLISHED AT THE 'A' AND 'B' RSST DURING HIS REVIEW OF THE FIRE WATCH LOG. AS ACTION TO PREVENT RECURRENCE, THE OPERATIONS DEPARTMENT SUPERVISOR HAS COUNSELED THE PERSONNEL INVOLVED ON ATTENTION TO DETAIL WHEN REMOVING FIRE DETECTION SYSTEMS FROM SERVICE. PROCEDURAL GUIDANCE TO ASSIST IN DETERMINING THE COMPENSATORY ACTIONS FOR REMOVING FIRE DETECTION AND/OR SUPPRESSION SYSTEMS FROM SERVICE, WILL BE PROVIDED BY 4/15/90.
Millstone 3	06/01/1990	08/13/1990	Improperly Established Fire Watch Due to Miscommunication Abstract: POWER LEVEL - 100%. ON 6/2/90, AT 1245 HOURS, WITH THE PLANT AT 100% POWER (MODE 1), THE SHIFT SUPERVISOR (SS) DISCOVERED THAT AN HOURLY FIRE WATCH PATROL HAD NOT BEEN PROPERLY ESTABLISHED IN THE ESF SUMP AREA AFTER ASSOCIATED FIRE RATED ASSEMBLIES HAD BEEN DECLARED INOPERABLE. THE DURATION OF THE EVENT WAS APPROXIMATELY 26 HOURS. ON 6/1/90 AT APPROXIMATELY 1100 HOURS, FOUR FIRE STOP AND SEAL PENETRATIONS WERE DECLARED INOPERABLE IN THE ESF BUILDING SUMP AND THE 'A' TRAIN CONTAINMENT RECIRCULATION SYSTEM (RSS) PIPE TUNNEL AREAS IN ASSOCIATED WITH A TECH SPEC SURVEILLANCE. AN HOURLY FIREWATCH PATROL WAS ESTABLISHED IN THE 4 FT. 6 IN. ELEVATION OF THE ESF BUT DID NOT ENCOMPASS THE ESF SUMP AREA. THE ROOT CAUSE OF THE EVENT WAS MISCOMMUNICATION BETWEEN SHIFT PERSONNEL WHICH RESULTED IN AN HOURLY FIRE WATCH PATROL SIGNATURE SHEET BEING PLACED IN AN INCORRECT LOCATION. IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH AN HOURLY FIREWATCH PATROL IN THE ESF SUMP AREA. THE SS HAS BEEN COUNSELED IN THE IMPORTANCE OF VERIFYING COMMUNICATIONS WITH SHIFT PERSONNEL.
Millstone 3	08/11/1990	09/10/1990	Blocked Open Fire Door Without Compensatory Fire Watch Due to Inadequate Training Abstract: POWER LEVEL - 099%. ON 8/11/90, AT 0840, WITH THE PLANT AT 99% POWER (MODE 1), AT 586F AND 2250 PSIA, A NON-LICENSED OPERATOR (PEO) PERFORMING ROUTINE ROUNDS DISCOVERED A TECH SPEC FIRE DOOR BLOCKED OPEN. AN HOURLY FIRE WATCH WAS NOT ESTABLISHED. THE DURATION OF THE EVENT WAS APPROXIMATELY 3 HOURS. THE ROOT CAUSE OF THE EVENT WAS INADEQUATE TRAINING OF FIRE WATCH PERSONNEL. THE FIRE WATCH SUPERVISOR WAS AWARE THE DOOR WAS LEFT IN ITS OPEN POSITION BUT DID NOT CONVEY THIS INFORMATION TO THE SHIFT SUPERVISOR. IMMEDIATE CORRECTIVE ACTION WAS TO CLOSE THE SUBJECT DOOR. AS ACTION TO PREVENT RECURRENCE, FIRE WATCH PERSONNEL MANAGEMENT HAS ISSUED A MEMORANDUM TO ITS PERSONNEL REINFORCING THE IMPORTANCE OF RELATING RELEVANT FIRE WATCH PATROL INFORMATION TO SHIFT MANAGEMENT. THIS INFORMATION WILL BE INCORPORATED INTO THE FIRE WATCH PERSONNEL INDOCTRINATION TRAINING MODULE BY 10/30/90. IN ADDITION, THE FIRE WATCH SERVICES SITE SUPERINTENDENT HAS BEEN REPLACED DUE TO RECOGNIZED FIRE WATCH ADMINISTRATION DEFICIENCIES.
Millstone 3	04/10/1991	05/10/1991	Carbon Dioxide Storage Tank Pressure Below Technical Specification Limit Abstract: POWER LEVEL - 000%. ON 4/10/91, AT APPROX. 1050 HOURS WITH THE PLANT AT 0% POWER IN MODE 3 (HOT STANDBY), A NON-LICENSED PLANT EQUIPMENT OPERATOR (PEO) DISCOVERED THAT THE FIRE PROTECTION CARBON DIOXIDE CO(2) STORAGE TANKS PRESSURE WAS 245 PSIG. TECH SPEC 3.7.12.3 (CO(2) SYSTEMS) REQUIRES THAT CO(2) STORAGE TANK PRESSURE BE MAINTAINED GREATER THAT 275 PSIG. COMPENSATORY FIREWATCH PATROLS ARE REQUIRED FOR THOSE AREAS PROTECTED BY THE CO(2) FIRE SUPPRESSION SYSTEM WITHIN 1 HOUR OF THE CO(2) SYSTEM BEING INOPERABLE. THIS REQUIREMENT WAS NOT FULFILLED. THE DURATION OF THE EVENT WAS APPROX. 24 HOURS. THE ROOT CAUSE OF THE EVENT WAS COGNITIVE ERROR. THE PEO FAILED TO NOTIFY THE SHIFT SUPERVISOR (SS) UPON DISCOVERING THE DISCREPANCY. ALSO, THE SS DID NOT EVALUATE THE DEFICIENT READING WHEN REVIEWING THE SURVEILLANCE. PRESSURE LIMIT DUE TO A PRESSURE CONTROL SWITCH COMING OUT OF ADJUSTMENT. THE PRESSURE CONTROL SWITCH WAS READJUSTED. IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH FIRE PATROLS IN THE AFFECTED AREAS. AS ACTION TO PREVENT RECURRENCE, THE PEO HAS BEEN COUNSELLED CONCERNING THE IMPORTANCE OF PROPER NOTIFICATION WHEN A DEFICIENCY IS DISCOVERED. ALSO, THE SS HAS BEEN COUNSELLED CONCERNING THE IMPORTANCE OF ENSURING A THOROUGH REVIEW HAS BEEN COMPLETED ON ALL
Millstone 3	11/21/1991	03/27/1992	Unsealed Fire Stop and Seal Penetration In the Engineered Safety Features Building Abstract: POWER LEVEL - 000%. ON 11/21/91, AT APPROX. 1230 HOURS, WITH THE PLANT AT 0% POWER IN MODE 5 (COLD SHUTDOWN), AN UNIDENTIFIED UNSEALED FIRE PENETRATION WAS DISCOVERED BETWEEN THE 'A' TRAIN CONTAINMENT RECIRCULATION SPRAY SYSTEM (RSS) AND RESIDUAL HEAT REMOVAL (RHR) CUBICLES LOCATED IN THE ENGINEERED SAFETY FEATURES (ESF) BUILDING. AS IMMEDIATE CORRECTIVE ACTION, THE UNIDENTIFIED UNSEALED FIRE PENETRATION WAS DECLARED INOPERABLE, THE ASSOCIATED FIRE DETECTORS WERE VERIFIED OPERABLE AND AN COMPENSATORY FIRE WATCH WAS IMMEDIATELY ESTABLISHED IN THE AFFECTED AREA. THE ROOT CAUSE OF THE EVENT IS INCOMPLETE WORK PRACTICES DURING CONSTRUCTION. THE SUBJECT FIRE PENETRATION WAS NOT IDENTIFIED ON CONSTRUCTION DRAWINGS. THE POST CONSTRUCTION SEAL VERIFICATION PROCESS DID NOT PROPERLY RECONCILE THE WALL CONFIGURATION AGAINST THE ASSOCIATED FIRE STOP AND SEAL DRAWING. ON 12/21/91, THE SUBJECT PENETRATION WAS SEALED IN ACCORDANCE WITH DESIGN SPECIFICATIONS. THE PENETRATION WAS DECLARED OPERABLE AND THE FIRE WATCH PATROL TERMINATED ON 12/23/91. A 100% INSPECTION OF ALL WALL AND FLOOR BOUNDARY PENETRATIONS IN THE ESF BUILDING HAS BEEN PERFORMED.
Millstone 3	03/05/1992	04/06/1992	Missed Firewatch Patrol During CO2 Abstract: POWER LEVEL - 100%. ON MARCH 5, 1992 WITH THE PLANT AT 100% POWER (MODE 1), A NON-LICENSED OPERATOR (PE0) FAILED TO PERFORM A FIREWATCH TOUR OF THE 45 FT. 6 IN. ELEVATION OF THE WEST MOTOR CONTROL CENTER (MCC) AREA PRIOR TO THE COMMENCEMENT OF A FIRE PROTECTION CO2 SYSTEM SURVEILLANCE TEST. THE INCOMPLETE FIREWATCH TOUR WAS DISCOVERED ON MARCH 7, 1992 DURING THE SURVEILLANCE TESTING OF THE EAST MCC AREAS CO2 FIRE PROTECTION SYSTEM. THE DURATION OF THE EVENT WAS APPROXIMATELY 1 HOUR 15 MINUTES. ROOT CAUSE OF THE EVENT WAS MISCOMMUNICATION BETWEEN SHIFT PERSONNEL. THE SURVEILLANCE TEST DIRECTOR AND THE PEO DID NOT SUCCESSFULLY COMMUNICATE RESULTING IN THE MISSED FIREWATCH TOUR. IMMEDIATE CORRECTIVE ACTION WAS NOT REQUIRED. PREVIOUSLY ESTABLISHED HOURLY FIREWATCH PATROLS HAD BEEN REINSTATED UPON COMPLETION OF SURVEILLANCE TESTING. THE TEST DIRECTOR HAS BEEN AND THE NON-LICENSED PLANT EQUIPMENT OPERATOR WILL BE COUNSELED CONCERNING THE IMPORTANCE OF ENSURING ALL REQUIRED INFORMATION HAS BEEN TRANSMITTED AND UNDERSTOOD PRIOR TO PERFORMING AN EVOLUTION.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Millstone 3	12/31/1992	01/29/1993	Incomplete Construction of Fire Boundary Wall Abstract: POWER LEVEL - 060%. On December 31, 1992, at approximately 2200 with the plant in Mode 1 at 60% power, a Plant Equipment Operator (PEO) discovered a Technical Specification fire boundary wall which was missing fire grouting in the web of a structural I-beam. The resulting hole was approximately 50 square inches. The deficiency was discovered during the surveillance of Fire Rated Assemblies. The fire boundary is located between the process computer room and the instrument rack room. Both areas are within the Control Room envelope. Continuing inspection of the wall revealed another similar deficiency. The root cause of this event was incomplete work practices during construction. As immediate corrective action, the fire boundary rated was declared inoperable and an hourly fire watch patrol was established. As long term corrective action, the wall was repaired.
Millstone 3	10/10/1993	11/02/1993	Continuous Fire Watch Improperly Removed Abstract: POWER LEVEL - 000%. On October 10, 1993, at 1300 with the plant in Mode 5, the Shift Supervisor discovered that a required continuous fire watch had not been posted in the East Switchgear Room since September 21, 1993. The discovery was made during review of an automated work order at the completion of work on an associated fire assembly. decision. Several shift supervisors did not use the required method of tracking justification of fire watches when additional duties were assigned to the established fire watch. As immediate corrective action, the proper fire watch was verified to be in place. As action to prevent recurrence, the Operations Department Manager directed all Shift Supervisors to ensure that they comply with all configuration management requirements.
Millstone 3	12/21/1996	01/17/1997	Misinterpretation Of Technical Specification Requirements: Application Of The 25% Maximum Allowable Surveillance Interval Extension Of Surveillance Requirement 4.0.2 To LCO Action Statements Abstract: On December 16, 1996, it was recognized that the 25 percent surveillance interval extension of Technical Specification (TS) 4.0.2 could have had been historically applied to the periodic activities directed under Technical Specification Limiting Condition for Operation (LCO) action statements. On December 21, 1996, with the plant in Mode 5, it was determined that the programmatic application of the 25 percent surveillance frequency extension was reportable pursuant to 10CFR50.73(a)(2)(i), as an event or condition prohibited by the Technical Specifications. This event is significant in that the duration between some performances of the individual activities directed by a particular LCO action statement could have been inappropriately increased. However, because the equipment did meet the requirement at the end of the extended interval, it would have been available and capable of performing its intended safety function. If the equipment had been found to be inoperable at the end of the extended time period, the condition would have been identified and the appropriate compensatory measures taken or a plant shutdown initiated as required. Management will reinforce its technical
Millstone 3	01/23/1997	09/17/1997	Open High Energy Line Break (HELB) Barrier Door in Mode 1 Results in Violation of HELB Requirements Abstract: On January 23, 1997, with the unit in Mode 5, an investigation into High Energy Line Break (HELB) door control problems resulted in discovery of a previously unidentified historical reportable event. On August 3, 1995, with the unit in Mode 1 at 100 percent power, three fire doors, that were also HELB barriers, on the 66 foot level of the Auxiliary Building, were found open without a continuous fire watch posted. A fourth fire door was properly controlled from a fire protection perspective but was not recognized as a HELB door. On August 8, 1997, several deficiencies were identified for HELB doors in the Auxiliary and Control Buildings as part of follow-up field walkdowns performed after a self-assessment of the HELB program. These deficiencies consisted mostly of door adjustment and maintenance issues, e.g.; damaged thresholds and gasket bars, missing sections of gaskets and weather-stripping, and several gaps around door gaskets exceeding allowable criteria. The cause of the August 1995 historical event was a failure to develop and implement an effective high energy line break door control program. This resulted in personnel not understanding HELB requirements associated with the design basis. The cause of deteriorated HELB door conditions identified in August 1997 was a failure to develop and implement an effective HELB door (barrier) periodic inspection and maintenance program prior to initial licensing. Recognition of inspection criteria development and necessity to inspect doors prior to startup should have been addressed within the original
Millstone 3	09/28/2000	10/26/2000	Cable Routing for 3CHS*P3B Does Not Meet Fire Safe Shutdown Analysis Abstract: On September 28, 2000, with the plant in mode 1 at 100% power, it was discovered that the 4160V power cable for charging pump, 3CHS*P3B was not installed in the Auxiliary Building as identified by the MP3 BTP 9.5-1 Compliance Report. It was determined that this condition could have significantly challenged the ability to achieve and maintain cold shutdown per the requirements of CMEB BTP 9.5-1 if a design basis fire occurred in the area and the pump cable was damaged as a result of this fire. The MP3 BTP 9.5-1 Compliance Report credits this pump to provide Reactor Coolant Pump (RCP) seal cooling, Reactor Coolant System (RCS) inventory make-up, and RCS boration functions in the event of a postulated fire in an area of the Auxiliary Building where a fire could potentially damage all Reactor Plant Closed Cooling Water (RPCCW) pumps. The RPCCW pumps provide an alternate means of cooling the seals and are assumed to be lost in such a fire. The cause of this condition is that the reviews performed historically failed to correctly identify the location of the power cable for the charging pump 3CHS*P3B relative to the water curtain which has been credited as a barrier between two methods of safe shutdown. Interim compensatory actions as outlined in the Technical Requirements Manual were immediately implemented, and remained in effect until compliance with the Compliance Report was achieved.
Millstone 3	02/19/2015	04/20/2015	Unlatched Dual Train HELB Door Results in Potential Loss of Safety Function Abstract: On February 19, 2015, with Millstone Power Station Unit 3 (MPS3) at 100% power and in operating mode 1, an individual on a fire watch rove processed through a dual train high energy line break (HELB) door normally and upon checking the door after passage the individual noted the door did not latch. The Control Room was promptly notified. An operator was dispatched to investigate. The operator exercised the door lock-set mechanism freeing the latch allowing the door to properly latch. The door was inoperable for approximately 7 minutes. Technical Specification 3.0.3 was entered and exited appropriately. Although no definite failure mechanism was identified, the door was experiencing high usage due to compensatory fire watch roves entering/exiting the door. The door lockset mechanism was manually manipulated and then tested several times satisfactorily by maintenance personnel. Further, the door design has the door swing such that the HELB event would act to open the door when the lockset mechanism fails. Engineering is evaluating the adequacy of the preventive maintenance frequency. Additionally, a design change to reverse the door swing such that the HELB event would cause the door to close and thus not rely on the lock-set mechanism is being considered. Additional corrective
Monticello	01/12/1987	02/11/1987	Fire Door Blocked Open and Unattended due to Inadequate Training Abstract: POWER LEVEL - 047%. WHILE PERFORMING A ROUTINE MAINTENANCE ACTIVITY, A WATER HOSE WAS RUN THROUGH A FIRE DOOR PASSAGE AND A FIRE WATCH WAS ESTABLISHED WHILE THE WORK WAS IN PROGRESS. AT THE END OF THE SHIFT, THE FIRE WATCH PERSON LEFT THE AREA AND FORGOT TO REMOVE THE WATER HOSE FROM THE DOOR PASSAGE, CONTRARY TO THE REQUIREMENTS OF TECH SPEC 3.13.G2, WHICH REQUIRES THAT A CONTINUOUS FIRE WATCH BE ESTABLISHED FOR AN INOPERABLE FIRE BARRIER. THE FIRE DOOR WAS FOUND BLOCKED OPEN ABOUT 8 HOURS LATER. UPON DISCOVERY, THE WATER HOSE WAS REMOVED AND THE FIRE DOOR CLOSED. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE INADEQUATE TRAINING. ALL FIRE WATCH PERSONNEL WERE IMMEDIATELY NOTIFIED OF THE EVENT AND INSTRUCTED TO ABIDE BY THE PLANT REQUIREMENTS ON FIRE DOORS. A REQUEST FOR TRAINING HAS BEEN INITIATED TO PROVIDE ADDITIONAL FIRE DOOR TRAINING FOR PLANT PERSONNEL. A CHECKLIST WITH THE FIRE WATCH RESPONSIBILITIES WILL BE DEVELOPED FOR USE BY FIRE WATCH PERSONNEL.

Monticello	04/18/1987	05/19/1987	Fire Barrier Penetration Found Inoperable due to Inadequate Procedure Abstract: POWER LEVEL - 100%. WHILE PERFORMING A NORMAL PLANT INSPECTION, A PLANT OPERATOR NOTICED A POWER CABLE RUNNING THROUGH AN UNPLUGGED 1 INCH CONDUIT IN A FIRE BARRIER PENETRATION SEAL, INDICATING THAT THIS PENETRATION SEAL WAS INOPERABLE, CONTRARY TO THE REQUIREMENTS OF TECH SPEC 3.13.G.1. A FIRE WATCH WAS IMMEDIATELY ESTABLISHED AT THE INOPERABLE PENETRATION SEAL. THE POWER CABLE WAS REMOVED AND THE PENETRATION WAS PROPERLY SEALED WITHIN THREE HOURS OF DISCOVERY. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE AN INADEQUATE PROCEDURE, SINCE THE PROCEDURE UTILIZED FOR SEALING FIRE BARRIER PENETRATIONS DOES NOT ADDRESS THE SEALING OF SHORT SECTIONS OF CONDUIT THAT ARE IMBEDDED IN THESE SEALS. AN INTERMEDIATE CAUSE WAS AN INADEQUATE INSPECTION PROCEDURE, SINCE THIS OPEN PENETRATION SHOULD HAVE BEEN DETECTED WHEN THE FIRE BARRIER PENETRATION INSPECTION PROCEDURE WAS PERFORMED. THESE PROCEDURES WILL BE REVISED TO PROVIDE MORE SPECIFIC INSTRUCTIONS ON SEALING OF CONDUITS AND ON VISUAL EXAMINATION METHODS TO AVOID REOCCURRENCE OF FUTURE SIMILAR EVENTS.
Monticello	01/01/1988	02/01/1988	Fire Watch Interval Exceeded Due to Inadequate Controls Abstract: POWER LEVEL - 100%. DURING A PERIOD OF 89 HOURS FROM DECEMBER 31, 1987, UNTIL JANUARY 4, 1988, THE FIRE DETECTION FOR THE TORUS AREA FIRE ZONE WAS INOPERABLE. A FIRE WATCH PATROL WAS ESTABLISHED. ALTHOUGH THE AREA WAS INSPECTED 93 TIMES DURING THE 89 HOUR PERIOD, SOME INTERVALS BETWEEN INSPECTIONS EXCEEDED THE ONE HOUR INTERVAL REQUIRED BY THE TECHNICAL SPECIFICATIONS. THE LONGEST INTERVAL WAS 1 HOUR AND 55 MINUTES. THE CAUSE OF THE PROBLEM WAS INADEQUATE CONTROLS OVER THE FIRE WATCH PATROL FREQUENCIES. IT WAS APPARENT FROM THE 93 INSPECTIONS OVER THE 89 HOUR PERIOD THAT PERSONNEL WERE AWARE OF THE ONE HOUR REQUIREMENT, HOWEVER THERE WERE NO ADMINISTRATIVE CONTROLS CONCERNING FIRE WATCH PATROLS AND ACCEPTABLE PATROL FREQUENCIES. AN OPERATIONS POLICY WAS ISSUED REQUIRING A PERSON BE ASSIGNED WHOSE PRIMARY DUTIES ARE THE FIRE WATCH PATROL (IN THIS CASE THE DUTY REACTOR BUILDING OPERATOR, WHO HAD OTHER CONCURRENT DUTIES, WAS ASSIGNED). THE POLICY ALSO STATES THAT AN ACCEPTABLE INSPECTION FREQUENCY IS 1 HOUR PLUS OR MINUS 25% (45 MINUTES TO 75 MINUTES). THE 25% IS CONSISTENT WITH OTHER TECHNICAL SPECIFICATIONS SURVEILLANCE REQUIREMENTS.
Monticello	03/14/1988	04/13/1988	FAILURE TO PROVIDE FIRE WATCH DUE TO INADEQUATE PROCEDURES AND TRAINING Abstract: POWER LEVEL - 100%. DURING A PLANT INSPECTION, A FIRE DOOR LOCATED IN AN APPENDIX 'R' FIRE BARRIER WAS FOUND IN THE OPEN POSITION DUE TO AN INOPERABLE SELF-CLOSING MECHANISM. THE CONDITION OF THIS MECHANISM HAD BEEN NOTED PREVIOUSLY BY MEMBERS OF THE PLANT STAFF, BUT THE REQUIRED FIRE WATCH HAD NOT BEEN ESTABLISHED SINCE IT WAS NOT RECOGNIZED THAT AN OPERABLE SELF-CLOSING MECHANISM WOULD CAUSE A FIRE DOOR TO BE DECLARED INOPERABLE. 3.13.G.2. THE SELF-CLOSING MECHANISM WAS REPAIRED SHORTLY AFTER THE INOPERABLE CONDITION OF THIS DOOR WAS IDENTIFIED. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE INADEQUACIES IN PROCEDURES AND TRAINING. THE DAILY FIRE DOOR INSPECTION PROCEDURE WAS REVISED TO PROVIDE MORE SPECIFIC INSTRUCTIONS TO AID OPERATORS IN IDENTIFYING INOPERABLE FIRE DOORS, A LETTER WAS ISSUED BY THE PLANT MANAGER TO ALL PLANT PERSONNEL TO BRING TO THEIR ATTENTION THE IMPORTANCE OF FIRE DOORS AND TO REMIND THEM OF THEIR RESPONSIBILITIES IN THE USE OF THESE DOORS. ALSO, THE TRAINING DEPARTMENT WILL BE REQUESTED TO PROVIDE FURTHER TRAINING ON WHAT CONSTITUTES AN OPERABLE FIRE DOOR AND A PREVENTATIVE MAINTENANCE PROCEDURE WILL BE PREPARED TO INSURE THAT THESE DOORS ARE KEPT IN A BETTER STATE OF REPAIR.
Monticello	06/30/1988	08/01/1988	Fire Barrier Found Inoperable In Turbine Building Due to Inadequate Procedures Abstract: POWER LEVEL - 100%. WHILE WORKING IN THE TURBINE BUILDING IN AN AREA OBSTRUCTED BY EQUIPMENT, CONSTRUCTION PERSONNEL NOTICED A 3' DIAMETER OPEN PENETRATION IN THE FLOOR OF 931' ELEVATION OF THE TURBINE BUILDING. THIS ELEVATION IS ONE OF THE PLANT FIRE AREA BARRIERS THAT SEPARATES REDUNDANT SAFE SHUTDOWN EQUIPMENT. THIS EVENT WAS CONSIDERED REPORTABLE AS A CONDITION PROHIBITED BY PLANT TECH. SPEC. 3.13.G 'PENETRATION FIRE BARRIERS'. THE PLANT STAFF WAS NOTIFIED OF THIS UNSEALED PENETRATION AND A TEMPORARY SEAL WAS INSTALLED IMMEDIATELY. A WORK REQUEST AUTHORIZATION WAS ISSUED AND THE PENETRATION WAS PERMANENTLY SEALED. A THOROUGH REINSPECTION OF ALL ACCESSIBLE WALLS AND FLOORS THAT COMPRISE THE PLANT FIRE AREA BARRIERS WAS PERFORMED TO DETERMINE IF THERE WERE ANY OTHER SIMILAR OPENINGS. NO OTHER OPENINGS WERE DISCOVERED AS A RESULT OF THIS REINSPECTION. THE ROOT CAUSE OF THIS EVENT CANNOT BE DETERMINED DUE TO LACK OF INFORMATION ON WHEN OR HOW THE OPENING WAS MADE. PROCEDURE #0275-II, 'FIRE BARRIER WALL, DAMPER AND FLOOR INSPECTION' WILL BE REVISED TO ENSURE THAT THIS INSPECTION WILL BE PERFORMED MORE THOROUGHLY.
Monticello	01/15/1989	02/14/1989	Inadequate Work Controls Cause Undetected Loss of Power to Remove Alarm Panel Abstract: POWER LEVEL - 100%. FOR APPROXIMATELY 60 HOURS, THE FIRE DETECTION SYSTEM ANNUNCIATOR PANEL IN THE CONTROL ROOM WAS INOPERABLE WITHOUT A PATROLLING FIRE WATCH IN THE PLANT. THIS CONDITION IS CONTRARY TO TECHNICAL SPECIFICATIONS SECTION 3.13.A. THE ANNUNCIATOR PANEL WAS INADVERTENTLY DEENERGIZED DURING A MODIFICATION ACTIVITY. UPON DISCOVERY OF THE DEENERGIZED ANNUNCIATOR PANEL, THE CONTROL ROOM OPERATORS IMMEDIATELY ENERGIZED THE ANNUNCIATOR PANEL AND VERIFIED SYSTEM OPERABILITY. THE ROOT CAUSE OF THIS EVENT WAS INADEQUATE WORK CONTROLS. TO REDUCE THE PROBABILITY OF FUTURE OCCURRENCES, PERSONNEL INVOLVED IN THE PREPARATION OF THE WORK PROCEDURE HAVE BEEN COUNSELED ON THE PROPER CONSIDERATIONS FOR CONTROLLING WORK ACTIVITIES AROUND SENSITIVE EQUIPMENT. THIS LER WILL ALSO BE PRESENTED TO PLANT ENGINEERING PERSONNEL AS PART OF THE REGULAR QUARTERLY ENGINEERING STAFF TRAINING. A PLANT POLICY CONTROLLING WORK ACTIVITIES IN AREAS CONTAINING SENSITIVE EQUIPMENT WILL BE ESTABLISHED AND COMMUNICATED TO APPROPRIATE PERSONNEL. ALSO, THE STATUS OF CONTROL ROOM FIRE ANNUNCIATOR PANEL WILL BE CHECKED HOURLY.
Monticello	06/30/1989	12/30/1989	Fire Barrier Penetration Inoperability as a Result of Failure to Adequately Assess Original Seal Configuration Abstract: POWER LEVEL - 057%. SEVERAL UNSEALED PENETRATIONS WERE DISCOVERED IN BARRIERS SEPARATING DIVISION I AND DIVISION II FIRE AREAS. THIS IS A CONDITION WHICH IS CONTRARY TO THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.13.G. TEMPORARY SEALS WERE INSTALLED IMMEDIATELY. DUE TO COGNITIVE PERSONNEL ERROR, INSPECTION BY CONTRACT PERSONNEL OF APPENDIX 'R' FIRE AREA BOUNDARY PENETRATIONS FAILED TO IDENTIFY SEVERAL INADEQUATE SEALS. INTERFERENCE FROM PIPE INSULATION JACKETING AND EXISTING PLANT EQUIPMENT PREVENTED DIRECT VISUAL EXAMINATION OF THE PENETRATIONS RESULTING IN ACCEPTANCE OF AN INADEQUATE SEAL. CORRECTIVE ACTIONS INCLUDED INITIATING A WALKDOWN OF ALL FIRE AREA BARRIERS TO IDENTIFY ANY DEFICIENT PENETRATION SEALS. ALL FIRE AREA BARRIERS HAVE BEEN INSPECTED AS OF AUGUST 21, 1989.
Monticello	07/19/1990	08/18/1990	Inoperable Fire Barrier Penetration Seal Due to Non-Compliance With Approved Plant Procedures Abstract: POWER LEVEL - 100%. ON JULY 19, 1990 WITH THE PLANT OPERATING AT 100% POWER AN UNSEALED PENETRATION BETWEEN TWO FIRE AREAS WAS DISCOVERED BY AN OPERATOR DURING NORMAL ROUNDS. THIS IS A CONDITION WHICH IS CONTRARY TO THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.13.G. IT IS BELIEVED THAT DUE TO A COGNITIVE PERSONNEL ERROR, THE PENETRATION WAS OPENED AND NOT RE-SEALED. THIS WAS NOT IN COMPLIANCE WITH APPROVED PLANT PROCEDURES. CORRECTIVE ACTIONS INCLUDED SEALING OF THE PENETRATION AND DEVELOPMENT OF SEVERAL LONG TERM CORRECTIVE ACTIONS TO CHANGE THE OVERALL APPROACH TO PENETRATION SEAL INVENTORY AND CONTROL AT MONTICELLO. THE CORRECTIVE ACTIONS TO PREVENT RECURRENCE INVOLVE TECHNICAL STAFF TRAINING ON THE EVENT, REVISION OF INSPECTION AND CONTROL PROCEDURES, AND INITIATING A PROJECT TO IDENTIFY AND CATALOG ALL PENETRATIONS BASED ON FIELD VERIFICATIONS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Monticello	09/11/1990	10/11/1990	Discovery of Non-Conservative Assumptions in Original Plant Flooding Analysis Abstract: POWER LEVEL - 000%. ON SEPTEMBER 11, 1990, PLANT ENGINEERING STAFF QUESTIONED THE INTEGRITY OF FIRE PROTECTION PIPING IN THE DIVISION II EMERGENCY DIESEL GENERATOR ROOM. AT THE TIME, IT WAS BELIEVED THAT FAILURE OF THE PIPE COULD RESULT IN FLOODING THAT COULD MAKE BOTH EMERGENCY DIESEL GENERATORS INOPERABLE. AT THAT TIME, THE NRC WAS NOTIFIED PURSUANT TO 10CFR 50.72(B)(2)(III). FURTHER EVALUATION HAS SHOWN THAT THE PIPE WOULD NOT HAVE FAILED UNDER SAFE SHUTDOWN EARTHQUAKE CONDITIONS. HOWEVER, THIS LICENSEE EVENT REPORT (LER) IS BEING SUBMITTED VOLUNTARILY SINCE FOLLOW-UP INVESTIGATION INDICATED THAT NON-CONSERVATIVE ASSUMPTIONS WERE MADE IN THE ORIGINAL FLOODING ANALYSIS PERFORMED IN 1972. CORRECTIVE ACTIONS INCLUDED ISOLATION OF THE QUESTIONABLE FIRE HEADER. POSTING OF FIRE WATCHES, REVIEW OF THE REMAINDER OF THE FIRE PROTECTION SYSTEMS AND INSTALLATION OF A NEW PIPE SUPPORT PLANNED CORRECTIVE ACTION INCLUDES A DETAILED REVIEW OF THE DESIGN BASIS DOCUMENTATION FOR INTERNAL FLOODING TO ENSURE A CONSERVATIVE APPROACH WAS TAKEN.
Monticello	10/25/1990	11/25/1990	Fire Door Inoperability Due to Excessive Clearances Because of Inadequate Installation Procedures Abstract: POWER LEVEL - 100%. ON OCTOBER 25, 1990, WITH THE PLANT OPERATING AT 100% POWER, PLANT ENGINEERING STAFF DETERMINED THAT A FIRE DOOR WAS INOPERABLE DUE TO EXCESSIVE CLEARANCE BETWEEN THE DOOR AND THE FLOOR. PLANT ENGINEERING STAFF INVESTIGATED THE DOOR IN RESPONSE TO A CONCERN RAISED BY AN INTERNAL QUALITY ASSURANCE AUDIT TEAM THAT WAS PERFORMING AN AUDIT OF THE PLANT FIRE PROTECTION SYSTEM. IMMEDIATE FOLLOW UP INSPECTIONS ON ALL OTHER PLANT FIRE DOORS REVEALED FOUR ADDITIONAL DOORS WERE ALSO INOPERABLE DUE TO EXCESSIVE CLEARANCES. THE FIRE WATCH REQUIREMENTS OF THE APPLICABLE TECHNICAL SPECIFICATION WERE IMPLEMENTED IMMEDIATELY FOR ALL THE DOORS THAT WERE DECLARED INOPERABLE. THE DOORS IDENTIFIED HAVE SINCE BEEN BROUGHT INTO COMPLIANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION REQUIREMENTS AND HAVE BEEN DECLARED OPERABLE. CORRECTIVE ACTIONS COMPLETED INCLUDE RAISING THE FLOOR OR SILL AT EACH DOOR TO BRING IT INTO COMPLIANCE AND ISSUING A GUIDANCE LETTER TO THE PLANT STAFF RESPONSIBLE FOR INSTALLING FIRE DOORS. CORRECTIVE ACTIONS PLANNED INCLUDE ADDING PROVISIONS TO THE MODIFICATION AND WORK CONTROL PROCESSES TO ENSURE PROPER INSTALLATION OF FIRE DOORS, ADDING PERIODIC INSPECTIONS OF DOOR CLEARANCES TO EXISTING PROCEDURES, INITIATING AN
Monticello	08/15/1991	10/02/1991	Inoperable Fire Barrier Penetration Seal Due to Failure to Identify Penetration as a Fire Barrier Abstract: POWER LEVEL - 100%. WHILE CONDUCTING AN INSPECTION OF FIRE PENETRATIONS, A HATCH LOCATED IN THE TURBINE BUILDING WAS DETERMINED TO BE IMPROPERLY SEALED. THE PENETRATION IN THE TURBINE BUILDING WAS DETERMINED TO BE INOPERABLE AND A FIRE WATCH WAS IMMEDIATELY ESTABLISHED. THE PENETRATION WAS SEALED AND RETURNED TO OPERABLE STATUS. THE CAUSE OF THE INOPERABLE BARRIER WAS A FAILURE TO RECOGNIZE THE HATCH AS A FIRE BARRIER AND, CONSEQUENTLY, FAILURE TO IMPLEMENT THE ASSOCIATED REQUIREMENTS FOR RESEALING THE HATCH DURING A PLANT MODIFICATION. ADMINISTRATIVE CONTROLS WILL BE REVISED TO REQUIRE IDENTIFYING ALL BREACHED PENETRATIONS TO QUALIFIED PLANT STAFF PRIOR TO OPENING. THIS REQUIREMENT WILL BE INCLUDED IN THE ANNUAL SUPERVISOR TRAINING. ALL FIRE BARRIER HATCHES ARE BEING LABELED, 'CONTACT FIRE PROTECTION SYSTEM ENGINEER PRIOR TO OPENING.'
Monticello	09/30/1991	10/30/1991	Inoperable fire Penetration Due to Pipe Movement Resulting From Possible Water Hammer Abstract: POWER LEVEL - 100%. WHILE CONDUCTING A RADIATION PROTECTION SURVEY, HEALTH PHYSICS PERSONNEL DISCOVERED A PIPE PENETRATION WHICH DID NOT APPEAR TO BE PROPERLY SEALED. THE FIRE PROTECTION ENGINEER WAS NOTIFIED. THE ENGINEER DETERMINED THAT THE PENETRATION WAS IN A FIRE BARRIER AND WAS NOT PROPERLY SEALED. THE PENETRATION WAS DECLARED INOPERABLE AND A ONE HOUR ROVING FIRE WATCH WAS ESTABLISHED. THE PENETRATION WAS INSPECTED, SEALED, AND RETURNED TO OPERABLE STATUS. THE POSTULATED CAUSE OF THE EVENT IS PIPE MOVEMENT DUE TO POSSIBLE WATER HAMMER. THIS OCCURRED AS A RESULT OF A MOMENTARY LOSS OF POWER TO THE CONDENSATE SERVICE PUMPS ON AUGUST 25, 1991. IT IS BELIEVED THAT THE AUGUST EVENT CAUSED THE FAILURE OF THE PENETRATION SINCE THE PENETRATION WAS INSPECTED IN MAY 1991 AND DETERMINED TO BE SEALED. BARRIER INTEGRITY WILL BE INVESTIGATED. INTERIM ANY INSPECTIONS OF THIS PENETRATION SEAL WILL BE PERFORMED FOLLOWING AN IDENTIFIED WATER HAMMER EVENTS IN THE CONDENSATE SERVICE SYSTEM.
Monticello	04/08/1992	07/01/1992	Inoperable Fire Barrier Due to Inadequate Fire Hazard Analysis Abstract: POWER LEVEL - 100%. DURING AN NRC INSPECTION A QUESTION WAS RAISED CONCERNING THE ACTIONS TO BE TAKEN IN THE EVENT OF AN OIL FIRE. DURING THE ENSUING DISCUSSIONS A POSTULATED SCENARIO WAS DEVELOPED WHICH COULD POSSIBLY AFFECT REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT. THE SCENARIO INVOLVES AN OIL LINE BREAK WITH A FIRE WHICH AFFECTS THE UPPER 4160 VOLT ESSENTIAL SWITCHGEAR, FLOWS UNDER TWO FIRE DOORS AND DOWN A STAIRWELL TO THE LOWER 4160 VOLT ESSENTIAL SWITCHGEAR. THE CAUSE OF THIS EVENT WAS A FAILURE TO ANALYZE FOR A LUBE OIL LINE BREAK WITH A FIRE WHICH FLOWS UNDER THE FIRE BARRIERS. THIS WAS A COGNITIVE ERROR BY THE CONTRACTOR DURING DEVELOPMENT OF THE FIRE HAZARDS ANALYSIS. BASED ON THE ABOVE SCENARIO THE FIRE DOORS WERE CONSIDERED TO BE INOPERABLE AND A FIRE PATROL WAS IMMEDIATELY ESTABLISHED. AN ANALYSIS WAS PERFORMED WHICH DEMONSTRATED THAT THE PRESENT DESIGN FEATURES ARE SUFFICIENT THE FIRE DOORS ARE OPERABLE AND THE FIRE PATROL WAS TERMINATED.
Monticello	06/24/1992	09/30/1992	Fire Barrier Declared Inoperable Due to Failure of Similar Barriers to Pass Acceptance Tests Abstract: POWER LEVEL - 100%. Based on information received on June 24 and August 31, 1992 concerning Thermo-Lag 330, two fire barriers were declared inoperable. The cause of this event is the uncertainty about the capability of fire barriers which rely on this material. Technical Specification special reports and responses to NRC Bulletins No. 92-01 and 92-01 Supplement 1 have been submitted to the NRC. The barriers have been visually inspected, a one hour fire patrol has been established. A fire detection system has been installed and surveillance procedures are performed periodically to insure its operability. A Design Change has been initiated to replace the inoperable fire barriers or reroute the affected conduits so that fire wrap barriers are not required.
Monticello	09/30/1992	10/30/1992	Inoperable Fire Barrier Caused by Failure to Perform Surveillance Abstract: POWER LEVEL - 100%. On September 30, 1992 it was identified by plant engineering personnel that a fire barrier damper had not been inspected as required by Technical Specifications. The damper was immediately declared inoperable and a fire watch was established. The cause of this event was a failure of personnel to identify the damper as a fire barrier during initial Appendix R reviews. The damper was inspected, tested, and declared operable. The fire watch was terminated, the damper was added to the surveillance procedure, and a review was completed to insure all Appendix R dampers are included in the surveillance procedure.
Monticello	06/22/1994	07/22/1994	Appendix R Fire Protection Program and Subsequent Surveillances Failed To Identify an Unsealed Fire Barrier Abstract: On June 22, 1994, an engineer discovered an inoperable fire barrier in the Division II Battery Room. The engineer was field verifying the Plant Control and Cable Spreading Structure Design Basis Document. Upon identification, an hourly fire watch was established. The fire watch continued until the barrier was sealed and operability was verified on June 24, 1994 at 1700. All other similar configurations were reviewed and no other problems were identified. The inoperable barrier had been overlooked by the original Appendix R review and subsequent surveillances. Training will be provided to personnel performing this surveillance in the future with respect to this event and other past similar events.
Monticello	04/18/1997	05/19/1997	Inappropriate Use of the 25% Tolerance for Periodic Actions in Section 3 of the Technical Specifications Abstract: The performance of some periodic actions required by the Technical Specifications were in excess of that allowed by the Technical Specifications. A Technical Specification Interpretation had been written allowing a 25% tolerance on periodic actions required by Section 3 of the Technical Specifications. This was a logical extension of the application of the 25% tolerance allowed in Section 4, but a license amendment should have been requested. The Technical Specification Interpretation has been deleted and procedures changed. Personnel involved are aware of the error.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Monticello	03/03/2000	04/03/2000	Procedural Adherence Error Results in Missed Periodic Fire Watch Abstract: Breakers for three motor operated valves (MOVs) are normally maintained open to achieve the cable separation required by 10 CFR 50, Appendix R. When pumping the Suppression Pool (Torus) to Radwaste, the breaker for the Residual Heat Removal (RHR) System to Radwaste MOV, MO-2032 is closed to facilitate the evolution. This creates the potential for draining the Torus in the event of fire induced cable damage. Hourly fire patrols with operable fire detectors, or continuous fire watches, are established as a compensatory measure while the breaker is closed. Due to a lapse of procedural adherence, the fire watch patrols were not properly maintained and completed within the required frequency. Corrective actions are to counsel personnel on expectations concerning procedural adherence and to address the underlying and contributing causes in the corrective action program.
Monticello	02/22/2001	04/19/2001	Alternate Shutdown System Design Deficiencies Result in Vulnerability to Single Hot Shorts During Postulated Control Room or Cable Spreading Room Fire Abstract: During an engineering review, hot short vulnerabilities were discovered in the Alternate Shutdown System (ASDS) in the event of loss of offsite power. The ASDS maintains the plant in a safe shutdown condition in the event of a severe Control Room or Cable Spreading Room fire. The first of these vulnerabilities affects the ASDS when powering Bus 16 from 12 Emergency Diesel Generator (EDG) and could lead to the inability to operate 12 Residual Heat Removal (RHR), 12 Core Spray, and 12 RHR Service Water pumps from the ASDS panel. The other vulnerabilities involve Bus 14 and Bus 16 breakers which receive a load shed signal on transfer of 12 EDG and associated controls to the ASDS panel. Hot shorts have the potential to reclose these breakers following the load shed causing the EDG or 1 AR transformer sources to be overloaded. This could result in a lockout or possible damage to the source. Design changes were completed prior to startup from a recent maintenance outage to eliminate these hot short vulnerabilities.
Monticello	03/13/2003	05/11/2003	Degraded Fire Barrier Penetration Discovered During a Walkdown Abstract: On March 13, 2003 during a walkdown of fire barrier penetration FZ-4900 in the upper 4KV room it was discovered that a portion of a penetration seal was degraded allowing the upper and lower 4KV rooms to communicate with each other. The barrier was declared inoperable and a continuous fire watch was established. In accordance with 10 CFR 50.72(b)(3)(ii), an 8-hour event notification was made. The Updated Fire Hazards Analysis was reviewed to identify other locations where gypsum board assemblies are used as penetrations. No other penetrations were found to be inoperable as a result of this walk-down. On March 15, 2003 the barrier was repaired and declared operable.
Monticello	09/01/2004	11/01/2004	Cable Separation Issue Discovered During Appendix R Re-analysis Abstract: While operating at 100% power on September 1, 2004, during a reconstitution review of the Monticello10 CFR 50, Appendix R Safe Shutdown Analysis (SSDA) program, personnel discovered a non-conformance with 10 CFR 50, Appendix R, III.G.2 divisional separation criteria. Personnel determined the 4KV motor power cables for the Division I Residual Heat Removal (RHR) and Core Spray (CS) pumps pass through a Division II area without an adequate barrier. The Division I cables are physically located in a cable pull junction box (J113) in the Reactor Core Isolation Cooling (RCIC) room, which is designated as a Division II Fire Zone per the SSDA. As a result, an hourly fire watch was established in the RCIC Room, and an NRC notification was made in accordance with 10CFR50.72(b)(3)(ii)(B). The root cause of this failure to provide required cable separation was a failure by personnel to recognize the 10 CFR 50, Appendix R non-compliance during the original Safe Shutdown Analysis. Due to the age of the non-conformance (1983) and the unavailability of personnel involved in the original SSDA development to interview, the station was unable to obtain any additional factual insights regarding the cause of the non-conformance. NMC has initiated a modification to restore compliance with 10 CFR 50, Appendix R, Section III.G.2. This modification will provide a 3-hour fire rated barrier for the Division I
Monticello	05/27/2006	05/11/2007	Unplanned LCO due to Loss of Cooling in the Upper 4KV Room Abstract: Note: The LER is being revised to correct the cause of the event based on completion of the cause evaluation. On May 27, 2006, multiple trips of the 4KV switchgear room chiller (V-CH-27) resulted in the room temperature exceeding 104F in the Division II 4KV switchgear room. The Abnormal Operations Procedure, "Ventilation System Failure", required the affected division of 4KV switchgear to be declared inoperable at temperatures greater than 104F in the switchgear area. In addition, the procedure directs opening various turbine building High Energy Line Break (HELB) doors to promote room cooling. Consequently with HELB doors open to the Division II switchgear room, a single postulated HELB could render portions of both electrical divisions inoperable, resulting in no safe shutdown path available for the HELB of concern. The cause of this event was a failure of a chiller fan [FAN] motor [MO]. The chiller failure resulted in implementation of an abnormal operating procedure that directed operator actions which rendered the plant susceptible to a postulated HELB that could have caused the loss of portions of both safety related electrical divisions. Corrective actions include repairing the chiller unit and revising station procedures.
Monticello	07/26/2007	09/20/2007	HELB Door Found in Closed Position due to Fusible Link Failure Abstract: At 0902 on July 26, 2007, an out plant operator identified that Door-18, which is a normally opened fire door, had closed due to a failed fusible link. With this door closed, the pathway for a potential flood due to a high energy line break (HELB) is blocked and therefore closed a relied upon drain path for the water. This represented an unanalyzed condition where both divisions of essential switchgear were declared inoperable and Technical Specification (TS) LCO 3.0.3 was entered. At 0955 on July 26, 2007, the door was restored to an operable HELB condition. Both divisions of the switchgear were declared operable and TS LCO 3.0.3 was exited. No safety system actuations occurred due to this event. The cause of the event was a failure of the fusible link which allowed the door to close. The corrective action for this event was to replace the fusible link with a link that meets the temperature and load ratings and procure a permanent fusible link.
Monticello	04/02/2009	12/22/2010	Containment Overpressure Not Ensured in the Appendix R Analysis Abstract: During the review of calculations to respond to a request for additional information from the NRC in support of the station's Extended Power Uprate license amendment, station personnel discovered that although the plant credits Containment Overpressure, the Appendix R analysis does not ensure Containment Overpressure is maintained. The cause of the event was the calculation that credited the Containment Overpressure was either not reviewed by fire protection program personnel or program personnel failed to internalize the need for a revision to the Appendix R analysis. Until the issue is resolved per the guidance of Regulatory Guide 1.189, compensatory measures have been put in place to address the vulnerabilities.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Monticello	09/02/2011	02/28/2012	Intake Structure Fire Suppression System Blockage Abstract: On September 2, 2011, at approximately 1600, Mechanical Maintenance personnel informed Operations that portions of the Intake Structure sprinkler system piping were found to be partially blocked and incapable of passing flow. The Intake Structure sprinkler system is relied upon in part to satisfy an approved exemption to 10 CFR 50 Appendix R, Section III.G.2.b concerning separation of components in the Intake Structure. Installation of the Intake Structure sprinkler system in 1983 did not comply with design requirements for providing required pipe slope to ensure proper draining. This condition allowed excessive water to remain in the system which then contributed to accelerated internal corrosion and accumulation of corrosion byproducts in the piping system. Immediate corrective actions taken included flushing the sprinkler system and performing internal inspections to confirm removal of blockage before returning the system to service.
Monticello	03/20/2014	05/19/2014	Appendix R Fire Door Failed to Latch Abstract: On March 20, 2014, during performance of the semi-annual fire door inspection, an Appendix R fire door did not latch as required and divisional separation could not be assured in the event of a fire. A continuous fire watch was established within the required timeframe once the deficiency was discovered. The cause of door-410B failure to close and latch during performance of the surveillance was determined to be insufficient closing force. Immediate corrective actions were to repair door-410B by adjusting the door closer and lubrication of the door latch. The door was then satisfactorily tested and declared functional. Long term corrective actions include door closer force adjustments on a periodic basis.
Monticello	05/15/2014	07/14/2014	Opening Identified in Fire Barrier Abstract: On May 15, 2014, an unsealed conduit penetration was identified between two fire zones, Division I and Division II of safe shutdown equipment in the Emergency Filtration (EFT) Building, which does not meet the two hour fire barrier rating of the wall required per the Fire Hazards Analysis. The cause of the unsealed penetration is unknown and is considered a legacy issue as this conduit was routed prior to 1991. The EFT fire protection barrier will be restored to functional status and the penetration will be periodically inspected. The Fire Barrier Wall, Damper and Floor Inspection procedure will be revised to add use of additional tools (e.g., cameras or boroscope) to perform inspections on portions of fire barriers that are not easily accessed.
Monticello	08/04/2016	09/30/2016	Inadequate Appendix R Fire Barrier Impacts Safe Shutdown Capability Abstract: On August 4, 2016, while performing a Fire Protection/Appendix R self-assessment, it was discovered that the floor between the Cable Spreading Room (CSR) and the Plant Administration Building (PAB) basement is not an adequate Appendix R fire barrier. Because the CSR and the PAB are located in the same Fire Area (FA), a fire in the PAB could spread to the CSR requiring evacuation of the Control Room (CR). When the CR is evacuated, alternate shutdown activities are performed at the Alternate Shutdown System (ASDS) Panel. The travel path used to access the ASDS Panel following CR evacuation traverses the same fire area in the PAB. This unanalyzed condition resulted from the determination that because of the inadequate fire barrier, a fire in the PAB would now require use of an alternate shutdown strategy to safely shutdown the reactor. However, the alternate shutdown strategy requires that the operators traverse from the CR through the PAB Fire Area to access the alternate shutdown equipment. This path could be impacted by the PAB fire. In response to this discovery an hourly fire watch was established.
Nine Mile Point 1	11/17/1982	12/16/1982	Deluge System Removed From Service To Install Pressure Switches Abstract: On November 17 and 18, during a planned event, deluge valves 101N and 101S protecting the reserve power transformer were intentionally made inoperable to replace pressure switches per a modification (N180.58) to upgrade the fire protection system. The deluge system was inoperable for 10 hours on the 17th and 5 hours on the 18th. During the hours stated, a fire watch was stationed with backup fire suppression equipment for the unprotected areas. The core was off loaded at the time. The deluge system was removed from service in order to install pressure switches with a sufficient number of electrical contacts to handle the requirements of a modified fire protection system. The old switches did not fail. The deluge system was returned to operable status on the 18th with the modification installed.
Nine Mile Point 1	10/03/1983	10/13/1983	Continuous Fire Watch not Maintained While CO2 System was out of Service Abstract: While the CO2 fire suppression system was out of service for surveillance testing, the continuous fire watch required by Tech Spec 3.6.8(b) was changed to the continuous fire patrol required by the revised Tech Specs, which have not yet been approved. the event was of minimal safety significance because fire detection sensors, which alarm locally and in the control room, were operable in all affected areas, and the areas were patrolled every 15 minutes. also, nine mile point unit i has a fully trained 5-man dedicated Fire Brigade on shift at all times. This event was promptly reported under this LER number on 10/3/83. The Chief Nuclear Firefighter, in consultation with the asst. supervisor - fire protection nuclear, implemented the continuous fire patrol in accordance with the revised specifications to alleviate a manpower problem. Since the SSS was not consulted at the time of the change, only the Fire Dept. was aware of it. upon discovery of the error, the continuous fire watch was immediately reinstated in the affected areas. to prevent reoccurrence, a meeting was held with all involved personnel informing them that the approved tech specs are the governing document at present, and any changes made in actions required by these specs must be reviewed with the SSS prior to implementation. these
Nine Mile Point 1	11/28/1983	12/13/1983	Open Fire Barrier Abstract: During normal operation, a reactor building penetration was found to be unsealed. this is contrary to Tech Spec 3.4.1.b concerning secondary containment and 3.6.10.b concerning fire barriers. The sealing material which was forced out of the penetration due to the pressure differential across the penetration. A fire watch was stationed within one hour of discovery in compliance with Tech Spec 3.6.10.b and the penetration was sealed within four hours in compliance with Tech Spec 3.4.1.b. In addition, all five barrier penetrations are being inspected and continuous fire watches have been posted. The fire watches will remain until the material subject to shrinkage is replaced. Upon completion of the inspection, a special report will be submitted to the NRC.
Nine Mile Point 1	02/20/1984	08/21/1985	Failure to Submit Special Fire Report Abstract: POWER LEVEL - 088%. TWENTY FOUR OCCURRENCE REPORTS WERE DISCOVERED THAT WERE INITIATED DURING FEB AND APR 1984. TECH SPECS 3.6.6, 3.6.8, AND 3.6.10.1 REQUIRE THE SUBMITTAL OF A 30 DAY REPORT FOR ANY FIRE DETECTION, SUPPRESSION OR PENETRATION EQUIPMENT THAT IS DECLARED INOPERABLE FOR MORE THAN 14 DAYS, BUT THE 30 DAY REPORTS WERE NOT SUBMITTED. TWENTY REPORTS ON INOPERABLE FIRE BARRIER PENETRATIONS FALL UNDER THE CATEGORY OF EVENTS REPORTED IN LER 83-44 AND, THEREFORE, DO NOT REQUIRE A SEPARATE REPORT. OF THE 4 REMAINING REPORTS, 2 INVOLVED INOPERABLE FIRE SUPPRESSION EQUIPMENT AND THE OTHER 2 INVOLVED INOPERABLE FIRE DETECTION EQUIPMENT. ON 2-5-84, AN OIL LEAK WAS DISCOVERED WHICH RAN ALONG CABLES BETWEEN THE AUX CONTROL ROOM AND THE CABLE SPREADING ROOM. THE FIRE SUPPRESSION SYSTEMS FOR THESE 2 ROOMS WERE DEACTIVATED FOR PERSONNEL SAFETY. A CONTINUOUS FIRE WATCH WAS ESTABLISHED, AND THE FIRE SUPPRESSION EQUIPMENT WAS RETURNED TO SERVICE ON 3-13-84. FIRE DETECTION EQUIPMENT WAS DEACTIVATED ON APR 2 AND 6, 1984 TO PERFORM NRC COMMITTED MODIFICATIONS IN THE AREAS. A FIRE PATROL WAS ESTABLISHED, AND THE DETECTION EQUIPMENT WAS RETURNED TO SERVICE ON 6-12-84.
Nine Mile Point 1	02/14/1985	03/14/1985	Inoperable Damper Affected Auxiliary Control Room Halon System Abstract: POWER LEVEL - 100%. WHILE PERFORMING A ROUTINE SURVEILLANCE TEST, FIRE DAMPERS IN THE AUX CONTROL ROOM VENTILATION SYSTEM WERE FOUND INOPERABLE RENDERING THE HALON FIRE SUPPRESSION SYSTEM INOPERABLE IN THE EVENT OF AN AUX CONTROL ROOM FIRE. IMMEDIATE ACTION REQUIRED BY TECH SPECS WAS NOT TAKEN AND SUBSEQUENT REPAIRS TO THE DAMPERS WERE COMPLETED AFTER THE 14 DAY TECH SPEC LIMIT.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Nine Mile Point 1	09/27/1985	10/25/1985	Failure to Establish Required Fire Watch Abstract: POWER LEVEL - 100%. ON 9-22-85 THREE NORMALLY OPEN DAMPERS (BV210-31, BV210-34, BV210-35) FAILED TO ISOLATE ON A HALON SUPPRESSION SIGNAL. A FIRE WATCH WAS IMMEDIATELY ESTABLISHED AND A WORK REQUEST GENERATED TO TROUBLESHOOT THE PROBLEM. IT WAS DISCOVERED ON 9-27-85 THAT A WIRING CHANGE PERFORMED ON 9-18-85 ON A SEPARATE, INDEPENDENT DAMPER CAUSED AN INTERRUPTION TO THE CLOSE INITIATION CIRCUIT FROM HALON AND CARBON DIOXIDE SUPPRESSION TO DAMPERS BV210-31, BV210-34, AND BV210-35. TECH SPEC 3.6.10.2.B REQUIRES THAT A FIRE WATCH BE POSTED WITHIN 1 HR IF HALON SUPPRESSION IS FOUND INOPERABLE. THEREFORE, FROM 9-18 TO THE 22ND HALON SUPPRESSION IN THE AUX CONTROL ROOM WAS INOPERABLE WITH NO FIRE WATCH ESTABLISHED. AFTER THE WIRING CORRECTION WAS MADE, DAMPER ISOLATION ON SUPPRESSION SIGNAL WAS SUCCESSFULLY TESTED. THE SYSTEM WAS DECLARED OPERABLE AND THE FIRE WATCH WAS CLEARED.
Nine Mile Point 1	08/01/1986	12/05/1986	Fire Watch Patrol Surveillance Requirement Exceeded Abstract: POWER LEVEL - 099%. ON 8-1-86 A REVIEW OF PAST DOCUMENTATION REVEALED THAT A 1 HOUR FIRE WATCH PATROL WAS NOT ADHERED TO AT THE NINE MILE POINT UNIT 1 NUCLEAR STATION. PER PLANT TECH SPECS A 1 HOUR FIRE WATCH PATROL IS REQUIRED WITH A FIRE BARRIER PENETRATION IN A NON-FUNCTIONAL STATUS. FIRE DEPARTMENT SUPERVISION HAD PROPERLY ESTABLISHED THE FIRE WATCH PATROL. IT WAS THEN DISCOVERED THAT AN INDIVIDUAL PERFORMING THE FUNCTION WAS RECORDING TIMES THE PATROL WAS CONDUCTED. WHEN COMPARING THE TIMES THE INDIVIDUAL LOGGED IN ON THE SIGN IN SHEET TO THOSE RECORDED ON THE SECURITY CARD TRACKING FILE, A DISCREPENCY WAS NOTED. THE SECURITY SYSTEM CONTROLS/RECORDS PERSONNEL ACCESS TO PLANT VITAL AREAS. THIS RECORD INDICATED THAT THE 1 HOUR PATROL WAS NOT MAINTAINED ON 5-26-85. ADDITIONAL REVIEW OF PAST DOCUMENTATION REVEALED ANOTHER INSTANCE OF NOT ADHERING TO THE 1 HOUR PATROL REQUIREMENT ON 5-26-85. THIS OCCURRENCE INVOLVED ANOTHER INDIVIDUAL ON THE SAME SHIFT. DISCIPLINARY ACTION IS BEING TAKEN AGAINST THE INDIVIDUALS WHO WERE IDENTIFIED AS HAVING MISSED THE FIRE WATCH PATROL. THIS REPORT IS SUBMITTED AS A SUPPLEMENT TO LER 86-22 DATED 8-29-86.
Nine Mile Point 1	08/06/1986	09/05/1986	Continuous Fire Watch Not Established Within 1 hour While Fire Door D-52 Was Inoperable Abstract: POWER LEVEL - 000%. ON AUGUST 6, 1986 FIRE DOOR S2 WAS DISCOVERED TO BE NON-FUNCTIONAL AS A FIRE BARRIER. ALSO AT THIS TIME, FIRE DETECTION EQUIPMENT IN THAT AREA OF THE TURBINE BUILDING WAS INOPERABLE DUE TO PLANT MODIFICATIONS IN PROGRESS. ESTABLISHING A FIRE WATCH PATROL FOR A NON-FUNCTIONAL FIRE BARRIER AND ESTABLISHMENT OF A CONTINUOUS FIRE WATCH FOR A NON-FUNCTIONAL BARRIER WITH FIRE DETECTION INOPERABLE ON ONE SIDE OF THE BARRIER. RECORDS AT NINE MILE POINT UNIT I DOCUMENTING THE REPAIRS DONE ON FIRE DOOR 52 REVEALED THAT ON APRIL 15, 1986 THE WRONG SIZE JAMB ASSEMBLY WAS INSTALLED FOR THE ELECTRIC STRIKE REPAIRED AT THAT TIME. THIS LER HAS BEEN WRITTEN SINCE NEITHER A FIRE WATCH PATROL NOR A CONTINUOUS FIRE WATCH WAS ESTABLISHED DURING THE PERIOD APRIL 15 TO AUGUST 6, 1986. ON AUGUST 6, 1986 A CONTINUOUS FIRE WATCH WAS ESTABLISHED. ON AUGUST 28, 1986 REPAIRS TO FIRE DOOR 52 WERE COMPLETED WITH THE CORRECT SIZE JAMB ASSEMBLY, THE FIRE DOOR WAS RETURNED TO SERVICE AND THE FIRE WATCH DISBANDED.
Nine Mile Point 1	03/27/1987	04/24/1987	Failure To Meet Technical Specifications Requirements For Rated Penetrations Abstract: POWER LEVEL - 099%. AT 0930 ON MARCH 27, 1987, NINE MILE POINT UNIT 1 (NMPL) FIRE DEPARTMENT PERSONNEL DISCOVERED NONFUNCTIONAL FIRE BARRIER PENETRATIONS IN A TECHNICAL SPECIFICATIONS (TECH. SPEC.) RATED FIRE BARRIER. THESE PENETRATIONS WERE SEALED ONLY WITH A WELDED STEEL CAP, AND NOT WITH THE REQUIRED FILL OF FIRE RATED SEALANT. IT IS BELIEVED THAT THE PENETRATIONS HAD NEVER BEEN PROPERLY SEALED. OTHER PENETRATIONS WERE, DURING THE INVESTIGATION, FOUND TO HAVE NOT PREVIOUSLY MET PERIODIC INSPECTION REQUIREMENTS. THE ROOT CAUSES OF THIS EVENT ARE PERSONNEL ERROR AND A RESULTANT PROCEDURE DEFICIENCY. THIS CONSTITUTED A VIOLATION OF NMP1 TECH. SPEC. SECTIONS 3.6.10.1 AND 4.6.10.1. CORRECTIVE ACTIONS CONSISTED OF IMMEDIATELY ESTABLISHING A FIRE WATCH PATROL AND INITIATING A STATION WORK REQUEST TO REPAIR SEVERAL OF THE PENETRATIONS. THE PENETRATIONS WERE REPAIRED WITH FIRE RATED SEALANT AND ARE NOW FUNCTIONAL AND IN COMPLIANCE WITH NMP1 TECH. SPEC.
Nine Mile Point 1	05/12/1987	06/11/1987	Fire Rated Barrier Containing Nonqualified Piping Abstract: POWER LEVEL - 099%. ON MAY 12, 1987, NINE MILE POINT UNIT #1 (NMP1) WAS OPERATING AT OR NEAR FULL POWER. AT 1000 HOURS, IT WAS DETERMINED THAT SEVERAL PENETRATIONS LOCATED IN FIRE RATED BARRIERS WERE OF SUSPECT INTEGRITY DUE TO THE ABSENCE OF QUALIFYING TEST DOCUMENTATION FOR THE USE OF NONMETALLIC PIPING AND WERE IN VIOLATION OF NMP1 TECHNICAL SPECIFICATIONS PARAGRAPH 3.6.10.1. THESE PENETRATIONS HAD BEEN IDENTIFIED DURING THE COURSE OF A NIAGARA MOHAWK POWER CORPORATION NUCLEAR ENGINEERING REVIEW. IMMEDIATE CORRECTIVE ACTIONS CONSISTED OF VERIFYING OPERABILITY OF FIRE DETECTION SYSTEMS AND ESTABLISHING A FIRE WATCH PATROL IN ACCORDANCE WITH TECHNICAL SPECIFICATION REQUIREMENTS. IN ADDITION, A PROBLEM REPORT WAS SUBMITTED PER SITE PROCEDURE S-SUP-2, 'PROBLEM REPORT PROGRAM', IN ORDER TO DEVELOP LONG TERM CORRECTIVE ACTION. APPROPRIATE LONG TERM CORRECTIVE ACTION IS UNDER EVALUATION BY THE NUCLEAR ENGINEERING DEPARTMENT.
Nine Mile Point 1	10/21/1987	11/20/1987	Technical Specification Violation Due To Personnel Error In Not Identifying Fire Barrier Penetrations Abstract: POWER LEVEL - 000%. AT 2300 HOURS ON OCTOBER 21, 1987, WITH NINE MILE POINT UNIT 1 IN STARTUP, FIRE DEPARTMENT PERSONNEL DISCOVERED FIVE AREAS IN BATTERY AND BATTERY BOARD ROOMS 11 AND 12, WHERE UNPROTECTED OPENINGS EXISTED BETWEEN RATED CEILING AND FLOOR ASSEMBLIES AND A NON-RATED WALL. THESE ARE IN TWO HOUR RATED BARRIERS AND HAVE BEEN IDENTIFIED AS BEING APPLICABLE TO TECHNICAL SPECIFICATION SECTION 3.6.10.1. IN ADDITION, SINCE THESE DEFICIENCIES WERE RECENTLY DISCOVERED, A FIRE WATCH PATROL HAD NOT BEEN PREVIOUSLY ESTABLISHED NOR HAD THE CYCLIC SURVEILLANCE TEST BEEN PERFORMED. THESE EVENTS CONSTITUTED A VIOLATION OF NMP1 TECHNICAL SPECIFICATION SECTION 3.6.10.1 AND 4.6.10.1. THE ROOT CAUSE OF THIS EVENT WAS THE FACT THAT THE DEFICIENCIES IN THESE AREAS WERE NOT IDENTIFIED DURING PREVIOUS INSPECTIONS. A CONTRIBUTING FACTOR IS THE BARRIERS WERE PARTIALLY SEALED AND HIDDEN FROM THE LINE OF SIGHT. CORRECTIVE ACTIONS CONSISTED OF IMMEDIATELY VERIFYING DETECTION IN THE AFFECTED AREA AND ESTABLISHING A FIRE WATCH PATROL. SUBSEQUENTLY, STATION WORK REQUESTS WERE INITIATED TO PROPERLY SEAL THE FIVE AREAS.
Nine Mile Point 1	10/27/1987	11/25/1987	Missed Fire Watch Patrol Due To Personnel Error Resulting In Violation Of Technical Specifications Abstract: POWER LEVEL - 094%. ON OCTOBER 27, 1987, WHILE THE NINE MILE POINT UNIT 1 NUCLEAR STATION WAS OPERATING AT 94% POWER, THE TECHNICAL SPECIFICATION REQUIREMENT OF MAINTAINING A HOUR FIRE WATCH PATROL FOR A NONFUNCTIONAL FIRE BARRIER WAS EXCEEDED. THE EVENT WAS CAUSED BY A COGNITIVE ERROR ON THE PART OF INDIVIDUALS PERFORMING THE FIRST AND SECOND FIRE WATCH PATROLS FOR THE ONCOMING SHIFT IMMEDIATELY AFTER SHIFT TURNOVER. THE FIRE DETECTION SYSTEM REMAINED OPERABLE THROUGHOUT THIS EVENT, ALONG WITH AUTOMATIC AND MANUAL SUPPRESSION IN THE AREA ADJACENT TO THE NONFUNCTIONAL BARRIER. AS A RESULT, THERE WAS NO SIGNIFICANT IMPACT ON PLANT SAFETY. CORRECTIVE ACTION INVOLVED IMMEDIATELY DISCUSSING THE EVENT WITH THE INDIVIDUALS TO DETERMINE ANY DEFICIENCIES IN THE METHODS UTILIZED IN CONTROLLING THIS ACTIVITY. ADDITIONALLY, A NEW FIRE DEPARTMENT PROCEDURE GOVERNING FIRE WATCH PATROL ACTIVITIES WAS ISSUED ON OCTOBER 29, 1987. THE REQUIREMENTS SET FORTH IN THIS PROCEDURE SHOULD PRECLUDE RECURRENCE OF AN EVENT OF THIS TYPE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Nine Mile Point 1	03/26/1988	08/16/1990	Fire Barrier Penetrations Non-Functional Due To Being Breached Abstract: POWER LEVEL - 000%. THIS SUPPLEMENT IS AN ADDITION TO LER 88-09 SUPPLEMENT 1. ON MARCH 26, 1988, WHILE IN A REFUELING OUTAGE WITH THE CORE OFFLOADED, SIX POTENTIALLY NON-FUNCTIONAL TECHNICAL SPECIFICATION FIRE BARRIER PENETRATIONS WERE DISCOVERED. THESE CONFIGURATIONS WERE DETERMINED TO HAVE INADEQUATE OR INCOMPLETE SUPPORTING DOCUMENTATION. IN MAY OF 1988, NIAGARA MOHAWK POWER CORPORATION (NMPC) INITIATED A 100% VISUAL RE-EXAMINATION OF THE REQUIRED FIRE BARRIER PENETRATIONS. A TOTAL OF FOURTEEN (14) NON-FUNCTIONAL PENETRATION SEALS WERE IDENTIFIED. THE ROOT CAUSE WAS PERSONNEL ERROR DUE TO A LACK OF UNDERSTANDING OF THE FIRE BARRIER COMMITMENTS. A CONTRIBUTING CAUSE WAS A LACK OF REQUIRED DOCUMENTATION AND INADEQUATE SURVEILLANCE PROCEDURES. CORRECTIVE ACTIONS INCLUDED THE ASSIGNMENT OF A FIRE PROTECTION PROGRAM MANAGER, THE DEVELOPMENT OF OVERALL FIRE PROTECTION PROGRAM AND PROCEDURES, THE UPDATE PENETRATION BASELINE DESIGN DATABASE FOR PROGRAM ALLOWABLES, AND REVISION TO THE ENGINEERING, SITE, AND SURVEILLANCE PROCEDURES.
Nine Mile Point 1	04/19/1988	05/18/1988	Failure To Submit Special Report Within 30 Days Due To Personnel Error and Special Report For Inoperable Fire Dampers Abstract: POWER LEVEL - 000%. ON APRIL 19, 1988, WITH NINE MILE POINT UNIT 1 (NMP1) IN A REFUELING OUTAGE, IT WAS IDENTIFIED THAT A SPECIAL REPORT WAS NOT SUBMITTED. OCCURRENCE REPORT 88-317, INITIATED ON APRIL 3, 1988, ADDRESSED THREE FIRE DAMPERS THAT WERE IDENTIFIED AS BEING INOPERABLE DURING SURVEILLANCE TEST N1-FST-FPP-C002 (FIRE DAMPER OPERATION AND INSPECTION). WHEN REVIEWING THE OCCURRENCE REPORT, IT WAS DISCOVERED THAT THE SPECIAL REPORT, WHICH WAS REQUIRED DUE TO THE DAMPERS BEING INOPERABLE FOR GREATER THAN 14 DAYS, WAS NOT SUBMITTED ON TIME. TWO OF THE THREE FIRE DAMPERS WERE IDENTIFIED AS BEING INOPERABLE ON FEBRUARY 18, 1988. BASED ON THIS DATE, A SPECIAL REPORT SHOULD HAVE BEEN SUBMITTED ON APRIL 1, 1988. THE ROOT CAUSE FOR THIS EVENT WAS DETERMINED TO BE A PERSONNEL ERROR BY THE FIRE DEPARTMENT, CAUSED BY A PROCEDURAL DEFICIENCY. PROCEDURE ACCEPTANCE CRITERIA DID NOT REQUIRE THAT UNSATISFACTORY DAMPERS ARE LOGGED IN THE FIRE DEPARTMENT'S OCCURRENCE REPORT LOG OR THAT BREACH PERMITS ARE INITIATED. CORRECTIVE ACTIONS INCLUDE INITIATION OF AN OCCURRENCE REPORT, REVISING PROCEDURE N1-FST-FPP-C002, AND REVIEWING ALL FIRE TECHNICAL SPECIFICATION PROCEDURES FOR SIMILAR PROBLEMS.
Nine Mile Point 1	04/27/1988	05/26/1988	Failure to Establish a Fire Watch Patrol Due to a Personnel Error Resulting in a Technical Specification Violation Abstract: POWER LEVEL - 000%. ON APRIL 27, 1988, AT 0830 HOURS, WITH NINE MILE POINT UNIT 1 (NMP1) SHUTDOWN AND THE CORE OFF LOADED, IT WAS REPORTED THAT THE TECH SPEC REQUIREMENT OF ESTABLISHING A 1 HOUR FIRE WATCH PATROL FOR THE TWO NONFUNCTIONAL FIRE BARRIER PENETRATIONS WAS NOT IMMEDIATELY ESTABLISHED. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE A PERSONNEL ERROR DUE TO MISCOMMUNICATION. IMMEDIATE CORRECTIVE ACTIONS INCLUDED VERIFICATION OF DETECTION IN THE AFFECTED AREAS AND ESTABLISHING A FIRE WATCH PATROL FOR THE NONFUNCTIONAL PENETRATIONS, ESTABLISHING A FIRE WATCH PATROL ON ALL TECHNICAL SPECIFICATION RATED BARRIERS FOR AS LONG AS THE INSPECTION OF THESE BARRIERS BY THE ENGINEERING DEPARTMENT CONTINUES, COUNSELING OF THE PERSONNEL INVOLVED AND ISSUING A STATION SHIFT SUPERVISOR INSTRUCTION TO ENSURE THAT THE FIRE DEPARTMENT IS FULLY INFORMED ON ALL MATTERS RELATING TO THEM. ADDITIONAL CORRECTIVE ACTION WILL INCLUDE GENERATING A PROCEDURE EVALUATION REQUEST FOR THE OCCURRENCE REPORT PROCEDURE TO EVALUATE THE NEED FOR AFFECTED DEPARTMENT NOTIFICATION, AND ISSUING A LESSONS LEARNED TRANSMITTAL INSTRUCTING OPERATIONS PERSONNEL TO ENSURE THAT TECHNICAL SPECIFICATION REQUIREMENT ACTIONS ARE TAKEN.
Nine Mile Point 1	04/30/1989	05/30/1989	Missed Fire Patrol Resulting in Technical Specification Violation Due to Inadequate Administrative Control Abstract: POWER LEVEL - 000%. ON 4/30/89, IT WAS DETERMINED THAT A FIRE WATCH PATROL WAS NOT MAINTAINED IN ACCORDANCE WITH TECH SPECS FOR A FIRE DETECTION SYSTEM WHICH HAD BEEN REMOVED FROM SERVICE. THE NINE MILE POINT UNIT 1 (NMP1) NUCLEAR STATION WAS IN A COLD SHUTDOWN CONDITION WITH THE CORE OFF-LOADED ON THIS DATE. THE ROOT CAUSE WAS DETERMINED TO BE INADEQUATE ADMINISTRATIVE CONTROL GOVERNING THE MANNER IN WHICH ADDITIONAL FIRE DETECTION ZONES ARE ADDED TO AN EXISTING FIRE DETECTION MARK-UP. AN ADDITIONAL FACTOR COULD BE ATTRIBUTED TO A BREAKDOWN IN VERBAL COMMUNICATION BETWEEN THE CONTROL ROOM CHIEF SHIFT OPERATOR AND THE FIRE CHIEF. THE INITIAL CORRECTIVE ACTION WAS TO ESTABLISH A FIRE WATCH PATROL FOR THE FIRE DETECTION ZONE WHICH WAS OUT OF SERVICE, AND TO PROVIDE WRITTEN DIRECTION TO THE CONTROL ROOM REQUIRING THAT ADDITIONS TO EXISTING FIRE DETECTION MARK-UPS BE ROUTED THROUGH THE FIRE CHIEF. OPERATIONS DEPARTMENT INSTRUCTION N1-ODI-5.06 WILL BE REVISED TO INCORPORATE THIS WRITTEN DIRECTION, AND TO REQUIRE THE CHIEF SHIFT OPERATOR TO DOCUMENT THE NOTIFICATION TO THE FIRE CHIEF.
Nine Mile Point 1	05/17/1989	06/16/1989	Missed Fire Patrol Resulting in Technical Specification Violation Due to Cognitive Personnel Error Abstract: POWER LEVEL - 000%. ON MAY 17, 1989, IT WAS DISCOVERED THAT A TECHNICAL SPECIFICATION VIOLATION HAD OCCURRED. THE VIOLATION WAS THAT AN HOURLY FIRE WATCH WAS NOT MAINTAINED IN AN AREA WITH INOPERABLE FIRE DETECTION. THE NINE MILE POINT UNIT 1 (NMP1) NUCLEAR STATION WAS IN A COLD SHUTDOWN CONDITION WITH THE CORE OFF LOADED AT THE TIME OF THIS DISCOVERY. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE COGNITIVE PERSONNEL ERROR DUE TO A LACK OF ATTENTION TO DETAIL. A CONTRIBUTING FACTOR WAS DETERMINED TO BE HABIT INTRUSION IN THAT PERSONNEL OVERLOOKED A SUBTLE CHANGE TO A ROUTINE PATROL. INITIAL CORRECTIVE ACTION WAS TAKEN WHICH REQUIRES THAT PERSONNEL CHECK OFF ON THE FIRE PATROL CHECK SHEET NEXT TO EACH SPECIFIC PATROL LOCATION DESCRIPTION. THE PATROL CHECK SHEETS ARE RETURNED TO THE FIRE CHIEF AT THE END OF EACH WATCH ROTATION. EMPLOYEE COUNSELING WAS PERFORMED AND A LESSONS LEARNED TRANSMITTAL WILL BE ISSUED FOR REVIEW BY FIRE DEPARTMENT PERSONNEL TO REITERATE THE IMPORTANCE OF CLOSE ATTENTION TO DETAIL. ADDITIONAL CORRECTIVE ACTION WILL BE TO REVISE THE CURRENT PROGRAM TO ALLOW FOR THE OPTION OF A GENERAL PATROL WHEN NUMEROUS IMPAIRMENTS EXIST. THE PATROL WILL COVER ALL TECHNICAL SPECIFICATION AREAS AT A FREQUENCY TO MAINTAIN COMPLIANCE WITH TECHNICAL
Nine Mile Point 1	06/09/1989	07/10/1989	Missed Fire Patrol Resulting in Technical Specification Violation Due to Procedure Inadequacy and Miscommunications Abstract: POWER LEVEL - 000%. ON 6/9/89, IT WAS DETERMINED THAT A FIRE WATCH PATROL WAS NOT ESTABLISHED ON JUNE 6, 1989, IN ACCORDANCE WITH PLANT TECH SPECS. WAS IN A COLD SHUTDOWN CONDITION WITH THE CORE OFF-LOADED. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE AN INADEQUATE ADMINISTRATIVE CONTROL PROCESS GOVERNING THE REQUEST AND ISSUANCE OF FIRE PROTECTION/DETECTION EQUIPMENT MARK-UPS. A CONTRIBUTING FACTOR WAS DETERMINED TO BE MISCOMMUNICATION. CORRECTIVE ACTION WAS TO INITIALLY ESTABLISH A FIRE WATCH PATROL FOR FIRE DETECTION ZONE IN QUESTION. ON JUNE 11, 1989, A GENERAL PATROL WAS ESTABLISHED AS A TEMPORARY MEASURE DURING THIS PERIOD OF INCREASED MAINTENANCE, WHICH WILL COVER ALL TECH SPEC AREAS REGARDLESS OF DETECTION SYSTEM STATUS. ADDITIONALLY, THE PROCESS FOR REMOVING FIRE DETECTION FROM SERVICE TO FACILITATE UNRELATED MAINTENANCE ACTIVITIES WILL BE MODIFIED. A LESSONS LEARNED TRANSMITTAL WILL BE ISSUED AND WILL EMPHASIZE CONTROL ROOM ACCOUNTABILITY FOR ENSURING TECH SPEC COMPENSATORY ACTION IS INITIATED. PROCEDURE N1-ODI-5.06 HAS BEEN REVISED TO REQUIRE THE REQUEST FOR PREARRANGED OUTAGE OF EQUIPMENT FORM TO BE RE-ROUTED TO THE FIRE CHIEF IF ANY CHANGES OR ADDITIONS ARE MADE. THE PROCEDURE WILL ALSO REQUIRE
Nine Mile Point 2	11/12/1986	07/07/1987	Fire Watch Patrol Surveillance Requirements Exceeded Abstract: POWER LEVEL - 000%. During a routine internal audit of Fire Department records at Nine Mile Point Unit 2, it was discovered that Surveillance Requirements for Fire Rated Assemblies as defined by Technical Specifications had been exceeded on two separate occasions on November 12, 1986. At the time of the event Nine Mile Point Unit 2 was in its initial fuel load phase with the mode switch in the 'REFUEL' position. The first event was due to cognitive personnel error. It occurred when a Fire Watch Patrol failed to verify an hourly surveillance in the Control Complex Building by recording the date and time of the surveillance on the 'Fire Watch Sign In Sheet' posted in the area. The fireman performing the patrol was doing so at shift change and was not familiar with the patrol route. The event duration was 22 minutes. The second event was also due to cognitive personnel error. A Fire Watch Patrol failed to maintain an hourly surveillance at the Steam Tunnel due to a mistake when updating a status board of inoperable fire rated assemblies. The event duration was 1 hour and 23 minutes. The importance of maintaining hourly fire watch patrols has been reemphasized to Fire Department personnel and Fire Department Fire Watch Patrol methods are being revised to help eliminate such events from reoccurring in the future.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Nine Mile Point 2	11/17/1986	07/07/1987	Inoperable Fire Barriers Abstract: POWER LEVEL - 000%. On November 17, 1986 with the reactor at 0% power and the mode switch in 'REFUEL', operations at Nine Mile Point Unit 2 (NMP2) suspended control rod testing (single rod withdrawals). This decision was based on the uncertainty of secondary containment integrity due to the discovery of potential breaches in various safety related fire barriers without the exact number or locations of these breaches being known. penetrations crossed secondary containment boundaries, control rod testing resumed. However, the breached fire barriers did constitute a violation of Technical Specification Section 3.7.8, 'Fire Rated Assemblies'. Corrective Actions Taken (1) Fire watch patrols have been established in the affected fire zones. (2) All breaches possible were sealed per NMP2 Modification PN2Y86MX142. (3) As a fire zone is brought into compliance with FSAR section 9A.3.5.1.2 the fire watch patrol in that fire zone will be removed. (4) A letter has been issued to all project supervision to ensure all open items are properly identified on formal tracking systems.
Nine Mile Point 2	12/23/1986	07/07/1987	Technical Specification Violation Due to Inoperable Fire Detector Abstract: POWER LEVEL - 000%. During a routine inspection of fire detection control panels by the Fire Department at Nine Mile Point Unit 2 on December 23, 1986, an inoperable fire detector was discovered. Further investigation showed that no fire watch patrol had been established in the area of the inoperable fire detector and a Limiting Condition for Operation as defined by Technical Specifications had been violated for Fire Detection Instrumentation. At the time of the event the plant was in the cold shutdown condition with the mode switch in the 'SHUTDOWN' position. The fire detector was noted by Niagara Mohawk Fire Department personnel as operable but having a lower than normal sensitivity on December 21, 1986. On December 22, 1986 a Work Request was initiated to replace and retest the troubled detector. Before the detector could be replaced per the Work Request it was erroneously removed from its base and placed in its corresponding fire detector control panel thus rendering it inoperable. On December 23, 1986 the inoperable detector was discovered during another routine inspection of fire detection control panels and a fire watch patrol was immediately established thus ending the event. A conservative estimate of the event duration is 62 hours 40 minutes. To prevent similar events from occurring in the future a Fire Detection Surveillance Procedure is being developed which will establish guidelines to maintain the fire detection control panels in service.
Nine Mile Point 2	01/27/1987	07/07/1987	CO2 Fire Suppression System Technical Specification Violation Abstract: POWER LEVEL - 000%. During a routine mark-up (tag out) of a carbon dioxide (CO(2)) fire suppression system at Nine Mile Point Unit 2 on January 27, 1987, a Limiting Condition for Operation as defined by Technical Specification 3.7.7.3.a was violated. The violation occurred when a CO(2) system was tagged out of service and the required compensatory measures (i.e., a continuous fire watch) were not established within one hour. At the time of the event, the plant was in the cold shutdown condition with the mode switch in the 'SHUTDOWN' position. The event was caused by a misinterpretation of communication between the Chief Shift Operator (CSO) and Station Shift Supervisor (SSS) on duty. The CSO interpreted a request by the SSS to complete a mark-up sheet for the CO(2) system as a verbal approval to actually tag the system out of service. The SSS is responsible for reviewing all mark-up sheets for applicable Technical Specifications and notifying the proper department to whom they apply. The SSS did not review the completed mark-up sheet before the CSO hung the mark-up tags and thus did not notify the Fire Department to establish a fire watch. The duration of the event was approximately 72 minutes. To prevent similar events from occurring in the future, all Operations personnel shall be notified in writing
Nine Mile Point 2	02/22/1987	03/24/1987	Technical Specification Violation Due to Missed Fire Watch Patrol Abstract: POWER LEVEL - 000%. ON FEBRUARY 22, 1987 A LIMITING CONDITION FOR OPERATION (LCO) AS DEFINED BY PLANT TECHNICAL SPECIFICATION 3.3.7.8.B WAS VIOLATED AT NINE MILE POINT UNIT 2. THE LCO DETAILS ACTIONS WHICH MUST BE TAKEN WHEN CERTAIN FIRE DETECTION INSTRUMENTATION IS INOPERABLE. AT THE TIME OF THE INCIDENT NINE MILE POINT UNIT 2 WAS IN THE COLD SHUTDOWN CONDITION WITH THE MODE SWITCH IN THE 'SHUTDOWN' POSITION. THE LCO VIOLATION OCCURRED AS A RESULT OF FAILING TO MAINTAIN AN HOURLY FIRE WATCH PATROL IN AN AREA WHICH HAD AN INOPERABLE FIRE DETECTION SYSTEM. THE CAUSE OF THE EVENT HAS BEEN DETERMINED TO BE THE DECISION OF FIRE DEPARTMENT PERSONNEL TO CHANGE A FIRE WATCH PATROL ROVER SCHEDULE WITHOUT NOTIFYING THE FIRE CHIEF ON DUTY. ALSO INVOLVED IN THE EVENT WAS AN INCORRECT ASSUMPTION BY THE SAME GROUP OF PERSONNEL ABOUT THE STATUS OF A FIRE WATCH PATROL SIGN-IN SHEET IN THE AREA WHERE THE EVENT OCCURRED. TO PREVENT FURTHER EVENTS OF THIS TYPE FROM OCCURRING AGAIN IN THE FUTURE, THE FIRE DEPARTMENT POLICY WHICH DETAILS ACTIONS THAT WOULD HAVE PREVENTED THIS EVENT HAS BEEN RE-EMPHASIZED TO THE AFFECTED PERSONNEL. THE NEED FOR DISCIPLINARY ACTION IS ALSO BEING REVIEWED BY NIAGARA MOHAWK. THE CONTENTS OF THIS LER WILL ALSO BE REVIEWED WITH FIRE DEPARTMENT PERSONNEL DURING THEIR NORMAL
Nine Mile Point 2	02/26/1987	06/24/1987	Inoperable Fire Barriers due to Improperly Sealed Penetrations - Personnel Error Abstract: POWER LEVEL - 000%. ON FEBRUARY 26, 1987 WITH THE REACTOR IN COLD SHUTDOWN (OPERATIONAL CONDITION 4), AND AT AMBIENT TEMPERATURE AND PRESSURE, AN ABANDONED PENETRATION IN A FIRE WALL BETWEEN THE SECONDARY CONTAINMENT AND THE MAIN STEAM TUNNEL WAS DETERMINED TO BE IMPROPERLY SEALED. THE SEAL IN THIS PENETRATION DID NOT MEET THE FIRE RATING REQUIREMENTS OF THE FIRE WALL. THEREFORE, THIS RATED FIRE WALL WAS INOPERABLE AS DEFINED BY NINE MILE POINT UNIT 2 TECHNICAL SPECIFICATION SECTION 3.7.8. SUBSEQUENT TO THIS EVENT A REVIEW OF ALL ABANDONED AND SPARE PENETRATIONS WAS CONDUCTED AT NINE MILE POINT UNIT 2. AS A RESULT, SEVEN ADDITIONAL PENETRATIONS WERE FOUND WITH SEALS NOT MEETING THE FIRE RATING REQUIREMENTS OF THE FIRE BARRIER. THE PROBABLE ROOT CAUSE FOR THIS EVENT IS PERSONNEL ERROR. THE CORRECTIVE ACTIONS TAKEN ARE: 1. A REVIEW OF ALL ABANDONED AND SPARE PENETRATIONS HAS BEEN CONDUCTED. THIS REPORT DISCUSSES THE RESULTS FROM THAT REVIEW. 2. FIRE WATCH PATROLS HAD BEEN IMMEDIATELY ESTABLISHED IN THE AFFECTED FIRE ZONES AFTER THE FIRE DETECTION SYSTEM FOR THAT AREA WAS VERIFIED TO BE OPERABLE. 3. ALL UNSATISFACTORY ABANDONED PENETRATIONS HAVE SINCE BEEN SATISFACTORILY SEALED.
Nine Mile Point 2	03/16/1987	04/10/1987	Inoperable Fire Rated Floor Due to a Breached Penetration Abstract: POWER LEVEL - 000%. ON MARCH 16, 1987 WITH THE REACTOR IN COLD SHUTDOWN (OPERATIONAL CONDITION 4), AND AT AMBIENT TEMPERATURE AND PRESSURE, A BREACHED PENETRATION WAS DISCOVERED THROUGH A FIRE RATED FLOOR IN THE AUXILIARY SERVICE BUILDING ON ELEVATION 237. AS A RESULT OF THIS BREACHED PENETRATION, THE FIRE RATED FLOOR WAS DETERMINED NOT TO BE OPERABLE AS DEFINED BY NINE MILE POINT UNIT 2 TECHNICAL SPECIFICATION SECTION 3.7.8, 'FIRE RATED ASSEMBLIES'. THE BREACHED PENETRATION WAS A RESULT OF PERSONNEL ERROR. CORRECTIVE ACTIONS: 1. A FIRE WATCH PATROL WAS IMMEDIATELY ESTABLISHED IN THE AFFECTED PENETRATION AREA. 2. THE PENETRATION HAS BEEN SATISFACTORILY SEALED. 3. CONTRACTOR AND NIAGARA MOHAWK CONSTRUCTION PERSONNEL HAVE BEEN INFORMED VIA PROJECT CORRESPONDENCE, AND BY BULLETIN BOARD POSTINGS, OF THE IMPORTANCE OF OBTAINING BREACH PERMITS WHEN BREACHING OR REMOVING MATERIAL FROM PENETRATIONS. THIS TOPIC WILL ALSO BE DISCUSSED IN THEIR PERIODIC SAFETY MEETINGS. 4. THIS REPORT WILL BE DISCUSSED IN THE NINE MILE POINT GENERAL EMPLOYEE TRAINING PROGRAM.
Nine Mile Point 2	06/18/1987	07/13/1987	Fire Watch Inappropriately Suspended Which Results in a Technical Specification Violation - Personnel Error Abstract: POWER LEVEL - 000%. ON JUNE 18, 1987 AT 1150 WITH THE REACTOR IN COLD SHUTDOWN (OPERATIONAL CONDITION 4), A FIRE WATCH WAS INAPPROPRIATELY TERMINATED WHILE THE DETECTION IN TWO FIRE ZONES WAS INOPERABLE. THIS ACTION RESULTED IN A VIOLATION OF THE NINE MILE POINT UNIT 2 (NMP2) TECHNICAL SPECIFICATION SECTIONS 3.3.7.8 AND 3.7.7.2. THE FIRE DETECTION IN THESE FIRE ZONES WAS RESTORED TO AN OPERABLE STATUS AT 1345 WHICH ENDED THIS EVENT. THE ROOT CAUSE FOR THIS EVENT IS PERSONNEL ERROR. THE CORRECTIVE ACTIONS TAKEN SUBSEQUENT TO THIS EVENT ARE: 1. LOG ENTRY REQUIREMENTS HAVE BEEN REVISED FOR THE FIRE CHIEFS' LOG BOOK. 2. AN IMPROVED STATUS BOARD WILL BE PROCURED AND SHALL BE LOCATED IN THE FIRE DEPARTMENT OFFICE. THE ANTICIPATED IMPLEMENTATION DATE IS SEPTEMBER 15, 1987. 3. A LESSONS LEARNED PROGRAM, BEING PREPARED BY THE FIRE DEPARTMENT SUPERVISION, WILL BE IMPLEMENTED FOR THE NMP2 FIRE DEPARTMENT. THE ANTICIPATED IMPLEMENTATION DATE IS AUGUST 1, 1987. 4. MEETINGS DISCUSSING FIREMAN RESPONSIBILITY AND CONDUCT HAVE BEEN HELD WITH THE FIRE DEPARTMENT PERSONNEL INVOLVED IN THIS EVENT. 5. THIS REPORT WILL BE DISCUSSED IN FIRE DEPARTMENT TRAINING.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Nine Mile Point 2	12/19/1987	04/30/1988	Inoperable Fire Barrier due to a Breached Floor Plug Installation - Construction Deficiency/Personnel Error Abstract: POWER LEVEL - 000%. ON 12/19/87 AT 1100 WITH THE REACTOR IN COLD SHUTDOWN (OPERATIONAL CONDITION 4, AN UNSATISFACTORY FLOOR PLUG INSTALLATION WAS DISCOVERED IN A FIRE RATED FLOOR IN THE DIVISION 2 VENTILATION ROOM LOCATED ON CONTROL BUILDING (CB) ELEVATION 306. THE INSTALLATION, DISCOVERED BY THE NINE MILE POINT UNIT 2 (NMP2) FIRE DEPARTMENT, CONSTITUTED AN APPENDIX R VIOLATION. AS A RESULT OF THIS EVENT AN ENGINEERING EVALUATION WAS CONDUCTED WHICH IDENTIFIED TWO OTHER POTENTIALLY UNSATISFACTORY APPENDIX R FLOOR PLUG INSTALLATIONS ON JANUARY 14, 1988. IN EACH CASE, THE FIRE RATED FLOORS WERE DECLARED INOPERABLE AND FIRE WATCH PATROLS WERE IMMEDIATELY ESTABLISHED. REVISION ZERO OF LER 87-74 ORIGINALLY REPORTED THAT THESE INSTALLATIONS WERE DEFICIENT AS A RESULT OF A DESIGN DEFICIENCY. UPON FURTHER ANALYSIS BY A CONTRACTOR'S ENGINEERING DEPARTMENT IT WAS DETERMINED THAT THE INSTALLATION DESIGN WAS ACCEPTABLE. HOWEVER, OF THE THREE APPENDIX R FLOOR PLUGS IDENTIFIED AS POTENTIALLY UNSATISFACTORY, TWO OF THEM WERE ACTUALLY IN A DEFICIENT CONFIQURATION DUE TO SEALANT BEING REMOVED FROM THE INSTALLATIONS. THIS WAS CAUSED BY A CONSTRUCTION DEFICIENCY AND PERSONNEL ERROR. THE CORRECTIVE ACTIONS FOR THIS EVENT ARE: (1) FIRE WATCH PATROLS WERE ESTABLISHED IN THE
Nine Mile Point 2	08/26/1997	09/23/1997	Potential Spurious Actuation of RWCU High Pressure/Low Pressure Interface Valves Abstract: On August 26, 1997, Niagara Mohawk (NMPC) determined that a fire in the Nine Mile Point Unit 2 (NMP2) Reactor Building elevation 328 could potentially have caused spurious actuation of the Reactor Water Cleanup System (RWCU) high pressure/low pressure interface valves. This is contrary to the requirements of 10CFR50 Appendix R Section III G. This condition would occur only if offsite power was available, since these valves automatically close upon loss of power or loss of air. The cause of this event has been determined to be personnel error during the original evaluation of NMP2 for compliance to 10CFR50 Appendix R. Immediate corrective action was to place a fire watch in the affected fire zone.
Nine Mile Point 2	03/18/1999	04/19/1999	NMP2 Service Water Intake De-Icing Heater Control Circuits do not Meet Fire Protection Program Requirements Abstract: On March 18, 1999, with Nine Mile Point Unit 2 in full power operations, engineering personnel determined that the service water system intake de-icing heater control circuits were not included in Updated Final Safety Analysis Report, Appendix 9B, Table 9B.8-3, Appendix R Control Room/Relay Room Fire Analysis. Further review of the design confirmed that a control room/relay room fire could render the intake de-icing heaters inoperable. The root cause was that the architect/engineering firm design staff did not identify the control circuit isolation requirements for service water operation during a control room/relay room fire. Corrective actions include establishing a fire watch patrol and implementing a design change. Niagara Mohawk Power Corporation is evaluating additional preventive actions to be described in a supplement to LER 99-01.
North Anna 1	10/27/1980	11/24/1980	Fire Doors (S71-7, 17 and 19) were Nonfunctional Abstract: Fire doors (S71-7, 17 and 19) were determined nonfunctional by their inability to fully close and latch on a free swing from fully open. Excessive use due to heavy traffic caused door hardware to fail. A fire watch was posted on each of the affected doors and, as a temporary repair, necessary hardware was adjusted to enable the doors to operate correctly.
North Anna 1	12/21/1980	01/14/1981	The Door Failed to Close Properly Due to a Misalignment in the Door Hardware Abstract: Fire door S94-6, between the mechanical equipment room and cable spreading room, was found to be non-functional due to an inability to close properly and because of a hole in the door. The shift supervisor was not aware of the discrepancy until 5 hours later and as a result a fire watch was not established within the 1 hour requirement time of tech spec. The hole resulted from the previous removal of the door knob for relocation and the failure of the door to close properly was caused by misaligned hardware. The shift supervisor posted a fire watch and the door was repaired by installing a cover plate over the hole and adjusting the door hardware.
North Anna 1	02/23/1981	03/18/1981	The Door Hinges Worked Loose Causing a Misalignment Between Door and Frame Abstract: Auxiliary building stairwell fire door A74-5 at elevation 274 was found to be non-functional due to an inability to fully close and latch. Due to heavy traffic, the door hinges worked loose causing a misalignment between door and frame. To prevent the door from working itself loose and pulling away from the frame, each hing was tack welded to the door jamb. The fire door was then functionally inspected and determined acceptable.
North Anna 1	04/14/1981	05/15/1981	Failure of Fire Damper Shutting Abstract: The fire damper between Unit 1 and 2 cable tunnels failed to shut during an operational inspection. Within one hour, the fire detectors were verified operational and a fire watch was posted. The fire damper failed to shut due to binding of the trip cable and misalignment of the door within its track. An engineering work request was initiated to propose a solution to improve operability of the damper. The modification has not been incorporated at this time.
North Anna 1	07/09/1981	08/06/1981	All Unit 1 and Unit 2 Battery Room Exhaust Fire Dampers were Non-Functional Abstract: It was determined that all Unit 1 and Unit 2 battery room exhaust fire dampers were non-functional since the fire damper fusible links were not located within the air flow path. The fusible links were located behind the damper and were not in the ventilation air flow path. An engineering work request was submitted to modify the fire dampers to position the fusible link within the air stream and to maintain the damper in the open position by the use of a trip latch.
North Anna 1	11/16/1981	12/02/1981	Emergency Diesel Generator Room Fire Door Replaced Abstract: The 1H Emergency Diesel Generator Room Fire Door was removed to be replaced. A fire watch was established for duration of the evolution. The door was replaced due to damage sustained when the door closes during diesel generator operation. The room is at a pressure lower than ambient due to the diesel generator cooling and combustion air being exhausted from the room. The door was replaced and a design modification is currently under engineering analysis to prevent recurrence.
North Anna 1	12/03/1981	12/30/1981	Latching Mechanism Failure or by Door Misalignment Abstract: The doors between the Rod Drive Room and the Auxiliary Building would not close and latch automatically. The 'A' Fuel Oil Pumphouse door could not be closed. These doors are fire boundary penetrations and were declared inoperable as per Tech. Spec. 3.7.5. These events were caused by closure and latching mechanism failure or by door misalignment. These failures are due to heavy traffic through the doors. A fire watch was posted and the doors repaired.
North Anna 1	01/16/1982	02/09/1982	The Emergency Diesel Generator Access Door Loose Abstract: The 1J Emergency Diesel Generator access door would not latch. A fire watch was posted immediately and the latch plate was repositioned. The latch cover plate became loose, preventing the door from latching properly. The latch plate was repositioned to allow the door to latch normally. The latch was subsequently repaired by the mechanical maintenance department.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

North Anna 1	02/01/1982	03/01/1982	Both Doors Failed Due to inadequately Lubricated Latching Mechanisms and Adjustment Abstract: On February 1, 1982, and again on February 8, the Fire Door between the Rod Drive Room (M 80/1) and the outside would not latch. On February 3, 1982 with Unit No. 1 at 100% power, the 1H Emergency Diesel Generator access door would not latch. Both doors initially failed due to inadequately lubricated latching mechanisms and door M 80/1 required adjustment of the reclosure mechanism. Each latch was disassembled, cleaned, lubricated and placed back in service. The following week door M 80/1 required further adjustment of the reclosure mechanism to fully shut and latch the door. After each event the doors were verified to operate properly.
North Anna 1	02/14/1982	03/15/1982	The Failure of Closures and Latching Mechansims Due to Excessive Use Abstract: On February 14, 1982, during Mode 1 operation, fire door S7107 was declared inoperable. On February 16, 1982, fire doors a19-1 and A44-1 were declared inoperable. These events are contrary to Tech. Specs. 3.7.15 and reportable pursuant to Tech. Spec. 6.9.1.9.b. A fire watch was posted in each event as required by the action statement. These events were caused by the failure of closures and latching mechanisms due to excessive use. The latches and closures were readjusted or repaired and the doors declared operable.
North Anna 1	04/19/1982	05/07/1982	The Fire Door Between Emergency Diesel Generator Room and the Turbine Building was Declared Inoperable Abstract: Fire door S71-17 between the 1J Emergency Diesel Generator Room and the Turbine Building was declared inoperable because it would not close and latch without assistance. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.b. The door would not close completely because it was slightly warped. This type of damage is sustained while closing the door during diesel operation with pressure in the room less than atmospheric. The closure device was readjusted and the door verified to operate properly.
North Anna 1	04/30/1982	05/24/1982	An Abnormal Ventilation Lineup in the Emergency Switchgear Room Abstract: OnAapril 30, 1982, the fire door between the Unit 2 Control Room Chiller Room and the Air Handling Room (S-54-13) would not close and latch automatically. On May 5, 1982 the fire door between the 1J Emergency Diesel Generator Room and the Turbine Building (S-71-17) would not latch. These events are contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. The first event occurred as a result of an abnormal ventilation lineup in the Emergency Switchgear Room. A fire watch was posted until the ventilation was restored to normal. The second event was caused by a faulty latch. The latch was repaired and the door verified to operate properly.
North Anna 1	05/17/1982	06/15/1982	The Emergency Diesel Generator Room and the Turbine Building were Declared Inoperable because it would not Latch Abstract: Fire door S71-17 between the 1J emergency Diesel Generator room and the turbine building was declared inoperable because it would not consistently latch. Fire door S71-17 was declared inoperable because it would not close without assistance. These events are reportable pursuant to Tech Spec 6.9.1.9.b. For the May 17 event, the latch was found sticking. The latch was lubricated and operability verified. For the may 20 event, an adjustment set screw in the closure mechanism was found to be loose. The screw was tightened and the door verified operable.
North Anna 1	05/25/1982	06/15/1982	The Fire Door Blocked Open bye Air and Electrical Lines Abstract: Fire Door M80-1 between the Rod Control Room and the outside was found blocked open without a fire watch. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. The fire door in question was found blocked open by air and electrical lines. The blocks were removed and the door closed. Subsequent action included informing the responsible maintenance and construction personnel of the need to follow procedures when blocking open a fire door.
North Anna 1	06/12/1982	07/07/1982	The Reclosure Mechanism was out of Adjustment Abstract: On June 12, 1982, Fire Door S54-8 between the Unit 1 and 2 Emergency Switchgear Rooms failed to close automatically. On June 17, 1982, Fire Door S71-7 between the clean change room and the auxiliary building failed to close automatically. These events are contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. Fire Door S54-8 would not close because the reclosure mechanism was out of adjustment. The reclosure device was adjusted and the door verified operable. Fire Door S71-7 would not close because of door misalignment and a faulty reclosure device. The reclosure device and door hinges were adjusted and the door verified operable.
North Anna 1	06/17/1982	07/07/1982	The Emergency Switchgear Room and Cable Vault was found Blocked Open without a Fire Watch Abstract: Fire Door D54-5 between the emergency switchgear room and the cable vault was found open without a fire watch. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. The fire door in question was found blocked open by air lines and welding leads. A fire watch was posted and construction personnel instructed not to block open fire doors without a fire watch. In other action, station management consulted construction management about the above event. Construction agreed to address the problem more vigorously in the future.
North Anna 1	08/05/1982	08/26/1982	The Fire Door was out of Adjustment Abstract: On August 5, 1982, Fire Door S71-19 between the 1H Emergency Diesel Generator Room and the Turbine Building would not latch. On August 6, 1982, Fire Door S54-2 between the Unit 1 Air Handler Room and Chiller Room would not close automatically. These events are reportable pursuant to Tech Spec 3.8.15. The latch on Fire Door S71-19 was out of adjustment. The latch was adjusted and the operation of the door verified. Fire Door S54-2 and S54-13 (unit 1 and 2 respectively) would not close because the door reclosure devices could not overcome the differential pressure between the chiller room and air handler room. The devices were readjusted and door operability verified.
North Anna 1	11/15/1982	12/01/1982	The Pneumatic Actuation Devices Failed Abstract: It was discovered that the Fuel Oil Pump House Heat Detectors (both rooms 1 and 2) had not been functionally tested within the past 6 months, a requirement of Tech Spec 4.3.3.7.1. While testing the heat detectors, the High Pressure CO(2) System automatic actuated valves failed to operate. A fire watch was immediately posted. These events are reportable pursuant to Tech Spec 6.9.1.9.b and c. The reason the heat detectors were not functionally tested was personnel error. The pneumatic actuation devices failed because they were mechanically bound. The scheduling error was corrected on the periodic test schedule and the CO(2) actuation release devices were disassembled, cleaned, reassembled and satisfactorily retested.
North Anna 1	03/04/1983	03/28/1983	Fire Door not Closed Abstract: On March 4, 1983, with Unit 1 in Mode 3, fire door S71-17 between the 1J emergency diesel generator room and the turbine building was declared inoperable because it would not close and latch without assistance. A fire watch was immediately posted. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. The door would not close completely because it was slightly warped. This type of damage is sustained while closing the door during diesel operation with pressure in the room less than atmospheric. The closure device was readjusted and the door verified to operate properly.
North Anna 1	04/11/1983	05/10/1983	Fire Door Malfunctions Abstract: On Apr. 11, 1983, with Unit 1 in Mode 1, fire door S-71-7 between the service building health physics area and the auxiliary building would not self close. Initially, no fire watch was posted because repairs to the door had commenced without notifying the shift supervisor. Many people constantly travel this area and there was no challenge to the fire barrier. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to tech spec 6.9.1.9.b. The door would not self close because the reclosure device had been removed for maintenance on the closure coupling (pull back from frame to door). The coupling was loose, misaligned and caused difficulties for those using the door. The reclosure device was repaired, reinstalled and proper door operation verified.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

North Anna 1	06/03/1983	06/15/1983	Fire Door Between Emergency Diesel Room and Turbine Building Failed to Close Abstract: On June 3, 1983, with Unit 1 at 100% power, Fire Door S71-19, between the 1H Emergency Diesel Room and the Turbine Building would not close without assistance. A fire watch was posted in accordance with Tech Spec 3.7.15. The degradation of fire doors between the Emergency Diesel Rooms and the Turbine Building due to differential pressure between the areas during diesel operation is a recurring event. This event is reportable pursuant to Tech Spec 6.9.1.9b. Fire Door S71-18 would not self close because the reclosure mechanism had worked its way out of adjustment. The mechanism was readjusted and door operation tested satisfactorily. Design modifications to the fire doors between the Diesel Rooms and the Turbine Building are being investigated.
North Anna 1	06/14/1983	06/30/1983	Fire Door Would not Latch Abstract: On June 14, 1983, with Unit 1 at 100% power, Fire Door S54/5 from the Unit 1 Emergency Switchgear Room to the Cable Vault would not latch. A fire watch was posted immediately and the latch was repaired. This event is in compliance with the Action Statement of Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. The fire door would not latch due to a misaligned strike. A continuous fire watch was posted immediately. The door was repaired and declared operable within 1 hour.
North Anna 1	09/03/1983	09/28/1983	Fire Door Fails to Latch Abstract: On September 3 and 12, 1983, Fire Door S71-19, between the 1H Emergency Diesel Room and the Turbine Building, would not latch. A fire watch was immediately posted. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. Fire Door S71-19 would not latch because of a failed latching mechanism (September 3), and misalignment, (September 12). The latch was repaired, realigned and operation of the fire door tested satisfactorily. There are no generic implications associated with this event.
North Anna 1	10/11/1983	11/08/1983	Fouling of Pilot Control Valve Prevent HP CO2 System From Discharging Abstract: On Oct. 11, 1983, during a periodic test of the high pressure CO2 system for the Fuel Oil Pump Room #1, the CO2 did not automatically discharge when the temperature sensor was heated above its setpoint. A continuous fire watch was posted within one hour as required by tech spec 3.7.14.3. The system could have been manually discharged and the redundant co2 tanks were available. This event is reportable pursuant to Tech Spec 6.9.2. The high pressure CO2 system for Fuel Oil Pump Room #1 did not discharge during the test due to fouling of a pilot control valve which prevented the valve from operating. The valve was replaced with an identical spare and the system satisfactorily tested within five hours. This event has no generic implications.
North Anna 1	10/13/1983	11/02/1983	Fire Door Fails to Latch Abstract: On October 13, 1983 with Unit 1 in Mode 5, the fire door between the Unit 1 Turbine Building and Unit 2 Emergency Switchgear Room, Fire Door S54/11, failed to latch. A fire watch was posted immediately and the latch was repaired. The Action Statement of the applicable LCO, Tech Spec 3.7.15, was met. This event is reportable pursuant to Tech Spec 6.9.1.9.b. A misaligned striker prevented the door from latching. A continuous fire watch was posted immediately. The door was repaired within 2 hours.
North Anna 1	12/02/1983	12/21/1983	Fire Door Fails to Latch Automatically Abstract: On Dec. 2, 1983, with Units 1 and 2 at 100 percent power, the fire door between the Clean Change room and the Auxiliary Building would not latch automatically. A fire watch was established within one hour and the aAxiliary Building fire protection system is monitored remotely from the control room. This event is within the Action Statement of Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. Several screws securing the hinges to the door had worked loose and four screws were missing which allowed the door to become misaligned. The screws were tightened and missing screws were replaced. The door was aligned and verified to latch automatically within 5 hours. There are no generic implications associated with this event.
North Anna 1	12/09/1983	12/30/1983	Penetration in a Fire Wall Found Open Abstract: On Dec 9, 1983, with Unit 1 at 100% power, an open penetration was discovered in the fire wall between the motor driven auxiliary feedwater pump room and the steam driven auxiliary feedwater pump room. Also, this wall was not included in the Periodic Test used to satisfy Tech Spec 4.7.15.a for unit 1 or 2. A fire watch was established within one hour as required by Tech Spec 3.7.15. This event is reportable pursuant to Tech Spec 6.9.1.9.b and is similar to LER 83-083/03l-0. The penetration was a 1.5 inch conduit containing four 2/C 16 AWG cables that had type lb conduit fittings on either side of the wall. Both lb fittings were missing covers. It can not be determined when the covers were removed. New LB covers were installed within two hours. Monitoring this wall's penetrations has been included in the appropriate Periodic Test Procedure.
North Anna 1	05/02/1984	05/24/1984	10 CFR 50 Appendix R Reanalysis Equipment Discrepancies Abstract: POWER LEVEL - 100%. ON MAY 1, 1984, THE PRELIMINARY RESULTS OF A FIRE PROTECTION PROGRAM REANALYSIS, PROMPTED BY FURTHER INFORMATION OF THE 10 CFR 50 APPENDIX R REQUIREMENTS, WAS SUBMITTED TO NRC/NRR DIVISION OF LICENSING. THIS REPORT INCLUDED A DESCRIPTION OF PROPOSED MODIFICATIONS NECESSARY TO MEET THE APPENDIX R REQUIREMENTS AND SEVERAL INSTANCES WHERE PREVIOUSLY INSTALLED OR PROPOSED MODIFICATIONS REQUIRE UPGRADING. IN ADDITION, 17 EXEMPTION REQUESTS WITH THE REQUIRED JUSTIFICATION WERE ALSO SUBMITTED. THE REANALYSIS FINDINGS INDICATED THAT THERE ARE 6 INSTANCES OF PREVIOUSLY INSTALLED EQUIPMENT NOT MEETING THE REQUIREMENTS OF 10 CFR 50 APPENDIX R. THESE DETERMINATIONS WERE MADE AFTER A REAPPRAISAL OF THE APPENDIX R REQUIREMENTS AND RECENT REGULATORY CLASSIFICATIONS.
North Anna 1	11/27/1984	01/30/1985	Fire Main Pipe Rupture Abstract: POWER LEVEL - 100%. ON NOVEMBER 27, 1984, AT 2102 THE NORTH ANNA FIRE PROTECTION SYSTEM 12-INCH MAIN HEADER RUPTURED CAUSING THE SYSTEM TO BE INOPERABLE. THE RUPTURED SECTION OF PIPE SUPPLIES WATER TO TWO TECH SPEC REQUIRED FIRE HOSE STATIONS (TECH SPEC 3.7.14.5, FIRE HOSE STATIONS F-H-1 AND F-H-3). METALLURGICAL ANALYSIS OF THE PIPE SHOWS THAT THE FIRE PROTECTION PIPE FAILED DUE TO BRITTLE FRACTURE RESULTING IN A TWELVE FOOT CRACK IN ONE SECTION OF THE FLANGED PIPING. THE INITIAL CRACK WAS PROBABLY CAUSED BY DIRECT IMPACT FROM A DIRT COMPACTING TOOL DURING PIPE INSTALLATION. A FIRE PROTECTION SYSTEM PRESSURE TRANSIENT COMBINED WITH THE BRITTLENESS OF THE PIPE AND THE INITIAL DEFECT CAUSED FAILURE OF THE 12' DIAMETER MORTAR LINED PIPE.
North Anna 1	12/17/1984	01/24/1985	Inoperable Fire Detection System In The Unit 1 Emergency Switchgear and Conditioning Rooms Abstract: POWER LEVEL - 100%. ON 12-17-84, WITH UNIT 1 AT 100% POWER, IT WAS DETERMINED WHILE PERFORMING A FIRE DETECTION SYSTEM OPERABILITY TEST PURSUANT TO TECH SPEC 3.3.3.7, THAT THE FIRE DETECTION SYSTEM FOR THE UNIT 1 EMERGENCY SWITCHGEAR AND AIR CONDITIONING ROOMS COULD NOT MEET ITS OPERABILITY REQUIREMENTS. THIS IS BECAUSE AN 'ALARM' CONDITION WILL NOT BE RECEIVED IN THE CONTROL ROOM WHEN A VALID ALARM CONDITION EXISTS IN THIS AREA. A VALID ALARM CONDITION IN THE UNIT 1 EMERGENCY SWITCHGEAR OR AIR CONDITIONING ROOM WILL CAUSE AN 'ALARM' CONDITION TO BE RECEIVED AT THE LOCAL FIRE DETECTION PANEL LOCATED IN THE EMERGENCY SWITCHGEAR ROOM. A VALID ALARM CONDITION IN THIS AREA WILL ALSO CAUSE A BELL TO RING IN THE EMERGENCY SWITCHGEAR ROOM. WHEN THIS BELL IS ENERGIZED, ELECTRICAL INTERFERENCE IN THE BELL CIRCUIT FEEDS BACK INTO THE LOCAL FIRE DETECTION PANEL WHICH THEN DISRUPTS COMMUNICATIONS BETWEEN THE LOCAL FIRE DETECTION PANEL AND THE CENTRAL FIRE DETECTION PANEL IN THE CONTROL ROOM. A FIRE WATCH WAS ALREADY INSPECTING THE AFFECTED AREA AT LEAST ONCE PER HR (REQUIRED ACTION PURSUANT TO TECH SPEC 3.3.3.7) WHEN THE EVENT OCCURRED. PERSONNEL HAVE INSTALLED A SHIELDED CABLE AND CAPACITORS IN THE BELL CIRCUIT OF THE LOCAL FIRE DETECTION PANEL FOR THE UNIT 1

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

North Anna 1	05/28/1985	06/21/1985	Fire Barrier Penetration Left Unsealed Without Fire Watch Abstract: POWER LEVEL - 100%. ON 5-28-85, PRESSURE/FIRE SEAL (EIIS IDENTIFIER SEAL) 1DH002PB1 WAS FOUND OPEN AT 1533 HRS. THE SEAL, LOCATED IN THE UNIT 1 EMERGENCY SWITCHGEAR ROOM WAS OPENED ON 4-15-85, BY CONSTRUCTION WORKERS IN PREPARATION FOR REMOVAL OF A DEFECTIVE CABLE (EIIS IDENTIFIER CBL). THE BREACHED BOUNDARY WAS DISCOVERED BY A QUALITY CONTROL INSPECTOR AS THE CREW WAS PREPARING TO PULL THE NEW REPLACEMENT CABLE. A FIRE WATCH WAS ESTABLISHED, AND THE BOUNDARY WAS RESEALED AFTER THE NEW CABLE WAS PULLED ON 5-28-85, AT 1615 HRS. THE BREACHED BOUNDARY WAS A RESULT OF CONSTRUCTION WORKERS NOT FOLLOWING ADMINISTRATIVE PROCEDURES. ADMINISTRATIVE PROCEDURE TRAINING FOR CONSTRUCTION PERSONNEL HAS BEEN UPGRADED. THIS EVENT IS REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(I)(B).
North Anna 1	06/10/1986	07/08/1986	FIRE DETECTION SYSTEM OUT OF SERVICE GREATER THAN 14 DAYS Abstract: POWER LEVEL - 100%. ON 5-27-86, THE FIRE DETECTION EQUIPMENT FOR THE SERVICE WATER PUMPHOUSE AND THE FUEL OIL PUMPHOUSE WERE REMOVED FROM SERVICE TO ACCOMMODATE A CABLE PULL ASSOCIATED WITH SERVICE WATER MODIFICATIONS. THE FIRE DETECTORS WERE NOT RETURNED TO SERVICE BY 6-10-86, WITHIN 14 DAYS, REQUIRING A SPECIAL REPORT PURSUANT TO TECH SPEC 6.9.2. AN HOURLY FIRE WATCH HAS BEEN IMPLEMENTED AT THE LOCATIONS SINCE 5-27-86 IN ACCORDANCE WITH TECH SPEC 3.3.3.7.
North Anna 1	01/11/1989	02/07/1989	VOID IN FILL MATERIAL OF FIRE BARRIER PENETRATION Abstract: POWER LEVEL - 100%. AT 1202 HOURS ON 1/11/89 WITH UNIT 1 AT 100% POWER (MODE 1), STATION PERSONNEL PERFORMING A POST MODIFICATION INSPECTION OF A FIRE BARRIER PENETRATION DISCOVERED A VOID IN THE TOP OF THE FILL MATERIAL OF AN ADJACENT FIRE BARRIER PENETRATION LOCATED BETWEEN THE EMERGENCY SWITCHGEAR AIR HANDLING ROOM AND THE UNIT 1 CABLE TUNNEL. TECH SPEC 3.7.7.1 REQUIRES THE CONTROL ROOM BOTTLED AIR PRESSURIZATION SYSTEM TO BE OPERABLE DURING MODES 1, 2, 3, AND 4. TECH SPEC 3.7.15 REQUIRES ALL FIRE BARRIER PENETRATIONS PROTECTING SAFETY RELATED AREAS TO BE FUNCTIONAL AT ALL TIMES. THE VOID IN THE FILL MATERIAL CAUSED THE INTEGRITY OF THE FIRE BARRIER PENETRATION AND THE CONTROL ROOM BOTTLED AIR PRESSURIZATION SYSTEM TO BE QUESTIONED. THIS EVENT IS REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(I)(B). THE EXACT CAUSE OF THE VOID IN THE FIRE BARRIER PENETRATION HAS NOT BEEN DETERMINED. THE FIRE BARRIER PENETRATION WAS REFILLED IN ACCORDANCE WITH APPROVED STATION PROCEDURES, SATISFACTORILY INSPECTED BY THE STATION LOSS PREVENTION COORDINATOR, AND RETURNED TO OPERABLE STATUS AT 1528 HOURS ON 1/11/89. NO SIGNIFICANT SAFETY CONSEQUENCES RESULTED FROM THIS EVENT SINCE ONLY A PARTIAL VOID EXISTED IN THE TOP OF THE FILL MATERIAL OF THE FIRE BARRIER PENETRATION AND ALTERNATE FIRE DETECTION AND SUPPRESSION SYSTEMS REMAINED
North Anna 1	02/03/2011	04/01/2011	Annunciator Card Failure Due To Carbon Resistor Degradation Abstract: On February 3, 2011, at 0345 hours, with Unit 1 at 100 percent power, Mode 1, annunciator 1 H-G4, Annunciator System DC Grounc was received in the Main Control Room (MCR). At 0348 hours annunciator 1B-D3, Boric Acid Tank 1B Hi-Lo Level CH I-II was received which, when acknowledged, locked in and annunciator 1 H-G4 cleared. While investigating, an acrid smell was noticeable in the MCR. At 0353, upon entry into the annunciator system cabinet room, adjacent to the MCR, the door of the cabinet, 1-EI-CB-21, was opened and flames approximately 2 - 4 inches long were observed coming from an annunciator circuit card. Operations personnel entered fire contingency action procedure 0-FCA-0, Fire Protection - Operations Response. At 0354 hours, a two second discharge of a portable CO2 fire extinguisher put out the fire and a re-flash fire watch was established. At 0437 hours the fire contingency action procedure was exited. This event posed no significant safety implications since the fire was small, extinguished quickly, did not pose an actual threat to the safety of the nuclear power plant and it did not affect equipment required for safe operation of the plant. Therefore, the health and safety of the public were not affected by this event. This event is being reported voluntarily to share information and lessons
North Anna 1, North Anna 2	01/26/1988	02/24/1988	UNIDENTIFIED FIRE BARRIER PENETRATIONS Abstract: POWER LEVEL - 000%. AT 1845 HOURS ON JANUARY 26, 1988, WITH UNIT 1 AT 0 PERCENT POWER (MODE 5) AND UNIT 2 AT 100 PERCENT POWER (MODE 1), IT WAS DISCOVERED THAT A FIRE BARRIER BREACH EXISTED BETWEEN THE QUENCH SPRAY PUMP HOUSE AND THE PIPING TUNNEL TO THE UNIT 1 TURBINE BUILDING. AT 1600 HOURS ON JANUARY 27, 1988 SEVEN ADDITIONAL FIRE BARRIER BREACHES, CONNECTING WITH THE UNIT 1 AND UNIT 2 QUENCH SPRAY PUMP HOUSES, WERE DISCOVERED THROUGH SUPPLEMENTARY WALKDOWNS. TECHNICAL SPECIFICATION 3.7.15 REQUIRES ALL FIRE BARRIER PENETRATIONS PROTECTING SAFETY RELATED AREAS TO BE FUNCTIONAL. SINCE THESE BARRIERS WERE NOT FUNCTIONAL, FIRE WATCHES WERE ESTABLISHED IN COMPLIANCE WITH TECHNICAL SPECIFICATIONS. THIS EVENT IS REPORTABLE PURSUANT TO 10CFR50.73 (A)(2)(I). AS A CORRECTIVE ACTION, THE BREACHED FIRE BARRIER PENETRATIONS HAVE BEEN SEALED IN ACCORDANCE WITH STATION DESIGN REQUIREMENTS. THE HEALTH AND SAFETY OF THE PUBLIC WERE NOT AFFECTED AT ANY TIME DURING THIS EVENT.
North Anna 1, North Anna 2	03/12/1997	04/08/1997	Auxiliary Service Water Pump Bolts Exceed Design Basis Allowable Due to Personnel Error Abstract: On March 12, 1997, with Units 1 & 2 in Mode 1, 100 percent power, it was determined that the Auxiliary Service Water (ASW) pump bolts connecting the top column flange to pedestal base plate exceeded the design basis allowables and the short term operability criteria established in NRC Generic Letter 91-18 during a Design Basis Earthquake. Technical Specification (TS) 3.7.4.1.d allows the 72 hour Action of TS 3.7.4.1.c to be extended to 168 hours provided 3 of 4 Service Water (SW) pumps and 2 of 2 ASW pumps have been operable since initial entry into the action and for the duration of same. The Action of TS 3.7.4.1.d had been entered in the past with the ASW pumps inoperable due to inadequate bolting. As such, this event is reportable pursuant to 10CFR50.73 (a)(2)(i)(B) for a condition prohibited by TS. The cause of the event is attributed to personnel error during initial design and installation. This event posed no significant safety implications since the ASW pumps are not taken credit for in the design basis accident as stipulated in the TS Bases. Therefore, the health and safety of the public were not affected at any time during this event.
North Anna 1, North Anna 2	03/31/1999	04/27/1999	Potential Loss of HHSI Pumps Due To Postulated Main Control Room Fire Abstract: As part of the ongoing Configuration Management Project's integrated review of fire protection and in conjunction with review of recent industry operating experience events, a deviating condition was identified that is applicable to the North Anna Power Station. In the event of an Appendix R main control room (MCR) fire a potential exists for rapid depletion of the volume control tank level resulting in the loss of the charging/high head safety injection (HHSI) pumps based on applicable Appendix R assumptions. The procedure for the MCR fire was inadequate because it did not include specific direction to ensure that adequate HHSI suction alignment and control was established in a time frame to minimize the possibility of volume control tank depletion and potential loss of the HHSI pumps. These circumstances placed the station outside its Appendix R design basis for both units in that the potential loss of HHSI pumps could result in the inability to achieve and maintain a safe shutdown condition in the event of an Appendix R MCR fire. This situation resulted in no safety consequences or implications and is being reported pursuant to 10CFR50.73(a)(2)(ii)(B).
North Anna 2	11/01/1980	11/24/1980	The 2H Diesel Room Fire Door had been Non-Functional for Greater than a Seven Day Period Abstract: The 2H diesel room fire door had been non-functional for greater than a seven day period. Damage to the diesel room door was caused by using the door while the room was under vacuum from the operating diesel. The door was replaced and declared functional.
North Anna 2	09/02/1981	09/23/1981	Fire Door S 54/13 Between the Chiller Room and Fan Room was found Inoperable Abstract: Fire door S 54/13 between the chiller room and fan room was found inoperable. Since a fire watch was posted within one hour and the door was repaired the same day, the health and safety of the general public were not affected. The door failed to close completely due to interference with the door frame and an improperly adjusted closing mechanism. Adjustments were made and the door was declared operational on the same day.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

North Anna 2	09/30/1981	10/30/1981	The Door Failed to Latch Due to a Failed Lock Assembly Abstract: It was reported that the fire door between the Unit 2 Emergency switchgear room and turbine building was non-functional for a period of 6 days prior to initiating the actions of Tech. Spec. 3.7.15. On october 3, the same door was found blocked open and inoperable. This event is contrary to Tech. Spec. 3.7.15 and reportable pursuant to Tech. Spec. 6.9.1.9.b. The door failed to latch due to a failed lock assembly. It was repaired on September 30, 1981. On October 3, 1981 it was found inoperable again and the lock assembly was then replaced.
North Anna 2	11/06/1981	11/25/1981	Failure of the Latching Mechanism Abstract: The fire door to 2H Emergency Diesel Generator room was found to be inoperable due to the failure of the latching mechanism. This event was caused by a faulty door latching mechanism. The latch was repaired and the door declared operational.
North Anna 2	11/12/1981	12/02/1981	The Latch Failed in the Open Position Abstract: The fire door from the 2J Emergency Diesel Generator room into the turbine building would not latch. A fire watch was posted within one hour. The latch for this fire door is released electrically by inserting a valid magnet key card in a card reader. The latch failed in the open position. A fire watch was posted and the latch was repaired.
North Anna 2	12/03/1981	12/30/1981	Failure of the Automatic Closure Mechanism Abstract: The fire door from the Cable Vault to the Auxiliary Building and the fire door from the Rod Drive Room to the Auxiliary Building would not close automatically. These events were caused by the failure of the automatic closure mechanism. A fire watch was posted and the closure mechanism replaced.
North Anna 2	02/22/1982	03/15/1982	The Emergency Diesel Generator Fire Door would not Latch Abstract: The 2J Emergency Diesel Generator Fire Door (S71-16) between the Diesel Room and the Turbine Building would not latch. A fire watch was immediately posted. This event is reportable pursuant to Tech. Spec. 6.9.1.9.b. This event occurred because the door lock tumbler rotated on its axis and would no longer engage the latch. The door lock tumbler was tightened in its housing and the door was restored to service.
North Anna 2	03/13/1982	03/31/1982	Fire Door M80-2 Between Rod Control Room and the Outside would not Close Abstract: On March 13, 1982 with Unit 2 in Cold Shutdown, Fire Door M80-2 between the Rod Control room and the outside would not close. On March 26, 1982, with Unit 2 in Mode 6, Fire Door A80-2 between the Rod Control Room and the Auxiliary Building would not latch properly. A fire watch was posted in each event as required by the action statement. This is contrary to Tech Spec 3.7.15 and reportable pursuant to tech spec 6.9.1.9b. Door M80-2 was not properly aligned in its frame due to excessive use. The door was adjusted and verified to be operable. Door A80-2 would not latch completely. The striker plate was filed, the latch verified to operate and the door restored to an operable status.
North Anna 2	04/12/1982	05/07/1982	The Fire Door M-80-2 Between Rod Control Room and the Outside was Blocked Open without a Fire Watch Abstract: On April 10, 1982, Fire Door M-80-2 between the Rod Control Room and the outside blocked open without a fire watch. On April 12, 1982, Fire Door A-80-2 between the Rod Control Room and the Auxiliary Building would not close and latch. For the first event, the door was closed and verified to operate properly; for the second event a fire watch was immediately posted. Each event is reportable pursuant to tech spec 6.9.1.9.b. Fire Door M-80-2 was blocked open because construction personnel were not following procedures for breeching fire barriers. The block was removed and the responsible construction foreman instructed on the procedure for opening fire barriers. The reclosure device for Fire Door A-80-2 was out of adjustment. The closure was adjusted and the door verified operable.
North Anna 2	06/08/1982	07/01/1982	The Latch for Fire Door S54 was Found to be Loose Abstract: The fire door (s54-13) between the control room air handler room and the control room chiller room would not latch. This event is contrary to tech spec 3.7.1.5 and reportable pursuant to tech spec 6.9.1.9.b. The latch for fire door s54-13 was found to be loose. The latch was tightened and the door verified operable.
North Anna 2	07/14/1982	08/02/1982	The Fir Door Beteen Emergency Switchgear Room and the Turbine Building was found Closed but Latched Abstract: Fire door S-54-11 between Unit 2 Emergency Switchgear Room and the Turbine Building was found closed but unlatched. These conditions existed since June 22, 1982 when the door was previously worked on by a subcontractor. No fire watch was posted during this time period. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. The latch and keeper on fire door S-54-11 had been previously replaced by a subcontractor. However, the keeper was welded in 1 inch too high on the door frame thus preventing the latch from operating. The keeper was rewelded in the proper position and the door verified operable. The subcontractor was informed of his mistake and instructed to verify component operability after the job is complete.
North Anna 2	08/23/1982	09/16/1982	The Fire Door would not Latch or Lock Abstract: Fire Door S71-18 between the 2H Emergency Diesel Generator and the Turbine Building would not latch and lock. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. Fire Door S71-18 would not latch and lock because the latch was out of adjustment and sticking. The latch was adjusted and lubricated and the operability of the door verified. Design modifications to the fire doors are being pursued.
North Anna 2	09/14/1982	10/07/1982	The Fire Door was Found Blocked Abstract: Fire Door S54-9 between the Unit 2 Emergency Switchgear Room and the Cable Vault was found blocked open without a fire watch. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9. No reason for fire door S54-9 being blocked open was found. At the time of the event no work was being done in the area and an investigation yielded no cause for the event. The block was removed and door operability verified. Discussion of employee's responsibilities with respect to fire protection and safety will be undertaken in a quarterly employee safety meeting.
North Anna 2	12/13/1982	12/22/1982	Fire Door would not Latch Due to the Latch being Sticky Abstract: Fire Door S71-18 between the 2H Emergency Diesel Generator Room and the Turbine Building would not latch and lock. A fire watch was immediately posted. This event is contrary to tech spec 3.7.15 and reportable per tech spec 6.9.1.9.b. Degradation of fire doors between the emergency diesel room and the turbine building is a recurring event due to the differential pressure during diesel operation. Fire Door S71-18 would not latch because the latch was sticking. The latch was adjusted, lubricated and the operability of the fire door was verified. Design modifications to the fire doors between the Emergency Diesel Room and the turbine building are being pursued.
North Anna 2	01/09/1983	01/31/1983	Fire Door Removed From Service Due to Closure Abstract: Fire Door (S54-13) between Unit 2 Control Room Air Handler Room and the Control Room Chiller Room would not consistently close. A fire watch was immediately posted. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. The need to readjust and repair fire door reclosure mechanisms and latches has been a recurring problem at North Anna Units 1 and 2. The door hinges were slightly loose and the reclosure device was out of adjustment. The hinges were tightened and the reclosure device was readjusted.
North Anna 2	03/04/1983	03/23/1983	Fire Door Fails to Close Abstract: On March 4, 1983, with Unit 2 in Mode 1, Fire Door S54-7 between the Unit 1 Emergency Switchgear Room and the stairway to the Control Room was declared inoperable because it would not close and latch automatically. A fire watch was immediately posted. This event is contrary to tech spec 3.7.15 and reportable pursuant to tech spec 6.9.1.9.b. There are no generic implications to this event. The door would not close because the reclosure device and latch had worked out of adjustment. Both the reclosure device and door latch were readjusted, and the door was satisfactorily tested and restored to service. There are no further actions required.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

North Anna 2	04/02/1983	04/20/1983	Fire Doors Fail to Latch Abstract: On April 2, 1983, with Unit 2 in Mode 4, Fire Doors S71-18 and S71-16, between the '2H' and '2J' Emergency Diesel Generator Rooms (respecitvely) and the Turbine Building, would not latch. A fire watch was immediately posted for each event. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. The degradation of fire doors between the diesel rooms and turbine building due to the differential pressure during diesel operation is a recurring event. Fire door S71-18 would not latch because the door strike was jammed open. The latch was disassembled, cleaned, reassembled and tested satisfactorily. Fire door S71-16 would not latch because the door strike was sticking and bent. The latch was disassembled, cleaned, straightened, reassembled and tested satisfactorily. Design modifications to the above mentioned fire doors are being pursued.
North Anna 2	06/14/1983	06/22/1983	Fire Between Emergency Diesel Generator Room and the turbine Building Fails to Latch Abstract: On June 14, 1983, with Unit 2 at 100% power, Fire Door S71-18 between the '2H' Emergency Diesel Generator Room and the Turbine Building would not latch and lock. A fire watch was immediately posted. This event is contrary to Tech Spec 3.7.15 and reportable to Tech Spec 6.9.1.9.b. Degradation of fire doors between the Emergency Diesel Room and the Turbine Building is a recurring event due to the differential pressure during diesel operation. Fire Door S71-18 would not latch because the latch was sticking. The latch was adjusted, lubricated and the operability of the fire door verified. Design modifications to the fire doors between the emergency diesel room and the turbine building are being pursued.
North Anna 2	07/06/1983	07/27/1983	Fire Door Between Emergency Diesel Genrator Room and Turbine Building wouldn't Latch and Lock Abstract: On jJuly 6, 1983, with Unit 2 at 100 percent power Fire Door S71-18 between '2H' Emergency Diesel Generator Room and the Turbine Building would not latch and lock. A fire watch was immediately posted. This event is contrary to Tech Spec 3.7.15 and reportable pursuant to Tech Spec 6.9.1.9.b. Degradation of fire doors between the Emergency Diesel Room and the Turbine Building is a recurring event due to a differential pressure during diesel operation. Fire Door S71-18 would not latch because of latch mechanism damage. The latching mechanism was replaced and operability verified. Similar events were reported in LER's 83-026, 034, and 045. Design modifications to the fire doors between the Emergency Diesel Room and Turbine are being pursued.
North Anna 2	08/18/1983	09/07/1983	Battery Room Penetration Found Open Abstract: On August 18, 1983, a member of the Fire Protection Office discovered an open penetration in the roof of Battery Room 2-II. This penetration was a short section of 1.25 inch in diameter conduit which was open at both ends. The correct response required by the action statement was taken. It could not be determined when this conduit was installed nor its purpose. Other battery rooms did not have a similar conduit. There are no generic implications associated with this event. A continuous fire watch was posted at the penetration within one hour. A threaded pipe cap was installed within two hours as a permanent fire barrier.
North Anna 2	08/22/1983	09/14/1983	Fire Door Fails to Close Automatically Abstract: On August 22, 1983, while in Mode 1, the fire door S54-13, from the Unit 2 Air Conditioner Room to the Chiller Room would not close automatically. This event is contrary to tech spec 3.7.15 and reportable pursuant to tech spec 6.9.1.9.b. This event was caused by the failure of the door closure mechanism. A fire watch was posted and the closure mechanism replaced.
North Anna 2	06/08/1984	07/12/1984	Fire Detection Out of Service Greater Than 14 Days Abstract: POWER LEVEL - 100%. ON JUN 8, 1984, THE FIRE DETECTION SYSTEM FOR THE UNIT 2 EMERGENCY SWITCHGEAR ROOM WAS REMOVED FROM SERVICE TO ACCOMMODATE THE INSTALLATION OF ADDITIONAL SMOKE DETECTORS BY DESIGN CHANGE 83-18. THIS DESIGN CHANGE WAS THE RESULT OF THE NORTH ANNA 10CFR50 APPENDIX R REVIEW. A FIRE WATCH WAS INITIATED AS PER DESIGN CHANGE 83-18 AND IN ACCORDANCE WITH THE LIMITING CONDITION OF OPERATION OF TECH SPEC 3.3.3.7. THE UNIT 2 EMERGENCY SWITCHGEAR ROOM FIRE DETECTION SYSTEM WAS RETURNED TO SERVICE ON JUNE 28, 1984 UPON COMPLETION OF PARTS OF DESIGN CHANGE 83-18 PERTAINING TO THE EMERGENCY SWITCHGEAR ROOM. UNTIL THAT TIME A PERMANENT FIRE WATCH WAS IN PLACE TO PROVIDE ADEQUATE WARNING OF FIRE IN THE AREA.
North Anna 2	09/16/1984	10/30/1984	Inoperable Smoke Detection Equipment Abstract: POWER LEVEL - 000%. ON SEPTEMBER 16, 1984, IT WAS DISCOVERED THAT THE SMOKE DETECTOR LOCATED IN THE UNIT 2 CONTROL ROOM EMERGENCY AIR SUPPLY FAILED TO OPERATE AS REQUIRED BY TECH SPEC 3.3.3.7. CONTROL ROOM OPERATIONS PERSONNEL PROVIDED A CONTINUOUS FIRE WATCH IN ACCORDANCE WITH THE ACTION STATEMENT OF TECH SPEC 3.3.3.7 DURING DETECTOR INOPERABILITY. THE INOPERABLE DETECTOR WAS REPLACED ON OCTOBER 26, 1984. SINCE THE SMOKE DETECTOR WAS NOT RESTORED TO OPERABLE STATUS WITHIN 14 DAYS, THIS EVENT IS REPORTABLE AS A SPECIAL REPORT PURSUANT TO TECH SPEC 3.3.3.7 AND TECH SPEC 6.9.2.H.
North Anna 2	01/04/1985	01/30/1985	Fire Detector Technically Inoperable Abstract: POWER LEVEL - 100%. ON 1-4-85, IT WAS DETERMINED FOLLOWING A QA AUDIT THAT THE SMOKE DETECTOR LOCATED IN THE UNIT 2 EMERGENCY SWITCHGEAR ROOM EMERGENCY AIR SUPPLY HAD BEEN TECHNICALLY INOPERABLE FROM 10-1-84 TO 11-1-84. INOPERABILITY WAS DUE TO FAILURE TO SIGNOFF THE APPLICABLE STEPS FOR THIS DETECTOR IN A PERIODIC TEST THAT WAS PERFORMED ON 10-1-84. THE DETECTOR WAS SATISFACTORILY TESTED, HOWEVER, APPLICABLE STEPS IN THE PROCEDURE WERE NOT SIGNED OFF. A FIRE WATCH HAD BEEN PREVIOUSLY ESTABLISHED IN THE AFFECTED AREA AND WAS MAINTAINED THROUGHOUT THE EVENT. THE DETECTOR WAS SATISFACTORILY TESTED ON 11-1-84. THIS EVENT, FAILURE TO RESTORE THE INOPERABLE FIRE DETECTION INSTRUMENT TO OPERABLE STATUS WITHIN 14 DAYS, IS REPORTABLE AS A SPECIAL REPORT PURSUANT TO TECH SPEC 3.3.3.7 AND TECH SPEC 6.9.2.H.
Oconee 1	01/17/1980	02/15/1980	Breach in Fire Barrier Discovered Abstract: During installation of a cable between the Oconee 1 cable room and control room, two cable sleeves missing firestop material were discovered. A fire watch was established within five minutes, well within the hour permitted by Tech Specs. Due to the small breach, it would have been difficult for a fire to spread. The firestop material was apparently omitted during installation. The conduits were filled with firestop material within 2 1/2 hours after the breach was discovered. Similar areas in Oconee 2 and 3 will be inspected, and a numbering and inspection process for penetration fire barriers is being established.
Oconee 1	04/12/1980	05/08/1980	Fire Detection System Inoperable Abstract: Fire detection instrumentation was rendered inoperable due to a power supply failure. The power supply failed while repairs were being made to the wiring to the reflash units, possibly due to rapid energization and deenergization of its power transformer while the wiring was being disconnected. The power supply unit was replaced. A warning tag was added to the fire detection cabinets to alert repair personnel to deenergize the power feeder breaker before beginning work.
Oconee 1	12/09/1980	01/22/1981	EWST and Portion of HPSW Fire Protection Yard Loop Removed from Service Abstract: Elevated water storage tank and a portion of the high pressure service water fire protection yard loop were removed from service. A temporary flow path was established to provide fire protection to CT-5. The temporary hose ruptured. The HPSW pumps were available for manual activation if required. The hose rupture was due to the resulting pressure surge when the HPSW pumps were put into service. The ruptured hoses were expeditiously replaced while fire watches were posted. The EWST was returned to service as soon as possible.
Oconee 1	12/20/1980	11/19/1981	Fire Detector String Removed From Service Abstract: The smoke detector covering load centers 1x6 and 2x6 alarmed. A subsequent investigation revealed no fire/ thus the string was removed from service for repair. It is apparent that this detecotr failure was due to the dusty ambient conditions in which the detector is located. The detector was replaced and the string returned to service. A preventive maintenance program has been implemented on detectors located in dusty areas to check and clean them twice a week.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Oconee 1	04/10/1981	05/08/1981	Fire Barriers Breached Without Proper Fir Watch Maintained Abstract: From 1400 hours on March 27, 1981, until 1200 hours on April 10, 1981, one fire barrier door each for Unit 1's and Unit 2's West Penetration room were inoperable without proper fire watches having been maintained. During the time that the doors were propped open, the fire detector instrumentation in the west penetration room was operable. This occurrence was the result of a personnel error. The individual involved has been counseled concerning the importance of specific and complete communication in this type of evolution. Station administrative procedures will be reviewed as to their adequacy in controlling this type of event.
Oconee 1, Oconee 2	06/12/1991	07/10/1991	Inappropriate Actions Cause Breach of Fire Barriers Resulting In Technical Specification Violations Abstract: POWER LEVEL - 100%. ON 6/12/91 AT APPROX. 1245 HOURS, SAFETY PERSONNEL, ON A ROUTINE PLANT TOUR, DISCOVERED THAT A FIRE BARRIER HAD BEEN BREACHED WITHOUT COMPENSATORY ACTIONS ON UNIT 1 FROM APPROX. 1730 HOURS ON 6/11/91 UNTIL APPROX. 0730 HOURS ON 6/12/91. A NUCLEAR STATION MODIFICATION (NSM) WAS IN PROGRESS IN THE IMMEDIATE AREA. THE CRAFT PERSONNEL THAT HAD BEEN PULLING CABLES FOR THE NSM HAD INADVERTENTLY LEFT A FIRE DOOR OPENED UPON LEAVING THE AREA ON THE PREVIOUS DAY. WHEN THIS DISCOVERY WAS MADE ON UNIT 1, THE CORRESPONDING FIRE DOOR ON UNIT 2 WAS ALSO INSPECTED AND FOUND TO BE OPENED AND UNATTENDED. THE CRAFT PERSONNEL STATED THAT HIS DOOR HAD BEEN CLOSED AFTER WORK HAD BEEN COMPLETED IN THIS AREA DURING THE PREVIOUS WEEK. ON 6/15/91 AT APPROX. 0800 HOURS, WHILE PERFORMING DAILY ROUNDS, OPERATIONS PERSONNEL DISCOVERED THE FIRE DOOR SEPARATING THE EAST AND WEST PENETRATION ROOMS OPENED AND UNATTENDED. UPON EACH DISCOVERY OF A BREACHED FIRE BARRIER, THE DOOR WAS CLOSED AND SECURED OR COMPENSATORY MEASURES WERE TAKEN. BOTH UNIT 1 AND 2 WERE OPERATING AT 100% FULL POWER DURING THESE EVENTS. THE ROOT CAUSE OF THESE EVENTS IS INAPPROPRIATE ACTIONS, FAILURE TO ADHERE TO POLICIES, DIRECTIVES, OR PROCEDURES. CORRECTIVE ACTIONS FOR THESE
Oconee 1, Oconee 2, Oconee 3	12/02/1987	04/19/1988	Cable Room Sprinkler Systems Inoperable Due To Design Deficiency Of Pressure And Flow Rates Abstract: POWER LEVEL - 000%. ON OCTOBER 8, 1987 DUKE POWER'S DESIGN ENGINEERING GROUP IDENTIFIED THAT THE UNIT 3 CABLE ROOM SPRINKLER SYSTEM COULD NOT PROVIDE ITS DESIGN FLOW DUE TO A DESIGN DEFICIENCY. THIS WAS IDENTIFIED WHILE DESIGN ENGINEERING WAS RESPONDING TO A MAY, 1987 FIRE PROTECTION SYSTEM AUDIT. ON MARCH 2, 1988 THE INOPERABILITY OF THE KEOWEE HYDRO STATION MAIN LUBE OIL STORAGE ROOM WATER SPRAY SYSTEM WAS DISCOVERED. THIS INCIDENT WAS DETERMINED TO BE REPORTABLE PURSUANT TO THE REQUIREMENTS OF 1OCFR 50.73(A)(2)(I)(B) ON DECEMBER 2, 1987. THE ROOT CAUSE OF THIS INCIDENT WAS DETERMINED TO BE A DESIGN DEFICIENCY. THE INOPERABILITY OF THE UNIT 3 CABLE ROOM SPRINKLER SYSTEM WAS ORIGINALLY MISCLASSIFIED AS NON-REPORTABLE TO THE NRC DUE TO THE FACT THAT IT WAS NOT INITIALLY IDENTIFIED AS A DESIGN DEFICIENCY. CORRECTIVE ACTIONS INCLUDED ESTABLISHING FIRE WATCHES UNTIL THE WATER SPRAY SYSTEMS WERE MADE OPERABLE AND RESTORING THE SYSTEMS TO AN OPERABLE CONDITION BY MODIFICATION. BECAUSE OF THE AVAILABLE SYSTEMS AND PERSONNEL FOR DETECTION AND CONTROL, THERE IS LITTLE CHANCE THAT A FIRE WOULD HAVE BEGUN AND DEVELOPED INTO A THREAT TO PLANT SAFETY. THEREFORE THIS EVENT IS CONSIDERED NOT TO BE SIGNIFICANT WITH RESPECT TO THE HEALTH AND SAFETY OF THE PUBLIC.
Oconee 1, Oconee 2, Oconee 3	05/18/1988	07/06/1988	Technical Specification Violation Due To Missed Firewatches Resulting From Personnel Error And Management Deficiency Abstract: POWER LEVEL - 100%. ON MAY 19, 1988, AT 1600 HOURS WITH UNITS 1, 2 AND 3 AT 100% POWER, AN AUDIT OF CONTROLLED ACCESS DOOR (CAD) COMPUTER PRINTOUTS VERSUS THE FIREWATCH SURVEILLANCE LOG SHEETS BY AN NRC RESIDENT INSPECTOR, REVEALED THAT FIVE HOURLY FIREWATCH TOURS HAD NOT BEEN PERFORMED AS REQUIRED BY TECHNICAL SPECIFICATION 3.17 ON MAY 18 AND 19, 1988. IN ADDITION, ON JUNE 6, 1988 IT WAS DISCOVERED THAT MULTIPLE FIREWATCHES HAD BEEN MISSED FROM MAY 25, 1988 TO JUNE 4, 1988. THE ROOT CAUSE OF THE MISSED FIREWATCH TOURS WAS PERSONNEL ERROR AND MANAGEMENT DEFICIENCY. OPERATIONS PERSONNEL FAILED TO MAKE THE FIREWATCH TOURS, AFTER HAVING BEEN INFORMED THAT THE TOURS WERE REQUIRED. MECHANICAL MAINTENANCE SUPERVISORS DID NOT REVIEW TECHNICAL SPECIFICATIONS OR STATION DIRECTIVES TO BECOME FAMILIAR WITH THE FIREWATCH RESPONSIBILITIES. THE SUBSEQUENT CORRECTIVE ACTIONS INCLUDED PLACING THE CABLE ROOM AND EQUIPMENT ROOM FIREWATCH TOURS ON SEPARATE FIREWATCH SURVEILLANCE LOG SHEETS, DISCUSSION OF THE STATION DIRECTIVE ON FIRE-WATCH TOURS WITH ALL OPERATIONS PERSONNEL CONDUCTING THESE TOURS AND PROVIDING MECHANICAL MAINTENANCE TECHNICIANS WITH WRITTEN GUIDANCE ON THE REQUIREMENTS AND RESPONSIBILITIES OF THE HOURLY FIREWATCH TOURS.
Oconee 1, Oconee 2, Oconee 3	05/18/1988	06/20/1988	Inoperable Fire Barrier Penetration Seals result in a Condition Prohibited by Technical Specifications Due to a Design Deficiency Abstract: POWER LEVEL - 100%. ON MAY 18, 1988, 188 PENETRATION FIRE BARRIERS WERE DECLARED INOPERABLE BECAUSE DOCUMENTATION QUALIFYING THEIR SPECIFIC ARRANGEMENTS AS A TESTED 3 HOUR FIRE RATED ASSEMBLY COULD NOT BE SUBSTANTIATED. THESE PENETRATIONS WERE INSTALLED DURING PLANT CONSTRUCTION USING CRITERIA AND SPECIFICATIONS SUPPLIED TO THE STATION BY DESIGN ENGINEERING. THIS INCIDENT WAS DISCOVERED AS A RESULT OF DESIGN ENGINEERING REVIEW AND A QA AUDIT. ALL THREE UNITS WERE AT 100% POWER DURING THIS INCIDENT. THIS INCIDENT RESULTED IN A CONDITION PROHIBITED BY TECHNICAL SPECIFICATION 3.17.6. TECH SPEC 3.17.6 STATES 'ALL FIRE BARRIERS PENETRATIONS PROTECTING SAFETY RELATED AREAS SHALL BE OPERABLE.' IMMEDIATE CORRECTION ACTIONS INCLUDED A WALKDOWN TO IDENTIFY ALL INOPERABLE PENETRATION FIRE BARRIERS, AND INITIATION OF FIRE WATCH PATROLS. THE ROOT CAUSE OF THIS INCIDENT WAS DETERMINED TO BE A DESIGN DEFICIENCY DUE TO THE FAILURE TO SUPPLY ACCURATE INSTALLATION SPECIFICATIONS.
Oconee 1, Oconee 2, Oconee 3	03/22/2002	06/12/2002	Potential for Fire to Indirectly Damage Mitigation Component Abstract: On March 22, 2002, with all three Oconee units operating in mode 1 at 100% Rated Power, an engineering evaluation identified the potential for an adverse valve actuation during a design basis fire. This valve actuation involves the inadvertent opening of either of two valves in the low pressure injection (LPI) system due to an assumed failure in the valve control circuitry. The opening of either valve would cause the Borated Water Storage Tank (BWST) to empty its contents to the Reactor Building Emergency Sump. The water from the BWST would flood the Reactor Coolant Make-Up (RCMU) Pump resulting in its failure. The RCMU pump supplies reactor coolant pump seal and make-up flow during some design basis fire scenarios. Roving fire watches have been implemented as compensatory measures in the area of the affected cables. These fire watches are required while the unit is in Modes 1, 2, or 3 and will remain in place until modifications are implemented to mitigate this condition. The apparent cause of this condition is a historic design deficiency. An engineering risk assessment concludes that the likelihood of the actual spurious actuation of these valves is extremely low. This event is considered to have minimal safety significance with respect to the health and safety of the public.
Oconee 1, Oconee 2, Oconee 3	06/04/2003	08/04/2003	Design Oversight Results in Appendix R Control Cable Separation Issue Abstract: On June 4, 2003, with Oconee Units 1 and 2 operating in Mode 1 at 100% Rated Power and Unit 3 in Mode 5 (start-up after refueling), an engineering evaluation identified a cable routed contrary to 10CFR 50, Appendix R separation criteria. Consequently, a low probability hot short due to a hypothetical fire could spuriously operate any one of six (6) valves in each Unit . Depending on the location of the design basis fire, one, two, or all three Oconee Units could be affected. This was considered a previously unanalyzed condition. A fire watch patrol has been established on a once per 6 hour frequency and will remain in place until appropriate permanent corrective actions are in place to mitigate this condition. The apparent cause of this event is an unanalyzed condition resulting from a historic design deficiency. Engineering risk assessment concludes that the likelihood of the actual spurious actuation of these valves is low. This event is considered to have minimal safety significance with respect to the health and safety of the public.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Oconee 2	11/24/1981	12/21/1981	Loss of Fire Suppression System on CT-5 Transformer Abstract: Construction personnel severed a 2-inch line which branched off the water header supplying the CT-5 transformer fire suppression system. The suppression system was isolated, and a fire watch and backup fire suppression equipment were not provided as required by T.S. 3.1.7.3.1. The cause of this incident was failure to initiate action to establish a continuous fire watch and backup fire suppression system within one hour of shutting valve HPSW-27. Corrective action was to commence shutdown of Oconee 1 and 2, establish backup fire protection capability, and secure the unit shutdown; the leak was repaired and the fire suppression system returned to service.
Oconee 2	03/29/1983	04/12/1983	Fire Doors Left Open Abstract: On March 29, 1983 two fire doors were left open and unattended for over one hour. The likelihood of a fire in that specific area in that short time interval was low. The area around the doors is frequently traveled by personnel and a fire/smoke there would have been highly visible. Also, the use of any heat producing device/procedure would have required fire prevention measures. The health and safety of the general public were not compromised by this incident. The cause of this occurrence was personnel error. The doors were shut and the personnel involved received appropriate disciplinary actions. Work practices will be changed so that one person is assigned to make sure compliance with station fire regulations is maintained. Certain specific station annual training will later include fire protection.
Oconee 2	11/05/1985	05/21/1986	Fire Watch Patrol Not Established While Fire Detector String Was Operable Abstract: POWER LEVEL - 100%. ON NOVEMBER 5, 1985, AT 0800 HOURS, IT WAS DISCOVERED THAT FIRE DETECTORS IN THE EAST PENETRATION ROOM WERE INOPERABLE FOR GREATER THAN ONE HOUR, WITHOUT A FIRE WATCH PATROL OF THE AREA PERFORMED AS REQUIRED BY TECHNICAL SPECIFICATION 3.17.1. THE CAUSE OF THE INCIDENT WAS DETERMINED TO BE THE LACK OF GUIDANCE OF FIRE DETECTOR STRING OPERABILITY IN STATION DIRECTIVE 4.2.3, 'REPORTING OF FIRE PROTECTION IMPAIRMENT'. IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH A FIRE WATCH PATROL, AND REPAIR THE DEFECTIVE FIRE DETECTOR. PLANNED CORRECTIVE ACTIONS INCLUDE REVISION OF STATION DIRECTIVE, REVISION OF OPERATOR TRAINING PROCEDURES, AND A REVIEW OF THE INVESTIGATION REPORT BY APPROPRIATE PERSONNEL. ALTHOUGH A FIRE WATCH PATROL OF THE EAST PENETRATION ROOM WAS NOT ESTABLISHED AS REQUIRED, THE WEST PENETRATION ROOM INDEPENDENTLY CONTAINS THE NECESSARY EQUIPMENT AND INSTRUMENTATION TO SUPPORT THE SYSTEMS NECESSARY TO PLACE THE UNIT IN A SAFE SHUTDOWN CONDITION.
Oconee 2	07/06/1987	08/05/1987	Fire Wall Breached Causing Violation of Technical Specification Abstract: POWER LEVEL - 087%. ON MARCH 23, 1987 WITH UNIT 2 AT 95% FULL POWER, TWO FIVE INCH HOLES WERE CUT INTO THE FIRE WALL WHICH DIVIDES THE TURBINE BUILDING FROM THE AUXILIARY BUILDING. AFTER THE HOLES WERE CUT, THE JOB WAS DISCONTINUED ON APRIL 20TH. ON JULY 6, 1987 THE BREACH OF THE FIRE BARRIER WAS RECOGNIZED BY A SUPERVISOR WHO WAS TO COMPLETE THE JOB. DURING THE TIME THE FIRE BARRIER WAS BREACHED NO FIRE WATCH WAS POSTED AND THE BARRIER WAS NOT REPAIRED WITHIN 7 DAYS, EITHER OF WHICH IS A VIOLATION OF TECHNICAL SPECIFICATION 3.17.6. THE ROOT CAUSE OF THIS OCCURRENCE WAS DETERMINED TO BE A MANAGEMENT DEFICIENCY. THE JOB SUPERVISOR DID NOT ADEQUATELY REVIEW THE NUCLEAR STATION MODIFICATION (NSM) PACKAGE TO RECOGNIZE THE NSM AS A BREACH IN A FIRE BARRIER AND SUBSEQUENTLY DID NOT INITIATE ACTIONS TO ENSURE COMPLIANCE WITH TECHNICAL SPECIFICATION REQUIREMENTS. THE IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH AN HOURLY FIRE WATCH UNTIL THE FIRE BARRIER COULD BE REPAIRED. THE POSSIBILITY OF A FIRE OCCURRING, SPREADING, AND GOING UNDETECTED IS VERY LOW. THE HEALTH AND SAFETY OF THE PUBLIC WAS NOT AFFECTED BY THIS INCIDENT.
Oconee 2	02/10/1988	03/07/1991	Missed Technical Specification Surveillance Due to Inappropriate Action Causes Fire Detection System to Be Technically Inoperable Abstract: POWER LEVEL - 100%. ON 2/14/91, AT 0830 HOURS WITH UNIT 2 AT 100% FULL POWER, IT WAS DISCOVERED THAT THE TECH SPEC REQUIREMENT TO PERFORM SURVEILLANCE AT MONTH INTERVALS ON THE UNIT 2 FIRE DETECTION SYSTEM HAD BEEN MISSED ON THREE PRIOR OCCASIONS. WHILE PREPARING TO PERFORM IP/1&2/B/0250/05A (FIRE DETECTION SYSTEM ACCESSIBLE DETECTOR FUNCTIONAL TEST AND SENSITIVITY CHECKOUT), AN INSTRUMENT AND ELECTRICAL (I&E) TECHNICIAN QUESTIONED APPLICABILITY TO UNIT 2. AN INVESTIGATION INTO THE PAST PERFORMANCE OF THIS SURVEILLANCE DETERMINED THAT ON 3 OCCASIONS THE UNIT 2 SURVEILLANCE HAD NOT BEEN PERFORMED. IT WAS DETERMINED THAT THE SYSTEM WAS TECHNICALLY INOPERABLE DURING THE TIME PERIODS FROM 2/10/88 TO 4/11/88 AND FROM 2/10/90 TO 8/19/90. THIS EVENT IS ASSIGNED ROOT CAUSE OF INAPPROPRIATE ACTION ON THE PART OF THE TWO I&E SUPERVISORS WHO MARKED THE PROCEDURE STEPS FOR UNIT 2 AS 'NOT APPLICABLE'. IMMEDIATE CORRECTIVE ACTION WAS VERIFICATION OF THE OPERABILITY OF THE UNIT 2 FIRE DETECTION SYSTEM. TO PREVENT FUTURE OCCURRENCE OF THIS EVENT, THE WORK REQUEST INSTRUCTIONS WERE CHANGED TO SPECIFICALLY STATE THAT THIS PROCEDURE IS TO BE PERFORMED ON BOTH UNIT 1 AND UNIT 2. ALSO, THIS EVENT WILL BE REVIEWED WITH I&E SUPERVISORS AND
Oconee 2	12/04/1991	01/10/1992	Breach of Fire Barrier due to Unknown Cause Results In Technical Specification Violation Abstract: POWER LEVEL - 100%. ON DECEMBER 4, 1991 AT APPROXIMATELY 1940 HOURS, OPERATIONS PERSONNEL, ON A ROUTINE PLANT TOUR, DISCOVERED THAT A FIRE BARRIER ON UNIT 2 HAD BEEN BREACHED WITHOUT TAKING COMPENSATORY ACTIONS AS REQUIRED BY TECHNICAL SPECIFICATIONS. THE UNIT WAS OPERATING AT 100% FULL POWER WHEN THIS DISCOVERY WAS MADE. THE BREACH WAS A HOLE APPROXIMATELY THREE QUARTERS INCH IN DIAMETER IN THE CABLE SPREADING ROOM WALL AT PENETRATION NUMBER 2ME4. A FIRE BARRIER INSPECTION WAS PERFORMED IN AUGUST 1990 THAT DOCUMENTED OPERABILITY OF THIS PENETRATION. IT IS UNKNOWN WHEN THE PENETRATION BECAME INOPERABLE AFTER THAT DATE. CABLES HAD BEEN PULLED IN THE IMMEDIATE AREA IN PREPARATION FOR UNIT 2 OUTAGE WORK. UPON THE DISCOVERY OF THIS BREACH, COMPENSATORY MEASURES WERE TAKEN UNTIL THE BREACH WAS RESEALED AT APPROXIMATELY 0940 HOURS ON DECEMBER 5, 1991. THE CAUSE OF THIS EVENT IS ASSIGNED UNKNOWN SINCE IT COULD NOT BE DETERMINED HOW OR WHEN THE BREACH ORIGINATED. CORRECTIVE ACTIONS WILL INCLUDE A REVIEW OF THIS EVENT BY PERSONNEL WHO PERFORM MAINTENANCE OR MODIFICATIONS IN THE AREAS REQUIRING FIRE BARRIERS.
Oconee 2	01/22/1992	03/19/1992	Breaches Of Firewalls Due To A Management Deficiency Results In Technical Specification Violation Abstract: POWER LEVEL - 000%. ON JANUARY 22, 1992 AT APPROXIMATELY 1030 HOURS, A MEMBER OF THE SAFETY REVIEW GROUP WHILE CONDUCTING A REVIEW OF FIRE BARRIERS, DISCOVERED THAT A FIREWALL HAD BEEN BREACHED AT TWO LOCATIONS WITHOUT TAKING COMPENSATORY ACTIONS AS REQUIRED BY TECHNICAL SPECIFICATIONS. UPON THE DISCOVERY OF THIS BREACH, COMPENSATORY MEASURES WERE TAKEN UNTIL THE BREACHED FIREWALL WAS REPAIRED AT APPROXIMATELY 1600 HOURS ON JANUARY 23, 1992. ON FEBRUARY 6, 1992 AT APPROXIMATELY 1010 HOURS, OPERATIONS PERSONNEL, ON A ROUTINE PLANT TOUR DISCOVERED A FIREWALL IN UNIT 3'S CABLE ROOM HAD BEEN BREACHED WITHOUT TAKING COMPENSATORY ACTIONS AS REQUIRED BY TECHNICAL SPECIFICATIONS. ALSO ON THIS DATE, AN INSPECTION OF ALL THREE UNIT'S CABLE AND EQUIPMENT ROOMS WAS INITIATED. THE INSPECTION WAS COMPLETED ON FEBRUARY 21, 1992 AND AS A RESULT THIRTY TWO ADDITIONAL BREACHES WERE DISCOVERED. DURING THIS PERIOD UNITS 1 AND 3 WERE OPERATING AT 100% FULL POWER AND UNIT 2 WAS AT COLD SHUTDOWN FOR A REFUELING OUTAGE. THE ROOT CAUSE OF THESE EVENTS WAS DETERMINED TO BE MANAGEMENT DEFICIENCY, LESS THAN ADEQUATE TRAINING GIVEN, BECAUSE PERSONNEL INTERVIEWED DID NOT UNDERSTAND THAT PENETRATING ONE SIDE OF A BLOCKWALL CONSTITUTED A BREACHED FIREWALL.
Oconee 3	02/26/1980	04/11/1980	Two Breaches of Fire Barriers Discovered Abstract: An hourly fire watch was established, and the fire detection instrumentation was verified to be operable, as required by Tech. Specs. Therefore, the incident was not considered to be significant with respect to safe operation, and the health and safety of the public were not affected. Firestop material had been removed from one sleeve, although no reason for its removal could be determined. The other sleeve had a welded plate at one end, but a hole had been cut in the plate. Firestop material was installed in both penetrations. A numbering and inspection procedure for fire barrier penetrations will be implemented.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Oconee 3	11/23/1980	02/19/1981	Fire Detector String B-2 Removed From Service Abstract: On November 23, 1980, the fire detection string B-2 went into an alarm condition. A subsequent investigation revealed that no fires were present. The string was then declared inoperable, and a fire watch was established over the affected area. The string was declared operable at 1245 the same day. This constitutes operation in a degraded mode per Technical Specification 3.17.1 and is thus reportable pursuant to Technical Specification 6.6.2.1.b(2).
Oconee 3	12/04/1980	01/02/1981	Abstract: ON 12-4-80, A BLOCK OF 'FIREWALL 50' WAS FORCED OUT OF THE PIPE SLEEVE AND INTO THE PERSONNEL ELEVATOR LOBBY ON THE THIRD FLOOR WHEN AN OPERATOR TRAINEE STOOD ON THE PENETRATION. A FIRE WATCH WAS INITIATED IMMEDIATELY AND MAINTAINED UNTIL THE FIRE BARRIERS WERE RESTORED. THUS, THIS INCIDENT WAS OF NO SIGNIFICANCE WITH RESPECT TO SAFE OPERATION. THIS EVENT WAS THE RESULT OF AN UNUSUAL SERVICE CONDITION IN THAT THE OPERATOR TRAINEE PLACING HIS FOOT ON THE PENETRATION RESULTED IN THE FIREWALL BEING DISLODGED FROM THE SLEEVE. THE REPAIR WAS MADE BY WELDING A PIECE OF CARBON STEEL PLATE ON TOP OF THE PIPE SLEEVES WHERE THEY PROTRUDED THROUGH THE FLOOR. ALL UNUSED PENETRATION FIRE BARRIERS LOCATED WHERE THEY COULD BE STEPPED ON WILL BE SIMIARLY PROTECTED.
Oconee 3	12/15/1980	01/14/1981	Fire detector string No. 8 was declared inoperable Abstract: Fire detector string No. 8 was declared inoperable due to spurious alarms on the string. The cause is attributed to an unusual service condition whereby excessive dust had built up on the detectors and increased their sensitivity. This is a recurring incident at oconee. An hourly fire watch was established. Fire detector 3x1 was replaced, and the operability of the string was verified. The problem of dust collection on Pyr-a-Larm detectors is being reviewed based upon the physical mounting of various detectors and the frequency of detector cleaning.
Oconee 3	04/22/1981	05/22/1981	Reach of Fire Barrier Between Turbine Building and Ventilation and Equipment Room Abstract: A breach of the fire barrier between the Unit 3 Turbine Building and the ventilation and equipment room in penetration 3-T-T-1 was discovered. The breach measured 10 inches deep, with a 2 inch opening at one end and increasing to a 6 inch opening at the other. After the discovery of the breach the required fire watch was maintained until the breach was repaired. The cause of the breach was due to the pulling of electrical cables through the barrier to supply the Unit 3 Turbine building offices. A fire watch was established until the breach was repaired as required. The breach was repaired using RTV foam.
Oconee 3	02/08/1991	04/19/1991	Inappropriate Action, Failure to Follow Procedure, During a Nuclear Station Modification Implementation Results in a Degraded Fire Barrier Abstract: POWER LEVEL - 000%. 0N 2/8/91, DURING THE IMPLEMENTATION OF A NUCLEAR STATION MODIFICATION (NSM), A WORK CREW INSTALLED 3/4 INCH CONDUIT THROUGH THE FIREWALL SEPARATING THE EAST AND WEST PENETRATION ROOMS FOR UNIT 3. THE BREACH WAS NOT SEALED NOR WAS A FIRE WATCH ESTABLISHED AS REQUIRED BY TECH SPECS. THE CREW HAD MISTAKENLY ASSUMED THE WALL WAS NOT A FIREWALL AND FAILED TO FOLLOW THE IMPLEMENTATION PROCEDURE FOR THE NSM. ON 3/20/91 , AT 0800 HOURS, A TECHNICAL SUPPORT LEADER WAS REVIEWING THE PAPERWORK DUE TO QUESTIONS BY ONE OF THE CREW MEMBERS CONCERNING THE UNSEALED PENETRATION. IT WAS DETERMINED THAT THE BREACH HAD INDEED BEEN MADE TO A FIREWALL WITHOUT THE REQUIRED COMPENSATORY ACTIONS. THEY THEN INITIATED ACTION TO GET THE BREACH SEALED. THE REPAIRS WERE COMPLETED THAT AFTERNOON AND THE FIRE BARRIER WAS DECLARED OPERABLE AT 1950 HOURS. UNIT 3 WAS AT 100% FULL POWER WHEN THE INCIDENT OCCURRED AND REMAINED THERE UNTIL IT WAS SHUTDOWN FOR A SCHEDULED REFUELING OUTAGE ON 2/13/91. THE UNIT REACHED COLD SHUTDOWN ON 2/15/91, AT 1235 HOURS. THE ROOT CAUSE OF THIS INCIDENT WAS ASSIGNED INAPPROPRIATE ACTION, FAILURE OF THE WORK CREW TO FOLLOW PROCEDURE. A CONTRIBUTING CAUSE WAS MANAGEMENT
Oyster Creek	03/09/1980	06/16/1980	Abstract: VALVE. THE FIRE SUPPRESSION WATER SYSTEM WAS REMOVED FROM SERVICE TO REPLACE FIRE DIESEL PUMP 1-1 DISCHARGE VALVE V-9-4 WHICH WAS DISCOVERED DURING A SURVEILLANCE TEST TO HAVE A CRACK IN THE VALVE BODY. WHILE THE SYSTEM WAS OUT OF SERVICE FOR 5 1/2 HOURS, A FIRE TRUCK PUMPER WAS USED AS A BACK-UP SUPPLY OF FIRE WATER. THE CAUSE OF THE CRACK IN THE BODY OF THE VALVE IS UNDER INVESTIGATION. VALVE V-9-4 WAS REMOVED AND REPLACED WITH A NEW VALVE.
Oyster Creek	06/05/1980	06/18/1980	The Fire Barriers Protecting Safety Related Areas were not Intact Abstract: Following an inspection of fire barriers protecting safety related areas, several penetrations were found in a degraded condition ir violation of t.s. the barrier penetrations of concern were conduit and cable penetrations which were not properly sealed. Almost 21 hours were allowed to elapse between successive inspections of the degraded barriers. Fire watch patrols were, therefore, not conducted every 2 hours as required by t.s. the cause is deficiencies in the installation specifications and procedures for fire barrier penetrations and personnel error for the delay in establishing fire watches. A fire watch of the areas of concern was conducted until all of the penetrations were repaired. Inspections of fire barriers are continuing.
Oyster Creek	07/21/1981	08/21/1981	Discovery of a Nonfunctional Fire Barrier Abstract: During a QA surveillance, a nonfunctional fire barrier was discovered. The GSS wrote a maintenance job order to have the penetration repaired. During the next shift, electrical maintenance tried to complete the job, but the penetration couldn't be located. Another filled penetration was mistaken for the nonfunctional barrier and the job order was closed. The cause of the incident was due to an error in communications. When the mistake was discovered, a fire watch was established and the penetration was repaired with 3 hour fire barrier sealant. Personnel involved in the incident were instructed about the importance of the fire watch and to provide quality information to succeeding shifts.
Oyster Creek	06/06/1984	06/29/1984	Loss of Primary Fire Water Suppression System Abstract: POWER LEVEL - 000%. ON JUN 6, 1984 AT APPROX 1330 HRS, POST INDICATING VALVE V-9-12, WHICH BRANCHES OFF THE 14 INCH FIRE WATER MAIN WAS DAMAGED BY A MAINTENANCE VEHICLE. THIS RESULTED IN A LOSS OF THE FIRE SUPPRESSION WATER SYSTEM. THIS 14 INCH LINE IS FED BY THE 2 DIESEL DRIVEN FIRE PUMPS AND SUPPLIES AN UNDERGROUND LOOP WHICH FEEDS THE FIRE SUPPRESSION WATER SYSTEM. IMMEDIATE ACTIONS PERFORMED CONSISTED OF ISOLATING THE LINE WHICH CONTAINED THE DAMAGED VALVE. THE REDUNDANT FIRE PROTECTION WATER SYSTEM WAS THEN TESTED FOR OPERABILITY AND ALIGNED TO SUPPLY THE UNDERGROUND LOOP WHICH FEEDS THE FIRE SUPPRESSION WATER SYSTEM. THE REDUNDANT FIRE PROTECTION SYSTEM IS A MANUALLY INITIATED SYSTEM CONSISTING OF A TANK, PUMP, MOTOR, CONTROLS AND INTERCONNECTING PIPING. THE IMMEDIATE CORRECTIVE ACTION WAS TO REPAIR THE DAMAGED POST INDICATING VALVE AND RESTORE THE INTEGRITY OF THE PRIMARY FIRE WATER SYSTEM. THIS WAS ACCOMPLISHED IN APPROX NINE AND ONE-HALF HRS. AS A RESULT OF THIS INCIDENT ALL POST INDICATING VALVES IN SIMILAR HIGH TRAFFIC AREAS WERE INSPECTED FOR ADEQUATE PHYSICAL PROTECTION.
Oyster Creek	04/26/1987	06/05/1987	Failure To Post A Fire Watch For A Non-Functional Fire Barrier Due To Personnel Error In Failing To Follow Procedure Abstract: POWER LEVEL - 000%. ON APRIL 26, 1987 DURING A PLANT OUTAGE, 'THERMO-LAG' FIRE BARRIER MATERIAL INSTALLED DURING THE 10 CFR 50, APPENDIX R MODIFICATION WORK WAS REMOVED TO FACILITATE MAINTENANCE ON DRYWELL PENETRATION NUMBER 54. A FIRE WATCH PATROL WAS POSTED APPROXIMATELY 18 HOURS AFTER THE FIRE BARRIER WAS REMOVED, EXCEEDING TECHNICAL SPECIFICATIONS SECTION 3.12.E.2 REQUIREMENTS FOR A FIRE WATCH TO BE POSTED WITHIN ONE HOUR. THE PLANT WAS IN A COLD SHUTDOWN CONDITION WITH THE REACTOR COOLANT TEMPERATURE LESS THAN 212F. THE CAUSE OF THE EVENT WAS ATTRIBUTED TO PERSONNEL ERROR IN FAILURE TO FOLLOW ESTABLISHED PROCEDURES GOVERNING WORK PRACTICE. THE SAFETY SIGNIFICANCE OF THE EVENT IS MINIMAL BECAUSE THE PLANT WAS IN A COLD SHUTDOWN CONDITION. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO ENSURE A FIRE WATCH WAS POSTED. FUTURE CORRECTIVE ACTIONS INCLUDE JOB SUPERVISOR TRAINING, REQUIRED READING, AND IMPROVED INSTRUCTIONS TO CONTRACTORS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Oyster Creek	07/07/1988	08/08/1988	Electromatic Relief Valves and Cleanup System Valves Circuitry Does Not Meet Appendix R Criteria Due to Design Deficiency Abstract: POWER LEVEL - 100%. ON JULY 7, 1988 AT 1700 HOURS IT WAS DISCOVERED THAT CONTROL CIRCUITRY FOR FOUR ELECTROMATIC RELIEF VALVES (EMRVS) AND, SUBSEQUENT TO THIS DATE, TWO REACTOR WATER CLEANUP SYSTEM VALVES, DID NOT MEET 10CFR50 APPENDIX R CRITERIA. AT THE TIME OF DISCOVERY THE PLANT WAS OPERATING AT FULL POWER, BUT THE CONDITION HAS EXISTED SINCE DECEMBER 1986 THROUGH VARIOUS OPERATING CONDITIONS. WHEN MODIFICATIONS WERE MADE TO THE EMRVS AND CLEANUP SYSTEM VALVES TO COMPLY WITH APPENDIX R CRITERIA THE COMPONENTS WERE NOT PROTECTED AGAINST SPURIOUS ACTUATION DUE TO MULTIPLE SHORTS OR COMPONENTS WERE NOT PROTECTED AGAINST SPURIOUS ACTUATION DUE TO MULTIPLE SHORTS OR HOT SHORTS FROM EXTERNAL SOURCES. THE SAFETY SIGNIFICANCE OF THE EMRV CONDITION IS MINIMAL, BECAUSE THE CRITERIA IN THE APPENDIX R BASIS OF NOT UNCOVERING THE CORE WAS NOT VIOLATED. IT IS ASSUMED THAT THE CLEANUP SYSTEM VALVE CONDITION WOULD PLACE THE PLANT OUTSIDE ITS DESIGN BASIS. THE APPARENT CAUSE OF THE CONDITION IS FAILURE OF THE MODIFICATION DESIGNERS TO APPROPRIATELY APPLY APPENDIX R REQUIREMENTS FOR HIGH/LOW PRESSURE INTERFACES. THE EMRV CIRCUITS ARE BEING MODIFIED SO THAT THE EMRVS MAY BE CLOSED IN THE EVENT OF SPURIOUS ACTUATION DUE TO A FIRE ON THE
Oyster Creek	10/22/1988	11/21/1988	Fire Watch Required by Technical Specifications Missed Due to Inadequate Guidance to Temporary Employees. Abstract: POWER LEVEL - 000%. ON 10/22/88, FIRE WATCH DUTY PERSONNEL FAILED TO PERFORM AN HOURLY FIRE WATCH TOUR SCHEDULED FOR 0300 HOURS. THREE ADDITIONAL FIRE TOURS WERE MISSED AT HOURLY INTERVALS FROM 1000 TO 1200 HOURS ON THE SAME DATE. THE SAFETY SIGNIFICANCE OF THIS EVENT IS CONSIDERED MINIMAL DUE TO PHYSICAL SEPARATION AND INSTALLED FIRE DETECTION AND SUPPRESSION SYSTEMS. TEMPORARY CONTRACTOR EMPLOYEES WERE BEING USED TO PERFORM THIS DUTY AND ALSO TO RELIEVE OTHER CONTRACTOR PERSONNEL PERFORMING TOOL ACCOUNTABILITY. THOSE RELIEVED FROM TOOL ACCOUNTABILITY WERE TO ASSUME FIRE WATCH DUTY DURING THE RELIEF PERIOD. THE TOOL ACCOUNTABILITY PERSONNEL DID NOT REALIZE THAT THEY WERE TO PERFORM THE FIRE WATCH DUTIES. THE CAUSE OF THE EVENT WAS ATTRIBUTED TO INADEQUATE GUIDANCE AND DIRECTION BEING PROVIDED TO THE TEMPORARY CONTRACTOR EMPLOYEES. THERE WAS NO FORMAL PROCEDURE TO ESTABLISH REQUIREMENTS AND VERIFY COMPLETION OF THE FIRE WATCHES. IMMEDIATE ACTION WAS TO TEMPORARILY DISCONTINUE USE OF THE TEMPORARY EMPLOYEES. LATER, THESE PERSONNEL RESUMED THE DUTY BUT WERE NO LONGER REQUIRED TO RELIEVE THE OTHER PERSONNEL. IN ADDITION, A LOG HAS BEEN ESTABLISHED IN THE CONTROL ROOM REQUIRING SIGNATURES HOURLY FOR EACH AREA TOURED.
Oyster Creek	12/27/1988	01/26/1989	Fire Watch Required by Technical Specification Missed Due to Failure of Communications During Shift Change. Abstract: POWER LEVEL - 000%. ON DECEMBER 27, 1988, THE 0000 TO 0800 SHIFT HOURLY FIRE WATCH TOURS WERE BEING PERFORMED BY A FIRE TECHNICIAN WORKING OVERTIME PRIOR TO HIS NORMAL SHIFT. AT 0800 THE TECHNICIAN RESUMED HIS NORMAL DUTIES BUT FAILED TO PROVIDE A TURNOVER TO A RELIEF ON FIRE WATCH. SHORTLY AFTER 0800 THE TECHNICIAN REQUESTED ASSISTANCE WITH A SURVEILLANCE TEST FROM THE GROUP SHIFT SUPERVISOR (GSS). SHORTLY BEFORE 0900 CONTROL ROOM PERSONNEL DISCOVERED THAT THE FIRE WATCH LOG HAD NOT BEEN SIGNED FOR THE REQUIRED HOURLY TOUR. IT WAS THEN ESTABLISHED THAT NO ONE HAD ASSUMED THE DUTIES BUT THERE WAS INADEQUATE TIME TO COMPLETE THE REQUIRED TOUR. THE CAUSE OF THE EVENT WAS ATTRIBUTED TO PERSONNEL ERROR IN INADEQUATE COMMUNICATION. IMMEDIATE ACTION WAS TO ASSIGN A NEW FIRE WATCH TO IMMEDIATELY BEGIN THE NEXT REQUIRED TOUR. LATER ON THE SAME DAY, A REQUIREMENT FOR THE FIRE WATCH RELIEF TO SIGN ON THE FIRE WATCH LOG WAS INITIATED. THIS REQUIREMENT WILL BE FORMALIZED BY PROCEDURE. THE SAFETY SIGNIFICANCE OF THIS EVENT IS CONSIDERED MINIMAL DUE TO THE FACT THAT THE MISSED FIRE WATCH WAS QUICKLY DETECTED AND CORRECTED AND ALL FIRE DETECTION/SUPPRESSION SYSTEMS FOR THE AFFECTED AREAS WERE OPERABLE.
Oyster Creek	01/23/1990	02/22/1990	Failure to Set Continuous Fire Watch Due to Inadequate Procedural Guidance and Personnel Error Abstract: POWER LEVEL - 000%. ON 1/23/90, A TROUBLE ALARM WAS RECEIVED FOR A FIRE ZONE IN THE CABLE SPREADING ROOM. INITIAL INVESTIGATION COULD NOT DETERMINE THE CAUSE OF THE TROUBLE ALARM, BUT FAILURE OF THE DETECTOR SUBSYSTEM WAS NOT SUSPECTED. INVESTIGATION ON 2/8/90, FOUND THAT ALL DETECTORS FOR THE SUBSYSTEM WERE DISABLED AND THEREFORE THE DELUGE SYSTEM FOR THIS ZONE WOULD NOT HAVE AUTOMATICALLY INITIATED, MAKING IT INOPERABLE. A CONTINUOUS FIRE WATCH IS REQUIRED TO BE SET WHEN AN AUTOMATIC DELUGE SYSTEM IS INOPERABLE, BUT THIS WATCH WAS NOT ESTABLISHED UNTIL FEBRUARY 8TH. THE FAILURE TO SET THE FIRE WATCH WAS CAUSED BY INADEQUATE PROCEDURAL GUIDANCE. THE FAILURE TO TAKE PROMPT ACTION TO EVALUATE AND CORRECT THE PROBLEM IS ATTRIBUTED TO PERSONNEL ERROR. THIS EVENT IS CONSIDERED TO HAVE MINIMAL SAFETY SIGNIFICANCE BECAUSE THE THREE OTHER FIRE DETECTION SUBSYSTEMS IN THIS ROOM WOULD HAVE ALARMED IN THE EVENT OF A FIRE. OPERATORS INVESTIGATING THE ALARM WOULD STILL HAVE INITIATED THE AFFECTED DELUGE SYSTEM MANUALLY. APPLICABLE PROCEDURES WILL BE REVISED AS NEEDED AND A CRITIQUE WILL BE CONDUCTED TO EVALUATE THE HUMAN PERFORMANCE PROBLEMS. IN ADDITION, THIS LER SATISFIES TECHNICAL SPECIFICATION 3.12.A.2.B AND 3.12.C.3 REQUIREMENTS THAT A SPECIAL REPORT BE
Oyster Creek	09/26/1990	10/24/1990	Technical Specification Violation due to Missed Fire Watch Caused by Personnel Error Abstract: POWER LEVEL - 100%. ON SEPTEMBER 26, 1990 AT APPROXIMATELY 1500 HOURS, A PREVENTIVE MAINTENANCE ACTIVITY ASSOCIATED WITH THE C BATTERY ROOM VENTILATION WAS COMPLETED AND THE HOURLY FIRE WATCH FOR THE C BATTERY ROOM WAS SECURED BY THE ON DUTY GROUP SHIFT SUPERVISOR. AT 1700 HOURS, AFTER SHIFT TURNOVER, THE NEW ON DUTY GROUP SHIFT SUPERVISOR REVIEWED THE FIRE WATCH PATROL LIST AND REALIZED THAT THERE WAS STILL A REQUIREMENT FOR THE C BATTERY ROOM FIRE WATCH, DUE TO A MALFUNCTIONING DOOR. THE FIRE WATCH WAS IMMEDIATELY REINSTATED, HOWEVER ONE OF THE HOURLY FIRE WATCHES WAS MISSED. THE CAUSE OF THIS OCCURRENCE IS ATTRIBUTED TO PERSONNEL ERROR. A CONTRIBUTING FACTOR TO THIS OCCURRENCE IS THE PRIORITY ASSIGNED TO THE MAINTENANCE ACTIVITY ASSOCIATED WITH REPAIRING THE MALFUNCTIONING DOOR. BECAUSE ALL FIRE DETECTORS IN THE C BATTERY ROOM, AS WELL AS ADJACENT AREAS WERE OPERABLE. THE MISSED FIRE WATCH WAS QUICKLY RECOGNIZED AND CORRECTED. FOR CORRECTIVE ACTION, MANAGEMENT WILL ENSURE APPROPRIATE PERSONNEL ARE AWARE OF THE NEED TO GIVE A HIGH PRIORITY TO ACTIVITIES ASSOCIATED WITH THE RESTORATION OF FIRE PROTECTION EQUIPMENT. AS REQUIRED READING FOR ALL LICENSED PERSONNEL IN THE OPERATIONS DEPARTMENT.
Oyster Creek	03/01/1991	07/26/1991	Technical Specification Violation Due to Missed Firewatch Due to Personnel Error Abstract: POWER LEVEL - 000%. ON MARCH 1, 1991 AT 1755 HOURS DELUGE SYSTEMS WERE TAKEN OUT OF SERVICE WITHOUT ESTABLISHING A CONTINUOUS FIREWATCH IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS. THE CAUSE OF THIS OCCURRENCE IS ATTRIBUTED TO A FAILURE TO ADEQUATELY CONTROL FIREWATCH ACTIVITIES. THIS EVENT IS CONSIDERED TO HAVE MINIMAL SAFETY SIGNIFICANCE BECAUSE ALL OF THE FIRE DETECTION SENSORS AND SYSTEMS FOR THE AFFECTED AREAS WERE OPERABLE AND WOULD HAVE PROVIDED AN ALARM TO THE CONTROL ROOM HAD A FIRE CONDITION OCCURRED. A FIRE CONDITION THEREFORE WOULD HAVE BEEN DETECTED EARLY AND THE DELUGE SYSTEMS COULD HAVE BEEN MANUALLY ACTUATED OR ANY ONE OF EIGHT HOSE STATIONS UTILIZED TO EXTINGUISH A FIRE. CORRECTIVE ACTION INCLUDES A LESSONS-LEARNED LECTURE FOR FIRE WATCH PERSONNEL AND A REVISION TO THE PROCEDURE CONTROLLING FIRE WATCHES.
Oyster Creek	08/03/1991	08/27/1991	Failure to Set Continuous Fire Watch Due to Personnel Error & Inadequate Guidance Abstract: POWER LEVEL - 000%. ON AUGUST 3, 1991 A TROUBLE ALARM WAS RECEIVED FOR A FIRE ZONE ON THE 51' ELEVATION OF THE REACTOR BUILDING. THE CAUSE OF THE TROUBLE ALARM COULD NOT BE DETERMINED, BUT FAILURE OF A DETECTOR CIRCUIT WAS RECOGNIZED AS A POTENTIAL PROBLEM. AN HOURLY FIRE WATCH WAS SET, ALTHOUGH A CONTINUOUS WATCH IS REQUIRED FOR DETECTOR CIRCUIT FAILURE WHICH RESULTS IN THE INOPERABILITY OF THE ASSOCIATED FIRE SUPPRESSION SYSTEM. ON AUGUST 5TH, TROUBLESHOOTING DETERMINED THAT DETECTORS FOR THE AFFECTED CIRCUIT WERE DISABLED AND THAT THE DELUGE SYSTEM FOR THIS AREA WOULD NOT HAVE AUTOMATICALLY INITIATED, RENDERING IT INOPERABLE. THE FAILURE TO SET THE APPROPRIATE FIRE WATCH IS ATTRIBUTED TO PERSONNEL ERROR, INADEQUATE GUIDANCE, AND THE FAILURE TO TAKE PROMPT ACTION IN EVALUATING THE PROBLEM. THIS EVENT IS CONSIDERED TO HAVE MINIMAL SAFETY SIGNIFICANCE BECAUSE THE OTHER FIRE DETECTION CIRCUIT IN THIS AREA WOULD HAVE ALARMED IN THE EVENT OF A FIRE AND OPERATORS WOULD STILL HAVE BEEN ABLE TO INITIATE THE ASSOCIATED DELUGE SYSTEM MANUALLY. ONCE IT WAS RECOGNIZED THAT THE AREA DELUGE SYSTEM WAS INOPERABLE, A CONTINUOUS FIRE WATCH WAS ESTABLISHED. GUIDANCE HAS BEEN GIVEN TO THE OPERATORS VIA MEMO THAT A DELUGE SYSTEM IN A FIRE AREA IS TO BE CONSIDERED INOPERABLE WHEN A

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Oyster Creek	02/27/1998	03/30/1998	480 V Switchgear Room Fire Barrier Deficiency due to Inadequate Fire Barrier Specifications Abstract: On February 27, 1998, at approximately 1400 hours, it was determined that a one hour fire barrier required by 10 CFR 50 Appendix R was not installed on approximately seven feet of conduit in Fire Zone OB-FZ-6B. This fire zone encompasses the "B" 480 V Switchgear Room and the adjacent corridor. After discovery, existing compensatory measures in Fire Zone OB-FZ-6B due to degraded fire barriers were reviewed and determined to be adequate for the unprotected circuit. This circuit is associated with the operation of the ventilation system for Fire Zone OB-FZ-6A ("A" 480 V Switchgear Room). Protection of the circuit in the "B" 480 V Switchgear Room portion of Fire Zone OB-FZ-6B was added to the ongoing fire barrier upgrade work and the installation of an operable one hour fire barrier was completed on March 6, 1998. The root cause of this event was a failure to adequately specify the required protection for the conduit in question and translate that protection into construction requirements when the fire barriers were originally installed. Two of the seven fire zones where conduit fire barriers are installed were reviewed in detail and no other deficiencies were found. This omission was determined to be an isolated occurrence.
Oyster Creek	05/01/1998	05/29/1998	Fire Program Required Testing missed due to Inadequately Transferring Test Requirements into Procedures Abstract: During a review of the fire protection testing requirements for the Heating, Ventilation and Air Conditioning (HVAC) systems for the Control Room and the Lower Cable Spread Room (LCSR), it was noted that a minimum of one duct detector was required to be operable in each of the two Control Room systems. The testing requirements for the detectors in the 'B' Control Room HVAC system were never incorporated into the fire protection testing procedures. The safety significance of this event is minimized since in the event of a fire that would cause smoke intrusion via the 'B' HVAC system, it is likely that the smoke would have reached the Control Room ceiling detectors early enough to initiate a system B shutdown and damper realignment. Interim guidance was provided to the operators that if the 'B' HVAC system were placed into service prior to successful testing of the duct detector, a firewatch would need to be posted as required by the Fire Protection Program. The 'B' HVAC system was returned to service on May 2, 1998, at 0122 hours with a firewatch posted as required. On May 4, 1998, the duct detectors were successfully tested, restoring the system to full operability. Since the modification that installed the 'B' train HVAC system, significant changes have been made to the GPUN Configuration Control process to ensure proper
Oyster Creek	04/02/1999	04/30/1999	Cable Trays Did Not Meet Criteria due to Inadequate Engineering Review Abstract: On April 2, 1999, it was discovered that the New Cable Tray System, located in the Reactor Building, did not meet the cable separation criteria which were used in the original design. The New Cable Tray System was installed in 1981 for future use. The tray installation package indicated that the use of covers, where appropriate, would be required when cables were installed. However, during subsequent modifications when new cables were installed, covers were not installed. The apparent cause of this occurrence was determined to be a failure to translate the original design criteria into the Cable Installation Standard. The significance of this discovery is minimal as the trays are lightly loaded and the cables involved carry only instrumentation and control cables. The cables meet appropriate industry standards for fire retardance. A fire watch was stationed immediately upon this discovery as a compensatory measure. Long term corrective actions include a plant walkdown and a revision to the Cable Installation Standard.
Oyster Creek	05/11/2000	06/09/2000	Fire Barrier Enclosure Does Not Meet Design Requirements Due to Personnel Error Abstract: On,May 11,2000,at approximately 1300 hours,it was determined that Oyster Creek was outside the design basis for mitigating the consequences of afire. The evaluation for compliance, with Appendix R utilized a fire resistance rating of three hours in accordance with Section III .G.2.a. criteria for the fire barriers enclosing and separating Fire Areas TB-FA-3A and TB-FA-3B,Subsequently, it was determined that while the wall and roof panels of the enclosures are covered with a sufficient thickness of fireproofing material to provide a three hour fire rating, the thickness of the fireproofing material covering the structural steel only provides a fire resistance rating of two hours. The root cause of this condition was the failure to properly translate design basis criteria from Appendix A to Branch Technical Position APCSB 9.5-1 for the fire barrier rating requirements to construction documents and then to properly reflect as-built conditions in the FHAR. Given the fixed fire detection and suppression features in the area,the existing fire resistance rating of the barriers in question, the low combustible loading and potential for a fire and the availability of a trained fire brigade, the safety significance of this condition is considered to be minimal .Additional fireproofing material will be applied to the structural steel in
Oyster Creek	10/10/2002	04/02/2004	Insufficient Appendix R Electrical Separation due to Void in Sand Abstract: A void was discovered in an area expected to be filled with sand beneath a portion of the two 480 VAC switchgear rooms. This void created an open area between two 4160 VAC feeder conduits. Because of the void, Appendix R electrical separation criteria were no longer met. Apparently, sand may not have completely filled the area and/or had settled over time creating this void. The safety significance of this discovery is minimal, as there is no combustible material in the void. Both cables are contained in conduit and have sufficient Class 1E electrical separation. Immediately upon discovery, a continuous fire watch was stationed. Additional actions were subsequently taken to open communication between the void and adjacent smoke detectors. This would provide early warning early warning of a degraded condition. Adequate separation will be provided by re-filling the void between the two 4160 VAC feeder conduits to meet Appendix R requirements. The sand fill will be monitored. No similar events have occurred.
Palisades	01/19/1981	02/16/1981	The Southwest Cable Penetration Room Fire Sprinkler Supply Line Failed Abstract: During fire sprinkler system testing, the drain valve in the southwest cable penetration room fire sprinkler supply line failed. The condition occurred during opening of the valve. A continuous fire watch with fire suppression equipment was established. Sprinkler system was inoperable for approx. 20 minutes. The valve (MV 504 FPS) had a previous history of leakage which had been controlled by tightening of the valve bonnet. Overtightening apparently occurred, resulting in weaking of the valve and leading to failure (bonnet became separated from valve body).
Palisades	05/27/1981	06/25/1981	A Relay Coil Failure Caused the Event. Abstract: Following a test of annunciator panels, fire detection alarms would not reset. A relay coil failure caused the event. The relay was repaired and operability restored within 9 hours.
Palisades	10/16/1981	11/19/1981	Inoperable Fire Protection System Annuciator Panel Abstract: During a tour of the control room, an operator discovered that fire protection alarm panel C-47C was inoperable. One fire protection alarm zone (cable spreading room) had a dead circuit; additionally, alarms on the panel could not be reset. Fire watch patrols initiated per Tech. Spec. Dead circuit caused by blown fuse; replacement of fuse restored circuit to operable status. Inability to reset alarms resulted from failed relay (Honeywell P/N 801725C). Relay was replaced and panel restored to operable status.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Palisades	10/25/1981	11/25/1981	Open Penetration Fire Barrier Abstract: An open fire barrier was found in the west engineered safeguards pump room; no fire watch was present as required by T.S. the requirement for a fire watch had apparently been overlooked; contractor supervisory personnel have been instructed regarding their responsibilities with respect to fire watches. Additionally, it was determined that no formal mechanism to transfer fire watch responsibilities from contractor to site personnel exists; a mechanism will be developed.
Palisades	10/02/1982	11/01/1982	Inoperable Fire Alarms Abstract: A recently installed fire sprinkler alarm malfunctioned, causing an alarm on panels C-47 and C-13. C-13 does not have a reflash capability. Since C-47 is a secondary panel located in the control room but out of sight of the operators, additional fire protection alarms could remain undetected up to one hour. Alarm inoperability affects operability of instruments listed in Tech Spec 3.22.1. Condition reportable per Tech Spec 6.9.2.b(2). C-13 does not have reflash capability, therefore additional alarms annunciated on the C-47 panel are not transmitted to C-13. Fire watch established in space with defective detector and hourly checks of C-47 panel conducted until detector was repaired on 10-4-82. A design change to provide reflash capability is being evaluated.
Palisades	12/20/1982	01/18/1983	Fire Detection Panel Inoperable Abstract: While conducting a routine shift surveillance, fire system alarm panel C-47 was found to be inoperable due to a loss of power. Hourly fire watch patrols were conducted while panel was inoperable, therefore no threat to public health or safety. Condition reportable per Tech Spec 3.22.1.1 and 6.9.2.b(2). Power loss caused by damaged wires in remote flow switch which caused a short circuit in C-47 panel (relay contacts arced). Damaged wires and contacts were repaired and the system returned to service on 12-23-82. Modification to C-47 panel to provide additional indication of a power failure will be evaluated.
Palisades	07/20/1983	08/29/1983	Inoperable Fire Detection Instrumentation Abstract: During normal power operation on July 20, 1983, at 0055, an alarm was observed on Panel C-13 indicating that fire system panel C-47 was off normal. The alarm had been in for an undetermined period of time. Subsequently, the breaker which powers panel C-47 was found to be tripped causing the alarm. In this condition, additional fire protection alarms (flow type) would not be transmitted to panel C-13 for operator detection. The occurrence was determined reportable per Tech Spec 3.22.1.1 and 6.9.2.b(2) on July 28, 1983. Breaker trip possibly caused by an electrical discharge from welding activities to a fire system flow detector. Action to clear the alarm or initiate hourly fire tours of affected areas was not performed. Upon discovery, the breaker was reset and operation of panel C-47 was verified. Event discussed with operators who were on shift during the preceding 24 hours.
Palisades	11/21/1983	12/02/1983	Fire Protection System Abstract: During review of the Fire Protection System and the associated Tech Spec Surveillance Procedure for fire detector instrumentation, it was discovered that the Tech Spec surveillance procedure (SO-6) tests only one of the three water flow switch detectors required by Tech Spec table 3.22.1 for switchgear room 1-D. Hourly fire watch tours were already being maintained in the area per Tech Spec 3.22.5.1. The two flow switches in question were subsequently tested and their operability verified. Condition reportable per Tech Spec 3.22.1.1 and 6.9.2a(6). Cause attributed to procedural inadequacy resulting from a misleading statement in the procedure's basis document which implies that the Tech Spec requirements are for the alarm rather than the individual detectors. The Tech Spec surveillance procedure (SO-6) will be revised to incorporate the omitted requirements of Tech Spec table 3.22.1. (SO-6) will be re-performed prior to start-up.
Palisades	01/08/1984	02/07/1984	Loss of Communications Abstract: POWER LEVEL - 000%. ON JAN. 8, 1984, THE PALISADES NUCLEAR PLANT EXPERIENCED A COMPLETE LOSS OF ALL NORMAL COMMUNICATIONS LINKS BETWEEN THE PLANT, THE NRC AND STATE/LOCAL AUTHORITIES. THE EVENT WAS PRECIPITATED BY THE NEED TO ISOLATE A FAULTY SWITCHYARD BREAKER. TO ACCOMPLISH THE ISOLATION, IT WAS NECESSARY TO INTERRUPT THE OFFSITE POWER SUPPLY TO THE PLANT. AT THE TIME OF THE EVENT, PALISADES WAS IN A REFUELING OUTAGE WITH ALL FUEL REMOVED FROM THE REACTOR AND ONE DIESEL GENERATOR INOPERABLE. WHILE OPERATING PROCEDURES REQUIRE TWO OPERABLE DIESEL GENERATORS PRIOR TO REMOVING OFFSITE POWER, THE SHIFT SUPERVISOR PROCEEDED WITH THE EVOLUTION AFTER DETERMINING THE SAFETY OF THE FUEL WOULD NOT BE JEOPARDIZED. IN PREPARING FOR THE EVOLUTION, THE OPERATORS FAILED TO REALIZE THAT THERE WOULD BE NO OPERABLE SERVICE WATER PUMPS SUPPLIED BY THE OPERATING DIESEL. CONSEQUENTLY, AFTER 50 MIN THE DIESEL OVERHEATED DUE TO LACK OF COOLING WATER AND WAS MANUALLY TRIPPED. THE RESULTING LOSS OF ONSITE AC POWER CAUSED A LOSS OF ALL PLANT TELEPHONES AND RADIOS FOR 45 MIN. ONSITE POWER WAS SUBSEQUENTLY RE-ENERGIZED FROM THE SWITCHYARD, RESULTING IN THE RESTORATION OF NORMAL COMMUNICATIONS. THE INCIDENT RESULTED IN THE DECLARATION OF AN UNUSUAL EVENT.
Palisades	03/22/1987	05/20/1987	Failure to Perform One Hour Fire Watch Patrol Abstract: POWER LEVEL - 000%. ON MARCH 22, 1987 AT APPROXIMATELY 1445, WHILE PERFORMING A QUARTERLY TEST TO VERIFY FIRE SUPPRESSION SYSTEM FLOW OPERABILITY, OPERATIONS PERSONNEL IDENTIFIED THAT WATER FLOW SWITCH FIRE DETECTOR WFS-262 (KP;FIS) WAS INOPERABLE. TECHNICAL SPECIFICATION 3.22.1, ACTION 1, STATES THAT WHEN THE NUMBER OF INSTRUMENTS (DETECTORS) OPERABLE IS LESS THAN REQUIRED, 'WITHIN ONE HOUR, ESTABLISH A FIRE WATCH PATROL TO INSPECT THE ONE WITH THE INOPERABLE INSTRUMENT AT LEAST ONCE PER HOUR'. CONTRARY TO THIS REQUIREMENT, NO FIRE WATCH PATROL WAS ESTABLISHED UNTIL APRIL 20, 1987. THE PLANT WAS IN HOT SHUTDOWN CONDITION (PRIMARY COOLANT SYSTEM: ON TEST DATA SHEETS BY AUXILIARY OPERATORS, WHO THEN INITIATED A WORK REQUEST FOR DETECTOR REPAIR. SUPERVISOR, HOWEVER, NO HOURLY FIRE WATCH PATROL WAS ESTABLISHED. THE FAILURE TO IMPLEMENT THE REQUIRED TECHNICAL SPECIFICATION ACTION STATEMENT RESULTED FROM THE QUARTERLY TEST USED TO VERIFY FIRE SUPPRESSION SYSTEM OPERABILITY NOT IDENTIFYING EQUIPMENT DIRECTLY ASSOCIATED WITH TECHNICAL SPECIFICATION.
Palisades	03/22/1987	05/05/1987	Inoperable Water Flow Switches Associated With Fire Protection System Abstract: POWER LEVEL - 000%. ON BOTH MARCH 22 AND APRIL 26, 1987, TWO WATER FLOW SWITCH FIRE DETECTORS WERE IDENTIFIED TO BE INOPERABLE BY OPERATIONS PERSONNEL. THE PLANT WAS IN HOT SHUTDOWN CONDITION ON MARCH 22 AND AT FULL REACTOR POWER ON APRIL 26. THE DETECTORS ARE MAINTAINED UNDER A STATIC WATER PRESSURE OF 100 PSIG. WHEN FLOW IS SENSED, AN ALARM IS RECEIVED IN THE CONTROL ROOM INDICATING FIRE PROTECTION SYSTEM ACTUATION. THE FLOW IS INITIATED WHEN THE FUSIBLE LINK ASSOCIATED WITH THE SPRINKLER HEADS MELT DUE TO EXPOSURE TO HEAT. NEW DETECTORS HAVE BEEN INSTALLED FOR DETECTORS WFS-2B AND WFS-2G2 WHICH FAILED ON MARCH 22. DETECTOR WFS-2G1 WILL BE REPLACED BY MAY 8 AND WFS-2B1 AS SOON AS PARTS ARE AVAILABLE. DUE TO THE NATURE OF FAILURE BEING ASSOCIATED WITH END OF SERVICE LIFE, ALL WATER FLOW SWITCH FIRE DETECTORS IDENTIFIED IN TECHNICAL SPECIFICATIONS ARE TO BE REPLACED.
Palisades	05/04/1987	06/05/1987	Failure To Establish Fire Watch Associated With Inoperable Sprinklers Abstract: POWER LEVEL - 099%. ON MAY 4, 1987 AT 0629, THE CABLE SPREADING ROOM SPRINKLER SHUTOFF VALVE, MV-FP127 (KP;SHV) WAS CLOSED TO ALLOW ISOLATION AND REPLACEMENT OF WATER FLOW SWITCH FIRE DETECTOR WFS-2B (KP;FIS). PER TECHNICAL SPECIFICATION (TS) 3.23.3.1, A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT WAS IMMEDIATELY ESTABLISHED IN THE CABLE SPREADING ROOM. HOWEVER, OPERATIONS PERSONNEL ON-SHIFT DID NOT IDENTIFY THAT THE SWITCHGEAR ROOM 1-C SPRINKLER SYSTEM WOULD ALSO BE ISOLATED WHEN MV-FP127 WAS CLOSED. THE ADDITIONAL ISOLATION WAS IDENTIFIED AND REPORTED BY PLANT MAINTENANCE PERSONNEL AND AT APPROXIMATELY 0830, AN ADDITIONAL CONTINUOUS FIRE WATCH WAS ESTABLISHED. THE REACTOR WAS CRITICAL WITH THE PLANT AT 99% OF RATED POWER AT THE TIME OF THE EVENT. THE FAILURE TO ESTABLISH A CONTINUOUS FIRE WATCH WITH BACKUP FIRE FIGHTING EQUIPMENT WITHIN ONE HOUR IN SWITCHGEAR ROOM 1-C, WAS CAUSED BY THE ON-SHIFT SHIFT SUPERVISOR FAILING TO FULLY IDENTIFY ALL POTENTIAL EFFECTS AND CONSEQUENCES OF CLOSING MV-FP127.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Palisades	05/16/1988	06/15/1988	Failure to Maintain Continuous Fire Watch as Required by Technical Specifications Abstract: POWER LEVEL - 100%. ON MAY 16, 1988, FROM 2150 TO 2202 HOURS, A CONTINUOUS FIRE WATCH WAS NOT MAINTAINED IN THE CABLE SPREADING ROOM (NF) AS REQUIRED BY PLANT TECH SPEC 3.22.3. THIS TECH SPEC REQUIRES THE 'ESTABLISHMENT OF A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT IN THE UNPROTECTED AREA(S) WITHIN ONE HOUR' IF THE SPRINKLER SYSTEM (KP;SRNK) ENCOMPASSING THE AREA IS NOT OPERABLE. THE REACTOR WAS CRITICAL WITH THE PLANT OPERATING AT 100 PERCENT OF RATED POWER AT THE TIME OF THE EVENT. SUBSEQUENT INVESTIGATIONS REVEALED TWO OTHER FAILURES TO MEET FIRE WATCH RESPONSIBILITIES OCCURRED. THESE EVENTS OCCURRED ON MAY 12, 1988 FROM 0056 TO 0059 HOURS AND MAY 16, 1988 FROM 1822 TO 1829 HOURS. EACH OF THE THREE OCCURRENCES WERE RELATED TO ONE SECURITY OFFICER WHO FAILED TO PERFORM HIS DUTIES. POOR PERFORMANCE OF THE INVOLVED INDIVIDUAL. IT SHOULD BE NOTED THAT NEITHER THE FIRE DETECTION SYSTEM NOR SPRINKLER SYSTEM WERE PHYSICALLY INOPERABLE AT ANY TIME THE CONTINUOUS FIRE WATCH WAS NOT MAINTAINED. HOWEVER, IT WAS FELT THAT SPRINKLER DISPERSION PATTERNS MAY BE AFFECTED DUE TO SCAFFOLDING AND DECKING BEING INSTALLED IN THE CABLE SPREADING ROOM IN SUPPORT OF ASBESTOS REMOVAL.
Palisades	11/20/1989	12/20/1989	INOPERABLE FIRE BARRIER PENETRATION SEAL BETWEEN 1-1 DIESEL GENERATOR ROOM Abstract: NOTICE 88-04, FIRE BARRIER PENETRATION SEALS (NO APPLICABLE SYSTEM CODE;SEAL) THROUGHOUT THE PLANT WERE BEING SURVEYED TO CATALOG THE TYPES OF EXISTING SEAL CONFIGURATIONS. DURING THIS WALKDOWN PERSONNEL IDENTIFIED A THREE AND ONE-HALF INCH DIAMETER CONDUIT PENETRATION FZ-0040 IN THE CEILING OF THE 1-1 DIESEL GENERATOR ROOM WHICH DID NOT CONTAIN A FIRE SEAL. HOURLY FIRE TOURS WERE INITIATED IN ACCORDANCE WITH PLANT TECHNICAL SPECIFICATION 3.22.5.
Palisades	02/20/1991	12/20/1991	FAILURE TO COMPENSATE FOR OPEN FIRE BARRIER PENETRATION SEAL, REVISION 1 Abstract: POWER LEVEL - 000%. On February 20, 1991, at approximately 1600 hours, a passive fire barrier penetration seal between the turbine building corridor and the 1C switchgear room was opened to permit the passage of temporary cables used for the performance of the refueling frequency surveillance procedure RT-8C. At the time, the plant was in cold shutdown. Contrary to plant Fire Protection Implementing Procedure FPIP-4, no work order was issued to open the penetration and no compensatory action in the form of an hourly fire tour was initiated. This situation resulted from inadequate communication between the responsible engineer and the shift supervisor, incomplete guidance in Administrative Procedure 4.02, 'Control of Equipment Status,' which does not address fire barrier penetrations, and the lack of adequate interface information between Administrative Procedure 4.02 and the Fire Protection Implementing Procedure FPIP-4. Revisions will be made to the Plant Administrative Procedure 4.02, Fire Implementing Procedure FPIP-4 and surveillance procedure RT-8C to clarify whether a work order is required and to improve the interface between Administrative Procedure 4.02 and Fire Protection Implementing Procedure FPIP-4. Additionally, this event will be reviewed with electrical system engineers.
Palisades	07/14/1995	08/14/1995	Licensee Event Report 95-004 - Redundant Diesel Generator Circuits Not Separated Per Appendix R Abstract: On July 14, 1995 at 1:00 p.m. it was determined that emergency diesel generator (EDG) 1-2 power and control circuits do not meet 10 CFR 50, Appendix R, Section III. G requirements. The power and control circuits for the 1-2 EDG are routed in the air intake plenum for EDG 1-1. The EDG 1-1 intake air plenum does not have a qualified fire barrier separating it from the EDG 1-1 room. Hourly fire tours were initiated immediately in the diesel generator 1-1 room adjacent to the intake air plenum and will continue until a resolution is identified and implemented. This condition was identified as part of the Palisades Plant Appendix R Enhancement Program. The Appendix R Enhancement Program was checking cable routing, reassigning fire areas and verifying that complete analysis exists for each fire area. Completion of the Appendix R Enhancement Program will assure that any additional areas of Appendix R cable routing non-compliance are identified.
Palisades	01/13/1998	02/11/1998	Watertight Door Improperly Latched Abstract: At approximately 1600 hours on January 13, 1998, a maintenance worker found watertight door #59 between the East and West Engineered Safeguards Rooms closed but not latched. Without being closed and latched, and with no personnel in the area to properly latch the door, the door could not have performed as designed. The door is part of the wall separating the East and West Engineered Safeguards Rooms and is relied upon to prevent a flooding event from affecting both rooms. The door is also required to maintain the fire barrier between the rooms. Upon discovery, the door was latched closed. The door is manually operated and investigators were unable to determine a specific department or individual responsible for the leaving the door closed without being latched. Subsequent investigation confirmed that door #59 remained in a closed but unlatched condition for less than an eight (8) hour shift. Actions are being taken to prevent recurrence of this event.
Palisades	10/01/2010	11/22/2010	Unanalyzed Condition Discovered due to Non-Compliance with 10 CFR 50 Appendix R Abstract: On October 1, 2010, during a corrective action program extent of condition review, a postulated Appendix R fire scenario was identified in three fire areas that could potentially result in the loss of safety-related 2400 volt alternating current (VAC) bus 1C and/or bus 1 D, with subsequent loss of equipment credited for Appendix R compliance to support safe shutdown in the event of such a fire. As part of the Appendix R common power supply analysis, coordination between load breakers and feeder breakers is required to protect the power supply because of a fire-generated fault on the load power cable. The fire scenario identifies how this coordination could be defeated on the safety-related 2400 VAC buses. The scenario occurs when the load breaker's control circuit is damaged by a fire which could potentially open the control circuit fuses and disable the breaker's trip circuit containing the over-current relay protection. The same fire could subsequently damage the 2400 VAC power cables, causing a cable fault. The load breaker cannot clear the fault with the trip circuit control power disabled. The clearing of the cable fault would propagate upstream to the next coordinated breaker, which would result in the bus feeder breaker opening, causing a loss of the 2400 VAC buses and associated electrical loads.
Palisades	11/07/2013	01/06/2014	Discovery of Latent Design Deficiency Results in Non-Compliance with 10CFR 50 Appendix R Abstract: On November 7, 2013, during an operating experience applicability review, a latent design deficiency was discovered. The design deficiency represents an unanalyzed condition during a postulated fire event. Potential fire induced cable faults could result in a loss of capability to safely shutdown the plant. Palisades' station batteries contain shunts in the positive leg of output current flow. The shunts provide a voltage signal to ammeters located in the adjacent cable spreading room area. In the unlikely event of the postulated fire scenario, which is a primary fire in the cable spreading room or in a station battery room, the ammeter circuit wiring could experience fire-induced cable faults, allowing current flow greater than the rating of the wires. Current flow exceeding the rating of the wires would likely result in the wires overheating, potentially causing a secondary fire at some point along the path of the wires or causing damage to adjacent cables/wires. That is, a secondary fire could be created in an additional fire area as well as the originating fire area. The cause of the unanalyzed condition for the postulated fire event was a failure to recognize the described failure mode and identify the fault consequences for the cables of concern during previous design reviews required for 10 CFR 50 Appendix R.
Palo Verde 1	03/23/1985	05/06/1985	Improper Fire Patrols Abstract: POWER LEVEL - 000%. DURING THE PERIOD FROM 3-23-85 THROUGH 4-15-85 WHILE THE PLANT WAS IN MODE 5, ROVING FIRE PATROLS WERE NOT CONDUCTED HOURLY AS REQUIRED BY TECH SPEC 3.7.12. THE CAUSES OF THIS CONTINUING EVENT WERE THE LACK OF APPRECIATION, BY THE INDIVIDUALS ON ROVING PATROLS, FOR THE IMPORTANCE OF THEIR RESPONSIBILITIES AND THAT MANAGEMENT MEASURES IMPLEMENTED TO ACHIEVE ADEQUATE PERFORMANCE WENT UNHEEDED BY THE RESPONSIBLE INDIVIDUALS ON ROVING PATROLS. CORRECTIVE ACTIONS TAKEN BY MANAGEMENT THAT RESULTED IN IMPROVED, YET INADEQUATE, PERFORMANCE OF THE CONSTRUCTOR'S CRAFT PERSONNEL ASSIGNED AS ROVING PATROLS INCLUDED: RETRAINING, IMPROVED LOG SHEETS, RESCHEDULING OF SHIFT CHANGES, INCREASED SURVEILLANCE AND LOG REVIEWS, AND DISCIPLINARY ACTION. THESE ACTIONS PROVED TO BE ONLY MARGINALLY SUCCESSFUL. THE ASSIGNMENT OF PLANT STAFF TO THE ROVING PATROLS IN PLACE OF THE CONSTRUCTOR'S CRAFT PERSONNEL AND IMPROVED WRITTEN DIRECTION HAS RESULTED IN PROPER PERFORMANCE. THIS EVENT IS A SUPPLEMENT TO LER 85-016-0.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Palo Verde 1	04/12/1985	05/13/1985	Failure to Verify Fire Door Position Abstract: POWER LEVEL - 000%. DURING THE PERFORMANCE OF THE SURVEILLANCE PROCEDURE (14ST-1ZZ27, APPENDIX A) FOR LOCKED FIRE DOORS IT WAS DISCOVERED THAT THERE WERE FIRE DOORS ON THE LIST THAT WERE UNLOCKED AND REQUIRED TO BE INSPECTED EVERY 24 HOURS INSTEAD OF EVERY 7 DAYS. WHEN OPERATIONS NOTICED THE DEFICIENCY, A PROCEDURE CHANGE NOTICE WAS GENERATED TO CORRECT THE PROBLEM BEFORE THE NEXT UNLOCKED FIRE DOOR SURVEILLANCE WAS DUE. THE PROCEDURES HAVE BEEN REVISED TO INCLUDE THE CORRECT DOORS IN THE CORRECT PROCEDURES. THE PERFORMANCE GROUP HAS BEEN INSTRUCTED TO VERIFY THAT THE DOORS INSPECTED IN THE LOCKED PROCEDURE ARE IN FACT LOCKED DOORS, NOT UNLOCKED DOORS.
Palo Verde 1	05/26/1985	07/10/1985	Failure to Inspect Automatic Fire Doors Abstract: POWER LEVEL - 000%. ON MAY 26, 1985, WHILE UNIT 1 WAS IN MODE 2, SURVEILLANCE PROCEDURE FOR INSPECTION OF AUTOMATIC FIRE DOORS (14ST-1ZZ25) WAS PERFORMED 30 HOURS AND 22 MINUTES AFTER THE PREVIOUS ONE. THE SURVEILLANCE INTERVAL IS ONCE EVERY 24 HOURS AS REQUIRED BY TECH SPEC SURVEILLANCE REQUIREMENT 4.7.12.2.B. THIS EVENT WAS ORIGINALLY REVIEWED BY THE COMPLIANCE SECTION ON MAY 28, 1985, AND DETERMINED TO BE REPORTABLE. AN LER WAS INITIATED AND A DRAFT WAS WRITTEN. ON JUNE 14, 1985, AFTER FURTHER INVESTIGATION THE COMPLIANCE SECTION REVIEWED THE REPORT AND RECOMMENDED THAT THE EVENT NOT BE REPORTED. ALL TECH SPECS DEVIATIONS MUST BE REVIEWED BY THE PLANT REVIEW BOARD (PRB). ON JULY 1, 1985, THE PRB REVIEWED THE EVENT REPORT AND DETERMINED THAT THE EVENT WAS REPORTABLE. THE FIRE WATCH WAS UNABLE TO GAIN TIMELY ACCESS TO THE AUTOMATIC FIRE DOORS BECAUSE THEY WERE LOCATED IN A RADIOLOGICALLY CONTROLLED AREA (RCA). THE FIRE WATCH HAD NOT YET RECEIVED HIS DOSIMETRY BECAUSE OF AN ADMINISTRATIVE DELAY. THE RCA HAD BEEN ESTABLISHED AND THIS WAS THE FIRE WATCH'S FIRST TIME IN THE RCA. THE FIRE WATCH ALSO DID NOT KNOW THE CORRECT TIME FRAME REQUIRED TO COMPLETE THE PROCEDURE. TO CORRECT THE PROBLEM, THE PERFORMER HAS SINCE RECEIVED HIS DOSIMETRY AND HAS BEEN REINSTRUCTED ON THE REQUIREMENTS OF TECH SPECS.
Palo Verde 1	07/02/1985	03/18/1986	FIRE WATCH PERFORMED LATE Abstract: POWER LEVEL - 000%. ON JULY 2, 1985, PALO VERDE UNIT 1 WAS IN MODE 3 WHEN TECHNICAL SPECIFICATION (T.S.) 3.7.11.2 ACTION STATEMENT A WAS VIOLATED. THE T.S. REQUIRES AN HOURLY FIRE WATCH PATROL WHEN THE MAIN STEAM SUPPORT STRUCTURE (MSSS) FIRE PROTECTION SPRINKLER IS INOPERABLE. THE FIRE WATCH WAS PERFORMED ELEVEN (11) MINUTES LATE. THE PERSONNEL INVOLVED COULD NOT GAIN TIMELY ACCESS TO THE AREA BECAUSE OF ADMINISTRATIVE PROBLEMS WITH SECURITY PRIORITIES. TO CORRECT THE PROBLEM, SECURITY ALLOWED THE FIRE WATCH ACCESS TO COMPLETE HIS PATROL. THE SECURITY DEPARTMENT HAS DIRECTED THE SECURITY FORCE MEMBERS TO GIVE PRIORITY TO FIRE WATCH ACCESS OVER NORMAL SECURITY MATTERS. RESPONSE TO PROTECTED/VITAL AREA ALARMS WILL REMAIN HIGHEST PRIORITY. ALL MATTERS OF CONFLICT WITH REGARD TO PERSONNEL ASSIGNMENTS WILL BE REFERRED TO THE SHIFT SUPERVISOR FOR RESOLUTION.
Palo Verde 1	07/13/1985	08/12/1985	Continuous Fire Watch Not Performed Abstract: POWER LEVEL - 000%. ON JULY 13, 1985, THE FIRE SUPPRESSION SYSTEM (KF) FOR THE MAIN STEAM SUPPORT STRUCTURE (MSSS) WAS DECLARED INOPERABLE AND THE COMPENSATORY FIRE WATCH THAT WAS ESTABLISHED WAS NOT IN ACCORDANCE WITH THE REQUIREMENTS OF TECH SPEC 3.7.11.2 ACTION STATEMENT A. THE FIRE DETECTION SYSTEM REMAINED OPERABLE. THE CAUSE OF THE PROBLEM WAS A COMMUNICATIONS DIFFICULTY BETWEEN OPERATIONS AND FIRE PROTECTION. CONCERN FOR THE PERSONAL SAFETY OF A CONTINUOUS FIRE WATCH IN THE MSSS AND THE LACK OF A COMMON UNDERSTANDING OF REDUNDANT SYSTEM FIRE PROTECTION RESULTED IN AN HOURLY PATROL BEING ESTABLISHED RATHER THAN A CONTINUOUS WATCH. TO CORRECT THE PROBLEM, A CONTINUOUS FIRE WATCH WAS ESTABLISHED. THE SUPERVISORS WERE COUNSELED ON THE NEED TO BE THOROUGH AND CONSERVATIVE IN THE INTERPRETATION OF TECH SPECS. TO CORRECT THE COMMUNICATION PROBLEM THE FIRE IMPAIRMENT FORM IS TO BE ATTCHED TO THE TECH SPEC COMPONENT CONDITION FORM. THIS DOCUMENTS ACKNOWLEDGEMENT OF BOTH OPERATIONS AND FIRE PROTECTION DEPARTMENT OF THE SPECIFIED TECH SPEC ACTIONS REQUIRED.
Palo Verde 1	08/11/1985	09/10/1985	Failure to Survey Unlocked Fire Doors Abstract: POWER LEVEL - 000%. ON 8-11-85, A QA INSPECTOR IDENTIFIED AN UNLOCKED FIRE DOOR THAT WAS NOT BEING SURVEILLED AT THE REQUIRED FREQUENCY OF ONCE PER 24 HRS. SUBSEQUENT TO THIS CONDITION, ADDITIONAL UNLOCKED FIRE DOORS WERE IDENTIFIED BY FIRE PROTECTION SECTION PERSONNEL ON 8-24-85, 8-29-85, AND ON 9-4-85. IN ALL CASES THE UNLOCKED FIRE DOORS WERE ADDED TO THE APPROPRIATE SURVEILLANCE PROCEDURE IN ORDER TO COMPLY WITH THE TECH SPECS 4.7.12.2.D. THESE CONDITIONS OCCURRED FOLLOWING A SIMILAR CONDITION THAT WAS REPORTED IN LER NO. 85-024. ON 4-12-85 SEVERAL UNLOCKED FIRE DOORS HAD BEEN IDENTIFIED THAT WERE NOT BEING SURVEILLED AS REQUIRED BY THE TECH SPEC. THE IDENTIFIED FIRE DOORS WERE ADDED TO THE APPROPRIATE SURVEILLANCE PROCEDURE VIA A PROCEDURE CHANGE NOTICE. A SUBSEQUENT REV TO THE SURVEILLANCE PROCEDURE DID NOT INCLUDE ALL OF THE FIRE DOORS IDENTIFIED IN THE PCN OF 4-12-85. CORRECTIVE ACTIONS WILL INCLUDE A REVIEW OF THE 'PROCEDURE REVIEW AND APPROVAL PROCESS' ADMINISTRATIVE CONTROLS IN ORDER TO ADDRESS CHANGES NECESSARY TO ENSURE POSITIVE VERIFICATION OF PCN INCORPORATION INTO SUBSEQUENT REVISION OF ASSOCIATED PROCEDURES.
Palo Verde 1	09/30/1985	10/30/1985	Continuous Fire Watch Not Performed Abstract: POWER LEVEL - 081%. ON 9-30-85 A CONTINUOUS FIRE WATCH AS REQUIRED BY TECH SPEC 3.7.11.2 ACTION A WAS MISTAKENLY DISCONTINUED FOR A PERIOD OF 18 MINS BETWEEN 0900 AND 0918. TECH SPEC 3.7.11.2 ACTION A REQUIRES A CONTINUOUS FIRE WATCH IN THE MAIN STEAM SUPPORT STRUCTURE WHEN THE FIRE PROTECTION SPRINKLER SYSTEM IS INOPERABLE. THE SPRINKLER SYSTEM WAS INOPERABLE DUE TO A VALVE BEING ISOLATED FOR REPAIRS. TO PREVENT RECURRENCE, NIGHT ORDERS WILL BE SENT TO THE SHIFT SUPERVISORS DIRECTING THEM TO REVIEW TECH SPEC 3.7.11.2 AND THE ASSOCIATED ACTIONS. THE NIGHT ORDERS WILL ALSO REMIND THE SHIFT SUPERVISORS TO CHECK THE FIRE PROTECTION TECH SPEC COMPONENT CONDITION RECORD FORMS BEFORE DIRECTING SECURITY TO REMOVE OFFICERS FROM DOOR WATCHES.
Palo Verde 1	11/26/1985	06/20/1986	Personnel Error Results in Termination of Continuous Fire Watch Abstract: POWER LEVEL - 000%. THIS IS A SUPPLEMENT TO LER 85-092-00 SUBMITTED ON DECEMBER 27, 1985. CONTINUED INVESTIGATION OF THIS INCIDENT HAS REVEALED THE FOLLOWING ADDITIONAL INFORMATION. AT 1810 MST ON NOVEMBER 26, 1985, WITH PALO VERDE UNIT 1 IN MODE 3 (HOT STANDBY) A TECH SPEC REQUIRED CONTINUOUS FIRE WATCH FOR THE MAIN STEAM SUPPORT STRUCTURE (MSSS) WAS INADVERTENTLY TERMINATED FOR A PERIOD OF 64 HOURS, 50 MINUTES. THIS INFORMATION IS DIFFERENT THAN THAT PROVIDED IN THE ORIGINAL LER, WHICH STATED THAT THE CONTINUOUS FIRE WATCH WAS REPLACED WITH AN HOURLY PATROL. THE ORIGINAL ERROR WAS DISCOVERED AT 1100 ON NOVEMBER 29, 1985, AND THE CONTINUOUS FIRE WATCH WAS RESUMED. THIS ADDITIONAL INFORMATION HAS NO EFFECT ON THE REPORTING REQUIREMENTS OR THE CORRECTIVE ACTION TAKEN AS STATED BELOW. THE EVENT WAS CAUSED BY A MEMBER OF THE FIRE PROTECTION DEPARTMENT WHO DID NOT CORRECTLY TRANSFER FIRE WATCH INFORMATION TO THE DOCUMENTS WHICH DIRECT FIRE WATCH PERSONNEL IN THE FIELD. AS A CORRECTIVE ACTION, THE CONTINUOUS FIRE WATCH WAS RE-ESTABLISHED AS SOON AS THIS ERROR WAS IDENTIFIED. DISCUSSIONS WERE HELD WITH THE FIRE PROTECTION DEPARTMENT PERSONNEL INVOLVED IN THIS EVENT TO ENSURE THAT THE PROPER METHOD OF TRANSFERRING FIRE WATCH INFORMATION TO THE DOCUMENTS
Palo Verde 1	12/27/1985	01/27/1986	Unanalyzed Fire Areas Due to Engineering Oversight Abstract: POWER LEVEL - 096%. ON DECEMBER 27, 1985, AT 1054, IT WAS DETERMINED THAT THE SEISMIC GAP AREA BETWEEN THE DIESEL GENERATOR BUILDING AND THE CONTROL BUILDING OF EACH UNIT HAD NOT BEEN IDENTIFIED AND ANALYZED DURING THE FIRE HAZARD ANALYSIS FOR THE RESPECTIVE UNIT. SINCE FOR EACH UNIT, TRAIN A AND TRAIN B SAFE SHUTDOWN CABLES TRANSVERSE THIS GAP AREA WITH NO VERTICAL FIRE-RATED BARRIER SEPARATION, AND SINCE THERE IS NO FIRE DETECTION AND SUPPRESSION EQUIPMENT WITHIN THE GAP AREA, THE POTENTIAL EXISTS FOR A FIRE IN THIS AREA TO CAUSE A LOSS OF BOTH DIESEL GENERATORS IN THE AFFECTED UNIT. AS IMMEDIATE CORRECTIVE ACTION, A CONTINUOUS FIRE WATCH WAS ESTABLISHED AT EACH SEISMIC GAP AREA AND WILL BE PROVIDED UNTIL A FINAL DESIGN CHANGE IS IMPLEMENTED. EXISTING ACCESS POINTS TO THESE AREAS WILL BE SEALED WITH 1-HOUR FIRE RATED SEISMIC GAP SEALS. BASED ON THIS CORRECTIVE ACTION, AN EVALUATION OF THESE GAP AREAS DETERMINED THAT THE POTENTIAL FOR A FIRE IS MINIMAL DUE TO THE LOW FIXED COMBUSTIBLE LOADS, THE INACCESSIBILITY OF THE AREA TO TRANSIENT COMBUSTIBLES, AND THE ABSENCE OF CREDIBLE IGNITION SOURCES. A SAFETY ANALYSIS CHANGE WILL BE PREPARED AND WILL OUTLINE THE JUSTIFICATION FOR DEVIATION FROM 10 CFR 50, APPENDIX R, SECTION III.G FOR THESE AREAS. A REVIEW OF THE UNITS HAS VERIFIED THAT ALL OTHER SEISMIC GAP

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Palo Verde 1	05/16/1986	06/16/1986	SURVEILLANCE TESTING OF HALON SYSTEMS INVALIDATED DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 000%. AT 1200 MWT ON 5-16-86, PALO VERDE UNIT 1 WAS IN MODE 5 (COLD SHUTDOWN), AND PALO VERDE UNIT 2 WAS IN MODE 3 (HOT STANDBY), WHEN IT WAS DISCOVERED THAT THE INSTALLED PRESSURE INSTRUMENTATION FOR THE HALON STORAGE TANKS IN EACH OF THE UNITS COULD NOT BE CALIBRATED. AS A RESULT, IT WAS DETERMINED THAT PREVIOUS SURVEILLANCE TESTING WHICH HAD BEEN PERFORMED ON THE HALON PORTION OF THE FIRE PROTECTION SYSTEM DID NOT ADEQUATELY FULFILL TECH SPEC SURVEILLANCE REQUIREMENTS. THE ROOT CAUSE OF THIS EVENT WAS COGNITIVE PERSONNEL ERROR IN THAT THE GAUGES WERE NOT INCLUDED IN THE CALIBRATION PROGRAM CONTRARY TO AN APPROVED PROCEDURE. THIS EVENT WAS NOT CONTRIBUTED TO BY ANY COMPONENT OR SYSTEM FAILURES. AS CORRECTIVE ACTIONS, COMPENSATORY FIRE WATCHES WERE POSTED UPON DISCOVERY OF THE UNSATISFIED SURVEILLANCE TESTING REQUIREMENTS, IN ACCORDANCE WITH TECH SPECS, AND A PLANT MODIFICATION HAS BEEN ISSUED TO ALLOW THE INSTALLATION OF A REMOVABLE CALIBRATED PRESSURE INSTRUMENT AT THE HALON STORAGE TANKS. ADDITIONALY, OTHER SIMILAR INSTALLATIONS WERE EXAMINED FOR THIS CONDITION.
Palo Verde 1	06/19/1986	09/04/1986	Technical Specification Violation Due to Video Camera Use for Fire Watch Patrol Abstract: POWER LEVEL - 100%. ON JUNE 19, 1986, UNIT 1 WAS IN MODE 1 (POWER OPERATION) AT 100 PERCENT POWER WHEN ANPP MANAGEMENT WAS NOTIFIED BY THE NUCLEAR REGULATORY COMMISSION (NRC) REGION V RESIDENT INSPECTOR THAT A COMPENSATORY FIRE WATCH POSTED IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS (T.S.) 3.7.11.2 WAS NOT BEING PROPERLY CONDUCTED. AT 0620 ON APRIL 28, 1986, THE SPRINKLER SYSTEM VALVES WERE TAKEN OUT OF SERVICE IN THE TRAIN 'B' LOW PRESSURE SAFETY INJECTION PUMP ROOM DUE TO SPURIOUS TRIPPING OF THE DELUGE VALVE WHILE DECONTAMINATING THE PUMP ROOM. AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED AT THIS TIME; HOWEVER, THE FIRE WATCH PATROL UTILIZED AN INSTALLED CAMERA IN LIEU OF PHYSICALLY ENTERING THE PUMP ROOM. THE ROOT CAUSE OF THIS EVENT IS A COGNITIVE PERSONNEL ERROR IN THAT A DECISION WAS MADE TO DEVIATE FROM THE NORMAL METHOD OF CONDUCTING FIRE PATROLS WITHOUT OBTAINING THE NECESSARY REVIEW AND APPROVAL. AS CORRECTIVE ACTION TO ADDRESS THE SPECIFIC DEFICIENCY IDENTIFIED, FIRE PROTECTION PERSONNEL WILL BE COUNSELED ON COMPLIANCE WITH ESTABLISHED GUIDANCE. SUPERVISION WILL BE INSTRUCTED ON THE PROPER METHODS OF OBTAINING RELIEF FROM ESTABLISHED CONTROLS.
Palo Verde 1	12/14/1986	01/09/1987	Fire Patrol Performed Late Due to Personnel Error Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 1647 MST ON DECEMBER 14, 1986 PALO VERDE UNIT 1 WAS IN MODE 1 (POWER OPERATION) AT 100 PERCENT POWER WHEN A UTILITY EMPLOYEE REPORTED THAT THE HOURLY FIRE PATROL FOR THE MAIN STEAM SUPPORT STRUCTURE (MSSS) HAD BEEN PERFORMED LATE. THE FIRE PATROL HAD BEEN ESTABLISHED PURSUANT TO TECHNICAL SPECIFICATION 3.3.3.7 ACTION B DUE TO AN INOPERABLE SMOKE DETECTOR LOCATED ON THE 100 FOOT LEVEL OF THE MSSS. THE FIRE PATROL WAS ALSO ROUTED THROUGH THE 80 AND 100 FOOT LEVELS OF THE MSSS TO MONITOR DEGRADED THERMOLAG AT THESE LOCATIONS PURSUANT TO TECHNICAL SPECIFICATION 3.7.12 ACTION A. THE ROOT CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR IN THAT THE FOREMAN DID NOT ASSIGN THE MSSS AREA TO THE FIRE PATROL DURING THE SHIFT TURNOVER. WHEN HE DISCOVERED HIS ERROR. TO PREVENT RECURRENCE, THE FOREMAN RECEIVED APPROPRIATE DISCIPLINARY ACTION. ADDITIONALLY, A FIRE WATCH STATUS BOARD HAS BEEN ESTABLISHED IN THE FOREMAN'S TRAILER TO ASSIST THE FOREMEN DURING ASSIGNMENT OF FIRE PATROLS. NO SIMILAR EVENTS HAVE BEEN REPORTED.
Palo Verde 1	03/02/1987	03/30/1987	Late Fire Watch Patrol Due to Personnel Error Abstract: POWER LEVEL - 000%. AT 1543 MST ON MARCH 2. I987, PALO VERDE UNIT 1 WAS IN MODE 4 (HOT SHUTDOWN) WHEN AN HOURLY FIRE WATCH PATROL WAS NOT PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.12 ACTION A. THE FIRE WATCH PATROL WAS 4 MINUTES LATE IN MAKING THE HOURLY PATROL OF THE 80 FOOT LEVEL OF THE MAIN STEAM SUPPORT STRUCTURE. THE ROOT CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR BY THE SWING SHIFT BUILDING SERVICES FOREMAN IN THAT HE MADE A CHANGE IN THE FIRE WATCH ROUNDS AND DID NOT ENSURE THAT THE FIRE WATCH RECEIVED THE CHANGE IN TIME TO SATISFACTORILY PERFORM THE PATROL. AS CORRECTIVE ACTION TO PREVENT RECURRENCE THE FOREMAN INVOLVED WAS DISCIPLINED AND INSTRUCTED ON THE IMPORTANCE OF BEING COGNIZANT OF ALL FIRE WATCH ACTIVITIES AND ENSURING FIRE WATCHES ARE FIRST PRIORITY. ALL OTHER BUILDING SERVICES FOREMEN WERE ALSO NOTIFIED OF THE IMPORTANCE OF THE FIRE WATCHES.
Palo Verde 1	03/14/1987	04/13/1987	Fire Patrol Performed Late Due to Log Omission Abstract: POWER LEVEL - 070%. AT ABOUT 0636 MST ON 3-15-87, UNIT 1 WAS IN MODE 1 (POWER OPERATION) AT 70% POWER WHEN A FIRE PROTECTION TECHNICIAN REPORTED THAT THE HOURLY FIRE PATROL FOR THE CHARGING PUMP ROOM HAD BEEN PERFORMED 6 HRS LATE. THE FIRE PATROL HAD BEEN ESTABLISHED AT 0938 MST ON 3-5-87 TO MONITOR DEGRADED THERMOLAG IN THESE AREAS PURSUANT TO TECH SPEC 3.7.12 ACTION A. THE ROOT CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR ON THE PART OF THE DAY SHIFT FIRE PROTECTION TECHNICIAN WHICH RESULTED IN THE OMISSION OF THE CHARGING PUMP ROOM FROM THE PATROL LOG SHEET. THIS ERROR IS CONTRARY TO PROCEDURAL CONTROLS. THE PATROL WAS IMMEDIATELY RESUMED ON DISCOVERY OF THE EVENT. TO PREVENT RECURRENCE THE DAY SHIFT FIRE PROTECTION TECHNICIAN WAS COUNSELED ON HIS AREA OF RESPONSIBILITY. THERE HAVE BEEN NO PREVIOUS EVENTS WITH THE SAME ROOT CAUSE PREVIOUSLY REPORTED.
Palo Verde 1	03/17/1987	04/13/1987	Continuous Fire Watch Posted Late Due to Personnel Error Abstract: POWER LEVEL - 100%. AT 0750 ON 3-17-87, UNIT 1 WAS IN MODE 1 (POWER OPERATION) AT 100% POWER WHEN A CONTINUOUS FIRE WATCH WAS NOT ESTABLISHED WITHIN THE REQUIRED TIME OF TECH SPEC 3.7.11.2 ACTION A. THE CONTINUOUS FIRE WATCH WAS NECESSITATED WHEN THE TRAIN B ELECTRICAL PENETRATION ROOM SPRINKLER SYSTEM WAS DECLARED INOPERABLE WITH THE REDUNDANT TRAIN A ELECTRICAL PENETRATION ROOM SPRINKLER SYSTEM ALREADY INOPERABLE. THE ROOT CAUSE OF THE EVENT WAS A COGNITIVE PERSONNEL ERROR IN THAT THE FIRE PROTECTION INDIVIDUAL DID NOT NOTIFY THE BUILDING SERVICES FOREMAN IN SUFFICIENT TIME TO POST THE WATCH. A CONTRIBUTING FACTOR WAS A FIRE ALARM AND SUBSEQUENT RESPONSE BY THE FIRE PROTECTION DEPARTMENT DURING THE TIME THE FIRE WATCH WAS REQUIRED TO BE ESTABLISHED. THE ERROR WAS CONTRARY TO AN APPROVED PROCEDURE. THERE WERE NO ERRORS IN THE PROCEDURE WHICH CONTRIBUTED TO THE EVENT. AS CORRECTIVE ACTION TO PREVENT RECURRENCE THE FIRE PROTECTION INDIVIDUAL WAS COUNSELED ON THE IMPORTANCE OF PROPER PERFORMANCE OF HIS DUTIES. THERE WERE NO PREVIOUS SIMILAR EVENTS REPORTED. REPORT WILL BE SUBMITTED DISCUSSING THE DETAILS OF THE CORRECTIVE ACTIONS.
Palo Verde 1	03/31/1987	04/27/1987	Fire Watch Patrol Missed Due to Personnel Error Abstract: POWER LEVEL - 100%. AT ABOUT 2354 MST ON 3-31-87 WITH PALO VERDE UNIT 1 IN MODE 1 (POWER OPERATION) AT 100% POWER, A FIRE WATCH ROUND WAS NOT PERFORMED IN ACCORDANCE WITH TECH SPEC 3.7.12, ACTION A. THE ROVING FIRE WATCH HAD BEEN IMPLEMENTED ON 1-14-87 AS A COMPENSATORY MEASURE DUE TO THE POTENTIAL INOPERABILITY OF THERMO-LAG FIREPROOFING INSTALLED ON THE 10 CFR 50, APPENDIX R-SAFE SHUTDOWN CABLE TRAYS IN THE AUXILIARY BUILDING. THE ROOT CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR BY THE FIRE WATCH WHO DID NOT IMMEDIATELY NOTIFY THE SHIFT SUPERVISOR THAT THE FIRE WATCH ROUND WOULD NOT BE COMPLETED WITHIN THE SPECIFIED TIME FRAME. THE FIRE WATCH FOUND THE ENTRANCE TO ONE OF THE ASSIGNED FIRE WATCH AREAS TAPED OFF AND DID NOT ENTER. TO PREVENT RECURRENCE, THE FIRE WATCH HAS BEEN COUNSELED ON DIFFERENT TYPES OF SAFETY WARNINGS (I.E. BARRIER TAPES, PENNANTS, ROPES, PLACARDS, ETC.) UTILIZED THROUGHOUT THE JOB SITE AND SCHEDULED FOR ADDITIONAL FIRE WATCH TRAINING. THERE HAVE BEEN NO PREVIOUS EVENTS WITH THE SAME ROOT CAUSE WHICH HAVE BEEN REPORTED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Palo Verde 1	01/23/1988	02/19/1988	Broken Post Isolation Valve (PIV) Renders Unit 1 Fire Water Suppression Loop Inoperable - Continuous Fire Watches Were Late Abstract: POWER LEVEL - 000%. AT APPROXIMATELY 1530 MST ON JANUARY 23, 1988, WITH PALO VERDE UNIT 1 IN MODE 5 (COLD SHUTDOWN), A BACKHOE OPERATOR (UTILITY, NON-LICENSED) INADVERTENTLY DAMAGED A POST INDICATION VALVE (PIV)(KP)(ISV) AND CAUSED FIRE SUPPRESSION WATER TO DISCHARGE INTO THE EAST SIDE OF THE UNIT 1 PROTECTED AREA. FIRE PROTECTION PERSONNEL (UTILITY, NON-LICENSED) WERE UNABLE TO ISOLATE THE LEAK DUE TO PERSONNEL ERROR, CONTRIBUTED TO BY AN INADEQUATE PROCEDURE, IN THAT THE PIVS NEEDED TO ISOLATE THE LEAK WERE NOT CORRECTLY IDENTIFIED AND CLOSED. AS A RESULT THE VALVE LINEUP USED TO ISOLATE THE UNIT 1 FIRE WATER SUPPRESSION LOOP TO EFFECT REPAIRS FOR THE DAMAGED VALVE, THE UNIT 1 SPRINKLER/DELUGE SYSTEMS, HOSE STATIONS AND FIRE HYDRANTS WERE RENDERED INOPERABLE. A COGNITIVE PERSONNEL ERROR CONTRARY TO APPROVED PROCEDURE ALSO OCCURRED, IN WHICH HOURLY FIRE WATCHES WERE UTILIZED IN LIEU OF REQUIRED CONTINUOUS FIRE WATCHES, FOR APPROXIMATELY 4 HOURS. AS CORRECTIVE ACTION, PROCEDURAL CONTROLS WILL BE IMPLEMENTED TO PROVIDE ADDITIONAL GUIDANCE FOR ISOLATING SELECTED PORTIONS OF THE FIRE WATER SUPPRESSION SYSTEM, AND THE REQUIREMENTS FOR ESTABLISHING CONTINUOUS FIRE WATCHES WILL BE REVIEWED BY APPROPRIATE FIRE PROTECTION PERSONNEL. NO
Palo Verde 1, Palo Verde 2, Palo Verde 3	10/23/1989	02/25/1990	Four Penetrations into Seismic Gap area Between Diesel Generator and Control Building Abstract: POWER LEVEL - 000%. ON OCTOBER 23, 1989, AT APPROXIMATELY 1030 MST, PALO VERDE UNIT 1 WAS IN A REFUELING OUTAGE WITH THE CORE OFF-LOADED, PALO VERDE UNIT 2 WAS IN MODE 3 (HOT STANDBY) AND PALO VERDE UNIT 3 WAS IN MODE 5 (COLD SHUTDOWN) WHEN FOUR UNSEALED PENETRATIONS INTO THE UNIT 3 SEISMIC GAP AREA BETWEEN THE DIESEL GENERATOR BUILDING AND THE CONTROL BUILDING WERE DISCOVERED DURING A VISUAL INSPECTION OF THE 94 FOOT ELEVATION DIESEL BUILDING PIPE TRENCHES. THE EQUIVALENT PENETRATIONS IN BOTH UNITS 1 AND 2 WERE VISUALLY VERIFIED TO BE UNSEALED. IN ADDITION, THE UNIT 1 DIESEL GENERATOR 'A' CONTROL EQUIPMENT ROOM PIPE TRENCH FLOOR HAD TRACES OF DIESEL OIL. SINCE SAFE SHUTDOWN CABLES TRANSVERSE THIS GAP AREA WITH NO VERTICAL FIRE-RATED BARRIER SEPARATION, AND SINCE THERE IS NO FIRE DETECTION OR SUPPRESSION EQUIPMENT WITHIN THE GAP AREA, THE POTENTIAL EXISTS FOR A FLAMMABLE OR COMBUSTIBLE LIQUID SPILL-TYPE FIRE IN THIS AREA TO CAUSE A LOSS OF BOTH DIESEL GENERATORS IN THE AFFECTED UNIT. AS IMMEDIATE CORRECTIVE ACTION, FIRE WATCHES WERE ESTABLISHED IN ALL THREE UNITS FOR THE SEISMIC GAP AREA. WORK IS IN PROGRESS TO SEAL THE PENETRATIONS IN ALL THREE UNITS WITH 3-HOUR RATED SEALS. THE CAUSE WAS A COGNITIVE PERSONNEL ERROR WHEN ENGINEERING PERSONNEL FAILED TO IDENTIFY THE
Palo Verde 1, Palo Verde 2, Palo Verde 3	08/16/1991	10/23/1991	RCS Leakage Possibly Exceeding Makeup Due To A Postulated Fire Abstract: POWER LEVEL - 100%. ON 8/16/91, PALO VERDE UNITS 1 AND 3 WERE IN MODE 1 AT APPROXIMATELY 100 PERCENT POWER AND UNIT 2 WAS IN MODE 1 AT APPROXIMATELY 64 PERCENT POWER (UNTIL A REACTOR TRIP OCCURRED AT APPROXIMATELY 0839 MST: REFERENCE LER 529/91-004) WHEN APS ENGINEERING PERSONNEL DETERMINED THAT A DESIGN BASIS APPENDIX R FIRE IN THE CONTROL ROOM COULD RESULT IN LOSS OF REACTOR COOLANT PUMP SEAL COOLING. THE LOSS OF RCP SEAL COOLING COULD RESULT IN RCP SEAL DAMAGE WHICH MAY RESULT IN REACTOR COOLANT SYSTEM LEAKAGE IN EXCESS OF AVAILABLE CHARGING. UPON DISCOVERY OF THIS POTENTIAL EVENT, APPROPRIATE COMPENSATORY MEASURES WERE ESTABLISHED IN ACCORDANCE WITH THE PVNGS FIRE PROTECTION PROGRAM. SUBSEQUENTLY, APS ENGINEERING DETERMINED THAT A FIRE OUTSIDE THE CONTROL ROOM COULD ALSO RESULT IN THE LOSS OF RCP SEAL INTEGRITY. THE CAUSE OF THIS POSTULATED EVENT WAS A FAILURE OF THE ORIGINAL APPENDIX R EVALUATIONS TO RECOGNIZE THE POTENTIAL FOR RCP SEAL LEAKAGE GREATER THAN THE MAKEUP CAPACITY OF ONE CHARGING PUMP (44 GALLONS PER MINUTE) DUE TO A CONTROL ROOM FIRE. NO PREVIOUS SIMILAR EVENTS HAVE BEEN REPORTED PURSUANT TO TECHNICAL SPECIFICATION 6.9.3 AND 10CFR50.73.
Palo Verde 1, Palo Verde 2, Palo Verde 3	10/29/1991	11/27/1991	Loss of Essential Air Handling Unit Due to Postulated Fire Abstract: POWER LEVEL - 000%. ON OCTOBER 29, 1991, PALO VERDE UNITS 1 AND 3 WERE IN MODE 3 AND UNIT 2 WAS IN MODE 6 AT APPROXIMATELY 96 DEGREES FAHRENHEIT AND DEPRESSURIZED TO ATMOSPHERIC PRESSURE WHEN APS ENGINEERING PERSONNEL DETERMINED THAT A DESIGN BASIS APPENDIX R FIRE IN THE CONTROL ROOM COULD RESULT IN THE LOSS OF ONE TRAIN 'B' ESSENTIAL AIR HANDLING UNIT (AHU). THE TRAIN 'B' ESSENTIAL AHU PROVIDES COOLING TO TRAIN 'B' ENGINEERED SAFETY FEATURES (ESF) EQUIPMENT, TRAIN 'B' DC EQUIPMENT, AND TRAIN 'B ' DC BATTERY ROOMS. THE TRAIN 'B' EQUIPMENT IS NECESSARY FOR THE SAFE SHUTDOWN OF THE PLANT IF THERE WAS A FIRE IN THE CONTROL ROOM. UPON DISCOVERY OF THIS POTENTIAL EVENT, APPROPRIATE COMPENSATORY MEASURES WERE ESTABLISHED IN ACCORDANCE WITH THE PVNGS FIRE PROTECTION PROGRAM. THE CAUSE OF THIS POSTULATED EVENT WAS A FAILURE OF THE ORIGINAL APPENDIX R EVALUATION TO RECOGNIZE THE CONTROL CIRCUIT FOR THE ESSENTIAL AHU BEING IN THE CONTROL ROOM. A PREVIOUS SIMILAR EVENT WAS REPORTED PURSUANT TO TECHNICAL SPECIFICATION 6.9.3 IN LER 528/91-008-01.
Palo Verde 1, Palo Verde 2, Palo Verde 3	05/20/1992	06/18/1992	Loss of HVAC Cooling To Both Trains Of Shutdown Equipment Due To Postulated Fire Abstract: POWER LEVEL - 000%. ON 5/20/92, AT APPROX. 0745 MST, PALO VERDE UNIT 1 WAS IN MODE 3 (HOT STANDBY) AND PALO VERDE UNITS 2 AND 3 WERE IN MODE 1 (POWER OPERATION) WHEN APS ENGINEERING PERSONNEL DETERMINED THAT A DESIGN BASIS APPENDIX R FIRE, CONCURRENT WITH A LOSS OF OFFSITE POWER, IN THE TRAIN B ENGINEERED SAFETY FEATURE (ESF) SWITCHGEAR ROOM, THE TRAIN B BATTERY ROOMS LOCATED ON THE 100 FOOT ELEVATION OF THE CONTROL BUILDING, OR IN THE ENTRANCE TO THE CONTROL BUILDING ON THE 100 FOOT ELEVATION OF THE CORRIDOR BUILDING COULD RESULT IN THE LOSS OF ESSENTIAL HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) COOLING TO THE REDUNDANT TRAIN OF SAFE SHUTDOWN EQUIPMENT (I.E., TRAIN A ESF SWITCHGEAR ROOM TRAIN A BATTERY ROOMS, AND TRAIN A D.C. EQUIPMENT ROOMS). CONTRARY TO THE REQUIREMENTS OF 10CFR50 APPENDIX R.III.G AND THE FIRE PROTECTION PROGRAM AS DESCRIBED IN THE PVNGS UPDATED FINAL SAFETY ANALYSIS REPORT, THIS CONDITION COULD ADVERSELY AFFECT THE ABILITY TO ACHIEVE AND MAINTAIN SAFE SHUTDOWN IN THE EVENT OF A FIRE SINCE THE TRAIN A SAFE SHUTDOWN EQUIPMENT MAY BECOME INOPERABLE DUE TO EXCESSIVE HIGH TEMPERATURES. PREVIOUS SIMILAR EVENTS WERE REPORTED IN LERS 528/91-008-01 AND 528/91-011-00.
Palo Verde 1, Palo Verde 2, Palo Verde 3	07/28/1992	07/15/1993	Loss of Redundant Trains of Safe Shutdown Equipment Due to a Single Fire Abstract: POWER LEVEL - 100%. At approximately 0745 MST, on July 28, 1992, as a result of the 10CFR50 Appendix R reconstitution project, it was identified that redundant trains of safe shutdown (SSD) equipment could be rendered inoperable by a single fire. This condition was limited to equipment powered from the SSD 125 volt DC ungrounded Class IE power supplies. The initial evaluation which was completed on October 22, 1992, identified 200 pieces of SSD equipment that may be impacted by the condition. Compensatory measures (fire watches) were established in all affected areas/fire zones in the power block. On June 22, 1993, a final evaluation was completed that identified that 8 pieces of the previously identified equipment would require a design change to provide the necessary electrical protection. Plant Change Request (PCR) 93-13-ZZ-001 was approved by the Plant Modification Committee on June 29, 1993, The implementation of the modification has been scheduled in accordance with PVNGS Long Range Planning and are currently planned for refueling outages 1R5, 2R6, and 3R5. Previous similar events were reported pursuant to TS 6.9.3 in LERs 528/91-008-01, 528/91-011-00, 528/92-010-00, and 528/92-015-00.
Palo Verde 1, Palo Verde 2, Palo Verde 3	11/18/1992	12/18/1992	Loss of Turbine Driven AFW Pump due to a Fire in Fire Zone 74B Abstract: POWER LEVEL - 100%. On November 18, 1992, at approximately 1505 MST, Palo Verde Units 1 and 2 were in Mode 1 (POWER OPERATION) and Palo Verde Unit 3 was in Mode 5 (COLD SHUTDOWN) when APS Engineering personnel determined that a design basis fire in the Main Steam Support Structure (Train 'B', Fire Zone 74B), concurrent with a loss of off-site power, could result in a loss of the Essential Air Cooling Unit (ACU) to the redundant train of safe shutdown equipment (i.e., Train 'A' Turbine Driven Auxiliary Feedwater (AFW) pump). This postulated event could result in the failure of the Train 'B' Motor Driven AFW pump and the Train 'A' Turbine Driven AFW pump room Essential ACU resulting in a loss of the Train 'A' Turbine Driven AFW pump. Thus a single fire could result in the loss of two trains of safe shutdown equipment and could adversely affect the ability to achieve and maintain safe shutdown. The cause of this postulated event was the omission of an unprotected control circuit cable for the Train 'A' Essential ACU from the original Appendix R evaluation. There have been three previous similar events reported pursuant to 10CFR50.73, 528/91-008-01, 528/91-011-00, and 528/92-010-00.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Palo Verde 1, Palo Verde 2, Palo Verde 3	10/04/2013	12/03/2013	Appendix R Unanalyzed Condition - Direct Current Ammeter Circuits without Overcurrent Protection Abstract: On October 04, 2013, at approximately 0946 Mountain Standard Time (MST), during review of industry operating experience, PVNGS engineering personnel determined an unanalyzed condition exists related to the Control Room (CR) fire analysis. The original design of ammeter circuits which provide CR current indication for the train B and D class 1E batteries and battery chargers does not include overcurrent protection features to limit fault current. In the postulated event, a fire in the CR could cause a ground loop through unprotected ammeter wiring and potentially result in excessive current flow and heating to the point of causing a secondary fire outside the CR in the cable raceways. The postulated secondary fire could affect the availability of equipment needed to place the plant in a safe shutdown condition during a CR fire event. This scenario has not been analyzed in accordance with 10 CFR 50 Appendix R, Section III.G. Compensatory fire watch measures have been implemented and remain in place for the affected fire zones in the plant. The cause was determined to be that the original design of the DC ammeter circuits did not adequately address fire protection program requirements. A design change is planned to correct the latent design deficiencies by providing circuit
Palo Verde 2	08/22/1986	09/19/1986	Hourly Fire Watch Not Performed Due to High Gas Concentration Abstract: POWER LEVEL - 050%. ON AUGUST 22, 1986, AT 0400 MST, PALO VERDE UNIT 2 WAS IN MODE 1 (POWER OPERATION) WHEN AN HOURLY FIRE WATCH WAS NOT PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.12, ACTION STATEMENT A. THE FIRE WATCH WAS ESTABLISHED AS A COMPENSATORY MEASURE FOR THE AUXILIARY BUILDING FIRE DOORS. THE ROOT CAUSE OF THIS EVENT WAS COGNITIVE PERSONNEL ERRORS CREATED BY A MISCOMMUNICATION BETWEEN THE FIRE WATCH AND THE RADIATION PROTECTION TECHNICIAN. THE ASSIGNED FIRE WATCH WAS PREVENTED FROM COMPLETING HIS ROUNDS BY A RADIATION PROTECTION TECHNICIAN. THE TECHNICIAN DID NOT REALIZE THAT THE FIRE WATCH WAS ASSIGNED MANDATORY ROUNDS; THEREFORE, BASED UPON ALARA CONCERNS, PREVENTED THE WATCH FROM ENTERING A POTENTIAL RADIOLOGICAL AREA. AS A CORRECTIVE ACTION, THE FIRE WATCHES WILL BE INSTRUCTED TO CLEARLY IDENTIFY TO OPERATIONS PERSONNEL THEIR PURPOSE FOR ENTERING POSTED AREAS. NO SIMILAR EVENTS HAVE OCCURRED.
Palo Verde 2	08/26/1986	09/25/1986	Hourly Fire Watch Patrol Not Performed Due to High Noble Gas Concentration Abstract: POWER LEVEL - 002%. ON AUGUST 26, 1986, WITH UNIT 2 IN MODE 2 (STARTUP) AT APPROXIMATELY 2 PERCENT POWER, AN HOURLY FIRE WATCH PATROL OF THE 100 FOOT ELEVATION OF THE AUXILIARY BUILDING WAS NOT PERFORMED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.12. THE FIRE WATCH HAD BEEN ESTABLISHED DUE TO THE POTENTIAL INOPERABILITY OF THE AUXILIARY BUILDING FIRE DOORS. A FIRE WATCH PATROL WAS REQUIRED TO BE PERFORMED BY 2348 ON AUGUST 26, 1986, BUT WAS NOT PERFORMED UNTIL 0006 ON AUGUST 27, 1986. THIS WAS DUE TO A POTENTIAL HIGH NOBLE GAS CONCENTRATION WHICH RESULTED IN THE TEMPORARY RESTRICTION OF ACCESS TO THE AREA. AREA FIRE DETECTION AND SUPPRESSION REMAINED OPERABLE DURING THIS EVENT. THE ROOT CAUSE OF THIS EVENT WAS COGNITIVE PERSONNEL ERROR CREATED BY MISCOMMUNICATION BETWEEN THE FIRE WATCH PATROL, THE OPERATIONS DEPARTMENT, AND THE FIRE PROTECTION DEPARTMENT, WHICH RESULTED IN EXCEEDING THE HOURLY PATROL REQUIREMENTS. AS CORRECTIVE ACTION TO PREVENT RECURRENCE, ALL FIRE WATCH PERSONNEL WILL BE INSTRUCTED TO CLEARLY IDENTIFY TO OPERATIONS PERSONNEL THEIR PURPOSE FOR ENTERING RESTRICTED AREAS. A SIMILAR EVENT WAS REPORTED IN LER 86-028-00.
Palo Verde 2	10/02/1986	11/04/1986	MISSED FIRE WATCH DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 100%. ON OCTOBER 13, 1986, IT WAS DISCOVERED THAT AT APPROXIMATELY 0440 ON OCTOBER 2, 1986, WITH PALO VERDE UNIT 2 IN MODE 1 (POWER OPERATION) AT 100 PERCENT POWER, TWO CONSECUTIVE HOURLY FIRE WATCH ROUNDS WERE NOT PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.12, ACTION A. THE FIRE WATCH HAD BEEN ESTABLISHED AS A COMPENSATORY MEASURE DUE TO THE POTENTIAL INOPERABILITY OF THE CONTROL BUILDING AND DIESEL GENERATOR BUILDING FIRE DOORS. THE ROOT CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR BY THE FIRE WATCH WHO DID NOT COMPLETE THE REQUIRED ROUNDS WITHIN THE NECESSARY TIME CONSTRAINTS. AS CORRECTIVE ACTION, THE EMPLOYEE WAS IMMEDIATELY REMOVED FROM FURTHER FIRE WATCH DUTIES. THE EMPLOYEE WAS THEN RELEASED BY ARIZONA NUCLEAR POWER PROJECT AND RETURNED TO THE CONTRACTOR ORGANIZATION AND SUBSEQUENTLY TERMINATED. A PREVIOUS SIMILAR EVENT WAS REPORTED IN UNIT 1 LER 85-016-01.
Palo Verde 2	03/05/1987	04/01/1987	Fire Patrol Performed Late Due to Malfunctioning Door Abstract: POWER LEVEL - 000%. AT APPROXIMATELY 1800 MST ON MARCH 5, 1987, PALO VERDE UNIT 2 WAS IN MODE 4 (HOT SHUTDOWN) AT 0 PERCENT POWER WHEN AN EMPLOYEE (UTILITY NON- LICENSED) REPORTED THAT THE HOURLY FIRE PATROL FOR THE CONTROL DIESEL GENERATOR, AND MAIN STEAM SUPPORT STRUCTURE (MSSS)(NM) BUILDINGS HAD BEEN PERFORMED LATE. THE FIRE PATROL HAD BEEN ESTABLISHED AT 0938 MST ON MARCH 5, 1987 TO MONITOR DEGRADED THERMOLAG IN THESE AREAS PURSUANT TO TECHNICAL SPECIFICATION 3.7.12 ACTION A. THE ROOT CAUSE OF THIS EVENT WAS A MALFUNCTIONING ACCESS DOOR IN THE MSSS BUILDING. AS IMMEDIATE CORRECTIVE ACTION ANOTHER WATCHSTANDER COMPLETED THE WATCH IMMEDIATELY UPON DISCOVERY OF THE MISSED WATCH. ADDITIONALLY, A WORK AUTHORIZING DOCUMENT WAS ISSUED AND THE DOOR WAS RETURNED TO SERVICE. ALTHOUGH OTHER EVENTS OF MISSED FIRE WATCHES HAVE BEEN REPORTED, THERE HAVE BEEN NO SIMILAR EVENTS RESULTING FROM THE SAME ROOT CAUSE.
Palo Verde 2	09/11/1990	08/13/1992	Report on Fire Barrier Inspection Abstract: POWER LEVEL - 100%. Palo Verde Unit 2 was in Mode 1 (POWER OPERATION) at 100 percent power when the Unit 2 eighteen-month inspection of fire area boundaries (walls, floors, and ceilings) and associated sealed penetrations (except fire doors) was completed on September 11, 1990. Palo Verde Units 1 and 3 were in Mode 1 (POWER OPERATION) at 100 percent power when similar fire barrier/penetration inspections were completed by December 31, 1990. Approximately 1437 instances were identified out of approximately 10,000 attributes associated with fire barriers and sealed penetrations examined where either an inspection acceptance criterion was not met or the adequacy of the installed configuration was questionable. Approximately one-third of these discrepancies have been evaluated for reportability and no condition has been identified which would have adversely affected the ability to achieve and maintain safe shutdown in the event of a fire. Fire barrier impairment compensatory actions were established in accordance with plant procedures. The identified discrepancies, with the exception of those dealing with gypsum/plaster board and concrete/block walls, have been dispositioned and corrected or scheduled for rework.
Peach Bottom 2	01/26/1981	02/18/1981	The E-3 Emergency Diesel Cardox System Failed Abstract: During surveillance testing with the unit at power, the E-3 Emergency Diesel Cardox System failed to initiate automatically. A fire watch was posted. Fire alarm systems for the E-3 diesel bay were proved operable and manual Cardox initiation was available if required. Microswitch in the electromanual pilot control valve solenoid circuitry was found stuck open preventing automatic initiation of the Cardox system. The microswitch was cycled manually several times after which the cardox system initiation procedure was successfully performed 3 times. All similar microswitches on plant Cardox Systems were verified operable.
Peach Bottom 2	08/12/1981	08/26/1981	A Design Error Abstract: During a safe shutdown analysis, with respect to fire protection, cable designation and routing errors were discovered on the unit 2 4KV emergency bus breaker control cable schemes. The cable designation errors caused separation deficiencies on various control switches and relays. During the design phase of peach bottom unit 2, 4KV feeder breaker control cable was improperly designated as non-safeguard. The cable trays and conduits in which the unit 2 cables are routed have been physically identified. A continuous roving firewatch has been established to monitor these cables and trays. An engineering design review is in progress to correct the designation and routing problems. It is expected that the review will result in redesign and rerouting of cables as a safeguard.
Peach Bottom 2	01/29/1982	05/17/1982	Diesel Generator Cardox Tank Being Below the 2200 Limit of tech Spec Abstract: Operator noted that the Diesel Generator Cardox tank level had dropped significantly from the previous day, to a level below the limit of Tech Spec 3.14.b.3.a. Investigation revealed that the level indicator float mechanism (Cardox P/N 124109) was stuck. Cause of sticking suspected to be ice. After replacing the device system was blown down to remove moisture and the tank was refilled on 2/3/82.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Peach Bottom 2	06/08/1982	07/08/1982	Abstract: WHILE FILLING THE DIESEL GENERATOR CARBON DIOXIDE FIRE SUPPRESSION SYSTEM STORAGE TANK, THE TANK PRESSURE DROPPED BELOW THE LIMIT SPECIFIED IN TECH SPEC 3.14.B.3.A. A FIRE WATCH WAS POSTED UNTIL THE TANK PRESSURE WAS WITHIN TECH SPEC LIMITS. SUFFICIENT CARBON DIOXIDE WAS AVAILABLE TO DELIVER MOST OF THE DESIGN VOLUME UPON AUTOMATIC ACTUATION; MANUAL ACTUATION CAPABILITY WAS AVAILABLE TO DELIVER THE BALANCE. WHILE ADDING LIQUID CARBON DIOXIDE TO THE STORAGE TANK, THE TANK VAPOR SPACE WAS VENTED TO ATMOSPHERE RATHER THAN THE DELIVERY TRUCK CAUSING THE TANK PRESSURE TO DROP. THE PRESSURE WAS ALLOWED TO BUILD TO WITHIN TECH SPEC LIMITS. PROCEDURES FOR FILLING CARBON DIOXIDE STORAGE TANKS WILL BE DISCUSSED AT THE NEXT SHIFT FIRE PROTECTION MEETING.
Peach Bottom 2	09/15/1982	10/14/1982	The Circuit Breaker Which Supplies Power to the Auto Code Box became Disconnected Abstract: While at power, a supervisory alarm occurred which indicated fire system problems. Preliminary investigation indicated the heat detectors in the unit 3 start up switchgear building were inoperable. A continuous fire watch was posted. Applicable tech spec is table 3.14.c.1.
Peach Bottom 2	10/12/1982	11/10/1982	The Potential Failure of the Unit 2 Control Rod Drive (CRD) Area Detector System Abstract: A fire alarm was received from the Unit 2 Control Rod Drive (CRD) area smoke detector circuit. A fire watch was posted during the investigation into which smoke detector had alarmed. The detection circuit was reset and returned to service. Later, a fire system supervisory trouble alarm was received and the problem traced to a loose connection in the CRD area smoke detector circuit. Applicable Tech Spec is Table 3.14.c.1. The cause was found to be a stripped terminal screw in the crd area auto code box causing a loose connection from the CRD smoke detector circuitry. The screw was replaced and the connection tightened. The system was tested for operability and returned to service.
Peach Bottom 2	10/21/1982	11/04/1982	The Inventroy of the Tank was In Excess of the Requirmed Pounds and Pressure was Insuffcient Abstract: Pressure in the diesel generator cardox storage tank was found to be 7% below the tech spec limit of 280 psig. The inventory of the tank was in excess of the required 2200 pounds and the pressure was sufficient to provide carbon dioxide to the fire suppression system. A six and one-half hour period elapsed during which the pressure was below the tech spec limit and the fire watch was not posted. System was removed from service for about one hour to perform maintenance. Fire watch posted as required by the tech spec. Upon completion of maintenance system restored and operator incorreclty released fire watch although pressure had not returned to tech spec limit. Responsible operator counselled.
Peach Bottom 2	05/11/1983	05/25/1983	Numerous Fire Barriers Inadequate Abstract: During visual inspection of penetration fire barriers, inadequacies were found in the fire walls and penetration seals in the eight Emergency Switchgear Rooms and the four Emergency Battery Rooms. Applicable Tech Spec is 6.9.2.a.9. Firewatches are posted on one side of all the walls that have deficiencies as required by Tech Spec 3.14.D.3. Cause of occurrence was construction or design error and inadequacies in the fire barrier penetration inspection program. A combination of continuing inspections, temporary sealing followed by seal upgrade, and permanent repair is anticipated at the present time.
Peach Bottom 2	08/12/1983	09/14/1983	Emergency Switchgear Supply Vent Duct Fire Damper not Installed Abstract: During visual inspections, the Control room fire barrier was discovered without a fire damper in one of the ventilation duct penetrations. Inspection of dampers in fire barriers was first specified in a recent Tech Spec. During the first visual inspection required by the new surveillance requirement, it was observed that an inspection of this duct was precluded by a lack of an access door. An access door was installed and the deficiency was identified. A fire watch was posted on one side of the barriers. The damper was not incorporated into the original installation of the ventilation system. A new damper is on order and its expected delivery is 9/23/83. The firewatch will remain until the damper is installed.
Peach Bottom 2	06/28/1984	07/27/1984	Inoperable Fire Damper at PBAPS Cable Spreading Room Abstract: POWER LEVEL - 000%. ON JUN 28, 1984, WITH UNIT 2 IN COLD SHUTDOWN FOR REFUELING AND UNIT 3 AT 99% FULL POWER, SURVEILLANCE TESTING DISCOVERED AN INOPERABLE HORIZONTAL FIRE DAMPER IN THE CABLE SPREADING ROOM (CSR). APPLICABLE TECH SPEC IS 3.14.D.1. A CONTINUOUS FIRE WATCH WAS IN PLACE AT THE TIME OF DISCOVERY. THE OTHER SIMILAR HORIZONTAL DAMPERS IN BOTH THE CABLE SPREADING ROOM AND THE CONTROL ROOM WERE SURVEILLANCE TESTED AND FOUND OPERABLE. THE SMOKE DETECTORS IN THE CABLE SPREADING ROOM ARE OPERABLE AND AN HOURLY FIRE WATCH PATROL WAS INITIATED AND WILL BE MAINTAINED UNTIL A REPLACEMENT DAMPER IS INSTALLED.
Peach Bottom 2	06/29/1984	07/13/1984	Inoperability of Diesel and Motor Driven Fire Pumps Abstract: POWER LEVEL - 000%. AT APPROX 5:00 PM ON JUN 29, 1984, WITH UNIT 2 IN THE COLD SHUTDOWN CONDITION AND UNIT 3 OPERATING AT 100% POWER, THE DIESEL DRIVEN FIRE PUMP AUTOMATICALLY STARTED. THE MOTOR DRIVEN FIRE PUMP WAS RUNNING AT THIS TIME FOR FIRE SYSTEM TESTING. AT THE SAME TIME, THE CONTROL ROOM RECEIVED REPORTS OF FLOODING AT ELEVATION 116' OF THE TURBINE BLDG. INVESTIGATION REVEALED THAT THERE WAS A BREAK IN AN ELBOW IN THE FIRE HEADER AT THAT LOCATION. BOTH FIRE PUMPS WERE REMOVED FROM SERVICE SO THAT THE AFFECTED PORTION OF THE FIRE HEADER COULD BE ISOLATED. A CONTINUOUS FIRE WATCH WAS POSTED IN THE AREA OF THE SPRINKLER HEADS FED FROM THE ISOLATED PORTION OF THE FIRE HEADER. THE DIESEL FIRE PUMP WAS RETURNED TO SERVICE 1 HR AND 10 MINS LATER. THE MOTOR DRIVEN FIRE PUMP WAS TESTED AND DECLARED OPERABLE ABOUT 12:30 AM ON JUN 30, 1984, AFTER REPAIRING ITS DISCONNECT SWITCH WHICH WAS BROKEN WHILE SHUTTING OFF THE PUMP. THE ELBOW WAS REPLACED AND THE FIRE PROTECTION SYSTEM WAS ENTIRELY RETURNED TO SERVICE WITHIN 24 HRS FROM THE TIME OF THE OCCURRENCE.
Peach Bottom 2	07/15/1984	08/20/1984	Smoke Detectors Removed From Service Without a Continuous Firewatch Abstract: POWER LEVEL - 000%. ON JUL 9, 1984, WITH UNIT 2 IN THE COLD SHUTDOWN CONDITION, SMOKE DETECTOR ALARMS WERE RECEIVED FROM THE UNIT 2 BATTERY AND 4KV EMERGENCY SWITCH GEAR ROOMS. INVESTIGATION BY THE FIRE BRIGADE REVEALED THAT THERE WAS NO FIRE AND THE REASON FOR THE ALARMS COULD NOT BE DETERMINED. AN HOURLY FIREWATCH PATROL WAS ALREADY ESTABLISHED IN THE AREA FOR FIRE BARRIER PENETRATION SEALING WORK, WHICH WAS NEARING COMPLETION. TO PREVENT FURTHER UNNEEDED ACTIVATION OF THE FIRE BRIGADE, IT WAS CONSIDERED ALLOWABLE TO REMOVE SMOKE DETECTORS FROM SERVICE IN ACCORDANCE WITH TECH SPEC 3.14.C.2. REMOVING THE DETECTORS FROM SERVICE, HOWEVER, VIOLATED THE RECENT REV OF TECH SPEC 3.14.D.3 REQUIREMENTS FOR INOPERABLE FIRE BARRIERS. AN EXPEDITED COPY OF THIS REV WAS IN USE, BUT THE CONTROLLED COPIES HAD NOT YET BEEN ISSUED. NO PROBLEMS WERE DETECTED BY THE HOURLY FIRE-WATCH PATROL WHILE THE DETECTORS WERE OUT OF SERVICE, PROCEDURE A-29, REVIEW AND IMPLEMENTATION OF AMENDMENTS TO TECH SPECS, WILL BE REVISED TO IMPROVE THE METHOD OF INFORMING SHIFT SUPERVISION OF CHANGES TO TECH SPECS, AND PERSONNEL INVOLVED WILL BE COUNSELED ON BEING FULLY AWARE OF AND UNDERSTANDING NEWLY ISSUED TECH SPEC REVS.
Peach Bottom 2	07/19/1984	08/17/1984	Cable Spreading Room Cardox System Out-of-Service Without Cont. Firewatch Abstract: POWER LEVEL - 100%. ON FEB 10, 1984, A CONTINUOUS FIREWATCH WAS NEEDED IN THE CABLE SPREADING ROOM BECAUSE OF SEPARATE TECH SPEC REQUIREMENTS DEALING WITH BOTH A NON-FUNCTIONAL FIRE BARRIER AND AN OUT-OF-SERVICE CARDOX SYSTEM. ON JUN 20, 1984, THE COMMISSION APPROVED A TECH SPEC AMENDMENT WHICH ALLOWED FOR AN HOURLY FIREWATCH INSTEAD OF A CONTINUOUS FIREWATCH IN AREAS WITH NON-FUNCTIONAL FIRE BARRIERS. IN AN EFFORT TO REDUCE THE NUMBER OF PERSONNEL SERVING AS CONTINUOUS FIREWATCHES WITHIN THE PLANT AS A RESULT OF THE ON-GOING SEAL UPGRADE PROGRAM, AN HOURLY FIREWATCH WAS ESTABLISHED IN SEVERAL AREAS INCLUDING THE CABLE SPREADING ROOM ON JUL 1, 1984. AS A RESULT OF A DEFECT IN THE FIREWATCH ACCOUNTING SYSTEM, ON JUL 16, 1984 THE CONTINUOUS FIREWATCH WAS REMOVED FROM THE CABLE SPREADING ROOM WITHOUT REALIZING THAT IT WAS STILL NEEDED DUE TO AN OUT-OF-SERVICE CARDOX SYSTEM. ON JUL 19, 1984, THE CONTINUOUS FIREWATCH WAS RE-ESTABLISHED. THE PROCEDURE WHICH DEALS WITH THE REMOVAL OF FIREWATCHES AND THE FIREWATCH LOG SHEETS WHICH ACCOUNT FOR FIREWATCHES, WILL BE MODIFIED TO PREVENT RECURRENCE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Peach Bottom 2	07/25/1985	09/19/1985	Inoperable Fire Barrier Penetrations Abstract: POWER LEVEL - 058%. ON 7-25-85 QUALIFICATION TESTS WERE PERFORMED ON FIRE BARRIER PENETRATIONS CONTAINING CERAMIC FIBER-POLYURETHANE FOAM. TEST RESULTS INDICATED THAT THIS MATERIAL WAS UNACCEPTABLE AS A FIRE BARRIER WHEN INSTALLED IN A CERTAIN CONFIGURATION. THIS MATERIAL WAS SUBJECTED TO A FIRE TEST FOLLOWED BY A HOSE STREAM TEST (ASTM E814-81). THE PENETRATION FAILED THE HOSE STREAM TEST IN THOSE CASES WHERE THE CERAMIC FIBER WAS INSTALLED ON THE COLD SIDE OF THE TEST WALL AND THE POLYURETHANE FOAM WAS INSTALLED ON THE FIRE SIDE OF THE TEST WALL. TESTS PERFORMED IN THE OPPOSITE CONFIGURATION (CERAMIC FIBER ON THE FIRE SIDE, POLYURETHANE FOAM ON THE UNEXPOSED SIDE) PROVED THE BARRIERS ACCEPTABLE FOR BOTH THE FIRE AND HOSE STREAM TESTS. A REVIEW OF THE MATERIALS USED IN THE PEACH BOTTOM FIRE BARRIER PENETRATIONS COMPLETED IN 7-85 INDICATED THAT 35 PENETRATIONS CONTAIN THE CERAMIC FIBER-POLYURETHANE FOAM MATERIAL IN THE UNQUALIFIED CONFIGURATION. FURTHER REVIEW COMPLETED ON 8-29-85 REVEALED THAT AN ADDITIONAL 19 UNQUALIFIED FIRE BARRIER PENETRATIONS OF THIS CONFIGURATION EXIST. IN ACCORDANCE WITH TECH SPECS, FIRE DETECTORS WERE VERIFIED OPERABLE AND HOURLY FIRE WATCH PATROLS WERE ESTABLISHED FOR THE UNQUALIFIED FIRE BARRIERS.
Peach Bottom 2	12/24/1985	02/06/1986	TECHNICAL SPECIFICATION CONTINUOUS FIRE WATCH NOT ESTABLISHED Abstract: POWER LEVEL - 001%. ON 12-23-85 A SMOKE DETECTOR IN THE MG SET LUBE OIL ROOM WAS ALARMING SPURIOUSLY. THE SMOKE DETECTORS IN THE ROOM WERE BYPASSED, RENDERING THE WATER SUPPRESSION SYSTEM INOPERABLE, AND AN HOURLY FIRE WATCH WAS ESTABLISHED. ON 12-24-85 AT 2156 HRS UNIT 2 BEGAN REACTOR POWER OPERATION. A CONTINUOUS FIRE WATCH SHOULD HAVE BEEN ESTABLISHED WITHIN 1 HR IN THE MG SET LUBE OIL ROOM TO SATISFY TECH SPEC 3.14.E.2. TECH SPEC 3.14.E.2 REQUIRES THAT IF THE MG SET LUBE OIL ROOM WATER SUPPRESSION SYSTEMS ARE INOPERABLE AND THE UNIT IS IN POWER OPERATION, THE OPERATORS MUST 'ESTABLISH A CONTINUOUS FIRE WATCH WITH PORTABLE FIRE SUPPRESSION EQUIPMENT WITHIN 1 HR'. ON 1-7-86 AT 0915 HRS, WITH THE HOURLY FIRE WATCH STILL IN PLACE, THIS NONCOMPLIANCE WAS DISCOVERED AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED.
Peach Bottom 2	12/10/1986	01/16/1987	Diesel Generator Room Cardox Defeated Without a Firewatch Abstract: POWER LEVEL - 100%. ON DECEMBER 10, 1986 AND DECEMBER 16, 1986 BETWEEN APPROXIMATELY 0100 AND 0300 HOURS, DEDICATED FIRE WATCHES AS REQUIRED BY THE TECHNICAL SPECIFICATIONS WERE NOT ESTABLISHED IN EMERGENCY DIESEL GENERATOR ROOMS DUE TO FAILURE TO CLOSELY ADHERE TO PROCEDURAL GUIDANCE. DURING A SURVEILLANCE TEST OF THE E-3 AND E-4 DIESELS ON DECEMBER 10 AND OF THE E-1 AND E-2 DIESELS ON DECEMBER 16, THE AUTOMATIC INJECTION MODE OF THE CARBON DIOXIDE FIRE SUPPRESSION (CARDOX) SYSTEM FOR THE DIESEL BEING TESTED WAS DEFEATED FOR MORE THAN ONE HOUR WITHOUT ESTABLISHMENT OF A DEDICATED FIRE WATCH IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS AND ADMINISTRATIVE PROCEDURES. THE MANUAL INJECTION MODE OF THE CARDOX SYSTEM AND DIESEL ROOM CARDOX INJECTION ALARMS WERE OPERABLE. GUIDANCE REGARDING THE DEFEAT OF THE AUTOMATIC INJECTION MODE OF THE CARDOX SYSTEM IN PROCEDURE S.8.4.A (MANUAL START OF DIESELS) AND ADMINISTRATIVE PROCEDURE A-12.1 FOR CONTROLLING TECHNICAL SPECIFICATION FIRE WATCHES. TO PREVENT RECURRENCE, THESE EVENTS HAVE BEEN REVIEWED WITH ALL OPERATIONS PERSONNEL AND THE IMPORTANCE OF AUTOMATIC CARDOX INJECTION CAPABILITY HAS BEEN RE-EMPHASIZED.
Peach Bottom 2	08/15/1989	09/14/1989	Failure to Establish a Continuous Fire Watch as Required by Technical Specifications Due to Ineffective Fire Protection System Training Abstract: POWER LEVEL - 100%. AT 1700 ON 8/15/89 WELDING ACTIVITIES REQUIRED SMOKE DETECTORS FOR THE UNIT 2 REACTOR RECIRCULATION MOTOR GENERATOR (MG) LUBE OIL (LO) ROOM TO BE BYPASSED. A ROVING HOURLY FIRE WATCH WAS ESTABLISHED TO COMPLY WITH THE TECH SPEC REQUIREMENT FOR INOPERABLE DETECTORS. A CONTINUOUS FIRE WATCH WAS POSTED FOR WELDING BEING PERFORMED IN THE MG SET LO ROOM AS REQUIRED BY IGNITION AND SOURCE CONTROL ADMINISTRATIVE PROCEDURE, A-12. THE CONTINUOUS FIRE WATCH TOOK TWO SHORT BREAKS (1900-1935 AND 2015-2035) WHEN WORK WAS TEMPORARILY SUSPENDED AND NOT REQUIRED BY A-12. AT 2035 THE FIRE PROTECTION ASSISTANT RECOGNIZED THAT BYPASSING THE SMOKE DETECTORS ALSO RENDERED AUTOMATIC ACTUATION CAPABILITY OF THE RECIRC MG SET LO ROOM SPRINKLER SYSTEM INOPERABLE. FIRE WATCH WAS ESTABLISHED AS REQUIRED BY TECH SPEC 3.14.E.2.A FOR THE INOPERABLE SPRINKLER SYSTEM. THE CAUSE OF THIS EVENT WAS THE TRAINING OF OPERATIONS PERSONNEL IN THE FUNCTIONAL RELATIONSHIP OF THE SMOKE DETECTORS AND ASSOCIATED PRE-ACTION SPRINKLER SYSTEMS WAS NOT EFFECTIVE. THIS EVENT WILL BE REVIEWED BY LICENSED PERSONNEL. PRE-ACTION SPRINKLER SYSTEMS WILL BE EMPHASIZED DURING LICENSED OPERATOR SYSTEM TRAINING. ONE PREVIOUS SIMILAR LER HAS BEEN IDENTIFIED.
Peach Bottom 2	08/10/1994	09/08/1994	Secondary Containment Breached to Fight Fire Abstract: On 8/10/94, a fire occurred inside the Unit 2 vent stack protective siding during modification activities. Hangers were being welded within the vent stack walls. The welding cloth was removed and smoke started coming from the opening. The fire brigade leader in conjunction with Shift Supervision directed that the hatch on the Reactor Building (R/B) roof be opened to allow a fire hose to be run through it. Once the fire hose arrived at the vent stack, water was sprayed into the opening until the steam/smoke mixture stopped. The Secondary Containment hatch was closed. The cause of this event was that a Secondary Containment hatch was opened on the R/B roof to allow a fire hose to be run through it. The cause of the fire has been determined to be that the work area was not properly staged. The Welder did not properly install the welding cloth in a manner which would prevent sparks from dropping between the inner and outer walls of the vent stack. In addition, the Work Supervisor had not properly inspected the welding area in accordance with the Hot Work Permit (HWP). An evaluation will be performed on the A-12 'IGNITION SOURCE CONTROL' and HWP Processes to identify if additional corrective actions are needed to prevent future events. The event has been discussed with the Welding Crew and the Supervisor
Peach Bottom 2	06/16/1999	07/16/1999	This LER reports a failure to maintain the provisions of the Fire Protection Program, where the Fire Safe Shutdown analysis did not recognize that a Unit 2 HPCI vacuum breaker motor operated isolation valve could fail closed during a fire, preventing the Abstract: During a review of the Fire Safe Shutdown (FSSD) supporting analyses, an issue associated with a failure to maintain the provisions of the Fire Protection Program was identified. This issue involves potential damage to the Unit 2, High Pressure Coolant Injection (HPCI) vacuum breaker motor operated isolation valve's motive and control power source as a result of a postulated fire. Spurious closure of the vacuum breaker motor operated isolation valve due to fire damage, would allow initial start of the HPCI system, but could prevent subsequent restarts of the HPCI system as required for the Fire Safe Shutdown scenario. Subsequent restarts of the HPCI system could be impacted as a result of potential damage from a waterhammer event in the steam exhaust line. The primary cause of issue has been attributed to less than adequate engineering rigor in both the development and review of an analysis that supports the Fire Safe Shutdown Program. An hourly roving fire watch was immediately established for the affected fire area.
Peach Bottom 2, Peach Bottom 3	10/15/1987	05/16/1988	Technical Specification Fire Barrier Deficiencies and Failure to Report Some Deficiencies Within 30 Days Due To Inadequate Controls Abstract: POWER LEVEL - 000%. ON 10/15/87 IT WAS DETERMINED THAT SEVERAL FIRE BARRIERS IN THE TURBINE BUILDING AND THE RADWASTE BUILDING HAD GAPS FILLED WITH UNQUALIFIED FILL MATERIAL. THE CABLE SPREADING ROOM, AS WELL AS OTHER ROOMS, IS AFFECTED. THIS CONDITION WAS NOT REPORTED WITHIN 30 DAYS IN ACCORDANCE WITH 10 CFR 50.73 AS A RESULT OF INADEQUATE PROGRAMMATIC CONTROLS TO ENSURE THAT DEFICIENT CONDITIONS ARE EVALUATED FOR REPORTABILITY. ON 4/15/88 A HOLE (3 IN. DIA.) IN THE FLOOR (A FIRE BARRIER) OF THE CAPLE SPREADING ROOM WAS DISCOVERED. A PANEL WHICH CONTAINS ANNUNCIATOR RELATED CIRCUITRY RESTS ON THIS HOLE. THESE CONDITIONS ARE REPORTABLE BECAUSE THEY VIOLATED THE TECH SPEC REQUIREMENT FOR FUNCTIONAL FIRE BARRIERS. FIRE WATCHES WERE ESTABLISHED OR VERIFIED TO ALREADY BE IN PLACE TO COMPENSATE FOR EACH OF THESE DEFICIENT BARRIERS WITHIN ONE HOUR OF DISCOVERY IN ACCORDANCE WITH THE TECH SPECS. THE HOLE IN THE CABLE SPREADING ROOM FLOOR WAS REPAIRED ON 4/25/88 TO SATISFY THE 3-HOUR FIRE RATING REQUIREMENT. A MODIFICATION HAS BEEN INITIATED TO UPGRADE THE FILL MATERIAL IN THE FIRE BARRIER SEISMIC GAPS. THIS MODIFICATION WILL BE COMPLETED BY AUGUST 1988 ON UNIT 2 AND PRIOR TO RESTART ON UNIT 3. IMPLEMENTATION OF A NEW EXPANDED PROCESS FOR

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Peach Bottom 2, Peach Bottom 3	06/28/1988	07/26/1988	Failure to Continuously Implement the LCO of Technical Specification 3.14.B.4.a as the Result of a Personnel Error Caused by a Firewatch Leaving their Post Unattended Abstract: POWER LEVEL - 000%. ON JUNE 28, 1988 AT APPROXIMATELY 1240 HOURS, THE CONTINUOUS (CONTRACTOR) FIREWATCH POSTED IN THE PBAPS CABLE SPREADING ROOM LEFT THE POST UNATTENDED FOR APPROXIMATELY TWENTY MINUTES. THE FIREWATCH WAS REQUIRED BY THE TECHNICAL SPECIFICATIONS SINCE THE AUTOMATIC CARDOX SYSTEM FOR THE CABLE SPREADING ROOM WAS OUT-OF-SERVICE. THIS CONSTITUTED A FAILURE TO CONTINUOUSLY IMPLEMENT THE ACTION STATEMENT OF THE LIMITING CONDITION FOR OPERATION OF TECHNICAL SPECIFICATION 3.14.B.4.A AND IS REPORTABLE UNDER 10 CFR 50.73(A)(2)(I)(B). THE CAUSE OF THE EVENT WAS PERSONNEL ERROR ON THE PART OF THE CABLE SPREADING ROOM FIREWATCH IN THAT THE FIREWATCH LEFT THE CABLE SPREADING ROOM UNATTENDED TO PERFORM OTHER DUTIES WITHOUT PROPER RELIEF. THE CONSEQUENCES OF THE EVENT ARE CONSIDERED MINIMAL, CONSIDERING THE AVAILABILITY OF SMOKE DETECTORS IN THE ROOM WHICH WOULD ALERT STATION PERSONNEL. AS CORRECTIVE ACTIONS, THE FIREWATCH WAS REESTABLISHED BY 1300 HOURS. AS ACTIONS TO PREVENT RECURRENCE, THE FIREWATCH HAS BEEN COUNSELED AND REINSTRUCTED IN THE IMPORTANCE OF NOT LEAVING AN ASSIGNED POST UNTIL PROPERLY RELIEVED. ADDITIONALLY, OTHER FIREWATCH PERSONNEL HAVE BEEN REINSTRUCTED OF
Peach Bottom 2, Peach Bottom 3	07/16/1992	09/18/1992	Plant Being Outside Its Design Basis Due to Unqualified Fire Barriers Abstract: POWER LEVEL - 095%. NRC Bulletin No. 92-01, 'Failure of Thermo-Lag 330 Fire Barrier System to Maintain Cabling in Wide Cable Trays and Small Conduits Free from Fire Damage,' was issued on 6/24/92 and a supplement 'Failure of Thermo-Lag 330 Fire Barrier System to Perform its Specified Endurance Function' was issued on 8/28/92. The Bulletins requested licensees to promptly identify the areas of the plant which have Thermo-Lag 330 Fire Barrier material installed to protect conduits or wide cable trays that provide safe shut down capability. An evaluation of the status of the Thermo-Lag throughout the plant was completed and the fire barriers conforming to the description in the NRC Bulletin were declared inoperable. The cause of this condition has been determined to be design deficiencies as delineated in the NRC Bulletin. Hourly fire watches were established. Appropriate corrective actions to restore fire barrier operability are being developed. No actual safety consequences occurred as a result of this event. No previous similar events were identified. of Thermo-Lag 330 Fire Barrier System to Maintain Cabling in Wide Cable Trays and Small Conduits Free from Fire Damage,' was issued which requested licensees to promptly identify the areas of the plant which have Thermo-Lag 330 Fire Barrier material installed to
Peach Bottom 2, Peach Bottom 3	11/02/1992	01/28/1993	Technical Specification Violation when a Continuous Firewatch was not Performed Abstract: POWER LEVEL - 000%. On 01/05/93 at 2000 hours, k was discovered that a continuous firewatch was not in place for the Unit 2 Turbine Building Condensate Demin Piping Tunnel area (50-78A) from 11/02/92 at 0140 hours to 01/05/93. This is a violation of Technical Specification 3.14.D.2. On 11/02/92, the fire detector auto code box (A-400) in the 50-78A area was bypassed and declared inoperable. At this time an hourly fire watch was ensured to be in place instead of the required continuous firewatch. The cause of the event is that the Shift Supervisor (SSV) did not ensure that the appropriate firewatch was performed for this area. The SSV directed compensatory actions sufficient only for A-400 becoming inoperable. The actions were not sufficient for A-400 becoming inoperable because A-400 was being used to justify an hourly firewatch for a Thermo-Lag fire barrier impairment. The SSV missed the fact that A-400 was taken credit for as being operable. A contributing factor to this event was that the SSV, who processed the fire impairment for A-400, was the only barrier in preventing the error. A-400 was then restored to an operable status. The procedure used to control and track fire impairments will be revised to require two individuals to review and approve impairments. There were three previous
Peach Bottom 2, Peach Bottom 3	04/09/1993	05/20/1993	Technical Specification Violation when the Unit 2 Fire Suppression Carbon Dioxide Storage Tank Pressure Dripped below the Minimum Limit Abstract: POWER LEVEL - 100%. On 04/09/93, a Technical Specification (Tech Spec) violation occurred when the appropriate compensatory actions were not established when the Unit 2 Fire Suppression Carbon Dioxide Storage Tank pressure went below the Tech Specs limit. The CO2 tank low pressure condition was identified by a Nuclear Plant Operator (NPO) during the performance of a Surveillance Test (ST). The NPO notified the Chief Operator (CO) that the ST was going to fail, however, the required compensatory actions were not implemented. Testing identified that the tank pressure switch setpoint had drifted. Following as found tank instrumentation testing, this event was determined to be reportable on 04/22/93. The cause of the event was setpoint drift of a pressure switch in conjunction with less than adequate communication. The NPO notified the CO that the ST was going to fail but did not specifically communicate that the failure involved a Tech Spec step in the ST. After discovery of the event, the Shift Technical Advisor verified that tank pressure had recovered. The tank pressure switches have been properly calibrated. An investigation is currently being performed on this pressure switch problem and corrective actions will be
Peach Bottom 2, Peach Bottom 3	08/04/1994	09/06/1994	Technical Specification Violation due to a Missed Firewatch Abstract: On 08/04/94 at 1630 hours, fire watches which were posted in both HPCI Rooms and the Cable Spreading Room were prematurely relieved from their watch prior to the return of the carbon dioxide fire suppression system to an operable status. Since no firewatches were in these areas during a 50 minute period when the carbon dioxide fire suppression system was inoperable, a violation of Tech Spec section 3.14-B-4 occurred. The cause of the event was that a firewatch was not maintained in these areas due to inadequate communication between the Work Control Station Coordinator and the Fire Protection Individual (FPI). Since the FPI believed that the clearance had been removed, the fire watches associated with both HPCI and the Cable Spreading Room were prematurely removed. An evaluation will be performed on the Firewatch Process to identify if additional corrective actions are needed to minimize future firewatch violations. The involved individual has been counselled regarding this event and Managements expectations that all communication is clear and understood by all individuals. The pertinent information from the event will be provided to the appropriate Operations and Fire Protection personnel. There were no actual safety consequences as a result of this event. No previous similar events
Peach Bottom 2, Peach Bottom 3	03/18/1999	04/16/1999	This LER reports the failure to maintain the provisions of the Fire Protection Program to properly address the effects of flooding caused by fire induced mis-operation of High / Low pressure interfaces in low pressure ECCS Abstract: During a review of the Fire Safe Shutdown (FSSD) supporting documents, it was concluded that potential damage from a postulated fire in specific fire areas could result in spurious operation of High/Low pressure interface motor operated valves and air operated valves in the Residual Heat Removal (RHR) or Core Spray Reactor Pressure Vessel injection lines. The sustained opening of these valves could result in pressure relief valve discharge and unacceptable flooding of a sump pump room in the Unit 2 or Unit 3 Reactor Building. These sump pump rooms contain instruments associated with the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) systems. Water damage to these instruments may result in isolation of these systems, which are protected for FSSD in several fire areas. RHR and Core Spray piping integrity would be maintained during the postulated event. Previous analysis contained erroneous information regarding the potential effects of the sump room flooding on other systems. Hourly roving fire watch patrol inspections were immediately established for the identified fire areas. Temporary plant alterations were subsequently installed to remove power from one of the valves in each of the impacted High/Low pressure interfaces to isolate the water flow paths.
Peach Bottom 3	09/28/1982	10/28/1982	Gap Found in Fire Barrier Abstract: During normal operation, while performing surveillance test on fire barriers in cable spreading room, a floor cable penetration was found with a 1 1/2 square inch gap due to a broken marinite fire barrier board. A fire watch was established and remained until the barrier was repaired.
Peach Bottom 3	10/06/1982	10/25/1982	The Failure of the Unit 3 HPCI Room Carbon Dioxide Fire Protection System to Automatically Inject a Surveillance Test Abstract: During a test, the Unit 3 HPCI Room Carbon dioxide fire protection system failed to inject automatically. A fire watch was posted. Manual injection capability remained available. Applicable Tech Spec is 3.14.b. The contacts of the electrom-manual pilot control solenoid valve were dirty and the seal-in cam for the timer motor in the auto actuation circuit was out of adjustment. The contacts were cleaned and the cam was re-adjusted. The system was tested and returned to service.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Peach Bottom 3	06/21/1985	10/01/1985	Degraded Fire Barriers Abstract: POWER LEVEL - 030%. ON 6-21-85 IT WAS DISCOVERED THAT A TECH SPEC REQUIRED FIRE WATCH WAS NOT ESTABLISHED FOR FIRE BARRIERS BETWEEN THE MSIV ROOM AND THE TORUS ROOM. THE FIRE WATCH WAS REQUIRED BECAUSE THE MSIV ROOM FLOOR IS A FIRE BARRIER AND IT WAS DEGRADED DUE TO A LACK OF QUALIFIED PENETRATION SEALS. UPON COMPLETION OF THE FIRE BARRIER UPGRADE PROGRAM PERFORMED TO BRING THE PLANT INTO COMPLIANCE WITH 10 CFR 50, APPENDIX R, THIS FLOOR WAS NOT IDENTIFIED AS A FIRE BARRIER. TECH SPECS REQUIRE FIRE WATCHES IN AREAS WITH DEGRADED FIRE BARRIERS. WHEN THIS OVERSIGHT WAS DISCOVERED AND STATION PERSONNEL WERE INFORMED, AN HOURLY FIRE WATCH WAS ESTABLISHED AND THE SMOKE DETECTORS IN THE TORUS ROOM WERE PROVEN OPERABLE. IN ADDITION A COMPLETE REVIEW OF PENETRATION DRAWINGS WAS CONDUCTED. AFTER THIS REVIEW, AN INSPECTION OF CERTAIN BARRIERS IDENTIFIED 2 ADDITIONAL DEGRADED BARRIERS. ONE BARRIER SEPARATES THE CONTAINMENT ATMOSPHERE DILUTION BLDG FROM THE UNIT 2 REACTOR BLDG. THE OTHER BARRIER SEPARATES ELEVATION 195' OF THE UNIT 2 REACTOR BLDG FROM ELEVATION 195' OF THE TURBINE BLDG. APPROPRIATE FIRE WATCH PATROLS WERE ESTABLISHED FOR THESE BARRIERS IN ACCORDANCE WITH THE TECH SPECS.
Peach Bottom 3	08/07/1986	09/05/1986	Missed Fire Watch Patrol Due to Personnel Error Abstract: POWER LEVEL - 084%. BETWEEN 1530 HOURS ON AUGUST 7, 1986 AND 0740 HOURS ON AUGUST 8, 1986, THE HOURLY FIRE WATCH PATROL IN SEVERAL AREAS OF UNIT 3 WAS NOT PERFORMED DUE TO PERSONNEL ERROR. SEPARATE REVISED FIRE WATCH PATROL INSTRUCTIONS FOR UNITS 2 AND 3 WERE ISSUED TO THE SECURITY FORCE AT APPROXIMATELY 1530 HOURS ON AUGUST 7. HOWEVER, ONLY THE UNIT 2 PATROL WAS IMPLEMENTED, FOR THE MOST PART, THE AREAS WHICH WERE INADVERTENTLY NOT PATROLLED IN ACCORDANCE WITH THE INSTRUCTIONS INVOLVED RECENTLY IDENTIFIED POTENTIAL CONDITIONS OF NON-COMPLIANCE WITH 10 CFR 50, APPENDIX R. TO PREVENT RECURRENCE, SEVERAL SECURITY PERSONNEL WERE COUNSELED AND DISCIPLINED.
Peach Bottom 3	06/13/1988	07/13/1988	Ventilation Diffuser Improperly Constructed which Blocked Operation of Fire Damper in 4kV Emergency Switch Gear Room Wall Penetration Abstract: POWER LEVEL - 000%. ON JUNE 13, 1988 AT 1400 HOURS, WHILE PERFORMING SPECIAL FUNCTIONAL TEST 1126, 'FUNCTIONAL TEST OF FIRE DAMPERS', IT WAS DISCOVERED THAT ONE OF THE DAMPERS LOCATED IN THE EMERGENCY BUS ROOMS VENTILATION DUCT PENETRATION TB3-135-267-4010A, BETWEEN THE E-13 AND THE E-33 4 KV EMERGENCY BUS ROOMS WOULD NOT CLOSE DUE TO A VENTILATION DIFFUSER BEING LOCATED IN THE DAMPER'S TRACK. THIS IS NOT IN CONFORMANCE WITH TECHNICAL SPECIFICATION 3.14.D.1 WHICH SPECIFIES ALL FIRE BARRIERS WHICH PROTECT SAFETY RELATED SYSTEMS REQUIRED TO ENSURE SAFE SHUTDOWN CAPACITY IN THE EVENT OF A FIRE TO BE OPERABLE. THE VENTILATION DIFFUSER WAS IMPROPERLY CONSTRUCTED AND PROTRUDED INTO THE TRACK OF THE DAMPER, THEREBY IMPEDING FULL DAMPER MOTION. AFTER THIS DISCOVERY, A VERIFICATION OF THE FUNCTIONAL TESTING OF THE E-13 AND E-33 EMERGENCY BUS ROOM SMOKE DETECTORS, AS SPECIFIED IN TECHNICAL SPECIFICATION 4.14.C.1.A WAS ESTABLISHED, AND THE FIRE WATCH CONTINUED TO MONITOR THE EMERGENCY BUS ROOMS. THE VENTILATION DIFFUSER DESIGN WILL BE MODIFIED TO ASSURE DAMPER OPERABILITY. THE CONSEQUENCES OF THIS EVENT ARE MINIMAL. THE OTHER DAMPER, LOCATED IN PENETRATION TB3-135-267-4010A, PASSED THE FUNCTIONAL TEST, THEREBY PROVIDING
Peach Bottom 3	01/21/1991	02/18/1991	Hourly Fire Watch Patrol Missed Due to Personnel Error Abstract: POWER LEVEL - 000%. ON JANUARY 21, 1991, BETWEEN 1116 HOURS AND 1857 HOURS, THE HOURLY FIRE WATCH PATROL FOR A UNIT 3 'B' RESIDUAL HEAT REMOVAL (RHR) FIRE DAMPER WAS NOT PERFORMED DUE TO PERSONNEL ERROR. DURING A VERBAL SHIFT BRIEFING WITH THE SHIFT SECURITY COORDINATOR AND THE NUCLEAR SECURITY SECTION LEAD PROTECTION TECHNICIAN, THE LEAD PROTECTION TECHNICIAN CLOSED OUT THE WRONG FIRE WATCH PATROL FOR THE UNIT 3 'B' RHR FIRE DAMPER. TO PREVENT RECURRENCE AN EFFECTIVE MEANS OF COMMUNICATION WAS ESTABLISHED ON A SHIFT-TO-SHIFT BASIS BETWEEN THE SHIFT SECURITY COORDINATOR AND THE LEAD PROTECTION TECHNICIANS FOR ADDITIONS OR DELETIONS TO FIRE WATCH PATROLS. NO PREVIOUS SIMILAR EVENTS WERE IDENTIFIED.
Peach Bottom 3	09/14/1991	10/18/1991	Technical Specification Violation due to a Missed Fire Watch Patrol Abstract: POWER LEVEL - 000%. ON 9/14/91 AT 1120 HOURS, THE FIRE WATCH REQUIRED BY TECHNICAL SPECIFICATION (TECH SPEC) 3.14.D, FOR THE FOUR UNIT 3 4KV SWITCHGEAR AND THE TWO UNIT 3 BATTERY ROOMS, WERE NOT PERFORMED BY THE FIRE WATCH PATROL. THIS CONDITION RESULTED IN A TECH SPEC VIOLATION. THIS DEFICIENCY WAS DISCOVERED ON 9/20/91. THE CAUSE OF THE EVENT HAS BEEN DETERMINED TO BE THAT THE CLEARANCE REVIEW FORM WAS TOO GENERAL BASED ON THE COMPLEXITY OF THE BLOCK AND DID NOT SPECIFICALLY LIST ALL FIRE SYSTEM COMPONENTS WHICH WERE IMPAIRED BY THE CLEARANCE. THIS CONDITION CONTRIBUTED TO THE INCORRECT DECISION BY THE SHIFT SUPERVISOR TO APPROVE THE APPLICATION OF A CLEARANCE WITHOUT ESTABLISHING THE APPROPRIATE FIRE WATCH PATROL. THE APPROPRIATE FIRE WATCH PATROL WAS IMMEDIATELY ESTABLISHED AND THE EVENT HAS BEEN DISCUSSED WITH THE INVOLVED INDIVIDUALS. THE PERTINENT INFORMATION FROM THIS EVENT WILL BE PROVIDED TO THE APPROPRIATE PERSONNEL. NO ACTUAL SAFETY CONSEQUENCES OCCURRED AS A RESULT OF THIS EVENT. NO PREVIOUS SIMILAR LERS WERE IDENTIFIED.
Peach Bottom 3	10/13/2011	01/13/2012	HPCI Cable Routing Error Results in Degraded Post Fire Safe Shutdown (FSSD) Analysis Abstract: On 11/15/11, a Fire Protection Program (FPP) document impact review was performed for the Multiple Spurious Operation (MSO) modifications installed during the Unit 3 refueling outage in September 2011 (P3R18). During this review, it was determined that the modification for the High Pressure Coolant Injection (HPCI) turbine steam supply valve (MO-3-23-014) implemented during the refueling outage adversely impacted the PBAPS post-fire safe shutdown (FSSD) analysis. A new cable was routed through a room that relies on the HPCI system to achieve safe shutdown following a fire in the room. The design of the modification was performed by a contract engineering firm, who did not communicate the change in the route of the cable to PBAPS. Further investigation determined that procedures and other administrative controls were not followed, resulting in the FSSD analysis of the modification not being performed until after the modification was completed. An hourly fire watch patrol was established in the room upon identification of the issue. The circuit design for the valve was modified so that a new cable is not needed. These modifications were completed on 12/19/11. Additional actions to address the root causes have been identified and progress in completing the actions is being tracked by the corrective action program. There were no actual safety consequences as a result of
Perry	11/03/1986	04/03/1987	Personnel Error Results In Loss Of Secondary Containment Integrity Abstract: POWER LEVEL - 000%. ON 11-3-86, AT 1650 DURING PERFORMANCE OF TECH SPEC ROUNDS, PRESSURE IN THE SECONDARY CONTAINMENT ANNULUS WAS OBSERVED TO BE >0.40 INCHES VACUUM WATER GAUGE. THIS WAS A VIOLATION OF TECH SPEC 3.6.6.1.B. SECONDARY CONTAINMENT INTEGRITY WAS REQUIRED DUE TO MAINTENANCE ON A CONTROL ROD DRIVE MECHANISM WHICH HAD THE POTENTIAL FOR DRAINING THE REACTOR VESSEL. DUE TO A MISCOMMUNICATION BETWEEN OPERATIONS AND SECURITY PERSONNEL, A DOOR TO THE SECONDARY CONTAINMENT ANNULUS WAS HELD OPEN TO PROVIDE ACCESS FOR MAINTENANCE WITHIN THE ANNULUS. THIS ACTION CAUSED A LOSS OF VACUUM IN THE ANNULUS. THE ANNULUS LOW DIFFERENTIAL PRESSURE ANNUNCIATORS WERE ACKNOWLEDGED BY THE OPERATOR, WHEN THE DOOR WAS OPENED, BUT NOT VERIFIED TO HAVE CLEARED. PLANT ADMINISTRATIVE PROCEDURE PAP-0220 'SECURITY MEASURES DURING REFUELING AND MAINTENANCE OUTAGES' WILL BE REVISED TO REQUIRE WRITTEN AUTHORIZATION FROM THE CONTROL ROOM UNIT SUPERVISOR PRIOR TO POSTING OPEN ANY SECONDARY CONTAINMENT ACCESS PORTAL. SECURITY AND CONTROL ROOM PERSONNEL HAVE RECEIVED TRAINING ON THIS EVENT. THE CONTROL ROOM PERSONNEL INVOLVED HAVE BEEN COUNSELED ON TAKING PROPER RESPONSE TO ANNUNCIATORS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Perry	11/16/1988	12/16/1988	Cable Trays Missing Fire Wrap Results In Incomplete Divisional Separation Of Safe Shutdown Equipment Abstract: POWER LEVEL - 100%. ON 11/16/88 3 CABLE TRAYS IN THE CONTROL COMPLEX REQUIRING ONE HOUR FIRE WRAP WERE IDENTIFIED TO BE MISSING APPROX. 12 INCHES OF FIRE WRAP REQUIRED TO PROTECT REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT. WITH THE FIRE WRAP MISSING, THE CABLES WERE SUSCEPTIBLE TO A FIRE IN THE AREA WHICH COULD CAUSE A LOSS OF SAFETY SYSTEM REQUIRED FOR SAFE SHUTDOWN OF THE PLANT. THIS IS A VIOLATION OF THE FIRE PROTECTION PROGRAM AND IS BEING REPORTED IN ACCORDANCE WITH TECH SPEC 6.9.4. THE ORIGINAL DESIGN DID NOT REQUIRE WRAPPING THE CABLE TRAYS OR SEALING THE PENETRATION. A SUBSEQUENT MODIFICATION WAS IMPLEMENTED UNDER TWO SEPARATE PACKAGES TO MEET FIRE PROTECTION REQUIREMENTS. INTERFACE BETWEEN THE CABLE TRAY WRAPS AND THE FIRE SEAL WAS NOT VERIFIED DURING INSTALLATION. THEREFORE, THE CABLE TRAY WRAP WAS NOT EXTENDED TO MATE WITH THE FIRE SEAL. PREVIOUS INSPECTIONS OF FIRE BARRIERS HAVE BEEN PERFORMED WITHOUT IDENTIFYING THIS DISCREPANCY. DUE TO INADEQUATE TRAINING AND INADEQUATE INSTRUCTIONS THE INSPECTORS WERE VERIFYING ONLY THE QUALITY OF EXISTING FIRE WRAP AND SEALS NOT THAT ALL REQUIRED MATERIALS WERE INSTALLED. THE IMMEDIATE CORRECTIVE ACTION WAS TO ESTABLISH A ONE HOUR FIRE WATCH. THE CABLE TRAY WRAP WAS SUBSEQUENTLY EXTENDED TO
Perry	07/08/1992	10/15/1992	Perry Nuclear Power Plant, Unit 1 Abstract: POWER LEVEL - 100%. On July 8, 1992, at 0415, an hourly fire watch of inoperable fire barriers was not performed as required by the Fire Protection program. The assigned security officer satisfactorily completed the 0300 to 0400 fire watch at 0335; however, the walking involved in completing the fire watch aggravated a previous injury. The officer then rested and tended to the injury. Once rested, the officer started the 0400 to 0500 hour fire watch at 0439 hours. The actions of the security officer did not meet Fire Protection Program requirements for start time and time margin between watches. The cause of the event is personnel error, failure to follow procedure. The security officer was trained and qualified to perform the fire watch and should have notified his supervisor when he discovered that he could not perform the watch as required. Appropriate counseling and disciplinary action was administered to the responsible security officer. On July 16, 1992, Security Management generated a memorandum to all Security Operations Unit personnel to re-emphasize the importance of verbatim compliance with plant procedural requirements and to ensure personnel understand the importance of total adherence to all regulatory required commitments. Additionally, all fire watch personnel are being re-instructed in the requirements of fire watch duties.
Perry	03/17/1993	04/16/1993	Fire Detection Malfunction Results in Fire Protection Program Violation Abstract: POWER LEVEL - 099%. On March 17, 1993, between 0823 and 1005, a Proprietary Signaling (Fire and Security Monitoring) System 'Fire' side malfunction resulted in a condition which could have adversely affected the ability to achieve and maintain safe shutdown of the reactor in the event of a fire. The system malfunctioned in a way that was not readily perceivable, and this resulted in the inoperability of fire detection equipment for impaired fire barriers without the required continuous fire watches. The cause of this event is equipment malfunction, design. The 'Fire' side computer malfunctioned due to a phenomenon called 'Scan Shutdown Condition'. In this condition, the 'Fire' side computer self-checking feature did not detect a malfunction (because power was not lost); however the function of the computer that scans the alarm panels in the plant and updates alarm status had stopped. The self-checking feature of the computer does not monitor the scan function. Administrative controls have been implemented to require a check every thirty minutes to ensure the ability of the 'Fire' side computer to update alarm state changes. These administrative controls will remain in place until appropriate equipment or software changes to monitor the computer scan function are implemented. Efforts by engineering personnel
Perry	12/04/1993	12/30/1993	Missed Hourly Fire Watches Results in Fire Protection Program Violation Abstract: POWER LEVEL - 100%. On November 25 and December 19, 1993, hourly fire watches implemented to inspect deg raded fire barriers were not performed as required by the Fire Protection Program. These events were violations of the Fire Protection Program which woul d have affected the ability to achieve and maintain safe shutdown in the event of a fire and are reportable as required by Technical Specification 6.9.4. The cause of these events was personnel error, failure to follo w procedure. Plant Administrative Procedure (PAP-1916) 'Duties of the Fi re Watch' section 5.6, identifies a fire watch as a 'physical walkdown of an area as determined by the Fire Watch list to check for conditions tha t constitute a fire or fire hazard. An hourly Fire Watch shall be perfor med on a frequency of 60 minutes with a margin of 15 minutes.' Security p ersonnel failed to inspect one area of the prescribed Fire Watch List, in contrast with the requirements of PAP-1916. As a result of these event s, both security personnel involved with the missed fire watches were cou nseled regarding the importance of following procedures. Moreover, all p ersonnel performing fire watches were trained to both of these events. PAP-1916 will be revised to incorporate the requirement for completion of a manua l log during performance of the fire watch.
Perry	06/22/2009	08/20/2009	Diesel Generator CO2 Fire Suppression Control Panel Miswiring Results in an Unanalyzed Condition Abstract: On June 22, 2009, it was discovered that a wiring error in a fire protection carbon dioxide (CO_2) panel resulted in a condition in which a fire protection CO2 actuation signal for the Division 3 diesel generator room would cause the Division 2 diesel generator room ventilation supply fans to isolate. Additionally, a fire protection CO2 actuation signal for the Division 2 diesel generator room would cause the Division 3 diesel generator room ventilation supply fans to isolate. The condition existed from January 15, 2009, to June 23, 2009, when the wiring error was corrected. The root cause was determined to be an inadequate post modification test which failed to identify the miswiring of two output wires from the diesel generator CO2 Fire Suppression System control panel. The two Division 2 and Division 3 CO2 Fire Suppression System control panel wiring label errors were corrected and the wires relanded to their correct terminals. Procedure guidance will be revised to provide more detailed expectations concerning the scope and rigor of post maintenance/modification testing requirements and enhancing the cable tag/wire mark configuration control process. The safety significance of this condition is considered to be low. This condition is reported in accordance with 10 CFR 50.73(a)(2)(ii)(B) as a condition that resulted in the nuclear power plant being in an
Pilgrim	04/01/1980	05/01/1980	Fire Protection - 'A' Diesel Generator Abstract: During the performance of a surveillance test of the dry chemical fire protection system for the 'A' Diesel Generator, it was determined that the system was inoperable. The system failed to automatically initiate during the test. A fire watch was immediately initiated. A pyrotronics, type DTF 190 heat actuated device (HAD) was erratic in its operation. Since no DTF 190 HAD's were available, the unit was re-installed. A constant fire watch has been posted in the generator room since the system malfunction and the watch will continue until the unit is repaired. A requisition was immediately generated to purchase 2-DTF 190 HAD's and the order telephoned into the pyrotronics office. Pyrotronics indicated delivery by May 8.
Pilgrim	07/07/1980	08/06/1980	A Capacitor Failure in the Local Control Panel Abstract: During the performance of fire protection surveillance test, actuation of the retention building fire detectors did not generate alarm annunciation locally or in the control room. A fire watch was immediately requested. On July 25, 1980 following maintenance, the detectors were partially tested by I&C maintenance personnel, however the official test was postposed until operations personnel were available. The system has not been returned to service as of this date. A capacitor failure in the local control panel caused the problem. The faulty capacitor was replaced and the units were declared functional by the I&C personnel.
Pilgrim	08/06/1980	08/14/1980	AOG Fire Check Abstract: An hourly fire check of theAauxiliary Off-gas Building was not performed on a continuous basis from July 7, 1980 to present while the fire detection units of this system were inoperable. A communications lapse between operations and security personnel resulted in this oversight. To prevent occurrences of this type in the future, station procedure entitled, 'Fire Watch', has been revised to efficiently ensure continued fire patrol supervision until repairs to fire protection equipment is accomplished.
Pilgrim	08/07/1980	09/05/1980	RCIC, HPCI Fire Alarms Abstract: While conducting the smoke and heat detection systems main process buildings test, actuation of the HPCI and RCIC fire detectors did not annunciate their intended alarms on panel C114 in the control room. Investigation revealed the dirt collecting on the alarm bell reduced its audibility. The alarm was cleaned and returned to normal operation. Additionally, a bad bulb which illuminated on alarms from the RCIC quadrant was replaced.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Pilgrim	01/23/1981	02/23/1981	Fire protection 'A' Diesel Generator Abstract: While performing fixed dry chemical system test, a heat detector in the a diesel generator room failed. The heat detector alarm which was initiated during the test could not be reset. A jumper was added to the system to eliminate an alarm which was being generated on panel C-114 in the control room, until the system was repaired. An entry was in the "Lifted Wire and Temporary Jumper Log" as entry number 81-1. The detector was replaced in-kind, jumper removed and system returned to normal on January 31, 1981.
Pilgrim	04/14/1981	05/18/1981	LPCI Instrument DPIS 261-395 Abstract: While performing test, 'Recirculation System Delta P, pressure instrument 261-39B was determined to be inoperable. This instrument is one of four channels which contribute to each loop selection logic section of the lpci mode of the rhr system. While pressurizing the instrument the indicating needle went beyond its mechanical stop resulting in the inability of the instrument to respond. The instrument was immediately repaired and returned to service. This instrument problem resulted from a technician error in judgment during the performance of the above surveillance test. To preclude recurrence of this type of event the technician was immediately instructed as to the proper methods to use in the performance of this test.
Pilgrim	04/17/1981	03/19/1984	CO2 System Hose Inoperable Abstract: On 4/17/81 at 1130 hrs, routine surveillance testing was being conducted on the cardox system hose reels and nozzles. After successfully testing the 51 ft. Level hose station, a test was conducted on the 23 ft. Level hose reel and nozzle. The nozzle failed to deliver an adequate stream. A fire watch was immediately established as required by tech specs. Approx. 2 hrs later, the system was satisfactorily retested and returned to service. Cause of this event was determined to be operator error. Engineering evaluation has determined that the nozzles will not permit CO2 discharge unless the trigger on the hose station actuation valve is fully depressed. Fire brigade training was revised accordingly and fire brigade members were instructed on the correct method of activating the cardox system.
Pilgrim	06/03/1981	06/16/1981	Failure to Follow Station Procedure Abstract: A class a fire (Foam Rubber) occurred in the reactor building. The fire was ignited by welding sparks falling on foam rubber that a contractor had emplaced to prevent pipes from contacting temporary thermal shielding installed for the welding operation. The fire burned for approximately two minutes before it was identified and extinguished. Contractor personnel attempted to notify the control room, however they did not mention a fire and gave up after three attempts because the fire was out. The fire protection engineer was notified when a boston Edison employee noticed a large cloud of dry chemical hanging in the area, and called the FPPO office. The cause of this fire was the failure to follow station procedure regarding removal of combustible materials. A fire watch training program is being developed to ensure that individuals assigned as fire watches receive instructions in fire protection techniques.
Pilgrim	10/02/1981	10/21/1981	Fire Watch Abstract: A fire watch was not posted in the cable spreading room when the CO(sub 2) system was secured, allowing work to be performed in the cable spreading room. The responsible individual who requested the CO(sub 2) system isolations failed to follow operating supervisor's directive to post the fire watch. The immediate corrective action was to return the system to service and initiate positive disciplinary action against the individual. The long term corrective action involves an exercise to upgrade management controls regarding fire protection.
Pilgrim	10/26/1981	06/08/1983	The Cable Spreading Room CO(2) System was Declared Inoperable Abstract: On 10/26/81 during refuel outage, the cable spreading room CO(2) system was declared inoperative. This followed the abort of a special operability test when certain monitored parameters did not achieve the desired results. A design deficiency was discovered in the CO(2) system in the cable spreading room during a special test. The findings of the test and possible corrective actions were detailed to the commission in a special report dated 1/18/82, BECO. Letter #82-11. Of a Halon 1301 System. Schedule for this modification was detailed in BECO. Letter #83-24 of 1/13/83.
Pilgrim	01/05/1982	02/04/1982	Fire Door Abstract: A sliding fire door was found to be not functional. Tech Spec section 3.12.f requires all fire barriers to be functional at all times. The Tech Spec required action of posting a fire watch on one side of the barrier had already been instituted due to the CO(sub 2) System being declared inoperative. (Ref. LER 81-058). This is due to the area being common to both the protection of the CO(sub 2) system and the fire door (23' elevation switchgear room). The fire door condition was detected during a fire inspection tour and corrected immediately. During recent station modifications, a metal channel, used as part of a security barrier, was moved slightly which hindered the door's movement. Current station procedures are adequate to detect problems of this nature. To preclude occurrences of this type, a memo will be issued to all appropriate station and contractor personnel to reapprise them of these procedural responsibilities.
Pilgrim	06/10/1982	07/08/1982	Fire Protection Master Alarm Panel Abstract: The master fire detection alarm panel, C-220, was declared inoperable when a trouble alarm could not be reset. A fire watch was instructed to monitor the Tech Spec required fire panel and a roving patrol was initiated to monitor the balance of plant fire panels. The alarm panel is a Simplex Time Recorder Co. Series 2001. The cause has been determined to be a faulty reset switch on the fire trouble control board. The switch was replaced and the system returned to service. The fire watches were then cancelled.
Pilgrim	02/14/1983	03/16/1983	Fire Barrier Deficiency in Control Building Abstract: An inspection of the former I&C Lab, during its conversion to office space, revealed apparent deviations from Tech Spec section 3.12F fire barrier requirements. Due to the continuous presence of control room personnel trained in fire fighting, in the adjacent main control room, the Tech Spec action requirement of a fire watch on one side of the barrier has been in place since plant startup. These conditions have existed since initial construction and were not discovered during the plant retrofit for compliance with amendment 35 to PNPS Tech Spec relating to fire protection. A plan to correct these deficiencies is being formulated.
Pilgrim	02/25/1983	03/24/1983	Standby Gas Treatment System Train Declared Inoperable Abstract: During routine inspection of the Standby Gas Treatment System (SGTS) the 'B' SGTS filter train was found inoperable due to the charcoal being water soaked. The manual valve for the automatic fire deluge system was immediately closed, a firewatch established and testing of the redundant 'A' SGTS initiated. Incorrect installation details were provided with the design package for the Alison Control solenoid valve #191004. The charcoal filters were replaced and the fire watch will be continued until the valve can be relocated following the manufacturer's recommended installation instructions.
Pilgrim	04/10/1983	05/13/1983	Sprinkler Pipe Ruptured in Turbine Building Abstract: On 4/10/83 the 'Fire Pump Running' and 'After Condenser Drain Pot Low Level' annunciators alarmed in the Control Room. Upon investigation it was found that the sprinkler head supply pipe on top of the turbine stop valves had severed and water was discharging from the pipe. The fire water supply valve to the Turbine Building Addition Sprinkler System was closed and a continuous fire watch was initiated as required by sections 3.12.c of the Tech Specs. The sprinkler piping was found to have severed at a threaded connection. The most probable cause of this event was pipe fatigue due to vibration. This is the first reportable occurrence of this type. The pipe was threaded, installed, visually inspected for leakage and returned to service on 4/17/83.
Pilgrim	06/22/1983	08/09/1983	Update on Unsigned Fire Watch Sheet Abstract: On 6/22/83, during an unscheduled supervisory inspection of fire patrols, one sign-off sheet was found which had not been initialed for a two-hour period. The patrol had been instituted as a compensatory measure to a 10CFR50, appendix r fire protection requirement. The cause was a failure, by a contract security force member, to read and understand the list of areas to be patroled. The individual was immediately instructed as to the location of the sign-off sheets and the coverage area. In the future, a copy of the instructions for each new fire detail will be acknowledged by each security member assigned to a fire detail.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Pilgrim	07/13/1983	08/09/1983	Latches on Two Fire Doors Inoperable Abstract: On July 13, 1983 the latch on fire door #162 was found inoperable, and on July 15, 1983 the latch on door #105 was found inoperable. In both cases fire watch patrols were initiated in accordance with Tech Spec 3.12.F and maintenance requests issued. One latch mechanism required adjustment; the other was replaced, in kind. Following these repairs, both doors were tested satisfactorily and the fire watch patrols terminated. These failures were due to normal wear. Current station procedures are considered adequate to monitor the status of Tech Spec related fire doors.
Pilgrim	05/15/1984	12/23/1986	DEGRADED FIRE BARRIER PENETRATION SEALS Abstract: POWER LEVEL - 000%. BETWEEN MAY 15, 1984 AND MAY 30, 1984, DURING A ONCE PER CYCLE FIRE BARRIER PENETRATION SEAL SURVEILLANCE TEST, A NUMBER OF POTENTIALLY INOPERABLE FIRE BARRIERS WERE IDENTIFIED. THESE CONDITIONS WERE SUBJECTED TO THE APPROPRIATE COMPENSATORY MEASURES AS THEY WERE IDENTIFIED. MAINTENANCE REQUESTS WERE ALSO GENERATED TO CORRECT THE IDENTIFIED DEFICIENCIES. SUBSEQUENT DETAILED REVIEW AND ANALYSIS INDICATED THAT TWELVE OF THE APPROXIMATELY 4200 BARRIERS SURVEILLED WERE NOT CAPABLE OF PERFORMING THEIR REQUIRED FUNCTION. REPAIRS HAVE BEEN COMPLETED TO ALL SEALS IDENTIFIED TO BE DEFICIENT. DURING THE REPAIRS, AN ADDITIONAL MISSING FIRE DAMPER WAS IDENTIFIED. COMPENSATORY MEASURES WERE TAKEN UNTIL IT COULD BE INSTALLED. THIS REPAIR HAS ALSO BEEN COMPLETED. ROOT CAUSE WAS A LACK OF ADEQUATE CONTROL OVER ACTIVITIES WHICH COULD AFFECT OR DEGRADE FIRE BARRIERS AND SEALS. THE MISSING DAMPER WAS THE RESULT OF A DESIGN ERROR IN NOT SPECIFYING ITS INSTALLATION. NO FIRES OCCURRED IN EFFECTED AREAS AND THEREFORE THIS EVENT DID NOT JEOPARDIZE THE HEALTH AND SAFETY OF THE PUBLIC.
Pilgrim	08/20/1986	03/06/1989	Unidentified Fire Barrier Walls and Penetrations Abstract: POWER LEVEL - 000%. ON 8/20/86, AT 1100 HRS, IT WAS IDENTIFIED THAT THE THE 'A' 4160V SWITCHGEAR ROOM WAS NOT LISTED IN PROCEDURE 8.B.16.13. SINCE THIS WALL IS A FIRE BARRIER PROVIDING SEPARATION OF REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT, THE ONCE-PER-CYCLE SURVEILLANCES WERE NOT PERFORMED AS REQUIRED BY TECH SPEC SECTION 3.12.F. IDENTIFY A BARRIER REQUIRED TO MEET 10 CFR PART 50, APPENDIX R, IN SITE SURVEILLANCE PROCEDURES. IMMEDIATE COMPENSATORY MEASURES WERE TAKEN CONSISTING OF A CONTINUOUS FIRE WATCH WHICH WAS SUBSEQUENTLY DOWNGRADED TO AN HOURLY FIRE WATCH WHEN THE 'A' 4160V SWITCHGEAR ROOM SMOKE DETECTION SYSTEM WAS VERIFIED OPERABLE PER TECH SPEC SECTION 3.12.F. CORRECTIVE ACTIONS INCLUDED A PENETRATION SEAL WALKDOWN TO IDENTIFY AND RESOLVE ANY FURTHER DEFICIENCIES, DRAWING REVISIONS TO CLEARLY IDENTIFY FIRE BARRIERS, AND PROCEDURAL CHANGES FOR SURVEILLING FIRE BARRIERS AND FOR THE INSTALLATION, REPAIR AND INSPECTION OF FIRE BARRIERS. THIS EVENT WAS DISCOVERED DURING AN EXTENDED OUTAGE WHILE IN COLD SHUTDOWN. THE REACTOR MODE SELECTOR SWITCH WAS IN THE SHUTDOWN POSITION. THE REACTOR VESSEL (RV) WATER TEMPERATURE WAS 111F. THE RV PRESSURE WAS 0 PSIG. SUBMITTED IN ACCORDANCE WITH 10 CFR 50.73(A)(2)(I)(B).
Pilgrim	09/12/1986	10/14/1986	Missed Fire Watch and Fire Watch Patrols Abstract: POWER LEVEL - 000%. ON 9/12/86, WITH THE PLANT IN THE COLD SHUTDOWN CONDITION, A BOSTON EDISON COMPANY (BECO) MANAGEMENT REVIEW OF POSTED FIRE WATCHES IDENTIFIED THAT A CONTINUOUS FIRE WATCH HAD NOT BEEN POSTED AS ORDERED ON 9/5/86. ON 10/1/86, WHILE REVIEWING THE DOCUMENTATION FOR HOURLY FIRE WATCH PATROLS, THE FIRE PROTECTION AND PREVENTION OFFICER (FPPO) IDENTIFIED 17 DISCREPANCIES WHERE HOURLY PATROLS WERE NOT DOCUMENTED FOR PERIODS OF ONE TO THREE HOURS. IMMEDIATE CORRECTIVE ACTION FOR BOTH EVENTS WAS TO ENSURE THAT THE REQUIRED FIRE WATCHES WERE ADEQUATELY MANNED AND MAINTAINED. SUBSEQUENTLY, BECO MANAGEMENT HAS PROVIDED INCREASED DIRECT OVERSIGHT OF THE CONTRACTOR FIRE WATCHES. FIRE WATCH PERSONNEL HAVE BEEN FORMALLY BRIEFED OF THE IDENTIFIED PROBLEMS AND HAVE SIGNED DOCUMENTS ATTESTING TO THEIR UNDERSTANDING OF FIRE WATCH REQUIREMENTS. BECO IS EVALUATING THE ADEQUACY OF THE ORGANIZATIONAL STRUCTURE, STAFFING LEVEL, AND TRAINING NEEDS OF THE FIRE PROTECTION AND PREVENTION PROGRAM TO MEET THE CURRENT AND LONG TERM GOALS OF THE NUCLEAR ORGANIZATION.
Pilgrim	10/07/1986	11/07/1986	Non-fire Resistant Coated Structural Steel Abstract: POWER LEVEL - 000%. ON 10/7/86 NON-FIRE RESISTANT COATED STRUCTURAL STEEL WAS OBSERVED EMBEDDED IN A CONCRETE WALL ON THE NORTH SIDE OF THE CABLE SPREADING ROOM. THIS WALL REQUIRES A THREE HOUR FIRE BARRIER RATING. IN ACCORDANCE WITH THE COMPENSATORY ACTION PRESCRIBED BY THE TECHNICAL SPECIFICATIONS SECTION 3.12.F, A FIRE WATCH PATROL WAS ESTABLISHED. PRELIMINARY ANALYSIS INDICATES AT LEAST TWO POSSIBLE METHODS OF ACHIEVING A THREE HOUR FIRE BARRIER RATING ON THE SUBJECT WALL. THESE METHODS INCLUDE VERIFYING AND DOCUMENTING THE ADEQUACY OF THE EXISTING SPRINKLER SYSTEM TO PERFORM A TECHNICAL SPECIFICATION REQUIRED FUNCTION AND/OR APPLYING FIRE RESISTANT COATING TO THE EXPOSED STRUCTURAL STEEL. THESE OPTIONS ARE PRESENTLY BEING EVALUATED TO DETERMINE THE MOST APPROPRIATE RESPONSE FOR RESOLUTION OF THE EXISTING BARRIER DEFICIENCY. THE SCOPE OF THE.FIRE PROTECTION PROGRAM WALKDOWN AS DESCRIBED IN LER 86-20. 'UNIDENTIFIED FIRE BARRIER WALLS AND PENETRATIONS' HAS BEEN EXPANDED IN ORDER TO ASSURE THE CONTINUED ADEQUACY OF OTHER FIRE RESISTANT COATED STRUCTURAL STEEL. ANY DEFICIENCIES IDENTIFIED AS A RESULT OF THIS WALKDOWN WILL BE REPORTED IN THE UPDATE TO LER 86-20.
Pilgrim	02/18/1987	03/20/1987	Improper Work Prioritization Resulting in Condition Prohibited by Technical Specifications Abstract: POWER LEVEL - 000%. ON FEBRUARY 18, 1987, IT WAS DETERMINED THAT THE DRY CHEMICAL FIRE SUPPRESSION SYSTEM ASSOCIATED WITH A PIPING TRENCH BELOW AN EMERGENCY DIESEL GENERATOR HAD BEEN INOPERABLE SINCE DECEMBER 21, 1986. CONTRARY TO THE PLANT TECHNICAL SPECIFICATIONS, THE APPROPRIATE LIMITING CONDITION FOR OPERATION WAS NOT COMPLIED WITH BETWEEN FEBRUARY 6 AND 13. 1987. DURING WHICH TIME THE SUPPRESSION SYSTEM WAS REQUIRED TO BE OPERABLE. AT THE TIME THIS CONDITION WAS DISCOVERED, THE PLANT WAS DEFUELED WITH THE MODE SWITCH IN THE REFUEL POSITION. THE DRY CHEMICAL FIRE SUPPRESSION TANK, WHICH WAS INOPERABLE, WAS FOUND WITH A PRESSURE APPROXIMATELY 5 PSI BELOW THE MINIMUM ACCEPTABLE 275 PSIG. CORRECTIVE ACTIONS INCLUDE THE IMPROVEMENT OF WORK PRIORITIZATION BY THE OPERATIONS STAFF, AND IMPROVEMENTS IN IDENTIFICATION OF TECHNICAL SPECIFICATION REQUIREMENTS. THIS EVENT HAD NO AFFECT ON THE HEALTH AND SAFETY OF THE PUBLIC SINCE THE SEPARATE AUTOMATIC FIRE SUPPRESSION SYSTEM PROTECTING THE ENTIRE AREA WAS AVAILABLE.
Pilgrim	12/17/1987	01/14/1988	Failure of Fire Damper to Close Due to Orientation of Clover Hooks Abstract: POWER LEVEL - 000%. ON DECEMBER 17, 1987, AT 1015 HOURS, THREE FIRE DAMPERS CPR-2, 4, AND 5 WERE ACTUATED WHEN THEIR FUSIBLE LINKS WERE INADVERTENTLY ENERGIZED DURING PERFORMANCE OF PROCEDURE 8.B.4, SECTION I, 'PHOTOELECTRIC SMOKE DETECTOR FUNCTIONAL TESTS'. FOLLOWING THESE DAMPER ACTUATIONS IT WAS IDENTIFIED THAT FIRE DAMPER CPR-2 FAILED TO FULLY CLOSE DUE TO THE ORIENTATION OF THE CLOVER HOOKS USED TO ATTACH THE FUSIBLE LINK TO THE DAMPER. DAMPERS CPR 4 AND 5 DID FULLY CLOSE. FIRE DAMPER CPR-2 DID NOT CLOSE DUE TO THE CLOVER HOOK CATCHING ON THE EDGE OF THE DAMPER BLADE PREVENTING IT FROM CLOSING. FIELD REVISION NOTICE (FRN) 86-31-129 WAS ISSUED TO CHANGE THE PHYSICAL ORIENTATION OF THE CLOVER HOOKS TO FACE OUTWARD (AWAY) FROM THE DAMPER. IN ADDITION, THE ORIENTATION OF THE CLOVER HOOKS ON THE OTHER FIRE DAMPERS WAS INSPECTED. AT THE TIME OF THIS EVENT, THE PLANT WAS IN AN EXTENDED OUTAGE WITH THE MODE SWITCH IN SHUTDOWN AND CONTROL RODS FULLY INSERTED INTO THE CORE. THE PUBLIC HEALTH AND SAFETY WERE NOT AFFECTED BY THESE EVENTS. THIS EVENT IS REPORTABLE PURSUANT TO 1OCFR5O.73 (A)(2)(I)(B).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Pilgrim	11/09/1990	12/07/1990	Fire Dampers and Penetration Found Degraded in the Intake Structure Abstract: POWER LEVEL - 100%. ON NOVEMBER 9, 1990 AT 1630 HOURS, IT WAS IDENTIFIED THAT THE EAST WALL OF THE 'B' TRAIN SALT SERVICE WATER PUMP ROOM IN THE INTAKE STRUCTURE WAS BREACHED. THE BREACH CONSISTED OF A 4 INCH DRAIN CHECK VALVE (SCUPPER) THAT WAS CORRODED IN THE OPEN POSITION. THE WALL IS A TECHNICAL SPECIFICATION FIRE BARRIER. THE CHECK VALVE WAS MANUFACTURED BY J.B. CLOW, MODEL NO. F-3014. ON NOVEMBER 10, 1990 AT 1520 HOURS DURING A SUBSEQUENT VISUAL INSPECTION OF OTHER FIRE BARRIERS IN THE INTAKE STRUCTURE, SIX FIRE DAMPERS WERE FOUND WITH DAMAGED CLOSING SPRINGS RENDERING THE DAMPERS INOPERABLE. FIVE OF THE DAMPERS WERE LOCATED IN TECHNICAL SPECIFICATION FIRE BARRIERS. THE DAMPERS, MODEL NO. 319ALV, WERE MANUFACTURED BY AIR BALANCE, INC. THE CAUSE OF THE BREACHED BARRIER AND DAMAGED DAMPER SPRINGS WAS THE MARINE ENVIRONMENT IN THE INTAKE STRUCTURE, WHICH CAUSED THE CLOSING SPRINGS TO BREAK AND THE DRAIN CHECK VALVE TO CORRODE. INTERIM MEASURES PLANNED INCLUDE REPLACING THE DRAIN CHECK VALVE AND REPLACING THE BROKEN SPRINGS WITH THE SAME SPRING MATERIAL, AND INCREASING THE DAMPER SURVEILLANCE FREQUENCY. LONG TERM CORRECTIVE ACTION INCLUDES REPLACING THE SPRINGS WITH SPRINGS HAVING BETTER CORROSION RESISTANCE AND GROUTING THE DRAIN PIPE TO ELIMINATE THE
Pilgrim	05/18/1991	06/14/1991	Fire Barrier Found Breached in Intake Structure Abstract: POWER LEVEL - 000%. ON MAY 18, 1991 AT 1000 HOURS DURING A REFUELING OUTAGE, THE EAST WALL OF THE 'B ' TRAIN SALT SERVICE WATER (SSW) PUMP ROOM IN THE INTAKE STRUCTURE WAS FOUND TO BE BREACHED. THE BREACH CONSISTED OF A 4 INCH DRAIN CHECK VALVE THAT WAS FOUND IN THE OPEN POSITION. THE WALL IS A TECHNICAL SPECIFICATION APPENDIX R FIRE BARRI ER THAT SEPARATES THE SAFETY RELATED SSW PUMP ROOM FROM THE NON-SAFETY RELATED ' A' CIRCULATING WATER PUMP ENCLOSURE. THE BARRIER WAS BREACHED WHEN AN AIR HOSE WAS RUN THROUGH THE DRAIN CHECK VALVE PENETRATION IN ORDER TO SUPPORT AN ONGOING WORK ACTIVITY. THE PERSONNEL PERFORMING THE WORK DID NOT RECOGNIZE THE WALL WAS A TECHNICAL SPECIFICATION BARRIER. CORRECTIVE ACTIONS TAKEN INCLUDE LABELING THE BARRIER AND PENETRATION TO IDENTIFY THEY ARE TECHNICAL SPECIFICATION COMPONENTS AND REQUIRING THE NUCLEAR WATCH ENGINEER BE NOTIFIED PRIOR TO ALTERING THE BARRIER. LONG TERM CORRECTIVE ACTION BEING CONSIDERED INCLUDES ELIMINATING THE PENETRATION AND GROUTING THE OPENING. THE CONDITION WAS IDENTIFIED WITH THE REACTOR MODE SELECTOR SWITCH IN THE REFUEL POSITION. THE REACTOR POWER LEVEL WAS O PERCENT. THE REACTOR VESSEL (RV) WATER TEMPERATURE WAS 84 DEGREES FAHRENHEIT AND THE RV PRESSURE WAS O PSIG. THE REPORT IS SUBMITTED IN ACCORDANCE WITH 10 CFR 50.73
Pilgrim	06/28/1991	08/10/1991	Technical Specification Fire Barrier Found Breached in Intake Structure Abstract: POWER LEVEL - 000%. ON 6/28/91, AT 1506 HOURS DURING A REFUELING OUTAGE, THE NORTH WALL OF THE 'A' TRAIN SALT SERVICE WATER (SSW) PUMP ROOM IN THE INTAKE STRUCTURE WAS FOUND BREACHED. THE BREACH CONSISTED OF A BROKEN TWO INCH CONDUIT FITTING LOCATED WHERE THE CONDUIT PENETRATES THE NORTH WALL OUTSIDE THE 'A' TRAIN SSW PUMP ROOM. THE WALL IS A TS APPENDIX R FIRE BARRIER THAT SEPARATES THE SSW PUMP ROOM FROM THE SERVICE WATER PUMP FILTER ROOM. THIS CONDITION WAS DETERMINED TO BE REPORTABLE ON 7/11/91. THE BROKEN CONDUIT FITTING WAS A RESULT OF CORROSION DUE TO EXPOSURE TO A MARINE ENVIRONMENT. THE CONDUIT WAS IDENTIFIED AS BEING CORRODED IN 7/89. A FIRE BARRIER PENETRATION WALKDOWN CONDUCTED IN 12/89 FOUND THE BARRIER INTACT. SUBSEQUENT TO THAT INSPECTION IT IS POSTULATED THAT PERSONNEL USED THE CONDUIT AS A FOOT/HAND HOLD THAT EVENTUALLY BROKE THE CONDUIT FITTING. A CONTINUOUS FIREWATCH WAS IMMEDIATELY ESTABLISHED WHEN THE BREACH WAS IDENTIFIED. A FIRE SEAL WAS INSTALLED ON 7/25/91 AND THE FIRE WATCH WAS DISCONTINUED. OTHER ACTIONS PLANNED INCLUDE: REPAIRING THE CONDUIT FITTING; PERFORMING A THOROUGH WALKDOWN OF THE INTAKE STRUCTURE; AND REVIEWING WALKDOWN PROCEDURES AND TRAINING TO IDENTIFY IMPROVEMENTS. THIS CONDITION WAS IDENTIFIED WITH THE REACTOR
Pilgrim	03/07/1997	04/14/1998	Loss of Preferred Off-Site Power and Oil Spill Due to Main Transformer Fault While Shut Down Abstract: On March 7, 1997, at 1449 hours, an automatic start of the 'B' train emergency diesel generator and an actuation of the secondary containment isolation control system and a portion of the primary containment isolation control system occurred while shutdown during the 1997 refueling outage. The event was the result of an electrical fault in the main transformer that was energizing the unit auxiliary transformer and related 4.16 Kv electrical power distribution system at the time of the event. The fault also resulted in a significant leak of main transformer insulating oil into the area of the transformer and adjacent turbine building. The diesel generator loaded onto its bus, and the containment isolation systems actuated as designed for the conditions existing at the time of the event. The failure of the main transformer was most likely caused by either a degraded winding condition or static electrification. Corrective action involved replacing the main transformer, updating the fire hazards analysis report, installing berms in the oil spill area, and replacing a portion of degraded feeder cables. The event occurred with the reactor mode selector switch in the REFUEL position. The reactor vessel was completely de-fueled, and no reactor fuel movement was in progress. The event posed no threat
Pilgrim	05/21/1998	06/19/1998	Incomplete Installation Of Fire Barrier In The Cable Spreading Room Abstract: An Appendix R power cable enclosure in the Pilgrim Nuclear Power Station Cable Spreading Room was discovered to be nonconforming due to missing fire protection material. The enclosure was declared inoperable, and a fire watch was posted. The cause was identified as inadequate implementation of the original plant design change that installed the enclosure. The difficulty of access to the location of the opening contributed to the delay in discovery. Due to minimal combustibles in the area, the nonconforming fire barrier would not have prevented the safe shutdown of PNPS should a fire have occurred in the area. The condition is further mitigated by the presence of an automatic Halon 1301 fire suppression system. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(ii)(B) to describe a nonconforming condition that is outside the design basis of the plant. This condition was identified while at 100 percent reactor power with the reactor mode selector switch in the RUN position. The reactor vessel pressure was approximately 1032 psig with the reactor water temperature at the saturation temperature for the reactor pressure. This condition posed no threat to public health and safety.
Pilgrim	06/06/1998	09/30/1998	Inconclusive Fire Barrier Test Data Abstract: While reviewing information related to fire barrier design, concerns were raised about the adequacy of the test information used to support the calculated 3-hour fire rating for three enclosures. These enclosures are located in the Cable Spreading Room and in the "B" Switchgear Room. Corrective actions taken included conservatively declaring the enclosures inoperable and posting a 1-hour fire watch. A safety significance review was performed that concluded the potentially nonconforming enclosures would not prevent the safe shutdown of the plant in the event of a fire. On June 6, 1998, additional test data was received that cast doubt on the original test conclusion that the enclosures were adequate for a 3-hour fire rating. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(ii)(B) to describe a potentially nonconforming condition that is outside the design basis of the plant. This condition was identified while at 100 percent reactor power with the reactor mode selector switch in the RUN position. The reactor vessel pressure was approximately 1034 psig with the reactor water temperature at the saturation temperature for the reactor pressure. This condition posed no threat to public health and safety.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Pilgrim	10/05/1998	11/04/1998	Incorrect Wiring Modifications Affected RBCCW Train "B" Alternate Shutdown Panel Abstract: On October 5, 1998, during a plant tour, an operator noticed that the "E" reactor building closed cooling water (RBCCW) pump green light on the "B" alternate shutdown panel was not illuminated. Troubleshooting discovered a blown fuse and incorrect wiring in the associated motor control center. The cause was identified as an error made during preparation of an electrical connection drawing to implement a plant design change to resolve a degraded voltage concern. Corrective actions taken include replacement of the blown fuse, identification and correction of wiring errors, revision of affected drawings and assessment of past operability. The assessment concluded that in addition to the Technical Specifications being violated, a condition outside the design basis of the plant had also occurred. This condition was identified while at 99 percent reactor power with the reactor mode selector switch in the RUN position. The reactor vessel pressure was approximately 1032 psig with the reactor water temperature at the saturation temperature for the reactor pressure. This condition posed no threat to public health and safety.
Pilgrim	12/21/1998	01/20/1999	Switchgear Room Door Inoperable for Tornado Analysis Abstract: On December 21, 1998, at 1814 hours, one door in the 4.16 Kv switchgear room 'B' was determined to be inoperable due to degraded door hinges. The door functions to provide several functions including remaining closed in the tornado analysis (UFSAR Appendix H). A limiting condition for operation (LCO) was entered upon identification of the problem. The direct cause of the original degradation (bottom most hinge) was normal wear. A cause contributing to continued degradation was that there was no approved procedure for the type of weld repair that was necessary to repair the door. Corrective action taken included the repair of the door. The door was returned to operable status at 2224 hours on December 21, 1998, and the LCO was terminated. A new procedure is being developed to include the type of weld repair that was necessary to repair the door.
Pilgrim	10/05/2015	11/19/2015	The condition was discovered during power operation while at 100 percent reactor power with the reactor mode selector switch in the RUN position. The reactor vessel pressure was approximately 1032 psig with the reactor water temperature at the saturation temperature for that pressure. The condition posed no threat to public health and safety. Motor-Operated Valve Control Circuit Vulnerability to Information Notice 92-18 Concern Abstract: On Monday, October 5, 2015 at 1725 hours EST, with the Reactor Mode Select Switch in the Run position and the reactor at approximately 100 percent core thermal power, Pilgrim Station identified and reported a vulnerability applicable to 10 CFR 50, Appendix R, Section III.G, Fire Protection of Safe Shutdown Capability. The specific vulnerability involved lack of limit and torque switch protection of motor operated valves (MOVs) during an unlikely scenario of a large scale fire, forced evacuation of the Main Control Room (MCR), and spurious operation of MOVs due to fire damage. This potential vulnerability is identified in NRC Information Notice (IN) 92-18. Discovery of the vulnerability was determined to be reportable. The cause of the event was evaluated and determined to be the result of incorrect assumptions applicable to the initial evaluation of the IN 92-18 concern and improper use of the Corrective Action Program when discovering new Appendix R open items. Corrective actions taken included the performance of hourly fire watches in the plant areas where MOV local operation is credited for the MOV control cables that could be affected. Valve control circuit modifications are under development and scheduled for implementation. A fire event did not occur. There was no impact to public health
Point Beach 1	10/16/1981	11/13/1981	Conditions Leading to Operation in a Degraded Mode Abstract: While temporarily connecting wet pipe flow switches into the EDG area smoke detection system, a wiring error caused system supply fuses to blow. The fault was confined to the EDG area, and inspected that area as required by T.S. in a discussion following the 2.5 hour repair, operators learned that the entire smoke detection system had been inoperable during the repair. The alarm was reportedly caused by blown fuses. Since electricians were working on the system at the time, operators were satisfied with this explanation and did not follow up to determine which areas were affected. Emphasis on the importance of following up all alarms, even only to verify a seemingly obvious apparent cause will be conveyed to personnel.
Point Beach 1	11/02/1982	11/24/1982	Misunderstanding Between Plant and Contractor Personnel Led to the Old Detectors Being Secured to Facilitate Final Hoopkup for the New System Abstract: During installation of new fire protection equipment, the fire detectors required by Tech Spec 15.3.14.d were deenergized. While new detectors did provide protection, they had not been functionally tested in accordance with the periodicity of Tech Spec 15.4.15.d. One specified area had no fire detectors operable. When this was recognized about 21 hours later, hourly checks of all specified areas were initiated. Misunderstanding between plant and contractor personnel led to the old detectors being secured to facilitate final hookup for the new system. Hourly checks were continued until the new detectors were again satisfactorily tested. One specified area continues to be monitored hourly until its detector can be made operational.
Point Beach 1	12/15/1982	01/13/1983	Rod Drive Room Fire Detection Systems Inoperable Abstract: On 12/15/82 during normal operation, a routine test on the fire detection system found panel d407 which monitors the unit 1 rod drive room inoperable. An inspection of the rod drive room and an hourly fire watch inspection was instituted in accordance with Tech Spec 15.3.14.d. No other inoperable panels were found during this test. This event is reportable in accordance with Tech Spec 15.6.9.6.b.2. The cause of the failure was found to be a blown fuse in the power supply for the panel. LED indicating lights were also found burned out on the panel. The cause of the blown fuse and burned out led's could not be determined. The fuse and indicating lights were replaced on 12/15/82. The detection system is undergoing a design review to prevent further problems.
Point Beach 1	01/04/1983	02/09/1983	D-400 Panel of The zFire Detection System Inoperable Abstract: The D-400 panel became inoperable. This panel services all zone detection panels. Fire watch inspections were immediately initiated as required by Tech Spec 15.3.14.d. The failure was due to a failed power supply for the D-400 panel. Both design and manufacturing representatives investigated the failure and replaced the power supply with upgraded components.
Point Beach 1	09/29/1983	10/28/1983	Fire Detection System Remote Alarm Function Found Disabled Abstract: During routine shutdown operation at Salem generating station, Unit 1, a low flow alarm was received at the control room from the No. 14 reactor coolant loop RTD bypass line. Investiagion of the problem, by alternately isolating the hot and cold-leg sides of the flowpath, indicated that the hot-leg flowpath was obstructed. In an attempt to dislodge the obstruction from the hot-leg bypass loop, its isolation valve was cycled. And then bypass flow was restored to normal.
Point Beach 1	02/19/1988	03/14/1988	Design Error on Electric Strike Doors Used as Fire Doors Abstract: POWER LEVEL - 100%. ON FEBRUARY 18, 1988, A DESIGN DEFICIENCY WAS DISCOVERED ON DOORS WITH ELECTRIC LOCK STRIKES WHICH WERE DESIGNATED AS FIRE DOORS. THE DESIGN DEFICIENCY ALLOWED THE DOORS TO OPEN UPON LOSS OF ELECTRICAL POWER. SINCE THE LOSS OF ELECTRICAL POWER COULD OCCUR BECAUSE OF A FIRE NEAR THE DOOR, THE FIRE BARRIER FUNCTION OF THE DOOR COULD BE COMPROMISED. UPON DISCOVERY OF THE DESIGN DEFICIENCY, THE FIRE BARRIER FUNCTION OF THESE DOORS WAS DECLARED OUT OF SERVICE AND CONTINUOUS FIRE WATCHES WERE POSTED. AS A MORE PERMANENT CORRECTIVE ACTION, THE DOORS WERE MODIFIED TO FAIL IN THE LATCHED POSITION UPON FAILURE OF POWER. THE CORRECTIVE ACTION WAS COMPLETED ON FEBRUARY 19, 1988.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Point Beach 1, Point Beach 2	06/26/1991	07/26/1991	Inoperable Fire Barrier Penetration Seals Abstract: POWER LEVEL - 100%. ON JUNE 26, 1991, HOLES WERE DISCOVERED IN TWO FIRE BARRIER PENETRATION SEALS IN THE WALLS OF THE SAFETY INJECTION - CONTAINMENT SPRAY PUMP ROOM. THE OPENINGS MEASURED APPROXIMATELY SIX BY TWELVE INCHES IN ONE AND SIX BY FIFTEEN INCHES IN THE OTHER. PBNP TECHNICAL SPECIFICATION (TS) 15.3.14.C.1.A REQUIRES ALL FIRE BARRIER PENETRATION SEALS PROTECTING SAFETY-RELATED AREAS TO BE OPERABLE. THE BARRIERS HAD BEEN OPENED AND TEMPORARILY SEALED IN PREPARATION FOR AN ELECTRICAL CONDUIT INSTALLATION. CONTRARY TO PBNP PROCEDURE 3.4.11, 'PENETRATING BARRIERS,' THE TEMPORARY FIBERFRAX-DURABLANKET BARRIERS WERE NOT REINSTALLED FOLLOWING THE CONDUIT INSTALLATION. THE CONDITION WAS DISCOVERED WHEN THE SEAL INSTALLER CONTRACTOR RETURNED TO PERMANENTLY REPAIR THE PENETRATIONS. THE CONTRACTOR PROVIDED A FIRE WATCH IN THE AREA WHILE BOTH BARRIERS WERE MADE OPERABLE. BOTH SEALS HAVE BEEN PERMANENTLY REPAIRED. ALL SIMILAR BARRIERS DISTURBED AS PART OF THE SAME INSTALLATION WERE INSPECTED AND FOUND TO BE OPERABLE. THE PBNP ENGINEER RESPONSIBLE FOR FIRE BARRIER PENETRATION SEALS HAS REVIEWED THE REQUIREMENTS FOR WORKING ON THESE COMPONENTS WITH THE PERSONNEL RESPONSIBLE FOR THE CONDUIT INSTALLATION.
Point Beach 1, Point Beach 2	02/08/1994	03/08/1994	Failure To Perform a Fire Watch at the Technical Specification Frequency Abstract: On February 8, 1994 at 0743, with both units operating at full power, the automatic actuation feature of the Halon fire suppression system for the auxiliary feedwater pump room and the vital switchgear room was disabled to support modification work being performed in the area. As a result of disabling this portion of the Halon system, hourly fire rounds were required to be performed by the Technical Specifications. However, fire rounds were only performed twice during the 8-hour day shift. At 1515, during the swing shift crew briefing, it was determined that the fire rounds were not being performed at the required frequency. The Duty and Call Superintendent was notified and hourly fire rounds were commenced at 1530. These hourly fire rounds continued until the Halon system was restored to service at 1622 on February 8, 1994.
Point Beach 1, Point Beach 2	06/30/1997	07/30/1997	Non-Exempt Power Cables Do not Meet Appendix R Separation Criteria Abstract: June 30, 1997, with Unit 1 in cold shutdown, the licensee's Appendix R Rebaselining Team discovered two power distribution cables located in the auxiliary feedwater (AFW) pump room that do not meet the requirements of 10 CFR 50 Appendix R, Section III.G.2, and are not specifically identified in the NRC-approved exemption to Appendix R. Specifically, these redundant safe shutdown cables associated with the AC power distribution system do not meet the requirement for 20' separation criterion with no intervening combustibles. Since the safe shutdown configuration described in the exemption does not include these cables, the capability to safely shutdown the plant for a fire in the AFW pump room is not adequately described in the plant licensing basis. An operability determination verified system operability pending restoration of the condition to full qualification. Compensatory fire watches have been established.
Point Beach 1, Point Beach 2	07/01/1998	07/30/1998	Unprotected Cables In Cable Spreading Room Abstract: On July 1, 1998, with PBNP Unit 1 operating at 28% power and Unit 2 operating at 100% power, a group of cables were identified in the cable spreading room (CSR) which may not meet the licensee's fire protection commitments for safe shutdown equipment in that fire zone. The Fire Protection Evaluation Report (FPER) states that all cables in the CSR are installed in conduit or covered cable trays. Telephone and lighting cables have been identified in the fire zone which are not in cable trays or conduit. On July 1, 1998, this condition was reported in a one hour ENS telephone call pursuant to 10 CFR 50.72 as a condition potentially outside the Appendix R safe shutdown equipment design basis. A twice per shift fire watch was established in the CSR in accordance with plant procedures for Appendix R safe shutdown compensatory measures.
Point Beach 1, Point Beach 2	11/24/1998	12/23/1998	Assumptions for Equipment Necessary To Maintain Hot Safe Shutdown Outside Appendix R Design Basis Abstract: While completing a re-verification and re-validation of the Fire Protection Evaluation Report fire scenarios, the licensee's Appendix R Rebaselining Project Team determined that the safety related battery chargers should be reclassified as hot shutdown equipment. Plant procedures presently allow post accident repairs of this equipment to bypass potential fire induced electrical circuit damage. The Appendix R design basis does not allow for repairs of hot shutdown equipment needed to achieve or maintain hot safe shutdown; therefore, the plant was declared to be in a condition outside the design basis. A modification will be installed to provide manual switches that will permit bypassing the potential fire sensitive circuits and preclude the need to repair the battery chargers. This LER is provided in accordance with 10 CPR 50.73(a)(2)(ii)B.
Point Beach 1, Point Beach 2	10/04/1999	11/03/1999	Postulated Fire Could Lead To Loss of Redundanta Trains of Charging Capicity Abstract: While conducting a review of Appendix R alternate and dedicated safe shutdown analyses and exemption requirements, the licensee determined that for certain postulated Appendix R design basis fires, a hot short on a conductor of the control cable for valve CV-112C the normal suction supply from the volume control tank (VCT) to the charging pumps, could cause the valve to shut. The same fire could also damage the cables for the alternate charging water supply valve, CV-112B and prevent that valve from opening. Under these conditions, there is a potential for causing damage to any of the operating, positive displacement charging pumps if an alternate charging water supply is not established or the pump(s) are not turned off. Compensatory measures consisting of increased fire rounds and administrative controls on charging pump operations have been initiated. A plant modification is planned to eliminate the potential for this fire induced spurious valve operation. A safety assessment of this condition has determined that an alternate means of reactor coolant inventory control is available using a safety injection pump; however, this source would not satisfy the Appendix R performance goals which makes this event reportable as a condition outside the plant's Appendix R design basis.
Point Beach 1, Point Beach 2	10/11/1999	11/10/1999	Design Basis For Control Room/Cable Spreading Room Fire Barrier Not Fully Implemented Abstract: While investigating a degradation of the fire barrier between the Point Beach Nuclear Plant (PBNP) control room and the adjacent cable spreading room (CSR), PBNP fire protection engineers identified a deficiency in the application of a plant modification which was intended to upgrade that fire wall to a three hour fire barrier rating. This constituted a failure to meet a design basis commitment from Appendix A to BTP APCSB 9.5.-1 as documented in an NRC Safety evaluation report. We concluded that this event should be considered as a condition outside the design basis for fire protection and was reportable in accordance with 10 CFR 50.73(a)(2)(ii)(B). Corrective actions consisted of preparation of a Fire Protection Engineering Evaluation in accordance with plant procedures and NRC Generic Letter 86-10, and a 10 CFR 50.59 evaluation which provides justification for the as-found condition as providing an acceptable fire separation barrier as defined by the requirements of 10 CFR 50 Appendix R. Since the separation criteria of Appendix R for the CSR has been documented as being satisfied, there was no impact on the health and safety of the public or plant staff from this event.
Point Beach 1, Point Beach 2	05/24/2000	10/09/2000	Inadequate Procedural Guidance to Restore Equipment Necessary to Maintain Hot Safe Shutdown as Required by Appendix R Design Basis Abstract: While completing a re-verification and re-validation of the Fire Protection Evaluation Report fire scenarios, the licensee's Appendix R Rebaselining Project Team determined that the procedural guidance for restoration of cooling to the Primary Auxiliary Building battery and inverter rooms to ensure adequate cooling of the D-109 battery charger may have been less than adequate to ensure maintenance of temperatures for hot shutdown equipment. The Appendix R design basis does not allow for repairs of hot shutdown equipment needed to achieve or maintain hot safe shutdown; therefore, the plant was declared to be in a condition outside the Appendix R design basis. Procedure revisions have been made to establish timely cooling to the battery and inverter rooms to ensure operability of the inverter and preclude the need to repair the inverter. Testing and analyses completed subsequent to the original LER have demonstrated that there is adequate time to restore room ventilation during this Appendix R scenario and that an alternate source of power was available to the vital instrument bus inverters. Therefore this event had no safety significance.
Point Beach 2	03/23/1999	04/16/1999	Red Channel of Steam Generator Pressure Indication Passes Through Fire Zone Abstract: While conducting a revalidation and reverification project for the Point Beach Nuclear Plant 10 CFR 50 Appendix R fire protection programs, the licensee discovered that a cable necessary to provide a plant parameter required to be monitored for an Appendix R safe shutdown location was not routed independent of the appropriate fire zone. In accordance with plant procedures a twice per shift fire round has been established for that fire zone pending correction of the cable routing. This event was reported in accordance with 10 CFR 50.72 as a condition out-side the Appendix R design basis for the plant.

Prairie Island 1	12/06/1997	01/05/1998	Separation of Pressurizer Level Indication Channels Not in Compliance with 10 CFR 50 Appendix R Section III.G.2 Abstract: On December 6, 1997, Unit 1 was in Mode 5 after completing a scheduled refueling outage. A meeting of the plant Operations Committee (OC) was held that afternoon to evaluate the reportability of issues associated with a modification package presented for OC review that morning. This modification package was for the installation of a noncombustible radiant heat shield around cabling to pressurizer level transmitter 1LT-433, where it is within 20 ft of cabling to pressurizer level transmitter 1LT-426. After reviewing the available material and questioning the involved staff, it was concluded that the condition of cabling to 1LT-433 and 1LT-426 did not satisfy the separation criteria of 10CFR50 Appendix R Section III.G.2. Notification was made pursuant to the requirements of 10CFR50.72(b)(1)(ii) for the plant being in a condition that is outside its design basis. A noncombustible radiant energy shield has been installed over the cabling associated with transmitter 1LT-433 where it is within 20 ft of cabling associated with transmitter 1LT-426.
Prairie Island 1	12/14/2009	02/11/2010	Unanalyzed Condition due to an Inadequate Fire Barrier Abstract: On December 14, 2009, Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, identified that the power source to Safeguards Bus 16 was not protected per 10 CFR 50 Appendlx R requirements in Fire Area (FA) 32. For a fire that occurs in FA32, fire induced damage to cable 1C-333 could cause a spurious lockout of the 1RY transformer source to Bus 16. Another source, the D2 Emergency Generator, was available to power Bus 16. However, cables affecting the operation of the D2 Emergency Generator exited a fire-protected cable tray and ran unprotected for a short distance before they exited Fire Area 32. This condition was previously reported to the NRC as an unanalyzed condition (10 CFR 50 72(b)(3)(ii)(B)) on December 14, 2009 due to the missing fire barrier.
Prairie Island 1, Prairie Island 2	06/06/1989	08/18/1989	The causal evaluation for this event determined that the apparent cause was inattention to detail and the lack of a detailed procedure to perform R Appendix circuit analysis. An hourly fire watch was previously in place for Fire Area 32 as a compensatory measure and will continue until the cable protection issue has been resolved. Cables for the credited power source to Safeguards Bus 16 will be Lack of Circuit Protection Coordination for Associated Circuits on Two Appendix R Related Motor Control Centers Abstract: POWER LEVEL - 100%. ON JUNE 6, 1989, IT WAS DETERMINED THAT TWO CIRCUIT BREAKERS ON APPENDIX R RELATED MOTOR CONTROL CENTERS LACKED ADEQUATE COORDINATION FOR CIRCUIT PROTECTION. 'ADEQUATE COORDINATION' ENSURES THAT IN THE EVENT OF FIRE, THE LOADS REQUIRED FOR SAFE SHUTDOWN WILL BE UNAFFECTED BY THOSE NOT REQUIRED FOR SAFE SHUTDOWN. THAT IS, THE LOADS NOT REQUIRED FOR SAFE SHUTDOWN MUST HAVE PROTECTED CIRCUITS SO THAT IN THE EVENT OF A FAULT DURING A FIRE, THE FAULT WILL BE CLEARED BY THEIR CIRCUIT BREAKER AND NOT BY AN UPSTREAM BREAKER THAT FEEDS SAFE SHUTDOWN LOADS. UPON DISCOVERY, FIRE WATCHES WERE ESTABLISHED AS COMPENSATORY MEASURES. THE BREAKERS WERE REPLACED. THE PROCUREMENT AND THE RECEIVING PROCESSES HAVE BEEN REVISED TO PREVENT RECURRENCE.
Prairie Island 1, Prairie Island 2	08/30/1989	09/29/1989	Detection Instrumentation for Fire Detection Zone Found in Bypass Abstract: POWER LEVEL - 100%. AT 1748 ON 8/29/89, WITH BOTH UNITS AT 100% POWER, A FIRE DRILL WAS INITIATED FOR A FIRE ZONE WHICH ENCOMPASSES THE LOWER LEVEL OF THE SCREEN HOUSE. AT 1752, AS PART OF THE FIRE DRILL AND IN ACCORDANCE WITH THE APPROVED FIRE FIGHTING PROCEDURE, A CONTROL ROOM OPERATOR SOUNDED THE FIRE ALARM, PLACED THE AFFECTED FIRE ZONE ALARM IN BYPASS ON THE FIRE PROTECTION PANEL AND MADE THE PROPER NOTIFICATIONS. THE FIRE DRILL WAS TERMINATED AT 1811. HOWEVER, THE BYPASS SWITCH FOR THE AFFECTED FIRE ZONE ALARM WAS NOT RETURNED TO NORMAL FOLLOWING THE DRILL. THE ALARM REMAINED IN BYPASS AND AS A RESULT THE CONTROL ROOM WOULD NOT HAVE RECEIVED FIRE ALARMS FROM AFFECTED FIRE ZONE. THE CONTROL ROOM OPERATOR PERFORMING THE SHIFT LOGGING AT 2300 ALSO FAILED TO NOTE THAT FIRE ZONE REMAINED IN BYPASS. THE CONTROL ROOM OPERATOR PERFORMING THE SHIFT LOGGING AT 0650 ON 8/30/89 FOUND THE FIRE ZONE ALARM IN BYPASS AND RETURNED THE BYPASS SWITCH TO THE NORMAL POSITION. PROCEDURE CHANGES HAVE BEEN IMPLEMENTED AND FURTHER CHANGES ARE PLANNED TO ENSURE THAT FIRE ZONE BYPASS SWITCHES ARE RETURNED TO THE NORMAL POSITION FOLLOWING FIRE DRILLS AND TO HELP IDENTIFY FIRE DETECTION PANEL BYPASS SWITCHES THAT ARE IN THE BYPASS POSITION.
Prairie Island 1, Prairie Island 2	11/06/1990	12/05/1990	Failure to Establish a Continuous Fire Watch When Removing a Sprinkler System from Service Caused by Inadequate Procedure Abstract: POWER LEVEL - 100%. ON 11/6/90, A ROUTINE SPRINKLER SYSTEM TEST WAS IN PROGRESS. THIS TEST CHECKS OPERATION OF DELUGE VALVES, SO FIRE SUPPRESSION WATER MUST BE ISOLATED TO PREVENT THE WETTING OF EQUIPMENT. SINCE THE PROCEDURE REQUIRES THE SPRINKLER SYSTEM IN THE EMERGENCY DIESEL GENERATOR ROOMS TO BE ISOLATED, TEST PERSONNEL ASKED THE SHIFT SUPERVISOR TO ESTABLISH A CONTINUOUS FIRE WATCH IN THE ROOMS. THE SHIFT SUPERVISOR REVIEWED TECH SPECS AND AT 0914 ORDERED THE ISOLATION OF THE ZONE AND ESTABLISHED AN HOURLY FIRE WATCH AND BACKUP FIRE SUPPRESSION EQUIPMENT. WHEN THE PERSONNEL PERFORMING THE TEST ENTERED THE ZONE AT 1020 AND FOUND NO CONTINUOUS FIRE WATCH PRESENT, THEY CALLED THE SHIFT SUPERVISOR AND ASKED WHY NO CONTINUOUS FIRE WATCH HAD BEEN ESTABLISHED. THE SHIFT SUPERVISOR MADE A FURTHER REVIEW OF TECH SPECS, REALIZED HIS ERROR, AND AT 1025 ESTABLISHED A CONTINUOUS FIRE WATCH. CAUSE OF THE EVENT WAS INADEQUATE PROCEDURE. THE SURVEILLANCE PROCEDURE DOES NOT SPECIFICALLY REQUIRE ESTABLISHMENT OF A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT. THE SHIFT SUPERVISOR REVIEWED TECH SPEC 3.14.C.2 AND MISREAD THE FIRE WATCH REQUIREMENT; INSTEAD OF ESTABLISHING A CONTINUOUS FIRE WATCH WITHIN ONE
Prairie Island 1, Prairie Island 2	01/17/1992	02/13/1992	Fire Door Left Open As Result of Personnel Error Abstract: POWER LEVEL - 100%. ON JANUARY 17, 1992, BOTH UNITS WERE AT FULL POWER. AT ABOUT 1520 THE NRC RESIDENT INSPECTOR CALLED THE CONTROL ROOM TO REPORT THAT DOOR NO. 169 BETWEEN BUS ROOMS 25 AND 16 WAS OPEN AND NO FIRE WATCH WAS PRESENT. AN OPERATOR WAS DISPATCHED TO INVESTIGATE; THE OPERATOR CLOSED THE DOOR. THE DOOR HAD NOT BEEN BLOCKED OPEN, NOR WAS ANY OBSTRUCTION PRESENT TO HOLD THE DOOR OPEN. THE DOOR HAD BEEN HELD IN THE OPEN POSITION BY A DETENT WHICH WAS INTEGRAL WITH THE DOOR CLOSER. SINCE CONSTRUCTION PERSONNEL HAD BEEN WORKING IN THE AREA, THE PROJECT ENGINEER WAS INFORMED OF THE INCIDENT. THE DOOR CLOSER IS EQUIPPED WITH A FUSIBLE LINK INTENDED TO PROVIDE AUTOMATIC CLOSURE IN THE EVENT OF A FIRE. TESTING SHOWED THAT WITH THE FUSIBLE LINK REMOVED, THE DOOR WOULD NOT CLOSE, BUT WAS STILL HELD OPEN BY ITS DETENT. DOOR NO. 169 WAS DETERMINED TO BE INOPERABLE WHEN HELD IN THE OPEN POSITION BY THE DETENT. THERE WAS A PERSON PERFORMING QUALITY INSPECTIONS IN THE ROOM, AT THE TIME THE DOOR WAS FOUND OPEN, BUT HE HAD NOT BEEN DESIGNATED AS A FIRE WATCH. SINCE NO FIRE WATCH WAS PRESENT, TECHNICAL SPECIFICATION 3.14.G WAS VIOLATED.
Prairie Island 1, Prairie Island 2	06/24/1992	07/24/1992	Inoperability of Thermo-Lag 330 Fire Barriers on Cable Trays and Conduits Abstract: POWER LEVEL - 100%. On June 24, 1992, the United States Nuclear Regulatory Commission (NRC) issued NRC Bulletin 92 01, Failure of Thermo-Lag 330 Fire Barrier System To Maintain Cabling in Wide Cable Trays and Small Conduits Free from Fire Damage. This bulletin referred to tests which demonstrate the failure of Thermo-Lag 330 fire barrier systems to maintain cabling in wide cable trays and small conduits free from fire damage. The Prairie Island Nuclear Generating Plant has used this material to protect cables in both cable trays and conduits. Six fire areas are affected. Prairie Island Nuclear Generating Plant has applied our Technical Specification for inoperable Penetration Fire Barriers (TS.3.14.G.2.) for the appropriate interim compensatory measures.
Prairie Island 1, Prairie Island 2	01/05/1993	02/04/1993	Inoperability of Fire Doors Caused by Inappropriate Interpretation of Technical Specifications Abstract: POWER LEVEL - 000%. On November 29, 1992, both units were at cold shutdown. The fire door between the Control Room and the Records Room, and the fire door between the Control Room and the operators' Study Area, had been blocked open to provide some cooling for those rooms while their normal cooling system was out of service due to cooling water header replacement. No compensatory measures had been taken; it was believed that since the Control Room side of the fire doors is continuously occupied, a fire watch was unnecessary. Further discussions with NRC resulted in the conclusion that opening the doors made them inoperable and that a violation of Technical Specification 3.14.G.2 had occurred. The doors were closed and the fire barriers considered operable. Administrative procedures have been revised to include specific instructions on establishing fire watches for the doors.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Prairie Island 1, Prairie Island 2	08/07/1998	04/08/1999	Discovery That 32 Appendix R Related MOV's Are Susceptible to Physical Damage by Fire Induced Hot Shorts Abstract: As part of the PINGP Fire Protection self assessment a review was performed of Information Notice 92-18 "Potential for Loss of Remote Shutdown Capability During a Control Room Fire" with the new regulatory perspective. A calculation was initiated to determine the valve and operator thrust and torque values that may occur during a hot short that bypasses the limit switches and torque switches. The calculation addressed 48 Appendix R related MOV's and found that 32 of those may be physically damaged by a fire induced hot short. Affected systems include Residual Heat Removal (RHR), Component Cooling, Safety Injection, Reactor Coolant, and Auxiliary Feedwater. Compensatory actions are in place pending further evaluation of this issue. Eight additional MOV's in the RHR were determined to be Appendix R related (see LER 1-98-15) and are evaluated here.
Prairie Island 1, Prairie Island 2	08/26/1998	06/01/1999	Fire Areas 58/73 Appendix R Safe Shutdown Analysis Issues Abstract: On August 26, 1998, site staff determined that some cables in two Fire Areas in the auxiliary building were not protected by a 1-hour fire barrier (as required by an exemption to 10CFR50 Appendix R granted for those areas). These cables had been originally protected but the protective barriers had been removed following revision to the Safe Shutdown Analysis which erroneously concluded that protection was not required. During this event both units were operating at 100% power. A review of approved Appendix R Exemptions (completed in April of 1999) identified additional exemption compliance issues and compensatory measures. Appropriate compensatory measures had been established and will be maintained until the fire barrier issues are resolved.
Prairie Island 1, Prairie Island 2	08/27/1998	10/26/1998	Fire Area 32 Appendix R Safe Shutdown Analysis Issues Abstract: On August 27, with both Units at 100% power, it was determined the control cable for motor operated valve MV-32335 (Condensate Storage Tank to No. 12 Motor Driven Auxiliary Feedwater Pump) in Fire Area 32 in the turbine building was not protected (as required by an exemption to 10CFR50 Appendix R). Appropriate compensatory measures will be maintained in the Fire Area 32 until the fire barrier for the control cable is replaced.
Prairie Island 1, Prairie Island 2	08/27/1998	10/26/1998	Containment to RHR MOV's Appendix R Safe Shutdown Analysis Issues Abstract: On August 27, with both units operating at 100% power, site staff was prompted to review the susceptibility of the redundant containment sump to RHR pump suction MOVs to multiple failures due to a single fire. At the time it was unclear whether a postulated fire-induced spurious opening of the MOVs would drain the refueling water storage tank to containment, thereby causing a loss of the sole credited source of reactor coolant makeup for this postulated fire. Appropriate compensatory measures will be maintained in the affected fire areas until the status of the subject MOV's is resolved with respect to 10CFR50, Appendix R.
Prairie Island 1, Prairie Island 2	01/21/1999	02/22/1999	Design Basis Issues Identified While Updating with High Energy Line Break Analysis Abstract: On January 21, 1999, Prairie Island Nuclear Generating Plant Units 1 and 2 were operating at 100% power. Engineering staff, revising the high-energy line break (HELB) analysis, found the configuration of four Auxiliary Building doors violated the assumptions of the analysis. Certain areas of the Auxiliary Building were determined to be susceptible to room over-pressurization during a postulated HELB. Four of six doors that were assumed to open during the HELB to minimize the pressure transient in the affected room were latched, thus, preventing them from opening at the pressure assumed in the analysis. Two of the six doors had been blocked open to alleviate flooding concerns. A work order (and supporting 10 CFR 50.59 safety evaluation and temporary modification package) was written to release door latch pins on the six doors and secure the pins to prevent re-latching.
Prairie Island 1, Prairie Island 2	11/01/2000	03/22/2001	Inoperability of Safeguards Cooling Water (Essential Service Water) Pumps Caused by Unqualified Lubricating Water Supply to the Pump Shaft Bearings Abstract: On November 1, 2000, at 1:40 PM CST, three safeguards vertical cooling water pumps were declared inoperable for lack of qualified source of lubricating water supply to line shaft bearings. The lubricating water had been originally designated as safety-related but had been downgraded in 1977 and subsequent physical changes did not maintain the original quality level. It was thought at the time that this independent source of water was not necessary for pump operability. Because of the downgrade, continued operation of the water supply could not be assured during certain design basis events and the cooling water pumps were administratively declared inoperable though still functional. Appropriate compensatory measures were developed and put in place. By November 13th installation was completed on a temporary modification which restored a qualified lubricating water supply to two of the three pumps, restoring their operability (only two pumps are required to be operable). Another temporary modification restored operability to the third pump at a later date.
Prairie Island 1, Prairie Island 2	08/08/2014	03/31/2015	Unanalyzed Condition due to Lack of Appropriate Fuse Protection - Supplement Abstract: On August 8, 2014, the Appendix R program engineer identified a licensee reportable legacy issue. As a result of external industry operating experience, a drawing review was performed and it was determined that the control circuits for the DC Emergency Oil Pumps for both Unit 1 and Unit 2 are not fused properly. Therefore, an overload within the control circuit could result in a fire that could propagate to multiple fire areas affecting safe shutdown equipment that could be compromised, which affects the 10 CFR 50 Appendix R safe shutdown analysis. Based on this information, the determination was made that this condition meets the reporting criteria for 10 CFR 50.73(a)(2)(ii)(B), any event or condition that results in the nuclear power plant being in an unanalyzed condition that significantly degrades plant safety. The causal evaluation determined that the plant designer did not fuse the DC Emergency Oil Pump circuit separate from the power cables because they were concerned that inadvertent fuse failure would fail the DC Emergency Oil Pump and damage the turbine bearings. Inconsistency in manufacturing of fuses at the time of design could lead to some fuses failing open even if the conditions should not have caused the fuse to fail open. Corrective Actions have been initiated to modify the
Prairie Island 1, Prairie Island 2	12/21/2015	02/18/2016	Unanalyzed Condition due to Non-Compliant Fire Protection Manual Operator Actions Abstract: On 12/21/2015 with Unit 1 (U1) in Mode 1 at 100% power and Unit 2 (U2) in Mode 3, a technical review of a new weak link calculation as part of the transition to National Fire Protection Association's Performance Based Standard for Fire Protection for Light Water Reactor Electronic Generating Plants (NFPA 805) identified a non-emergency unanalyzed condition reportable under 10 CFR 50.72(b)(3)(ii)(B). Specifically, several motor operated valves (MOVs) credited to be manually operated from outside the control room in the event of a fire in the control room or relay room could be damaged in a postulated fire if hot shorts were to bypass the torque and limit switches. Also, MOVs associated with the Gland Steam system of both U1 and U2 had been added to F5 Appendix B but never analyzed in the event of a hot short. These conditions could impact the ability of plant operators to implement procedure F5 Appendix B, Control Room Evacuation (Fire). The identified MOVs are located in Fire Area (FA) 13 (Control Room) and FA 18 (Relay and Cable Spreading Room). New hourly fire watch impairments were created in these areas as compensatory measures. The fire detection systems in the control room and relay room remain in service. The site submitted Event Notification (EN) 51616. Reviews of the list of

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Prairie Island 1, Prairie Island 2	04/21/2016	06/21/2016	Missing Fire Barrier between Fire Area (FA) 59 and 85 / Fire Hazard Analysis Drawings Do Not Match Boundary Description Abstract: On April 21, 2016, during a walkdown of fire barriers for the National Fire Protection Association (NFPA) 805 project, it was determined that the fire barrier between Fire Area (FA) 59 (Auxiliary Building Mezzanine Unit 1) and FA 85 (Holdup Tank/ Demineralizer Area) is not a rated barrier due to unsealed combustible pathway penetrations in the barrier. The walkdown also identified that penetrations in the fire barriers between FA 68 (Unit 1 Annulus) and FA 60 (Auxiliary Building Operating Level Unit 1), FA 68 and FA 61A (Auxiliary Building Hatch Area), FA 72 (Unit 2 Annulus) and FA 75 (Auxiliary Building Operating Level Unit 2), and FA 72 and 61A are not sealed with fire rated materials. Both conditions were reported under 10 CFR 50.73(a)(2)(ii)(B) as an unanalyzed condition that significantly degrades plant safety due to the missing fire barrier between redundant Appendix R safe shutdown trains. The apparent cause was determined to be that the Engineering Manual 3.4.2 does not require Appendix R program owner review of Fire Protection Engineering Evaluations that depend on Appendix R Safe Shutdown analysis. The corrective action is to revise the Engineering Manual 3.4.2 to require Appendix R review when the program is impacted.
Prairie Island 2, Prairie Island 1	05/02/2000	03/13/2001	Discovery that PORV/Block Valve Cable in Containment Does Not meet Appendix R Separation Criteria Abstract: On May 2, 2000, while Unit 2 was in a refueling outage, plant personnel inspected cable routing in Unit 2 containment for Appendix R separation requirements and determined that cables associated with the Unit 2 PORV's and block valves were not separated by twenty feet. Prairie Island has exemptions from Appendix R Section III.G.2 for both Unit 1 and Unit 2 containments (Fire Areas 01 and 71). Those exemptions are based in part on the separation of redundant shutdown equipment, with the exception of Pressurizer Level Channel Cabling, by a minimum of 20 ft. The Pressurizer PORVs and opposite train PORV Block Valves are considered redundant equipment. The lack of twenty feet of separation between affected cables constitutes a condition outside the exemption bases. The affected Unit 2 PORV cables in containment have been rerouted in individual conduits such that the lack of separation is no longer a concern. In December of 2000, the Unit 1 containment was inspected to determine whether a similar condition existed for Unit 1. A series of inspections revealed that Unit 1 PORV/Block Valve Cables either met the separation requirements of the existing exemption (greater than 20 feet) or met the requirements of 10 CFR 50, Appendix R, Section III.G.2 (separated by a radiant energy shield).
Quad Cities 1	09/10/1980	09/29/1980	Two 4 1/2 inch Fire Barrier Penetrations not Sealed in the Floor between the Cable Spreading Room and Auxiliary Electric Room Abstract: At 0745, the resident NRC Inspector discovered two 4 1/2 inch fire barrier penetrations not sealed in the floor between the cable spreading room and auxiliary electric room. Construction personnel did not follow the core bore procedure which was used to make the 4 1/2 inch penetrations on 9-9-80. A fire watch was established at 0810. Penetrations were sealed at 0820. The core bore procedure was clarified to reflect Tech Spec requirements and the contractors were instructed in its use.
Quad Cities 1	11/24/1989	12/22/1989	HPCI Fire Protection Technical Specification Surveillance Functional Test Abstract: POWER LEVEL - 000%. AT 2330 HOURS ON NOVEMBER 24, 1989, UNIT ONE WAS IN THE SHUTDOWN MODE. AT THIS TIME, THE SHIFT ENGINEER (SE) DISCOVERED THAT THE HIGH PRESSURE COOLANT INJECTION (HPCI) DELUGE SYSTEM FUNCTIONAL TEST, QOS 4100-12, HAD NOT BEEN COMPLETED WITHIN THE TECHNICAL SPECIFICATION SURVEILLANCE INTERVAL. HE ALSO NOTED THAT THE TEST PROCEDURE REQUIRED THAT ONLY ONE OF THE SEVEN DETECTORS BE FUNCTIONALLY TESTED EVERY SIX MONTHS. INSTEAD OF FUNCTIONALLY TESTING ALL SEVEN DETECTORS AS REQUIRED BY TECHNICAL SPECIFICATIONS IT WAS DETERMINED THAT TECHNICAL SPECIFICATION 4.12 HAD NOT BEEN MET. THE SHIFT ENGINEER THEN INSTRUCTED THAT ALL DETECTORS ASSOCIATED WITH THE HPCI DELUGE SYSTEM BE FUNCTIONALLY TESTED. THE TESTING WAS SUCCESSFULLY COMPLETED AT 0230 HOURS ON NOVEMBER 25, 1989, USING TEMPORARY PROCEDURE 5994. THIS EVENT OCCURRED DUE TO MANAGEMENT DEFICIENCY AND AN INSUFFICIENT TEST PROCEDURE. PROCEDURES WILL BE REVISED TO MAINTAIN BETTER CONTROL OF TECHNICAL SPECIFICATION SURVEILLANCES AND THE TEST PROCEDURE WILL BE REVISED TO REFLECT TECHNICAL SPECIFICATION REQUIREMENTS. THIS REPORT IS SUBMITTED IN ACCORDANCE WITH 10CFR50.73(A)(2)(I)(B).
Quad Cities 1	11/28/1989	02/06/1991	Unit One HPCI Inoperable Due to Inadvertent Deluge System Actuation, Cause Unknown Abstract: POWER LEVEL - 010%. AT 0910 HOURS ON NOVEMBER 28, 1989, THE UNIT ONE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM WAS DECLARED INOPERABLE FOLLOWING AN UNEXPECTED ACTUATION OF THE HPCI PUMP ROOM DELUGE SYSTEM. THE ACTUATION CAUSED DC SYSTEM GROUNDS DUE TO MOISTURE INTRUSION IN THE VARIOUS TURBINE AUXILIARY ELECTRICAL EQUIPMENT. THE ACTUATION OCCURRED WHILE OPERATING PERSONNEL WERE IN THE PROCESS OF RETURNING THE DELUGE SYSTEM TO SERVICE. NOT KNOWN. THE ELECTRICAL EQUIPMENT AFFECTED BY THE DELUGE ACTUATION WAS TESTED AND DRIED AS NECESSARY TO REMOVE THE DC GROUNDS. THE HPCI SYSTEM WAS SUCCESSFULLY TESTED AND RETURNED TO SERVICE AT 1045 HOURS ON DECEMBER 1, 1989. CORRECTIVE ACTIONS WILL INCLUDE A PROCEDURE REVISION AND OPERATOR TRAINING. THE DELUGE SYSTEM REMAINS OUT OF SERVICE TO ALLOW INSTALLATION OF A LINEAR DETECTION SYSTEM TO REDUCE THE POTENTIAL FOR FUTURE INADVERTENT ACTUATIONS. FIRE WATCH FREQUENCY WILL BE INCREASED AND A TEMPORARY PROCEDURE WILL BE INITIATED. ON DECEMBER 11, 1989, THE PERIOD OF TIME THAT THE DELUGE SYSTEM WAS INOPERABLE EXCEEDED THE 14-DAY REPORTING REQUIREMENT OF TECHNICAL SPECIFICATION 3.12.C.3. THIS EVENT IS BEING SUBMITTED IN ACCORDANCE WITH 10CFR50.73(A)(2)(V)(D) AND TECHNICAL SPECIFICATION 3.12.C.3.
Quad Cities 1	08/14/1990	10/26/1990	Missed Technical Specification Surveillances on the Main Steam Line Radiation Monitors Due To Operator Misjudgement. Abstract: POWER LEVEL - 000%. ON AUGUST 14, 1990, AT 1245 HOURS, UNIT ONE WAS IN THE REFUEL MODE AT 0 PERCENT OF RATED CORE THERMAL POWER. WHILE REVIEWING OPERATING LOGS, THE SHIFT CONTROL ROOM ENGINEER (SCRE) DISCOVERED THAT TWO ONCE PER SHIFT CHECKS HAD BEEN MISSED FOR THE MAIN STEAM LINE (MSL) RADIATION MONITORS UNDER PROCEDURE QOS 005-S1, OPERATIONS DEPARTMENT WEEKLY SUMMARY OF DAILY SURVEILLANCES. ON SEPTEMBER 9, 1990, AFTER FURTHER REVIEW, THIS EVENT WAS DETERMINED TO BE REPORTABLE UNDER 10 CFR 50.73. THE CAUSE OF THE MISSED SURVEILLANCES IS BEING ATTRIBUTED TO OPERATOR MISJUDGMENT. A CONTRIBUTING CAUSE IS THAT THE REVIEWS PERFORMED TO VERIFY COMPLETION ALSO FAILED TO IDENTIFY THE MISSED SURVEILLANCES. CORRECTIVE ACTION TAKEN WAS TO DISCUSS THIS EVENT WITH OPERATORS. FURTHER ACTION WILL INCLUDE A TRAINING EVALUATION AND PROCEDURE ENHANCEMENT. THIS REPORT IS BEING SUBMITTED IN ACCORDANCE WITH 10 CFR 50.73 (A)(2)(I)(B).
Quad Cities 1	11/02/1990	11/12/1990	Missed Technical Specification Surveillance For Continuous Fire Watch Due to Personnel Inattention. Abstract: POWER LEVEL - 100%. ON 10/11/90, AT 0140 HOURS, UNIT ONE WAS IN THE RUN MODE AT 100 PERCENT RATED CORE THERMAL POWER. DURING A ROUTINE PLANT TOUR, A SHIFT FOREMAN DISCOVERED AN EQUIPMENT ATTENDANT (EA) TO BE INATTENTIVE AT HIS ASSIGNED POST AS A CONTINUOUS FIRE WATCH. A CONTINUOUS FIRE WATCH WAS REQUIRED TO BE IN EFFECT FOR THE FIRE DOOR THAT SEPARATES THE UNIT ONE RESIDUAL HEAT REMOVAL (RHR) ROOM FROM THE UNIT TWO RHR ROOM AS THIS DOOR HAD BEEN DECLARED INOPERABLE. TECHNICAL SPECIFICATION 3.12.F.2 REQUIRES THAT A FIRE WATCH BE ESTABLISHED ONCE A FIRE BARRIER PENETRATION IS NOT INTACT. THE CAUSE OF THIS EVENT IS THAT A CONTINUOUS FIRE WATCH WAS NOT MAINTAINED DUE TO PERSONNEL INATTENTION. THE FIRE WATCH WAS IMMEDIATELY REPLACED AND DISCIPLINED TO AVOID FUTURE OCCURRENCES. THIS REPORT IS BEING SUBMITTED PER 10CFR50.73(A)(2)(I)(B).
Quad Cities 1	09/19/1991	11/06/1991	Missed Off Gas Recombiner Technical Specification Surveillance (4.8.A.5) Due to Personnel Error Abstract: POWER LEVEL - 100%. ON SEPTEMBER 19, 1991, UNIT ONE WAS IN THE RUN MODE AT 100% OF RATED CORE THERMAL POWER. THE SHIFT THREE NUCLEAR STATION OPERATOR (NSO) NOTICED THAT THE RECOMBINER TEMPERATURES HAD NOT BEEN VERIFIED TO BE IN THE ALLOWABLE BAND AS REQUIRED BY TECHNICAL SPECIFICATION 4.8.A.5 SINCE SHIFT THREE THE PREVIOUS DAY. THE RECOMBINER TEMPERATURE RECORDER WAS NOT WORKING PROPERLY DURING SHIFTS ONE AND TWO ON SEPTEMBER 19, 1991. THE SHIFT ONE NSO TRIED TO INTERPOLATE THE TEMPERATURE VALUES, AND NOTIFIED THE SHIFT ENGINEER OF THE MALFUNCTIONING RECORDER. THE SHIFT TWO NSO RECOGNIZED THAT THE RECORDER WAS NOT WORKING, BUT TOOK NO CORRECTIVE ACTIONS. THE TEMPERATURE RECORDER APPEARS TO HAVE BEEN IN STANDBY MODE DURING THIS EVENT. THE RECORDER WAS REPAIRED AND DISCIPLINARY ACTION WAS GIVEN TO THE SHIFT TWO NSO FOR FAILING TO NOTIFY THE SHIFT ENGINEER OF THE PROBLEM. THIS REPORT IS BEING WRITTEN PER 10CFR50.73(A)(2)(I)(B).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Quad Cities 1	06/26/1992	07/24/1992	Missed Tech Spec Surveillance Due To Personnel Error Abstract: POWER LEVEL - 092%. At 1015 hours on June 26, 1992, Unit One was in the RUN mode at 97% rated core thermal power. At this time, the Fire Marshal discovered that valve 1-4199-72 had not been verified 'locked open' within the Technical Specification surveillance interval. It was determined that Technical Specification 4.12 had not been met. Personnel who reviewed QOS 4100-S3 failed to notice that the valve had not been verified in the 'locked open' position. Immediate corrective action was to verify that valve 1-4199-72 was in the 'locked open' position. A memo will be sent to all personnel who review Technical Specification Surveillances on the importance of verifying that the surveillances are complete. A procedure change will also be submitted to allow for verification of hard to reach valves with a flow test downstream of the valve. This report is being submitted in accordance with the requirements of 10CFR50.73(a)(2)(i). DVR 209
Quad Cities 1	09/23/1992	10/22/1992	ESF Actuation From The 1-1601-23 Valve Going Closed From Los Of Instr. Air Due To Personnel Error. Abstract: POWER LEVEL - 000%. At 0700 hours on September 23, 1992, Unit One was in the REFUEL mode for a scheduled refueling outage when the offgoing Nuclear Station Operation (NSO) discovered valve 1-1601-23, Drywell Vent Valve, closed. The valve had previously been open providing a vent to the drywell. The cause of this event is due to personnel error resulting in the unintentional partial closing of the air supply shutoff ball valve for the 1-1601-23 valve. Scaffolding construction had been performed near the air supply shutoff valve, however, since the valve manipulation was inadvertent and unintentional, it is difficult to determine precisely who may have caused the valve to close. The event will be discussed with all site personnel during upcoming station Focus Day meetings. In addition, the station plans to make changes to the scaffolding construction process which are intended to provide additional station involvement in the pre and post installation inspection of scaffolding activities. 10CFR50.73(a)(2)(iv). DVR 269
Quad Cities 1	08/17/1993	09/24/1993	Compensatory Actions Not Put In Place After Safe Shutdown Pump Room Cooler Declared Inop Abstract: POWER LEVEL - 100%. On August 17, 1993, Unit One and Unit Two were in the RUN mode at 100% of rated core thermal power. The Safe Shutdown Makeup Pump Room Cooler was out of service for repair. A review of Safe Shutdown Equipment and Fire Protection Requirements identified that compensatory measures had not been properly established as required by the stations Administrative Technical Requirements (ATRS) for fire protection. The cause of this event was inadequate managerial attention to developing procedures to implement the ATRS. Corrective actions to previous events were not broad enough in scope to cover other procedure changes required, training requirements, and preventive maintenance. LER254\93\015.WPF
Quad Cities 1	01/21/1994	02/18/1994	Continuous Firewatch Not Established Following Impairment Of A Safe Shutdown Path. Abstract: Unit one was in the RUN mode at approximately 97% of rated core thermal power on 1/21/94. Unit Two was shutdown with the Reactor (Rx) Mode switch in the REFUEL position. The Unit Two Emergency Diesel Generator (EDG) [KL] was Out Of Service (OOS) which placed the Unit in a Limiting Condition for Operation (LCO), requiring hourly compensatory firewatch measures (which were in place). At 1600 on 1/21/94, it was noted that the Unit 112 Rx Recirculation System Motor Generator Set Deluge 'Water Curtain ' system [KP] had also been OOS during the time period (from 1/15/94 to 1/21/94) the EDG was OOS (12/29/94 to 1/21/94). Per QCAP 1500-2, 'Administrative Requirements For Inoperable Safe Shutdown (SSD) Equipment', the simultaneous OOSs of a SSD equipment system and a Fire Protection (FP) system in the same (SSD) path required that a continuous, rather than an hourly firewatch, be established. The primary Causal Factors for this event were inadequate verbal communications and training which resulted in shift supervision misinterpreting procedural requirements. Contributing causal factors were written communications, and change management. Written communications and training have previously been identified as elements of programmatic problems with the appendix R safe shutdown program. Corrective actions to address these causal factors are planned and in the process of being implemented. Proper compensatory measures were established. Designated Operations
Quad Cities 1, Quad Cities 2	01/07/1987	01/20/1987	Missed Hourly Fire Watch in Cable Spreading Room Due to Personnel Error Abstract: POWER LEVEL - 100%. ON 1-7-87, UNIT 1 WAS IN THE RUN MODE AT 100% CORE THERMAL POWER AND UNIT 2 WAS IN THE REFUEL MODE FOR THE END OF CYCLE 8 REFUEL AND MAINTENANCE OUTAGE. DUE TO THE CABLE SPREADING ROOM SMOKE DETECTORS BEING OUT-OF-SERVICE, AN HOURLY FIRE INSPECTION IN THE CABLE SPREADING ROOM WAS REQUIRED. DUE TO PERSONNEL ERRORS RESULTING IN COMMUNICATION BREAKDOWNS, BETWEEN 0208 AND 0435 HRS ON 1-7-87, THE HOURLY INSPECTION WAS NOT COMPLETED. THIS EVENT WAS DETERMINED TO BE THE RESULT OF PERSONNEL ERROR BECAUSE THE INDIVIDUALS SHARING THIS RESPONSIBILITY WERE ALL BUSY WITH OTHER ASSIGNED WORK AND EACH THOUGHT THAT SOMEONE ELSE HAD PERFORMED THE NECESSARY INSPECTION. THE SHIFT ENGINEER, WHEN COMPLETING THE CHECKLIST FOR THE FIRE INSPECTION, INCORRECTLY DETERMINED THAT THE HOURLY INSPECTIONS HAD BEEN COMPLETED AND THEREFORE INITIALED THE CHECKLIST AS COMPLETE. THE INDIVIDUALS INVOLVED WITH THIS EVENT WERE COUNSELED REGARDING THE IMPORTANCE OF COMPLETING THE INSPECTIONS. THIS EVENT WAS DISCUSSED AT THE WEEKLY OPERATING DEPARTMENT SAFETY MEETINGS. THE CHECKLIST FOR THIS INSPECTION REQUIREMENT IS BEING REVISED TO REQUIRE THE INSPECTION TIME AND INITIALING BY THE INDIVIDUAL WHO IS PERFORMING THE INSPECTION. THIS IS BEING SUBMITTED TO COMPLY WITH 10CFR50.73
Quad Cities 1, Quad Cities 2	12/02/1987	12/29/1987	Open Penetrations Found Through Fire Barriers Due to Personnel Errors Abstract: POWER LEVEL - 000%. ON DECEMBER 2, 1987, QUAD CITIES UNIT ONE WAS IN THE REFUEL MODE AT 0 PERCENT POWER AND UNIT TWO WAS IN THE RUN MODE AT 91 PERCENT POWER. AT APPROXIMATELY 1430 HOURS, DURING A FIELD VERIFICATION OF FIRE BARRIER DRAWINGS SEVERAL FIRE BARRIER PENETRATIONS WERE FOUND TO BE IN QUESTIONABLE CONDITION. AT 1600 HOURS, IT WAS DETERMINED THAT SOME OF THESE ITEMS DID AFFECT THE INTEGRITY OF THE FIRE BARRIERS AND A CONTINUOUS FIREWATCH WAS INITIATED. ON DECEMBER 7 AND 8 DURING SUBSEQUENT FIELD WALKDOWNS PROMPTED BY THE INITIAL FINDINGS, SEVERAL MORE BARRIER PENETRATION DEFICIENCIES WERE IDENTIFIED. THE CAUSE FOR THIS CONDITION HAS BEEN ATTRIBUTED TO PERSONNEL ERRORS DUE TO AN APPARENT LACK OF AWARENESS OF THE IMPORTANCE OF PENETRATION SEALS IN FIRE BARRIERS. CORRECTIVE ACTIONS WERE TO IMPLEMENT REPAIRS OF THE IDENTIFIED DEFICIENCIES, AND REVISIONS TO PROCEDURE QAP 1500-2 (WORK REQUEST PROCEDURE FOR STATION MAINTENANCE) AND ITS CHECKLIST, QAP 1500-S1. QTS 170-1 (SURVEILLANCE OF PENETRATION FIRE STOPS) IS ALSO TO BE REVISED ALONG WITH THE BARRIER DRAWINGS USED DURING THE SURVEILLANCE. FIRE PROTECTION PERSONNEL ARE ALSO GOING TO PROVIDE TRAINING TO ALL DEPARTMENTS TO HEIGHTEN AWARENESS OF BARRIERS AND PENETRATIONS. THIS REPORT IS PROVIDED PER 10 CFR 50.73 (A)(2)(I)(B).
Quad Cities 1, Quad Cities 2	03/21/1990	04/20/1990	Outside Design Basis of Plant because Fire Loading Exceeded Exemption Requests due to Management Deficiency Abstract: POWER LEVEL - 100%. AT 1730 HOURS ON MARCH 21, 1990, UNIT ONE WAS IN THE RUN MODE AT 100 PERCENT OF RATED CORE THERMAL POWER. IT WAS DISCOVERED THAT SEVERAL FIRE ZONES HAD EXCEEDED THE AMOUNT OF FIXED FIRE LOADING STATED IN THE EXEMPTION REQUESTS TO 10CFR50.48, APPENDIX R. THE CAUSE OF THIS EVENT IS MANAGEMENT DEFICIENCY. PRIOR TO UPDATING THE UPDATED FIRE HAZARDS ANALYSIS (UFHA), A REVIEW OF THE LIMITS ALLOWED FOR EACH AREA WAS NOT DONE AS NO PROGRAM TO PERFORM THIS REVIEW WAS IN PLACE. ALTHOUGH THE INCREASE IN FIRE LOADING FOR THESE AREAS WAS MINIMAL, A CONTINUOUS FIRE WATCH WAS ESTABLISHED. A COURTESY EMERGENCY NOTIFICATION SYSTEM (ENS) PHONE NOTIFICATION WAS COMPLETED ON MARCH 21, 1990, AT 1820 BECAUSE THE SPECIFIC REPORTING CRITERIA COULD NOT BE DETERMINED. AFTER DISCUSSIONS WITH CORPORATE AND THE NRC IN WASHINGTON, ON MARCH 28, 1990 AT 2052 HOURS AN ENS PHONE NOTIFICATION WAS COMPLETED IN ACCORDANCE WITH 10CFR50.72(B)(1)(II)(B) DUE TO BEING OUTSIDE THE DESIGN BASIS. THE COMBUSTIBLES FOR EACH FIRE ZONE ARE NOW CONTROLLED. A COMPUTER PROGRAM WAS CREATED TO ASSIST IN TRACKING COMBUSTIBLE LOADS. PROCEDURE REVISION AND CHECKLIST DEVELOPMENT ARE FURTHER CORRECTIVE ACTIONS TO BE IMPLEMENTED. THIS REPORT IS BEING SUBMITTED IN
Quad Cities 1, Quad Cities 2	09/20/1990	10/19/1990	Continuous Fire Watches Being Performed On A Twenty Minute Roving Basis Due To A Misinterpretation Of Continous Fire Watch. Abstract: POWER LEVEL - 100%. AT 1048 HOURS ON SEPTEMBER 20, 1990, UNIT ONE WAS IN THE RUN MODE AT 100 PERCENT OF RATED CORE THERMAL POWER. AT THIS TIME, IT WAS DETERMINED THAT A MISINTERPRETATION OF THE MEANING OF CONTINUOUS FIRE WATCH HAD OCCURRED. IT WAS ALSO DETERMINED THAT THE HATCHWAYS FOR THE UNIT ONE CABLE TUNNEL HAD BEEN OPENED WITHOUT ESTABLISHING ANY COMPENSATORY MEASURES. A FIRE WATCH WAS IN EFFECT FOR SEVERAL OTHER AREAS IN THE PLANT AS A ROVING TWENTY MINUTE FIRE WATCH WHICH ACTUALLY REQUIRED A CONTINUOUS FIRE WATCH. THE CAUSE OF THIS EVENT IS PERSONNEL ERROR. THE REQUIREMENTS OF A CONTINUOUS FIRE WATCH WERE PERCEIVED TO BE SATISFIED BY A ROVING TWENTY MINUTE INSPECTION. THE HATCHWAYS TO THE CABLE TUNNEL WERE NOT KNOWN BY THE OPERATING DEPARTMENT TO BE FIRE BARRIERS. CONTINUOUS FIRE WATCHES WERE IMMEDIATELY ESTABLISHED FOR THE NECESSARY AREAS. ALL FIRE BARRIERS WILL BE INSPECTED TO ENSURE THAT THEY ARE DESIGNATED AS SUCH. QAP 1170-14 HAS BEEN CHANGED TO DESCRIBE A CONTINUOUS FIRE WATCH AND THE EXISTING FIRE PROTECTION PROGRAM WILL BE ENHANCED TO AVOID ANY FUTURE CONFUSION. THIS REPORT IS BEING SUBMITTED PER 10CFR50.73(A)(2)(II)(B).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Quad Cities 1, Quad Cities 2	12/03/1991	12/30/1991	Failure of CO2 Extinguishing Systems Due to Inadequate Flow Rates Abstract: POWER LEVEL - 100%. ON 11/21/91 AT 0225 HOURS, UNIT ONE WAS IN THE RUN MODE AT 98% OF RATED CORE THERMAL POWER. WHILE PERFORMING SPECIAL TEST 1-170, THE CO2 FLOODING SYSTEM (KQ) FOR THE UNIT ONE DIESEL GENERATOR (EK) (DG) ROOM DID NOT MEET THE SPECIFIED CONCENTRATION REQUIREMENT, AND THE SYSTEM WAS DECLARED INOPERABLE. ON 12/3/91 AT 1400 HOURS, THE UNIT 1/2 DG ROOM CO2 SYSTEM WAS DECLARED INOPERABLE. BASED ON FLOW RATE CALCULATIONS, IT WAS DETERMINED THAT THE REQUIRED DISCHARGE TIME FOR THE CO2 SYSTEMS FOR THE UNIT ONE AND UNIT 1/2 DG ROOMS EXCEEDED THE REQUIRED TIME OF ONE MINUTE. ON 12/3, AT 1429 HOURS, AN EMERGENCY NOTIFICATION SYSTEM CALL WAS MADE IN ACCORDANCE WITH 10CFR50.72(B)(1)(II)(B). THIS REPORT IS BEING SUBMITTED IN ACCORDANCE WITH 10CFR50.73(A)92)(II)(B) AND TECHNICAL SPECIFICATION 3.12/4.12.D.5. THE APPARENT CAUSE OF THE EVENT WAS IMPROPER SYSTEM INSTALLATION. THE IMMEDIATE CORRECTIVE ACTION INCLUDED ESTABLISHING BACKUP FIRE SUPPRESSION AND FIRE WATCHES FOR THE AFFECTED AREAS. THE DISCHARGE NOZZLES WILL BE REPLACED WITH LARGER NOZZLES, AND THE SYSTEMS WILL BE FURTHER TESTED.
Quad Cities 1, Quad Cities 2	04/07/1992	05/07/1992	Loss of Unit One 125 VDC Turbine Building Bus 1A and 1A-2 From Tripped Disconnects Due To Personnel Error Abstract: POWER LEVEL - 100%. ON APRIL 7, 1992, AT 1256 HOURS, UNIT ONE WAS IN THE RUN MODE AT 100 PERCENT OF RATED CORE THERMAL POWER WHEN A TOTAL LOSS OF 125 VDC OCCURRED. ON APRIL 9, 1992, AT 2258 HOURS, UNIT ONE WAS IN THE RUN MODE AT 100 PERCENT OF RATED CORE THERMAL POWER WHEN A LOSS OF THE 125 VDC DISTRIBUTION PANEL 1A-2 OCCURRED. BOTH OF THESE EVENTS RESULTED IN A LOSS OF UNIT ONE 125 VDC SUPPLY, CAUSING A LOSS OF ALL UNIT ONE AND COMMON PANEL ANNUNCIATORS AND THE 1A RECIRCULATION PUMP TO COAST DOWN TO MINIMUM SPEED. THE LOSS OF THE UNIT ONE 125 VDC SUPPLY EVENTS WERE DUE TO PERSONNEL ERROR. ON BOTH OCCASIONS, CONTRACTORS, WORKING IN THE UNIT ONE BATTERY CHARGER ROOM, INADVERTENTLY ACTUATED DISCONNECT HANDLES CAUSING LOSS OF 125 VDC SUPPLY. PLEXIGLASS COVERS WERE PLACED OVER THE DISCONNECTS UNTIL WORK IS COMPLETE IN THE CHARGER ROOMS AND THE DISCONNECTS HAVE BEEN SECURED IN POSITION. IN ADDITION, A THREE PHASE CONTRACTOR CONTROL AND OVERVIEW PROGRAM HAS BEEN ESTABLISHED TO ENHANCE THE WORK BEING PERFORMED BY CONTRACTORS.
Quad Cities 1, Quad Cities 2	08/19/1993	09/17/1993	Operability Concern Based Upon Problems With The QARPS and Safe Shutdown Analysis Abstract: POWER LEVEL - 100%. At 1826 on 08/19/93, Unit 1 and Unit 2 were both in the RUN mode at 100% of rated core thermal power. During an ongoing comparison review of the Safe Shutdown (SSD) Program, inconsistencies and inaccuracies were identified in the Quad Cities Appendix R Procedures (QARP's) by the Fire Protection System Engineer and a contracted Subject Matter Expert. As written, it appeared as if the QARP's (if applied to selected Appendix R scenarios) could not have supported the achievement of a safe plant shutdown condition in the required amount of time. can be attributed to ineffective CHANGE AND RESOURCE MANAGEMENT, MANAGERIAL METHODS and WORK ORGANIZATION/PLANNING. TRAINING/QUALIFICATION is a secondary contributing factor. As immediate compensatory measures, fire watch surveillances were established in all areas containing SSD equipment. The Station will continue in the current sixty seven (67) day Limiting Condition for Operation (LCO), as required by the Appendix R Conformance Safe Shutdown Report. During the LCO period, which expires on 09/22/93, all of the QARP's will be re-reviewed, revised as needed and approved. LER254\93\016.WPF
Quad Cities 1, Quad Cities 2	11/07/1994	12/05/1994	Twelve Instrument Maintenance Department Fire Surveillance Exceeded Critical Dates. Abstract: On June 9 and July 20, 1994, with Unit 1 in a Refuel outage and Unit 2 holding approximately 97% power, 12 Instrument Maintenance (IM) Department fire surveillances were deferred until after the refuel outage was completed. On November 7, 1994, with both Units in Cold Shutdown, the 12 surveillances were identified as having gone past their critical dates. The apparent cause of this event has been attributed to a lack of training in the use of the stations General Surveillance (GSRV) database for the IM Department schedulers. A contributing factor was identified as there were no critical dates specified in the GSRV database for the fire surveillances. Immediate corrective actions were to declare the affected fire systems inoperable, implement required compensatory measures and perform the past due surveillances on the Essential Fire Protection (EFP) systems. The GSRV database has been changed to include lead dates and critical dates for all IM Department Fire Protection system surveillances residing in the database. Corrective actions to be taken to prevent recurrence are to review the GSRV database for Mechanical Maintenance and Operating Departments' EFP system surveillances and provide training to the IM Department schedulers by the end of December 1994.
Quad Cities 1, Quad Cities 2	03/27/1997	04/23/1997	A potential design basis fire could have caused multiple spurious operations of certain Reactor Water Cleanup System Valves, potentially allowing a loss of reactor coolant inventory in excess of design basis limits, due to inadequate procedural guidance. Abstract: On 032797, during a review of a Problem Identification Form (PIF) written on 022796, station personnel concluded that the PIF had been incorrectly dispositioned as non-reportable due to incomplete understanding of the Quad Cities Appendix R Safe Shutdown Analysis. On 022796, during a review of the Station's Appendix R Conformance Safe Shutdown Analysis (SSA), plant personnel discovered that the Reactor Water Cleanup (RWCU) system had been identified as a high/low pressure interface requiring isolation during certain design basis fires. However, no actions to isolate the RWCU system during a fire were included in the safe shutdown procedures due to a cognitive personnel error on the part of the procedure writer. Failure to properly isolate the RWCU system during a design basis fire could have prevented station operators from attaining safe shutdown prior to reactor level reaching the top of active fuel. The potential blowdown path was resolved by turning off the power feed breaker to the normally closed RWCU blowdown orifice bypass valve M01(2)-1201-76. All other high/low pressure interface paths were reviewed to ensure that each was resolved correctly. This event had the potential to pose a safety concern in the unlikely event of a design basis fire.
Quad Cities 1, Quad Cities 2	12/15/2014	02/13/2015	Main Control Room Door Unable to Close Causes Loss of Control Room Envelope Boundary Abstract: On December 15, 2014 at 0730 hours, the south Main Control Room (MCR) door was unable to be fully closed due to a failure of the closer mechanism. Technical Specification (TS) 3.7.4, Condition C, was entered due to the inoperable Control Room Envelope (CRE). A security guard was stationed to provide controlled access to the MCR. The CRE function was restored shortly after the event when the door closer arm linkage was disconnected, the door was confirmed closed, and successfully smoke tested. The cause of the MCR door closer mechanism failure was a manufacturing defect of the pinion gear. Corrective actions included replacement of the door closer mechanism, and a preventative maintenance task to replace the closer mechanism will be established. The safety significance of this event was minimal. Given the impact on the MCR envelope, this report is submitted (for Units 1 and 2) in accordance with the requirements of 10 CFR 50.73 (a)(2)(v)(D), which requires the reporting of any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.
Quad Cities 2	03/26/1981	04/14/1981	Two Penetrations Out of 21 Associated with a Plant Modification had not been Sealed Abstract: While performing Surveillance of Penetration Fire Stops, two instrument cable risers were found to have an open penetration. The consequences of this occurrence are minimized by the fact that all detection systems, automatic suppression systems and manual fire fighting equipment were operable in both areas. The cause of this occurrence was that two penetrations out of 21 associated with a plant modification had not been sealed. A fire watch was established and both penetrations were sealed within 1 hour and 1/2 hour respectively.
Quad Cities 2	04/14/1986	05/06/1986	Setpoint drift of fuel pool radiation monitor starts SBGTS Abstract: POWER LEVEL - 100%. ON APRIL 14, 1986, THE 2A FUEL POOL RADIATION MONITOR TRIPPED AT 0435 HOURS CAUSING THE ISOLATION OF THE REACTOR BUILDING VENTILATION SYSTEM AND THE AUTO-INITIATION OF THE STANDBY GAS TREATMENT SYSTEM. THE APPARENT CAUSE OF THE OCCURRENCE IS INSTRUMENT SETPOINT DRIFT. THE MONITOR WAS FOUND TO TRIP AT 30 MR/HR INSTEAD OF THE NORMAL 100 MR/HR. THE MONITOR WAS RECALIBRATED TO TRIP AT A SETPOINT OF 100 MR/HR.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Quad Cities 2	01/14/1993	02/27/1993	Missed Off Gas Recombiner Technical Specification Surveillances (4.8.A.5) Due To Personnel Error Abstract: POWER LEVEL - 074%. On January 14 , 1993 at 0100 hours, Unit Two was in the RUN mode at 74 percent of rated core thermal power. The shift one Nuclear Station Operator (NSO) noticed that the recombiner temperatures had not been verified to be in the allowable band during the previous four shifts as required by Technical Specification 4.8.A.5. The mi ssed surveillance was caused by personnel error with inadequate procedures as a contributing cause. The Nuclear Station operators confused two different Off Gas system surveillance requirements when they assumed that the recombiner temperatures did not have to be verified while the reactor was at less than thirty percent of rated core thermal power. This event will be tailgated with all operat ing personnel. Procedures and surveillance sheets used to verify that the recombiner temperature was within limits will also be revised. This report is bein g written in accordance with 10CFR50.73(a)(2)(i)(b): The licensee shall report any operation or condition prohibited by the plant's Technical Specifications. DVR 381
Quad Cities 2	08/24/1993	09/23/1993	Inadequate Safe Shutdown Fire Watch Performed For The U-2 MSIV Room Abstract: POWER LEVEL - 097%. Unit 2 was in the RUN mode at approximately 97% of rated core thermal power. Compensatory once per hour firewatch inspections were required due to inoperable Safe Shutdown (SSD) systems. Compensatory measures included surveillance of the Main Steam Isolation Valve (MSIV) [SB] room in each Unit by using a remote camera [TVC]. However, because the Unit 2 MSIV room camera had been inadvertently removed, a once per hour physical inspection was being performed. On 08/24/93, it was determined that the MSIV room inspection was not being performed in accordance with the requirements of the SSD analysis. The primary Causal Factors of this deficiency can be attributed to inappropriate WORK PRACTICES, ineffective VERBAL COMMUNICATIONS and INTERFACE DESIGN CONTROL and inadequate TRAINING/QUALIFICATION. At 1700 on 08/24/93, a camera was re-installed and hourly inspections commenced. Additionally, all firewatches have been instructed to immediately notify Operating Shift Management of camera unavailability and a formal process for control of cameras will be implemented. LER265\93\017.WPF
Quad Cities 2	09/01/1993	10/01/1993	Continuous Fire Watch Missed For The Hydrogen Seal Oil And Turbine Seal Oil Tank Deluge System Abstract: POWER LEVEL - 089%. Unit 2 was in the RUN mode at approximately 89% of rated core thermal power. At 0200 on 8/31/93, a ground [GBU] on the 125 Volt Direct Current (VDC) system [EI] on Unit 1 was reported. Between 0257 and 0438, while performing ground isolation checks, a switch [HS] which controls power to various Unit 2 Fire Protection (FP) Deluge valves [KP], was operated. At 0438, this switch was inadvertently left open (although not detected), which disabled the FP valves (for greater than one hour), which does not meet requirements of the Fire Protection Program. The primary Causal Factor (C/F) of this event was an inappropriate WORK PRACTICE; contributing C/F's include ineffective WRITTEN COMMUNICATIONS (procedure) and inadequate TRAINING/QUALIFICATION. noted and compensatory firewatches were established. The open switch, which caused the problem, was identified and reclosed at 1042 on 9/1/93. The ground isolation procedure will be revised and Operators will receive additional training on the interpretation of FP system alarms. LER265\93\020.WPF
Rancho Seco	08/18/1981	09/18/1981	Abstract: PERFORMANCE OF A NEWLY-ISSUED SURVEILLANCE PROCEDURE ON PIPE PENETRATION FIRE STOPS REVEALED 26 DISCREPANT ONES. A FURTHER INSPECTION DETERMINED TEN TO BE ACCEPTABLE AS-IS AND 16 TO REQUIRE REPAIR. THE PLANT WAS SHUTDOWN AT THE TIME DUE TO OTHER PROBLEMS WITH THE TURBINE. THE DISCREPANT FIRE BARRIERS WILL BE REPAIRED BY DECEMBER 15, 1981 BY ADDING GROUT, ADDING SUPPORTS, REMOVING A WEDGE, REMOVING A STYROFOAM DAM, REPLACING COVERS, AND REPAIRING A SILICONE FOAM FIRE STOP. A FIRE WATCH AT EACH DISCREPANT FIRE BARRIER WILL BE CONTINUED UNTIL REPAIRS ARE COMPLETE.
Rancho Seco	02/11/1985	03/11/1985	IRC Dampers Not Installed Abstract: POWER LEVEL - 095%. ON 2-11-85 IT WAS REPORTED VIA AN INTERNAL OCCURRENCE DESCRIPTION REPORT THAT SEVERAL FIRE DAMPERS WHICH WERE INCLUDED IN OUR 8-1-77 FIRE HAZARDS ANALYSIS SUBMITTAL TO THE NRC HAD NOT BREN INSTALLED. AMENDMENT 19 TO THE FACILITY OPERATING LICENSE WAS WRITTEN BASED ON THIS ANALYSIS. THE IMPLEMENTATION DATE FOR THE FIRE DAMPERS OF CONCERN WAS THE END OF THE 1979 REFUELING OUTAGE. THUS, THE DISTRICT HAS FAILED TO IMPLEMENT THESE PROVISIONS OF AMENDMENT 19. PREVIOUSLY, THE AREAS FOR WHICH THE FIRE DAMPERS WERE NOT INSTALLED HAD BEEN DESIGNATED, FOR OTHER REASONS, AS FIRE WATCH AREAS REQUIRING HOURLY SURVEILLANCE; THEREFORE, NO IMMEDIATE CORRECTIVE ACTION WAS REQUIRED. SPECIFIC CORRECTIVE ACTIONS THAT WILL BE TAKEN TO ADDRESS THE FIRE PROTECTION CONCERN ARE: 1) PROVISION FOR MAKING THE FHA A 'LIVING' DOCUMENT UNDERGOING PERIODIC REVIEWS AND UPDATES; 2) THE IMPROVEMENT OF A DESIGN CONTROL BY INCLUDING A COGNIZANT FIRE PROTECTION ENGINEER IN THE REVIEW CYCLE; 3) INSTALLATION OF FIRE DAMPERS CONSISTENT WITH THE FHA. ALL COMMITTED ACTIONS WILL BE COMPLETED PRIOR TO 12-2-85. THE FIRE WATCH ESTABLISHED IN THE AFFECTED AREAS WILL BE MAINTAINED UNTIL ITEM 3 HAS BEEN COMPLETED. ADDITIONALLY, THE DISTRICT HAS DEVELOPED AN INTEGRATED COMPUTERIZED COORDINATED COMMITMENT LOG SYSTEM TO FACILITATE THE
Rancho Seco	02/15/1986	04/16/1986	Missed Fire Watch Abstract: POWER LEVEL - 000%. DURING COLD SHUTDOWN CONDITIONS, A REVIEW OF FIRE DOOR REFUELING INTERVAL SURVEILLANCE TEST RESULTS ON 3-14-86, REVEALED THAT 3 FIRE DOORS WERE DETERMINED TO BE INOPERABLE AND HAD NOT HAD FIRE WATCHES POSTED WITHIN ONE HOUR IN ACCORDANCE WITH TECH SPEC 3.14.6.2. THE SPECIFIC FIRE DOORS WERE NS157, NS235 AND AU133. DOOR AU133 WAS WITHOUT A DOCUMENTED FIRE WATCH FOR THE LONGEST PERIOD WHICH WAS 27 DAYS. AS SOON AS THE NON-COMPLIANCE WITH THE TECH SPEC WAS IDENTIFIED, FIRE WATCHES WERE POSTED IMMEDIATELY. THE SURVEILLANCE PROCEDURE SPECIFICALLY REQUIRES THE PERSONNEL WHICH WERE EVALUATING DOOR OPERABILITY TO IMMEDIATELY NOTIFY THE NUCLEAR OPERATIONS FIRE PROTECTION COORDINATOR OR THE SHIFT SUPERVISOR IN HIS ABSENCE, SO THAT THE APPROPRIATE FIRE WATCHES ARE POSTED. THE INDIVIDUALS INVOLVED IN THIS EVENT HAVE BEEN COUNSELLED TO ADHERE TO PROCEDURES AND QUALITY CONTROL PERSONNEL WILL BE TRAINED ON PLANT ADMINISTRATIVE PROCEDURE (AP) -60 BY 4-25-86. NO FIRES WERE EXPERIENCED DURING THE PERIOD THAT THE FIRE WATCHES WERE NOT POSTED.
Rancho Seco	04/14/1986	05/12/1986	Fire Protection Systems Overdue for Surveillance Abstract: POWER LEVEL - 000%. DURING COLD SHUTDOWN CONDITIONS ON 4-14-86, AN APPARENT FAILURE TO IMPLEMENT THE FIRE PROTECTION DELUGE SYSTEM'S 3 YR FLOW TEST WAS IDENTIFIED BY AN ONGOING COMPREHENSIVE REVIEW OF THE FIRE PROTECTION SYSTEM AND PROCEDURES. A CAREFUL REVIEW OF THE FIRE PROTECTION SPRAY SYSTEMS WAS IMMEDIATELY CONDUCTED. OF THE 12 FIRE PROTECTION SPRINKLER SYSTEMS COVERED BY THIS SECTION (BOTH FUSIBLE LINK AND OPEN SPRAY NOZZLE TYPES), ONLY THE 3 OPEN SPRAY NOZZLE SYSTEMS WERE FOUND TO NOT HAVE BEEN SURVEILLED EVERY 3 YRS AS REQUIRED BY THE TECH SPECS. ALTHOUGH THE SPRAY SYSTEMS WERE NOT 'OPERABLE', DUE TO THE SURVEILLANCE NOT BEING PERFORMED, PHYSICAL INSPECTION OF THE SYSTEMS AND THE MONTHLY, ANNUAL AND REFUELING INTERVAL SURVEILLANCE DEMONSTRATE THAT THE SYSTEMS ARE FUNCTIONAL. A FIRE WATCH WAS POSTED IN THE AREAS SERVED BY THESE SYSTEMS AS A RESULT OF THE MISSED SURVEILLANCES. THE FAILURE TO PERFORM THESE SURVEILLANCES RESULTED FROM CONFUSION AS TO WHETHER THE TECH SPECS REQUIRED TESTING OF OPEN NOZZLE DELUGE SPRAY SYSTEMS WHERE ACTUATION MAY ADVERSELY EFFECT EQUIPMENT IN THE AREA AND AN INFORMAL REVIEW PROCESS FOR THE IMPLEMENTATION OF TECH SPEC AMENDMENTS. IN ORDER TO AVOID RECURRENCE, A PROCEDURE FOR THE REVIEW OF TECH SPEC CHANGES FOR POSSIBLE SURVEILLANCE PROCEDURE CHANGES WILL
Rancho Seco	04/29/1986	05/29/1986	Failure to Institute Fire Watch for Breached Penetration Abstract: POWER LEVEL - 000%. ON 5-1-86, WHILE PERFORMING A REVIEW OF FIRE PROTECTION ACTIVITIES, IT WAS DISCOVERED THAT A PROPER FIRE WATCH HAD NOT BEEN POSTED, WHILE WORK WAS BEING PERFORMED IN A FIRE ZONE. AN HOURLY FIRE WATCH HAD BEEN POSTED, BUT DUE TO THE CIRCUMSTANCES ASSOCIATED WITH THIS ZONE, A CONTINUOUS FIRE WATCH WAS REQUIRED BY THE TECH SPECS. THE ACTUAL EVENT OCCURRED ON 4-29-86, AND BY THE TIME OF THE 'DISCOVERY' OF THIS EVENT ON 5-1-86, THE WORK IN THIS ZONE HAD BEEN COMPLETED AND THE FIRE ZONE DETECTION HAD BEEN RESTORED, ELIMINATING THE REQUIREMENT FOR A CONTINUOUS FIRE WATCH. THIS EVENT COULD HAVE BEEN PREVENTED BY A MORE CAREFUL REVIEW OF THE ESTABLISHED FIRE WATCH REQUIREMENTS BY THE FIRE PROTECTION GROUP PRIOR TO COMMENCING WORK IN THIS AREA. A TRAINING PROGRAM IS BEING CONDUCTED DURING THE WEEK OF 5-25-86, FOR THE FIRE PROTECTION GROUP TO ENSURE THAT ALL GROUP MEMBERS ARE TRAINED IN FIRE WATCH REQUIREMENTS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Rancho Seco	05/22/1986	07/30/1987	Redundant Cabling in the Same Fire Area Abstract: POWER LEVEL - 000%. DURING COLD SHUTDOWN ON MAY 22, 1986, A NONCONFORMING REPORT WAS ISSUED ON SAFETY RELATED CABLES ROUTED IN TRAYS AND CONDUITS DIFFERENT FROM THE PLANT DOCUMENTATION. SEVEN SAFE SHUTDOWN INDICATION CIRCUITS WERE FOUND UNPROTECTED FROM FIRE IN A SINGLE SWITCHGEAR ROOM. INDICATIONS IMPORTANT TO BRINGING THE PLANT TO A HOT SHUTDOWN CONDITION FROM THE CONTROL ROOM BUT THE REMOTE SHUTDOWN PANEL INDICATIONS WOULD REMAIN UNAFFECTED. AT THE TIME OF DISCOVERY, AN HOURLY FIRE WATCH WAS IN PLACE IN THIS ROOM. A 'RED PHONE' NOTIFICATION WAS MADE ON MAY 22, 1986, AT 1:15 PM REPORTING A CONDITION THAT ALONE COULD HAVE PREVENTED THE FULFILLMENT OF THE SAFETY FUNCTION OF SYSTEMS NEEDED TO SHUT DOWN THE REACTOR AND MAINTAIN IT IN A SAFE SHUTDOWN CONDITION; OR MITIGATE THE CONSEQUENCES OF AN ACCIDENT. THE PLANT IS CURRENTLY IN COLD SHUTDOWN, SO THE PUBLIC HEALTH AND SAFETY REMAIN UNAFFECTED.
Rancho Seco	08/04/1986	01/16/1987	An Hourly Instead of Continuous Fire Watch was Performed Abstract: POWER LEVEL - 000%. PLANT HAS BEEN SHUTDOWN SINCE 12-26-86. FIRE DAMPER 31A (FD- 31A) WAS INOPERABLE DUE TO NOT MEETING ACCEPTANCE CRITERIA OF A DAMPER- DROP SURVEILLANCE TEST. BECAUSE OF THE DAMPER FAILURE, THE CO2 SYSTEMS FOR ZONES 12 AND 13 WERE DISABLED FOR PERSONNEL SAFETY CONCERNS. DURING THIS EVENT THE DETECTION FUNCTION WAS ALWAYS AVAILABLE AND THE CONTROL ROOM WAS AWARE THAT THE TWO SUPPRESSION SYSTEM BRANCHES WERE DISABLED. A FIRE BRIGADE DISPATCHED TO THESE TWO ZONES COULD MANUALLY INITIATE THE CO2 AS REQUIRED. THE SHIFT SUPERVISOR CALLED THE FIRE PROTECTION COORDINATOR STAFF MEMBER AT APPROXIMATELY 10:00 PM FOR CLARIFICATION OF THE FIRE WATCH REQUIREMENTS IN ZONES 12 AND 13. THE SHIFT SUPERVISOR, ASKING ADVICE FROM A FIRE PROTECTION STAFF MEMBER, DECREASED THE WATCH INTERVAL ON THE WRONG FIRE ZONE. FROM APPROXIMATELY 10:00 PM 8-4-86 UNTIL 7:40 AM THE NEXT MORNING, THE PLANT CONFIGURATION WAS NOT INCOMPLIANCE WITH TECH SPEC 3.14.4.2. BY 3-2-87, THE FIRE PROTECTION COORDINATOR WILL ESTABLISH AN AGREED UPON TERMINOLOGY FOR THE FIRE PROTECTION STAFF TO USE WHEN COMMUNICATING ABOUT FIRE PROTECTION REQUIREMENTS.
Rancho Seco	12/18/1986	01/19/1987	An Hourly Fire Watch Was Missed Abstract: POWER LEVEL - 000%. PLANT HAS BEEN SHUTDOWN SINCE DECEMBER 26, 1985. CO(2) SYSTEM FOR FIRE ZONE 39 WAS INOPERABLE DUE TO A HOLE BEING DRILLED THROUGH A WALL FOR ELECTRICAL CONDUIT INSTALLATION. THE TECHNICAL SPECIFICATION REQUIRED HOURLY FIRE WATCH FOR FIRE ZONE 39 WAS MISSED BETWEEN 2:45 PM AND 3:45 PM ON DECEMBER 18, 1986. AT THE TIME OF THE EVENT, AN ADMINISTRATIVE MECHANISM FOR THE CONTROL ROOM TO VERIFY THE PERFORMANCE OF A FIRE PATROL/WATCH, BEFORE THE TIME LIMIT FOR THAT WATCH EXPIRED, WAS UNAVAILABLE. SINCE THE GUARDS WHO PERFORM THE WATCH REPORT TO A DIFFERENT ORGANIZATION THAN DO THE CONTROL ROOM PERSONNEL, THE ADMINISTRATIVE MECHANISM IS ESPECIALLY DIFFICULT TO ESTABLISH. FIRE ZONE 39 DOES NOT CONTAIN REDUNDANT SAFETY RELATED EQUIPMENT. IN ORDER TO MINIMIZE THE NUMBER OF OCCURRENCES OF MISSED FIRE WATCHES BY A PATROLLING GUARD, THE FLOW OF INFORMATION BETWEEN THE FIRE PROTECTION COORDINATOR TO THE GUARD WILL BE STREAMLINED BY MARCH 2, 1987.
Rancho Seco	01/14/1987	02/12/1987	Continuous Fire Watch Post Abandoned for Five Minutes Abstract: POWER LEVEL - 000%. DURING COLD SHUTDOWN CONDITIONS A FIRE WATCH WAS PREMATURELY REMOVED IN VIOLATION OF TECHNICAL SPECIFICATION 3.14.3.2. 'HOT WORK' WAS SCHEDULED TO BE PERFORMED IN FIRE ZONES 81 AND 82 WHICH RESULTS IN FIRE DETECTION SYSTEMS IN THOSE AREAS BEING DEFEATED. ONCE DETECTION IS DEFEATED ON ONE SIDE OF AN OPEN FIRE BARRIER, A CONTINUOUS FIRE WATCH IS REQUIRED. THE WATCH COMMANDER RECOGNIZED THE ERROR DURING HIS REGULAR INSPECTION OF THE CENTRAL ALARM STATION REGARDING THE STATUS OF THE CONTINUOUS FIRE WATCH ON FIRE ZONE 81 AND 82 ESTABLISHED EARLIER IN THE NIGHT. THE CENTRAL ALARM STATION OPERATOR WAS COUNSELED BY THE WATCH COMMANDER. SUBSEQUENTLY, THE CENTRAL ALARM STATION OFFICER WAS REMOVED FROM THOSE DUTIES AND ASSIGNED TO THE POST OF FIELD SERGEANT FOR THAT DAY AS A DISCIPLINARY MEASURE. THE CHANGE IN FIRE WATCH STATUS BY THE SECURITY FORCE WITHOUT THE REQUEST OF THE CONTROL ROOM IS AN ISOLATED EVENT.
Rancho Seco	01/17/1987	02/13/1987	Hourly Rather Than Continuous Fire Watches Abstract: POWER LEVEL - 000%. DURING COLD SHUTDOWN, AT 6:35 P.M. ON 1/17/87, A FIRE ZONE'S DETECTION AND SUPPRESSION SYSTEMS WERE DISABLED FOR GRINDING WORK, AND AN HOURLY FIRE WATCH WAS INSTITUTED. DUE TO A FAILURE TO FOLLOW PROCEDURES, THE NUCLEAR OPERATIONS FIRE PROTECTION COORDINATOR (NOFPC) DID NOT KNOW THAT AN ADJACENT FIRE AREA WITH A BREACHED FIRE BARRIER WAS ALREADY UNDER IMPAIRED FIRE DETECTION AT THE TIME. TECH SPEC 3.14.6 REQUIRES A CONTINUOUS FIRE WATCH IN A DETECTION-IMPAIRED FIRE AREA IF ANY CONNECTED AREA IS IMPAIRED. UPON DISCOVERY OF THE OTHER IMPAIRED FIRE ZONE AT 9:30 THAT EVENING, THE ZONE 75 FIRE WATCH WAS CHANGED TO CONTINUOUS. AT 7:57 A.M. ON 1/27/87, ANOTHER FIRE DETECTION SYSTEM WAS DISABLED FOR WELDING WORK, REQUIRING A CONTINUOUS FIRE WATCH UNDER TECH SPEC 3.14.6. THE WATCH FREQUENCY IN THE ZONE HAD BEEN CHANGED FROM CONTINUOUS TO HOURLY THE PREVIOUS AFTERNOON. HOWEVER, SINCE THE PREVIOUS EVENING'S SHIFT SUPERVISOR HAD FAILED TO NOTE THE CHANGE IN THE SHIFT TURNOVER LOG, THE CONTINUOUS FIRE WATCH WAS NOT INSTITUTED, AND THE HOURLY WATCH WAS MAINTAINED UNTIL THE FIRE DETECTION SYSTEM WAS REENABLED AT 2:09 P.M.
Rancho Seco	01/20/1987	02/12/1987	Continuous Fire Watch Postings Not Done When Welders Went on Breaks During Jobs Abstract: POWER LEVEL - 000%. AN OCCURRENCE DESCRIPTION REPORT (ODR) DATED JANUARY 20, 1987 DESCRIBED SEVERAL OCCASIONS IN DECEMBER 1986 AND JANUARY 1987, WHEN WORK WAS PERFORMED IN THE FIRE ZONE 13. PROTECTION'S ASSIGNMENT OF A CONTINUOUS FIRE WATCH POST. IN THOSE SITUATIONS WHEN DETECTORS WERE TO BE BAGGED FOR LESS THAN ONE HOUR FOR WELDING WORK, AN ERROR WAS MADE BY FIRE PROTECTION STAFF MEMBERS IN THAT THEY REQUIRED AN HOURLY FIRE WATCH PATROL (PER THEIR FIRE WATCH LOG) IN CONTRAST TO THE TECHNICAL SPECIFICATION REQUIREMENT FOR A CONTINUOUS FIRE WATCH POSTING. ANOTHER ODR REPORTING A MISSED CONTINUOUS FIRE WATCH POSTING IN FIRE ZONE 75 DURING WELDING/GRINDING WORK IS INCLUDED IN THIS REPORT. THE EVENTS REGARDING FIRE ZONE 75 WERE DUE TO A COGNITIVE ERROR ON THE PART OF UTILITY-LICENSED OPERATORS WHEN THEY FAILED TO FOLLOW THE PROVISIONS OF AP.60. REGARDING FIRE ZONE 13, THE TWO INDIVIDUALS INVOLVED WERE STRONGLY REPRIMANDED. THE IMMEDIATE CORRECTIVE ACTION REGARDING THE MISSED CONTINUOUS FIRE WATCH POSTING IN FIRE ZONE 75 WAS TO REENERGIZE THE DETECTION/AUTOMATIC ACTUATION SYSTEM FOR THAT ZONE.
Rancho Seco	02/04/1987	07/30/1987	Redundant Instrument Cables Routed Through the Same Fire Area Abstract: POWER LEVEL - 000%. ON FEBRUARY 4, 1987, DURING COLD SHUTDOWN, A DISCREPANCY WAS DISCOVERED BETWEEN THE ROUTING OF INSTRUMENTATION CABLES 1Y3X210B1 AND 1Y3X215A1, AND THE ROUTING LISTED IN THE CABLE AND RACEWAY TRACKING SYSTEM (CRTS). THESE CABLES WERE FOUND TO BE LOCATED IN TRAY X43L3 (FIRE AREA 36) RATHER THAN IN CONDUIT X43318 (FIRE AREA 31). THE DISCREPANCY WAS DISCOVERED DURING IMPLEMENTATION OF THE CABLE VERIFICATION WALKDOWN PROGRAM BEING USED TO VERIFY THAT CABLE ROUTINGS CONFORM TO PLANT DESIGN. THE DISCREPANCY IN THE AFFECTED CABLES PLACE THEM IN VIOLATION OF SEPARATION CRITERIA IN 10CFR50 APPENDIX R. AN HOURLY FIRE WATCH WAS IN PLACE IN THIS ROOM AT THE TIME OF DISCOVERY. ON FEBRUARY 6, 1987, SUBSEQUENT INVESTIGATION OF ADDITIONAL CABLES ALSO PRESCRIBED FOR ROUTING IN CONDUIT X43318 REVEALED FIVE ADDITIONAL CRTS DISCREPANCIES. A TOTAL OF SEVEN CABLES WERE FOUND TO NOT FOLLOW THE REQUIRED ROUTING. A 'RED PHONE' NOTIFICATION WAS MADE TO THE NRC TO DISCUSS DETAILS OF THE VIOLATION AND NONCONFORMING REPORT NCR S-6374 WAS ISSUED TO DOCUMENT THE ROUTING DEFICIENCIES. WORK REQUEST NO. 128636 WAS INITIATED TO REROUTE THE CABLES AND REMEDY THE APPENDIX R VIOLATION. WORK PERFORMED UNDER THIS WORK REQUEST WAS COMPLETED ON FEBRUARY 7, 1987.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Rancho Seco	02/07/1987	10/15/1987	Carbon Dioxide Protected Fire Zones CO(2) Deluge Systems Left Deactivated and the Zones Unattended Abstract: POWER LEVEL - 000%. DURING COLD SHUTDOWN CONDITIONS, BOTH OPERATIONS PERSONNEL AND SECURITY PERSONNEL OBSERVED NUMEROUS CARDOX ZONES DEACTIVATED WHEN THERE WAS NO SAFETY CONCERN FOR PERSONNEL. THERE WERE NUMEROUS OCCURRENCES WHEN PERSONNEL DISABLED FIRE PROTECTION SUBSYSTEMS IN THE PLANT FOR PERSONNEL SAFETY REASONS, BUT FAILED TO REACTIVATE THEM FOR OVER AN HOUR AFTER THE PERSONNEL SAFETY CONCERN WAS RESOLVED. IT SHOULD BE NOTED THAT THE DETECTION CAPABILITY FOR THE ZONE WAS NOT DISABLED BY THE CO2 SYSTEM BEING TURNED-OFF. THE RANCHO SECO FIRE HAZARDS ANALYSIS HYPOTHESIZES THAT A FIRE IN ANY DESIGNATED AREA WILL CAUSE THE LOSS OF ALL FUNCTIONS SUPPORTED BY EQUIPMENT AND CABLES IN THAT AREA. IMMEDIATE CORRECTIVE ACTION WAS TO REQUIRE AN HOURLY VERIFICATION THAT PERSONNEL ARE, IN FACT, IN THE DEACTIVATED CO2 ZONE WHEN A SYSTEM IS DEACTIVATED.
Rancho Seco	02/13/1987	03/16/1987	A Continuous Fire Watch Posting Not Performed While Fire Detection Was Removed For A Welder Job Abstract: POWER LEVEL - 000%. DURING COLD SHUTDOWN CONDITIONS ON FEBRUARY 13, 1987, THE CONTROL ROOM RECEIVED A CALL TO REMOVE THE FIRE DETECTION SYSTEM FROM SERVICE IN FIRE ZONE 78 SO A WELDING JOB COULD BE PERFORMED. AFTER REMOVING THE DETECTION SYSTEM FROM SERVICE THE CONTROL ROOM SHOULD HAVE TAKEN COMPENSATORY MEASURES, AND ESTABLISHED A CONTINUOUS FIRE WATCH AS REQUIRED BY TECHNICAL SPECIFICATION 3.14.6. THE CONTINUOUS FIRE WATCH POSTING WAS REQUIRED DUE TO THE BREACHES BETWEEN THE AREAS COMPRISING THE FIRE ZONE. THE CONTROL ROOM DID NOT UPGRADE THE HOURLY FIRE WATCH PATROL TO A CONTINUOUS FIRE WATCH. AS CORRECTIVE ACTION, THE OPERATIONS DEPARTMENT ISSUED SPECIAL ORDER 87- 15 TO ITS STAFF. DUE TO THE COMPLEX NATURE OF THE FIRE PROTECTION COMPONENTS IN THE PLANT, THE SPECIAL ORDER REQUIRES THE FOLLOWING: '... THE SHIFT SUPERVISOR MUST RELY ON THE FIRE PROTECTION COORDINATOR AND HIS GROUP TO PROVIDE AN ANALYSIS OF EACH SITUATION TO JUSTIFY WHY A CONTINUOUS FIRE WATCH SHOULD NOT BE USED. AP.60 STEP 4.3.2.2.5.2 STATES, 'POST A CONTINUOUS FIRE WATCH UNTIL THE NOFPC CAN PROVIDE FURTHER ANALYSIS.' THE PUBLIC HEALTH AND SAFETY WERE NOT AFFECTED BY THIS EVENT SINCE NO FIRE IN THE AFFECTED FIRE ZONE OCCURRED.
Rancho Seco	05/16/1987	01/14/1988	Fire Protection Program Deficiencies With Respect to Technical Specifications and Commitments Abstract: POWER LEVEL - 000%. THE SURVEILLANCE TESTING OF UNSUPERVISED CIRCUITS BETWEEN THE PYROTRONICS OR NOTIFIER PANELS AND THE AUXILIARY RELAYS USED TO TRANSMIT SIGNALS TO THE CONTROL ROOM WAS NOT ADEQUATELY PERFORMED IN CONFORMANCE WITH TECHNICAL SPECIFICATION 4.18.1.3. THIS SYSTEM WAS CORRECTED BY ESTABLISHING A CONTINUOUS FIRE WATCH POST AT THE LOCAL FIRE PANELS TO MONITOR FIRE ALARM SYSTEM ANNUNCIATION, THEREBY ELIMINATING RELIANCE ON THE UNSUPERVISED CIRCUITS. THE DISTRICT COMMITTED TO COMPLY WITH VARIOUS REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS VIA THE DISTRICT RESPONSE DATED AUGUST 31, 1976 TO THE NRC BRANCH TECHNICAL POSITION (BTP) APCSB 9.5-1, WHICH WAS ISSUED BY THE NRC ON MAY 1, 1976. THIS COMMITMENT WAS ESSENTIALLY RESTATED BY THE NRC IN THE SAFETY EVALUATION REPORT ISSUED AS AMENDMENT 19 TO THE FACILITY OPERATING LICENSE ON FEBRUARY 28, 1978. THIS REPORT PROVIDES THE NRC WITH INFORMATION CONCERNING DEVIATIONS FROM SEVERAL OF THOSE COMMITMENTS WHICH MAY OR MAY NOT AFFECT THE NRC'S SER FOR THE RANCHO SECO FIRE PROTECTION PROGRAM. THE SPECIFIC DEVIATIONS ARE CONTAINED IN DISTRICT INTERNAL REPORT NUMBERS ERPT E-033, -034, -035, -037, -039 -047, AND -048.
Rancho Seco	05/29/1987	06/29/1987	Hourly Fire Watches Missed During Security Computer Outage Abstract: POWER LEVEL - 000%. THE PRIMARY SECURITY MISSION IS THE PROTECTION OF PLANT FACILITIES AND THE PREVENTION OF SABOTAGE THAT COULD CAUSE RADIOLOGICAL RELEASE. A BREAKDOWN IN THE SECURITY COMPUTER SYSTEM CAUSED AN UNEXPECTED DEMAND ON AVAILABLE MANPOWER TO PERFORM TECHNICAL SPECIFICATION REQUIRED FIRE WATCHES. DURING THIS EVENT ELEVEN FIRE WATCH PATROL STOPS IN 77 INSPECTION ZONES WERE NOT PERFORMED AS REQUIRED BY TECHNICAL SPECIFICATIONS. NUMEROUS FIRE ZONES IN THE PLANT WERE BEING MANUALLY MONITORED FOR FIRES AS REQUIRED BY TECHNICAL SPECIFICATIONS AND LER COMMITMENTS. THESE 'WATCHES' WERE INSTITUTED DUE TO BREACHED FIRE BARRIERS AND CARBON DIOXIDE ZONE MONITORING PER THE DISTRICT'S LER 87-15. THREE OF ZONES WHERE FIRE WATCHES WERE MISSED HAD FUNCTIONAL SUPPRESSION. HOWEVER, THESE SIXTEEN ZONES WERE INOPERABLE ACCORDING TO TECHNICAL SPECIFICATIONS BECAUSE CARDOX SYSTEM LEVEL AND PRESSURE GAGES WERE OUT-OF-CALIBRATION. THE PENDING ORGANIZATIONAL CHANGE TO ESTABLISH A FIRE WATCH POOL TO ASSUME A MAJORITY OF THE SECURITY DEPARTMENT'S FIRE WATCH TASKS, (AMONG OTHERS), WILL BE IMPLEMENTED DURING THE CURRENT OUTAGE.
Rancho Seco	06/25/1987	07/27/1987	Abandonment of Continuous Fire Watch From Fire Alarm Panel Abstract: POWER LEVEL - 000%. DURING COLD SHUTDOWN CONDITIONS ON JUNE 25, 1987, STARTUP TEST PROCEDURE (STP) 199 WAS PERFORMED TO VERIFY A POST DISCHARGE CARBON DIOXIDE CONCENTRATION IN A FIRE ZONE (ZONE 76) LOCATED IN THE NUCLEAR SERVICE ELECTRICAL BUILDING (NSEB). DURING THE PERFORMANCE OF THIS PROCEDURE, THE CONTINUOUS FIRE WATCH WAS ABANDONED FROM MONITORING ALARM PANEL H4FCP5 FOR APPROXIMATELY THREE HOURS. THE CONTINUOUS FIRE WATCH WAS ABANDONED BECAUSE SPURIOUS UNCONTROLLED DISCHARGES OF CARBON DIOXIDE IN THE NSEB EXPOSED PERSONNEL TO THE RISK OF ASPHYXIATION. THESE UNCONTROLLED DISCHARGES OCCURRED FOLLOWING THE PLANNED DISCHARGE PORTION OF THE STP-199, AND DURING THE POST-TEST RECOVERY PORTION OF THE PROCEDURE. PRIOR TO, AND THROUGHOUT THE EVENT, HOURLY FIRE WATCHES CONTINUED TO BE CONDUCTED WITHIN THE NSEB, AND AT THIS PANEL, BY PERSONNEL WEARING PORTABLE BREATHING APPARATUS. THE CONTINUOUS FIRE WATCH WAS REINSTATED AFTER THE SAFETY DEPARTMENT AND THE STARTUP TEST GROUP HAD DETERMINED THE ATMOSPHERE TO BE SAFE FOR BREATHING.
River Bend	01/20/1986	02/20/1986	FIRE WATCH PATROL MISTAKENLY CANCELLED Abstract: POWER LEVEL - 020%. ON 01/20/86 AT 2230, SECURITY NOTIFIED THE CONTROL ROOM THAT ROVING FIRE WATCHES HAD NOT ENTERED TWO REMOTE SHUTDOWN PANEL ROOMS FOR SEVERAL HOURS. IT WAS LATER DETERMINED THAT DURING THE FIRE WATCH FOREMAN SHIFT TURNOVER, THE TWO REMOTE SHUTDOWN PANEL ROOMS WERE MISTAKENLY OMITTED FROM THE FIREWATCH PATROL ROUTE. THE FIRE WATCH WAS REESTABLISHED BY 2300. CORRECTIVE ACTION WAS TAKEN TO INFORM THE FIRE WATCH SUPERVISOR TO REVIEW FUTURE FIRE WATCH ROUTE CHANGES WITH THE FIRE WATCH FOREMEN TO ENSURE THAT ROOMS ARE NOT INADVERTENTLY MISSED.
River Bend	04/18/1986	05/16/1986	Inoperable Diesel and SBGTS Trains Cause Reactor Shut Down Abstract: POWER LEVEL - 000%. ON 4-18-86 RIVER BEND STATION WAS IN THE PROCESS OF ENTERING OPERATIONAL CONDITION 3 PER TECH SPECS 3.8.1.1.E AS A RESULT OF A CONCURRENT INOPERABILITY OF THE DIV I DG AND DIV II SGTS. ON 4/18/86 DURING THE SHUTDOWN, THE REQUIRED HOURLY FIRE WATCH PATROL FOR FIVE (5) INOPERATIVE 10CFR50 APPENDIX R FIRE BARRIERS WERE INADVERTENTLY SECURED. THE AREAS WERE NOT PATROLLED FOR A PERIOD OF APPROXIMATELY TWENTY-FOUR HOURS WHICH CONSTITUTES A MISSED TECHNICAL SPECIFICATION ACTION PER TECHNICAL SPECIFICATION 3.7.7.B. THE EVENT IS ATTRIBUTED TO PERSONNEL ERROR AND A PROCEDURAL DEFICIENCY. DURING THIS PERIOD THE FIRE DETECTION AND SUPPRESSION SYSTEMS REMAINED OPERABLE AND NO FIRE OCCURRED.
River Bend	05/09/1986	08/07/1986	Unsealed Fire Barrier Penetration Abstract: POWER LEVEL - 100%. AT 1400 HOURS ON 5/9/86, WITH THE UNIT AT FULL REACTOR POWER IN OPERATIONAL MODE 1, GSU QUALITY CONTROL REPORTED FINDING AN UNSEALED PENETRATION IN A FIRE BARRIER WALL IN VIOLATION OF THE RIVER BEND STATION TECHNICAL SPECIFICATIONS. A FIRE WATCH HAS BEEN POSTED IN THE AREA SINCE 5/1/86 IN RESPONSE TO AN EARLIER IDENTIFICATION OF IMPROPERLY LOCATED FIRE SEALS (REF. LER-86-036). A MODIFICATION REQUEST (MR-86- 0846) HAS BEEN INITIATED TO SEAL THIS PENETRATION. OF SELECTED FIRE SEALS TO IDENTIFY ANY MISSING OR IMPROPERLY INSTALLED SEALS. THERE WAS NO THREAT TO THE HEALTH AN SAFETY OF THE PUBLIC AS A RESULT OF THIS MISSING SEAL SINCE THERE WAS NEVER ANY FIRE PRESENT. ADDITIONALLY, SAFE SHUTDOWN OF THE UNIT COULD STILL HAVE BEEN ACCOMPLISHED, IN THE EVENT OF A WORST CASE FIRE, WITH THE LOSS OF THE AFFECTED AREAS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

River Bend	09/16/1986	10/17/1986	Thermolagging Material Removed For Maintenance Without a Fire Watch Abstract: POWER LEVEL - 100%. IN 9/16/86 AT 1330 WITH THE UNITS IN OPERATIONAL CONDITION 1, CONDITION REPORT 86-1413 WAS INITIATED, INDICATING THAT THE THERMOLAG MATERIAL HAD BEEN REMOVED FOR INSTRUMENT CALIBRATION FROM A PIECE OF EQUIPMENT IDENTIFIED AS NECESSARY FOR SAFE SHUTDOWN. A FIRE WATCH HAD NOT BEEN INITIATED AS REQUIRED BY TECHNICAL SPECIFICATION 3/4.7.7. A FIRE WATCH AS INITIATED WITHIN THIRTY MINUTES OF THE CONDITION BEING DISCOVERED. BECAUSE NO FIRE OCCURRED DURING THIS PERIOD OF TIME NO ACTUAL SAFETY CONSEQUENCES RESULTED FROM THE CONDITION REPORTED AND THE HEALTH AND SAFETY OF THE PUBLIC WAS NOT ENDANGERED.
River Bend	11/24/1986	12/23/1986	Missed Fire Door Surveillances Abstract: POWER LEVEL - 000%. ON 11/24/86 DURING A PLANT SHUTDOWN, WHILE CONDUCTING THE INVESTIGATION ASSOCIATED WITH A NOTICE OF VIOLATION (50-458/8630-02), IT WAS NOTED THAT THE ACCEPTANCE CRITERIA FOR TECHNICAL SPECIFICATION 4.7.7.2.D WAS INSUFFICIENTLY DEFINED IN THE APPLICABLE SURVEILLANCE TEST PROCEDURE (STP). WHILE THE DOORS ARE VERIFIED TO BE CLOSED, THE STP DID NOT REQUIRE AN INSPECTION OF LATCHES AND CLOSING MECHANISMS. A TEMPORARY CHANGE NOTICE (TCN) WAS WRITTEN TO CLARIFY THE ACCEPTANCE CRITERIA. USING THE REVISED ACCEPTANCE CRITERIA, IT WAS DISCOVERED THAT SEVERAL FIRE DOOR LATCH MECHANISMS WERE NOT OPERABLE. IT WAS ALSO DISCOVERED THAT TWO RATED FIRE DOORS HAD BEEN INADVERTENTLY OMITTED FROM ANY STP DOOR LIST. EITHER OF THESE ITEMS WOULD APPARENTLY CONSTITUTE AN INOPERABLE FIRE BARRIER AND A MISSED TECHNICAL SPECIFICATION ACTION PER TECHNICAL SPECIFICATION 3.7.7.B. THESE TWO ITEMS ARE ATTRIBUTED TO PROCEDURAL DEFICIENCIES. DURING THIS PERIOD THE FIRE DETECTION AND SUPPRESSION SYSTEMS REMAINED OPERABLE OR FIRE WATCHES WERE POSTED IN ACCORDANCE WITH THE APPLICABLE TECHNICAL SPECIFICATION AND NO FIRE OCCURRED. AT NO TIME DURING THIS EVENT WAS THE HEALTH AND SAFETY OF THE PUBLIC THREATENED.
River Bend	02/23/1987	03/25/1987	Inoperable Fire Barriers Found During Surveillance Testing Abstract: POWER LEVEL - 100%. WITH THE PLANT IN FULL POWER OPERATION DURING PERFORMANCE OF SURVEILLANCE TEST PROCEDURE (STP) 000-3602, MINOR CRACKS AND WEAR CONDITIONS FOR 10CFR50 APPENDIX R FIRE BARRIERS WERE IDENTIFIED ON 2/3/87. DURING SUBSEQUENT MAINTENANCE AND QUALITY ASSURANCE EVALUATIONS, A CONDITION REPORT WAS INITIATED ON 2/23/87 WHICH NOTED THAT SEVERAL OF THE SUBJECT FIRE BARRIERS WERE NOT INSTALLED IN ACCORDANCE WITH THE INSTALLATION SPECIFICATION. THESE DEFICIENCIES RENDERED THE FIRE BARRIERS INOPERABLE IN ACCORDANCE WITH RIVERBEND STATION TECH SPEC 3.7.7.A. UPON DISCOVERY OF THE NONCONFORMING CONDITIONS, HOURLY FIRE WATCH PATROLS WERE ESTABLISHED IN THE AFFECTED AREAS. HAD A FIRE OCCURRED DURING THE TIME THESE FIRE BARRIERS WERE NOT PROPERLY COMPENSATED FOR WITH FIRE WATCHES, THE POTENTIAL EXISTED FOR IMPAIRING THE ABILITY TO ACHIEVE AND MAINTAIN A SAFE SHUTDOWN UTILIZING THE METHODS DESCRIBED IN THE RIVERBEND STATION FIRE HAZARDS ANALYSIS. HOWEVER, BECAUSE NO FIRE OCCURRED DURING THIS PERIOD OF TIME, NO ACTUAL SAFETY CONSEQUENCES RESULTED FROM THIS CONDITION, AND THE HEALTH AND SAFETY OF THE PUBLIC WERE NOT ENDANGERED.
River Bend	10/15/1987	11/12/1987	Fire Seal not Installed in Spent Fuel Pool Cooling Pump Cubicle Wall Abstract: POWER LEVEL - 000%. AT 1000 HOURS ON 10/15/87 WITH THE UNIT IN COLD SHUTDOWN, GULF STATES UTILITIES COMPANY (GSU ENGINEERING IDENTIFIED TWO UNSEALED PENETRATIONS INTO THE CUBICLE FOR THE 'B' SPENT FUEL POOL COOLING PUMP 1SFC*P1B. AT THE TIME OF DISCOVERY, LIMITING CONDITION FOR OPERATION (LCO) 87-079 WAS IN EFFECT AND A ROVING FIRE WATCH WAS POSTED FOR THIS ELEVATION. THEREFORE, THE REQUIRED TECHNICAL SPECIFICATION ACTIONS WERE IN PLACE AT THE TIME OF DISCOVERY. MAINTENANCE WORK ORDER REQUEST (MWOR) 111141 WAS SUBSEQUENTLY WRITTEN TO SEAL THESE OPENINGS WITH THREE HOUR RATED FIRE SEALS. FURTHER INVESTIGATION DETERMINED THAT THESE OPENINGS WERE CUT INTO THE CONCRETE BLOCK MAKING UP THE LEFT SIDE OF THE DOOR OPENING TO THE 'B' SPENT FUEL POOL COOLING PUMP CUBICLE TO ACCOMMODATE ENTRY OF CONDUIT AND INSTRUMENTATION LINES. THESE PENETRATIONS WERE NOT PLACED IN A 'TYPICAL' WALL AND THEREFORE, THE PENETRATION SEAL CONTRACTOR WAS UNAWARE OF THESE OPENINGS AND THEREFORE, DID NOT SEAL THEM. THIS RESULTED IN THESE PENETRATIONS BEING UNSEALED SINCE THE CONCLUSION OF CONSTRUCTION ACTIVITIES. FIELD CHANGE NOTICE 3 TO MODIFICATION REQUEST 86-0846 HAS BEEN INITIATED TO ADD THESE PENETRATIONS TO THE APPLICABLE DESIGN DRAWINGS. ADDITIONALLY, A REVIEW OF OTHER NON- TYPICAL WALL
River Bend	11/12/1987	12/11/1987	Missed Fire Door Surveillance Due to an Error in the Surveillance Test Procedure Abstract: POWER LEVEL - 000%. AT APPROXIMATELY 1000 HOURS ON 11/12/87, WITH THE UNIT IN OPERATIONAL CONDITION 5 (REFUELING), IT WAS DISCOVERED THAT TWO FIRE DOORS WERE NOT INCLUDED IN THE SURVEILLANCE TEST PROCEDURE (STP). THESE DOORS ARE REQUIRED BY TECHNICAL SPECIFICATIONS TO BE CLOSED, AND THEIR POSITION CHECKED DAILY, TO ENSURE SEPARATION OF REDUNDANT TRAINS OF SAFETY RELATED EQUIPMENT. A REVIEW OF THE PROCEDURE HISTORY FILE REVEALED THAT THESE TWO DOORS WERE INADVERTENTLY OMITTED ON 10/13/87 WHILE MAKING THE REVISION DURING THE ANNUAL REVIEW OF THIS PROCEDURE. A REVIEW OF THE FIRE WATCH/PATROL LOG FROM 10/13/87 TO 11/12/87 INDICATED THAT NO FIRE WATCH OR PATROL HAD BEEN IN EFFECT FOR THESE AREAS DURING THIS TIME PERIOD. SINCE THE DAILY FIRE DOOR POSITION CHECK WAS NOT PERFORMED ON THESE DOORS AND NO FIRE WATCH WAS POSITIONED DURING THE TIME THESE SURVEILLANCES WERE MISSED, THIS CONDITION CONSTITUTED A CONDITION PROHIBITED BY THE RIVER BEND STATION TECHNICAL SPECIFICATIONS. AT APPROXIMATELY 1150 ON 11/12/87, THE STP WAS REVISED TO INCLUDE THE TWO FIRE DOORS IDENTIFIED. THE STP WAS SUBSEQUENTLY SATISFACTORILY PERFORMED BY 1300 ON THE SAME DAY. FURTHER CORRECTIVE ACTION HAS BEEN TAKEN TO REVIEW ALL FIRE DOOR STP'S AGAINST THE APPROPRIATE DESIGN
River Bend	03/01/1988	08/26/1988	Unsealed Fire Barrier Penetrations Abstract: POWER LEVEL - 100%. AT 1000 HOURS ON 3/1/88 WITH THE UNIT AT 100 PERCENT POWER (OPERATING CONDITION 1), AN UNSEALED PENETRATION WAS DISCOVERED IN A CONTROL BUILDING FIRE WALL ON THE 70 FOOT ELEVATION. A SECOND UNSEALED PENETRATION WAS DISCOVERED IN THE 98 FOOT ELEVATION OF THE DIESEL GENERATOR BUILDING AT 0830 HOURS ON 3/11/88. ON 3/17/88 AT 1100, AN UNSEALED PENETRATION AND AN UNCOATED STEEL BEAM (FORMING PART OF A FIRE BARRIER ASSEMBLY) WAS DISCOVERED IN AN AUXILIARY BUILDING FIRE WALL IN THE 'D' TUNNEL ON THE 70 FOOT ELEVATION. ON 3/24/88 AT 1630, INADEQUATELY SEALED PENETRATIONS BETWEEN THE AUXILIARY BUILDING AND THE ANNULUS WERE DISCOVERED. ON 4/12/88 AT 1100, AN OPENING BETWEEN A CONTROL BUILDING FIRE DOOR FRAME AND THE FIRE WALL WAS DISCOVERED. ON 4/14/88 AT 0800, ENGINEERING IDENTIFIED AN OPEN HATCHWAY BETWEEN FIRE AREAS, AN OPEN TRENCH BETWEEN FIRE AREAS AND AN UNQUALIFIED PENETRATION SEAL. PERFORMANCE OF INSPECTIONS FOR THE IMPLEMENTATION OF CORRECTIVE ACTION REVEALED ADDITIONAL OPENINGS IN SEVERAL BUILDINGS. FIRE WATCHES WERE IMPOSED IN AREAS NOT PREVIOUSLY COVERED. SAFETY ANALYSIS PERFORMED FOR ALL ITEMS REVEALED NO ADVERSE SAFETY CONSEQUENCES DUE TO OPENINGS FOUND BETWEEN FIRE AREAS.
River Bend	08/19/1988	09/19/1988	Missed Fire Watch Inspection In Containment Building Due to Personnel Error and Access Being Denied During a Period of High Airborne Contamination in Containment Abstract: POWER LEVEL - 076%. AT APPROXIMATELY 1114 HOURS ON 8/19/88, OPERATIONS PERSONNEL DISCOVERED THAT THE REQUIRED HOURLY FIRE WATCH INSPECTION INTERVAL FOR THE CONTAINMENT BUILDING HAD BEEN EXCEEDED CONTRARY TO THE REQUIREMENTS OF RIVER BEND STATION TECHNICAL SPECIFICATION ACTION 3.7.7.A, WHICH REQUIRES A CONTINUOUS HOURLY FIRE WATCH BE ESTABLISHED ON AT LEAST ONE SIDE OF AN AFFECTED FIRE-RATED ASSEMBLY. FIRE WATCH INSPECTION PERSONNEL WERE DENIED ACCESS TO THE CONTAINMENT BUILDING DURING A PERIOD WHEN CONTAINMENT AIRBORNE RADIATION LEVELS PROHIBITED PERSONNEL ACCESS. TO PREVENT RECURRENCE, THE FIRE WATCH INSPECTION GROUP WILL BE UNDER THE DIRECTION OF THE ELECTRICAL MAINTENANCE SHIFT FOREMAN. THE FOREMAN WILL BE TRAINED IN ASPECTS OF TECHNICAL SPECIFICATION COMPLIANCE WITH RESPECT TO HOURLY FIRE WATCH INSPECTION REQUIREMENTS. NO FIRE OCCURRED DURING THE PERIOD OF NONCOMPLIANCE, AND THE HEALTH AND SAFETY OF THE PUBLIC WAS NOT ADVERSELY AFFECTED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

River Bend	03/16/1989	04/17/1989	Inadequate Thermo Lag Covering as Fire Barriers Per TS 7.7.7.a Abstract: POWER LEVEL - 000%. ON 3/16/89 AT 1000 WITH THE UNIT IN OPERATIONAL CONDITION 5 (COLD SHUTDOWN) AT 0 PERCENT POWER, WHILE PERFORMING MAINTENANCE ACTIVITIES IT WAS NOTED AFTER REMOVAL THAT THE INTERNAL WIRE AND/OR STRUCTURAL RIBS REINFORCING FOR THE ONE HOUR RATED 'THERMO-LAG' COVERING ON DIVISION 2 CONDUITS, CABLE TRAY AND ASSOCIATED SUPPORTS HAD BEEN PREVIOUSLY REMOVED. THESE DEFICIENCIES RENDERED THE FIRE BARRIERS INOPERABLE IN ACCORDANCE WITH RIVER BEND STATION TECHNICAL SPECIFICATION (TS) 3.7.7.A, AND ARE REPORTABLE PURSUANT TO 10CFR50.73 (A)(2)(I)(B). AN HOURLY FIRE WATCH WAS ONGOING FOR THIS AREA AT THE TIME OF DISCOVERY, SATISFYING THE TS ACTION SATEMENT. THE DEFICIENCIES IDENTIFIED DURING THE WORK ACTIVITIES INDICATE THAT AN APPARENT DEFICIENCY EXISTED IN THE VENDOR INSTALLATION AND QUALITY CONTROL INSPECTION PROGRAM. NO ACTUAL SAFETY CONSEQUENCES RESULTED FROM THIS CONDITION. PLANT SAFETY AND THE HEALTH AND SAFETY OF THE PUBLIC WERE NOT ENDANGERED. THE VENDOR'S QUALITY ASSURANCE/QUALITY CONTROL PROGRAM HAS NOW BEEN SUPERSEDED BY A GSU'S PROGRAM WHICH REQUIRES 100 PERCENT INSPECTION FOR ALL FIRE BARRIER APPLICATIONS IN SAFETY RELATED AREAS.
River Bend	03/18/1989	08/30/1994	Missing or Inadequate Penetration Seals Per Technical Specification 3.7.7.a Abstract: POWER LEVEL - 000%. At 1300 on 3/18/89 with the unit in Operational Condition 5, an unsealed penetration was discovered in a control building fire wall on the 116 foot elevation. Also, on the same elevation of the control building four conduits lacking internal seals were discovered at 1400 on 3/20/89. A penetration seal task force was established to address penetration seal deficiencies. A 100% inspection of penetration seals was completed on 12/7/93. Unacceptable seals were evaluated and dispositioned via one of the following methods: 1) the seal was reworked, 2) an engineering evaluation attesting to the adequacy of the seal commensurate with the fire hazards associated with the barrier was completed, or 3) the seal was reworked based on an engineering evaluation of the adequacy of the reworked seal commensurate with the fire hazards associated with the barrier. This effort was completed during RF-5. The majority of the deficiencies found while conducting the penetration seal inspections were minor. In fact, each penetration contained a barrier. Although the fire rating of the deficient barrier can only be estimated, some degree of protection was provided. Fire detection and suppression systems along with hourly fire watch patrols were maintained in each area where an
River Bend	02/06/1990	04/19/1994	Inadequate Thermo-Lag Fire Barrier Envelopes Surrounding Safe Shutdown Circuits Per TS 3/4.7.7 Abstract: POWER LEVEL - 100%. During the performance of Surveillance Test Procedure STP-000-3602 on 02/06/90 through 02/08/90 with the unit in Operational Condition 1 (full power), it was found that several minor deficiencies existed in the Thermo-Lag fire barrier envelopes around redundant safe shutdown circuits. These deficiencies consisted of small holes, cracks and unfilled seams in the Thermo-Lag material. A fire watch had already been established in areas utilizing Thermo-Lag as a fire barrier. All Thermo-Lag fire barriers at RBS were declared inoperable on October 26, 1989. Hourly firewatch patrols have been in continuous operation since October, 1989. This supplement to LER 90-003 is submitted to provide a status of the Thermo-Lag issue at RBS. In a letter dated December 21, 1993, the NRC requested additional information regarding Generic Letter 92-08, pursuant to 10CFR50.54(f). In its response to the December 21, 1993, letter, RBS provided schedules for resolving Thermo-Lag issues. These schedules supersede previous actions related to Thermo-Lag. The combination of the cable jacket properties, the control of transient combustibles, the use of suppression systems in the plant and the use of compensatory fire watches provides assurance that plant safety and the health and
River Bend	04/19/1990	05/21/1990	Inadequate Fire Barrier in Shake Space/Contrary to TS Caused by Human Oversight During Construction Abstract: POWER LEVEL - 100%. ON 02/01/90 WITH THE UNIT AT 100 PERCENT POWER (OPERATIONAL CONDITION 1), DURING THE PERFORMANCE OF SURVEILLANCE TEST PROCEDURE, STP-000-3602, TWO VOIDS IN A FIRE BARRIER WERE DISCOVERED IN THE SHAKE SPACE BETWEEN THE AUXILIARY BUILDING AND THE CONTAINMENT SHIELD WALL. THESE VOIDS WERE DETERMINED ON 4/19/90 TO CONSTITUTE A BREACH IN THE 3-HOUR FIRE BARRIER REQUIREMENT AS DEFINED BY 10CFR 50 APPENDIX R. THE INSTALLATION OVERSIGHT OCCURRED DURING CONSTRUCTION. THE ROOT CAUSE WAS DETERMINED TO BE HUMAN ERROR. THE TWO AREAS INVOLVED WERE ADDED TO THE ROVING FIRE WATCH SCHEDULE. MAINTENANCE WILL REWORK THE VOIDS AND INSTALL A SEISMIC GAP SEAL IN ACCORDANCE WITH SPECIFICATION 229.180. A CHANGE WILL BE MADE TO STP-000-3602 SO THAT FUTURE INSPECTIONS BY QA/QC PERSONNEL WILL INCLUDE INSTRUCTIONS TO INSPECT FOR SEISMIC GAP SEALS. THE COMBINATION OF STRUCTURAL DESIGN, LOCATION OF THE DISCOVERED VOIDS AND SEPARATION OF REDUNDANT SAFE SHUTDOWN EQUIPMENT PROVIDES ASSURANCE THAT THE PLANT SAFETY AND HEALTH AND SAFETY OF THE PUBLIC HAS NOT BEEN COMPROMISED.
River Bend	07/19/1990	08/20/1990	Missed Fire Watch Patrol due to Miscommunication and Inadequate Verification of Fire Watch Log Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 1700 HOURS ON 7/19/90, IT WAS DISCOVERED BY FIRE WATCH PERSONNEL THAT THE REQUIRED HOURLY FIRE WATCH PATROL SCHEDULED FOR 1600 FOR THE AUXILIARY BUILDING, FUEL BUILDING, STANDBY COOLING TOWER, AND VARIOUS PARTS OF THE TUNNELS HAD NOT BEEN SIGNED FOR IN THE LOG. FURTHER INVESTIGATION REVEALED THE INSPECTION HAD NOT BEEN DONE AS REQUIRED BY RIVER BEND STATION TECHNICAL SPECIFICATION 3/4.7.7. THEREFORE, THIS REPORT IS SUBMITTED PURSUANT TO 10CFR50.73(A)(2)(I)(B) AS OPERATION PROHIBITED BY THE TECHNICAL SPECIFICATIONS. CORRECTIVE ACTION TO PREVENT RECURRENCE WILL CONSIST OF THE USE OF A NEW LOG BOOK. THIS LOG BOOK IS DESIGNED TO BE PASSED DOWN TO EACH SUCCEEDING SHIFT AND WILL PROVIDE DETAILS OF ANY CHANGES, FIRE WATCH PATROLS COMPLETED AND SIGNED OFF, AND THE IDENTIFICATION OF PROBLEMS. ALL FIRE PROTECTION SYSTEMS WERE OPERATIONAL IN THE AFFECTED AREAS AND THERE WAS NO FIRE IN THE SUBJECT AREA DURING THE PERIOD OF NONCOMPLIANCE. THE HEALTH AND SAFETY OF THE PUBLIC WERE NOT ADVERSELY AFFECTED BY THIS EVENT.
River Bend	09/16/1990	10/16/1990	Missed Fire Watch Due to Personnel Illness Abstract: POWER LEVEL - 065%. AT APPROXIMATELY 1540 HOURS ON 9/16/90, THE ELECTRICAL MAINTENANCE FOREMAN DISCOVERED THAT NO ONE HAD SIGNED THE FIRE WATCH LOG FOR THE 0900 ROVING FIRE WATCH PATROL IN THE CONTROL BUILDING (*NA*), RADWASTE BUILDING (*NE*), TURBINE BUILDING (*NM*), NORMAL SWITCHGEAR AND SERVICES BUILDINGS (*MF*). THE FOREMAN QUESTIONED PERSONNEL INVOLVED AND DETERMINED THAT THE FIRE WATCH HAD NOT BEEN PERFORMED. THE PERSON ASSIGNED TO THE MISSED FIRE WATCH BECAME VERY ILL BETWEEN 0700 AND 0800 AND WAS TOLD SHE SHOULD GO HOME. HER FOREMAN CONTACTED THE LEVEL I TECHNICIAN TO REPLACE HER ON SHIFT. THE LEVEL I TECHNICIAN PROCEEDED TO GET THE CONTROL BUILDING KEYS AND STARTED THE FIRE WATCH RUN AT 0850, BUT DID NOT COMPLETE THE FIRE WATCH IN TIME. IN ADDITION, THE LEVEL I TECHNICIAN FAILED TO IMMEDIATELY INFORM THE FOREMAN AFTER THE FIRE WATCH WAS MISSED. TO PREVENT RECURRENCE, EACH PERSON ASSIGNED TO A FIRE WATCH ON SHIFT AND THE LEVEL I TECHNICIAN WILL BE REQUIRED TO CARRY A COMPLETE SET OF KEYS TO MAKE ALL ROUNDS. RETRAIN1NG OF ALL FIRE PROTECTION PERSONNEL WILL BE CONDUCTED DUE TO THIS INCIDENT.
River Bend	10/03/1990	11/02/1990	Areas Omitted from Hourly Fire Watch Patrols due to Personnel Error Abstract: POWER LEVEL - 000%. ON 10/03/90, A QUALITY ASSURANCE (QA) REPRESENTATIVE WAS CONDUCTING A SURVEILLANCE ACTIVITY ON ROVING HOURLY FIRE WATCH PATROLS. THIS SURVEILLANCE IDENTIFIED AREAS THAT WERE OMITTED FROM A FIRE WATCH ROUTE. FIRE WATCHES ARE REQUIRED BY THE ACTION STATEMENT OF TECH SPEC 3.7.7. THEREFORE, THIS EVENT IS REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(I)(B) AS OPERATION PROHIBITED BY THE TECH SPECS. RETRAINING OF ALL FIRE PROTECTION PERSONNEL ON PROCEDURAL REQUIREMENTS WAS SPECIFIED AS A CORRECTIVE ACTION FOR LER 90-027. THIS TRAINING IS UNDERWAY AND WILL BE COMPLETED BY 1/16/91. IN ADDITION, A REVERIFICATION OF ASSIGNED FIRE WATCH ROUTES FOR ALL FIRE PROTECTION PERSONNEL WILL BE COMPLETED BY THE SAME DATE. GSU IS EVALUATING SYSTEMATIC METHODS TO ENSURE THAT ALL FIRE WATCH LOCATIONS ARE CHECKED. THE FIRE DETECTION AND SUPPRESSION SYSTEMS IN THE AFFECTED AREAS WERE OPERATIONAL DURING THE PERIOD OF NONCOMPLIANCE. THERE WERE NO FIRES IN THE AFFECTED AREAS DURING THIS EVENT. THEREFORE, THE HEALTH AND SAFETY OF THE PUBLIC WERE NOT ADVERSELY AFFECTED BY THIS EVENT.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

River Bend	03/22/1991	04/22/1991	DESIGN DEFICIENCIES IN FIRE DOORS Abstract: POWER LEVEL - 100%. ON 3/22/91, WITH THE PLANT AT 100% POWER IN OPERATIONAL CONDITION 1 (POWER OPERATION), A DEFICIENT FIRE DOOR WAS DISCOVERED DURING A QUALITY ASSURANCE AUDIT. THE DESIGN CONFIGURATION OF DOOR CB-70-25 DID NOT ASSURE THE PROPER CLOSING SEQUENCE BETWEEN THE TWO LEAVES. THEREFORE, THE DOOR CANNOT BE CONSIDERED TO HAVE BEEN A QUALIFIED FIRE BARRIER SINCE PLANT STARTUP, AND WAS INOPERABLE CONTRARY TO TECHNICAL SPECIFICATION 3.7.7. THIS REPORT IS SUBMITTED PURSUANT TO 10CFR50.73(A)(2)(I)(B) AS OPERATION PROHIBITED BY THE TECHNICAL SPECIFICATIONS. UPON DISCOVERY OF THE CONDITION, THE FIRE DOOR WAS DECLARED INOPERABLE AND ADDED TO THE HOURLY FIRE WATCH LIST. THE INACTIVE LEAF OF DOOR CB-70-25 WAS CLOSED AND THE TOP AND BOTTOM LATCH BOLTS WERE ENGAGED. THIS CONFIGURATION ENSURES OPERABILITY OF THE DOOR AND ENSURES CONFORMANCE TO APPLICABLE NFPA CODE REQUIREMENTS. THE CORRECTIVE ACTIONS SPECIFIED FOR DOOR CB-70-25 WERE ALSO IMPLEMENTED FOR DOOR CB-98-32. THE AREAS ON BOTH SIDES OF EACH DOOR, CB-70-25 AND CB-98-32, ARE PROVIDED WITH AUTOMATIC SPRINKLER SYSTEMS AND AUTOMATIC FIRE DETECTION SYSTEMS. IN THE EVENT OF A FIRE FROM TRANSIENT COMBUSTIBLE SOURCES, THESE SYSTEMS WOULD AUTOMATICALLY ACTUATE TO CONTAIN THE FIRE AND NOTIFY THE CONTROL ROOM OF THE CONDITIONS.
River Bend	04/15/1991	11/30/1993	FIRE HAZARDS ANALYSIS DEFICIENCIES INCLUDING LACK OF FIRE WRAP/INADEQUATE FIRE BARRIER Abstract: POWER LEVEL - 100%. At 1345 hours on 4/15/91, with the reactor at full power in Operational Condition 1, it was discovered that electrical cables located in fire area ET-2, which may cause spurious operation of valves 1E51*MOVF063 (RCIC inboard steam isolation valve) and 1E51*MOVF078 (RCIC vacuum breaker valve), did not have fire wrap contrary to Fire Hazards Analysis (FHA) requirements. At 1300 on 4/23/91, additional cables, which could cause the same problem were found in fire areas AB-2, C-2 and C-6. RCIC is required by the FHA for safe shutdown in these fire areas. Since these valves are required not to change position for operation of RCIC and fire damage to these cables may cause loss of RCIC, the cables would require wrapping in these fire areas. cables were treated as having missing fire barriers and the action statement prescribed in Technical Specification 3/4.7.7, 'Fire Rated Assemblies', was implemented for areas containing these cables. Errors made during the original development of the FHA were the cause for the identified cables not being wrapped in the identified fire areas. Additional deficiencies were discovered and addressed throughout the FHA review effort as documented in this report and in previous supplements to this LER. Corrective action was to perform a
River Bend	02/22/1992	12/27/1993	DEVIATIONS FROM APPROVED DESIGNS IN STRUCTURAL STEEL FIREPROOFING Abstract: POWER LEVEL - 100%. At 1500 hours on Feb. 22, 1992, with the reactor in Operational Condition 1 (Power Operation), while performing a review of design specification 210.505, 'Fireproof Coatings', it was determined that the structural steel supporting required fire barrier walls and floors could not be considered as being protected to a fire resistance rating of 3 hours in accordance with Underwriters Laboratories (UL) tested designs. Although the condition was detected on February 22, 1992, it has existed since plant startup. Therefore, this report is submitted pursuant to 10CFR50.73 (a)(2)(i)B as operation prohibited by the Technical Specifications. The primary root cause identified is that an inadequate level of engineering evaluation was applied in the development of the fire barrier designs. All of the safety-related areas employing structural steel to support fire barriers are provided with automatic fire detection systems. Early warning detection systems with automatic suppression systems or low combustible loadings minimize the possibility of a fire reaching fully developed stages where failure temperatures could be reached.
River Bend	09/09/1993	10/06/1993	ASSOCIATED CIRCUITS, COMMON ENCLOSURE CONCERN IDENTIFIED WITH CONTROL CIRCUITS FOR 4160V AND 480V LOADS TO REMOTE SHUTDOWN SYSTEM Abstract: POWER LEVEL - 100%. At 0930 hours on 9/9/93 with the reactor at full power in operational mode 1, it was discovered that 4160 volt and 480 volt loads required for shutdown in the event of a control room fire may not have been available when required due to inadequate electrical protection. A fire protection team was organized as part of the corrective actions for NRC Inspection Report 93-09. Due to the heightened awareness and questioning attitude of the electrical design member of the fire protection team, it was found that fuses protecting the control circuits for these loads do not adequately protect the cables in the circuits in the event of a control room fire. A review of this event indicates that the preliminary root cause is that the scope of compliance with Sections III.G and III.L of 10CFR50, Appendix R, concerning associated circuits and alternate shutdown capability, was not clearly understood during the development of the RBS Fire Hazards Analysis. The action statement for RBS Technical Specification 3/4.3.7.4 'Remote Shutdown Monitoring Instrumentation and Controls' was entered upon discovery of this issue. Appropriately sized fuses were installed to ensure that these circuits are available for post fire safe
River Bend	11/20/1993	12/20/1993	FIRE WATCH PATROL NOT COMPLETED IN A TIMELY MANNER DURING A SECURITY COMPUTER SYSTEM OUTAGE DUE TO CONFLICTING PRIORITIES FOR SECURITY PERSONNEL Abstract: POWER LEVEL - 100%. On November 20, 1993, with the reactor in Operational Condition 1 (Power Operation) at 100 percent power, a fire watch patrol in the fuel building which was due to be completed at 0800 was late by approximately 19 minutes. This occurred following an equipment failure in the security access computer which caused the fire watch to be denied entry into the fuel building when he attempted to use his key card. The late completion of the fire watch route did not meet the one-hour time unit specified by Technical Specifications 3.7.7 and 3.3.7.8, a condition prohibited by the Technical Specifications. The cause of this event was that security personnel did not respond in a timely manner to allow manual actions by the fire watch due to conflicting priorities. The attention of security personnel was focused on meeting compensatory requirements of the security computer system outage. Failure to do this could have resulted in degraded plant security and a reportable condition. Assisting the fire watch conflicted with this priority. Corrective actions include permitting fire watches to use the emergency thumb latch in the event that computer access is unavailable. No fires occurred for the time period that the fire watch patrol was overdue. The area where detection was out of service was in the same fire area as the fire watch, and was partially visible from the location where the fire watch was
River Bend	01/07/1994	12/22/1994	Fire Barrier Separation Design Analysis Deficiencies in Fire Areas C-17 and C-24 Abstract: POWER LEVEL - 100%. Recent work on the control building chillers sensitized engineers to question previous assumptions used in the FHA. Further evaluation by the cognizant engineers led to the discovery that design analysis deficiencies existed for fire barrier separation in fire areas C-17 and C-24. Redundant trains of control building HVAC could be lost during a single exposure fire. This could cause the main control room, standby switchgear room 1B, and mechanical equipment room to heat up. Equipment in these rooms is credited for safe shutdown in the event of a fire in fire area C-17 or C-24. The original design analysis did not adequately support the ability to ensure post-fire safe shutdown for a fire in fire area C-17 or C-24. This situation existed from initial plant startup until fire watches were established in 1991. Design analysis deficiencies were the root cause of this condition. The architect/engineering firm tasked with developing the RBS FHA and safe shutdown analysis did not have a clear understanding of Section III.G of 10CFR50, Appendix R. Upon discovery of this condition an hourly fire watch was verified to be in place for fire areas C-17 and C-24. Appropriate changes to AOP-0052 have been made. As long term corrective action for fire area C-24, cable was re-routed for the affected safe shutdown
River Bend	09/07/1994	10/07/1994	VIOLATION OF TECHNICAL SPECIFICATIONS DUE TO INADEQUATE FIRE WATCH Abstract: POWER LEVEL - 100%. At 1732 hours on September 7, 1994 with the reactor in Operational Condition 1 (Power Operation), during restoration of a portion of the fire protection system, operations personnel identified that a continuous watch was not properly implemented in accordance with RBS Technical Specifications Section 3.7.6.2.c. The subsequent investigation revealed that the responsible individual left the assigned area approximately twenty-one (21) minutes prior to the sprinkler system being returned to an operable status. The system was returned to service at approximately 1730 hours. The root cause of this event was attributed to a failure to ensure that the fire watch was maintained during system inoperability. Contract personnel failed to comply with requirements that the fire watch be maintained until the system had been properly restored. Corrective actions included disciplinary actions the responsible individuals and retraining of personnel associated with painting activities. The area was without coverage for approximately 21 minutes. During this time, automatic sprinkler system AS-12 was operable for fire suppression. The area in the vicinity of the water curtain does not contain equipment which requires the storage of combustible materials for maintenance. Therefore, there was a low probability of a fire occurring in that area during the time of inadequate coverage. Due to other fire protection deficiencies, the Auxiliary Building was also being patrolled by hourly roving
River Bend	03/30/1995	04/28/1995	Missed Fire Watch Due to Failure to Follow Fire Watch Work Rules, Failure to Follow the Applicable Procedure and an Inadequate Shift Turnover Abstract: On March 30, 1995 at approximately 0830 hours with the reactor in Operational Condition 1 (power operation), fire watch personnel identified two missed fire watches during a routine log entry. This incident resulted in a non-compliance with the Technical Specification action statement 3.7.7(a) for approximately two hours. Therefore, this report is submitted pursuant to 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the Technical Specifications. The root causes of this event were identified as (1) a failure to follow fire watch work rules and a procedure, and (2) less than adequate shift turnover. A contributing cause was that the fire protection supervisor failed to adequately assure that work rules and the procedure were being followed. The corrective actions included disciplining the fire watch individual who violated work rules and the procedure and improving the fire watch shift turnover process to assure adequate verbal and written communications. In addition, the fire protection supervisor was counseled. All fire detection and suppression systems were operational in the affected areas and there was no fire in the affected area for the period of missed fire watches. The health and safety of the public were not compromised as a

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Robinson 2	03/08/1985	04/18/1985	Fire Watch Not Posted Within One (1) Hour Abstract: POWER LEVEL - 000%. SEMI-ANNUAL OPERATIONAL SURVEILLANCE TEST, OST-630 WAS BEING PERFORMED ON 3-8-85. OST-630 REQUIRES THE HALON CYLINDERS PROVIDING FIRE PROTECTION TO THE EMERGENCY BUSES E-1/E-2 ROOM AND THE COMPUTER ROOM TO BE WEIGHED AND PRESSURE CHECKED. 2 OF 10 CYLINDERS OF HALON IN 1 OF 2 BANKS WERE RECORDED AS HAVING LESS THAN THE REQUIRED PRESSURE, BUT WERE DOCUMENTED AS SATISFACTORY. THIS DISCREPANCY WAS NOT RECOGNIZED UNTIL 4-4-85, WHEN THE FIRE PROTECTION STAFF REVIEWED THE OST. THE DELAY IN REVIEWING THE OST WAS DUE TO CYLINDERS ON THE RESERVE BANK BEING LOW IN PRESSURE OR WEIGHT WHICH NEEDED TO BE RECHARGED BEFORE THE OST COULD BE COMPLETED AND TURNED IN FOR THE REVIEW. ALTHOUGH THIS LOWER PRESSURE TECHNICALLY RENDERED THE SYSTEM INOPERABLE, THE SYSTEM WAS LINED UP FOR AUTOMATIC ACTUATION AND WOULD HAVE PROVIDED ADEQUATE FIRE SUPPRESSION CAPABILITY FOR BOTH ROOMS. WHEN INOPERABLE, TECH SPEC 3.14.6.2 REQUIRES A FIRE WATCH BE POSTED WITHIN 1 HR. THIS WAS NOT DONE BECAUSE THE PERSON PERFORMING THE OST DID NOT RECOGNIZE THAT THE CYLINDERS WERE BELOW THEIR MINIMUM REQUIRED PRESSURE.
Robinson 2	05/22/1987	06/19/1987	Failure to Post Fire Watch Within One Hour Abstract: POWER LEVEL - 000%. ON MAY 22, 1987, WITH UNIT 2 IN COLD SHUTDOWN FOLLOWING A REFUELING OUTAGE, FIRE DETECTION TRAIN 'A' WAS RENDERED INOPERABLE FOR ONE HOUR AND FORTY-TWO MINUTES, BETWEEN 2200 AND 2400 HOURS. DURING THE PERFORMANCE OF A SPECIAL PROCEDURE ON DIESEL GENERATOR 'A', POWER TO MOTOR CONTROL CENTER NO. 5 WAS TRANSFERRED FROM EMERGENCY BUSS NO. 1 TO THE 480 VOLT DEDICATED SHUTDOWN BUSS, RESULTING IN A LOSS OF POWER TO MOTOR CONTROL CENTER NO. 10, AND SUBSEQUENTLY, AN UNDERVOLTAGE TRIP OF THE BREAKER FEEDING FIRE DETECTION TRAIN 'A'. THE LOSS OF FIRE DETECTION TRAIN 'A' CAUSED THE FIRE DETECTION INSTRUMENTATION FOR SEVEN FIRE ZONES AND THE AUTOMATIC FIRE SUPPRESSION SYSTEMS FOR FIVE FIRE ZONES TO BE INOPERABLE. TECHNICAL SPECIFICATIONS REQUIRE THE INSPECTION FREQUENCY OF FIRE ZONES WITH INOPERABLE FIRE DETECTION INSTRUMENTATION TO BE INCREASED WITHIN ONE HOUR TO AT LEAST ONCE PER HOUR. THE SPECIFICATIONS ALSO REQUIRE A CONTINUOUS FIRE WATCH TO BE ESTABLISHED WITHIN ONE HOUR IN FIRE ZONES WITH AUTOMATIC FIRE SUPPRESSION SYSTEMS IN A CONDITION OF READINESS LESS THAN REQUIRED. THE CONDITION BECAME APPARENT AFTER ONE HOUR AND FORTY-TWO MINUTES HAD ELAPSED AND THE TRAIN WAS RESTORED TO OPERABLE STATUS. HOWEVER, THE ONE-HOUR ACTION STATEMENTS OF THE TECHNICAL SPECIFICATIONS WERE NOT
Robinson 2	09/01/1988	06/15/1989	Inoperable Cable Tray Penetration Seals Due to Inadequate Installation Procedure Abstract: POWER LEVEL - 000%. ON AUGUST 26, 1988, WITH UNIT NO. 2 OPERATING AT 100 PERCENT POWER, A POTENTIAL FOR A VOID IN AN ELECTRICAL CABLE TRAY FIRE PENETRATION SEAL WAS DISCOVERED. DURING REPAIR OF THE PENETRATION SEAL, AIR LEAKAGE THROUGH OTHER PENETRATIONS IN THE VICINITY WAS DISCOVERED. COMPREHENSIVE INSPECTION OF PENETRATIONS OF SIMILAR CONFIGURATION (CABLE TRAYS WITH COVERS) WAS INITIATED, WHICH RESULTED IN THE IDENTIFICATION OF 38 POTENTIALLY INADEQUATE SEALS. TECHNICAL SPECIFICATIONS WAS TAKEN, AND ALL PENETRATIONS WERE REPAIRED TO PROVIDE AN ADEQUATE SEAL. THE RESULTS OF THE INVESTIGATION REVEALED THAT INADEQUATE INSTALLATION PROCEDURES WERE UTILIZED DURING THE ORIGINAL SEALING OF THE CABLE TRAY PENETRATIONS. THE PROCEDURE FOR INSTALLATION AND INSPECTION OF CABLE TRAY PENETRATION SEALS IS BEING REVISED TO ASSURE A PROPER SEAL IS MAINTAINED. THIS CONDITION IS BEING REPORTED PURSUANT TO 10 CFR50.73(A)(2)(I)(B) AS A CONDITION PROHIBITED BY THE PLANTS TECHNICAL SPECIFICATIONS.
Robinson 2	01/18/1990	02/14/1990	Inoperable Fire Barrier Penetration Seals Due To Installation Deficiency Abstract: POWER LEVEL - 100%. ON JANUARY 18 AND JANUARY 25, 1990, WITH UNIT NO. 2 OPERATING AT FULL POWER, FIRE BARRIER ELECTRICAL PENETRATIONS WERE FOUND WITH NO INTERNAL FIRE BARRIER SEAL. COMPENSATORY ACTIONS AS REQUIRED BY THE TECHNICAL SPECIFICATIONS WERE TAKEN, AND THE PENETRATIONS WERE REPAIRED TO PROVIDE AN ADEQUATE SEAL. REVIEW OF THE SURVEILLANCE HISTORY OF EACH SEAL REVEALED THAT IN ONE CASE, THE CONDITION WAS CAUSED BY AN INSTALLATION DEFICIENCY, AND IN THE OTHER, AN INADEQUATE DESIGN REVIEW. THIS CONDITION IS BEING REPORTED PURSUANT TO 10CFR50.73(A)(2)(I)(B) AS A CONDITION PROHIBITED BY THE PLANTS TECHNICAL SPECIFICATIONS.
Robinson 2	04/30/1990	05/30/1990	Inoperable Fire Barrier Penetration Seal Abstract: POWER LEVEL - 100%. ON APRIL 30, 1990, WITH H. B. ROBINSON UNIT NO. 2 AT 100% POWER, A DEFICIENCY WAS IDENTIFIED WITH RESPECT TO A FIRE BARRIER PENETRATION. PASSING THROUGH THIS PENETRATION WAS A LENGTH OF ONE-FOURTH INCH PLASTIC TUBING WHICH WAS UNSEALED AT BOTH ENDS. THE MATERIAL AND CONFIGURATION OF THIS PENETRATION DID NOT CONSTITUTE AN ACCEPTABLE THREE-HOUR FIRE BARRIER PENETRATION SEAL, AND THE PENETRATION WAS DECLARED INOPERABLE AT 1545 HOURS ON APRIL 30, 1990. THIS PENETRATION HAD BEEN INSPECTED ON PREVIOUS OCCASIONS, HOWEVER, IT WAS NOT RECOGNIZED THAT THIS TUBING VIOLATED THE INTEGRITY OF THE PENETRATION SEAL. THE TUBING WAS REMOVED, AND THE PENETRATION WAS REPAIRED AND RETURNED TO SERVICE AT 0800 HOURS ON MAY 7, 1990. SINCE IT COULD BE ESTABLISHED THAT THIS PENETRATION HAD BEEN INOPERABLE FOR A TIME PERIOD WHICH EXCEEDED THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS, THIS LICENSEE EVENT REPORT IS SUBMITTED PURSUANT TO 10CFR50.73 (A)(2)(I)(B) AS A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.
Robinson 2	06/20/1990	03/22/1991	INOPERABLE FIRE BARRIER PENETRATION SEAL Abstract: POWER LEVEL - 060%. ON JUNE 20, 1990, WITH H. B. ROBINSON UNIT NO. 2 OPERATING AT SIXTY PERCENT POWER, A FIRE BARRIER PENETRATION WAS DISCOVERED WITH NO FIRE SEAL. THE PENETRATION WAS DECLARED INOPERABLE AT 1605 HOURS ON JUNE 20, 1990. THE PENETRATION CONSISTED OF A SIX INCH CORE BORE IN THE CEILING OF A FIRE ZONE TO THE OUTSIDE ROOF. THE PENETRATION HOUSED A FOUR INCH ROOF DRAIN PIPE, WHICH WAS NOT SEALED OTHER THAN BY THE TAR COVERING OF THE ROOF. THE CORE BORE WAS INSTALLED AS PART OF A PLANT MODIFICATION DURING 1977, AND APPARENTLY WAS NOT RECOGNIZED TO CONSTITUTE A FIRE PENETRATION AT THAT TIME. THE PENETRATION WAS REPAIRED AND RETURNED TO SERVICE AT 1850 HOURS ON JUNE 26, 1990. SINCE IT CAN BE ESTABLISHED THAT THIS PENETRATION HAD BEEN INOPERABLE FOR A TIME PERIOD WHICH EXCEEDED THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS, THIS LICENSEE EVENT REPORT IS SUBMITTED PURSUANT TO 10CFR50.73 (A)(2)(I)(B) AS A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.
Robinson 2	08/02/1990	08/29/1990	TECHNICAL SPECIFICATION VIOLATION DUE TO INOPERABLE FIRE BARRIER PENETRATION (FIRE DAMPER) Abstract: POWER LEVEL - 100%. ON AUGUST 2, 1990, WITH H. B. ROBINSON UNIT NO. 2 OPERATING AT ONE HUNDRED PERCENT POWER, AN HVAC DAMPER WHICH CONSTITUTES A FIRE BARRIER PENETRATION WAS DISCOVERED IN THE OPEN (INOPERABLE) POSITION DURING SCHEDULED SURVEILLANCE TESTING. THE DAMPER WAS DECLARED INOPERABLE AT 0430 HOURS, AND A WORK REQUEST WAS INITIATED TO RETURN THE DAMPER TO THE CLOSED (OPERABLE) POSITION. COMPENSATORY ACTIONS WERE TAKEN IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.14.7.2. THE DAMPER WAS RETURNED TO SERVICE AT 1330 HOURS ON AUGUST 2, 1990. AN INVESTIGATION INTO THE CIRCUMSTANCES SURROUNDING THE DAMPER MISPOSITIONING WAS INITIATED, BUT THE ROOT CAUSE COULD NOT BE DETERMINED. HOWEVER, SINCE IT CAN BE ESTABLISHED THAT THIS FIRE BARRIER PENETRATION HAD BEEN INOPERABLE FOR A TIME PERIOD WHICH EXCEEDED THE REQUIREMENTS OF THE TECHNICAL SPECIFICATION LIMITING CONDITION FOR OPERATION, THIS LICENSEE EVENT REPORT IS SUBMITTED PURSUANT TO 10CFR50.73 (A)(2)(I)(B) AS A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.
Robinson 2	02/13/1993	03/15/1993	INFORMATION REPORT: EXCEEDING FIRE PROTECTION SYSTEM ACTION STATEMENT Abstract: POWER LEVEL - 100%. On February 13, 1993, with H. B. Robinson Unit No. 2 operating at one hundred percent power, a scheduled Fire Protection System surveillance test was being performed which removed certain Fire Protection equipment from service. Due to personnel error, the equipment was not returned to service within the time allowed by the Technical Specification (TS) Limiting Condition of Operation (LCO), and the compensatory actions required by TS 3.14.6.1 were not in place. Upon discovery, the Shift Supervisor entered TS 3.0 based on the action statement of the TS that had been exceeded, and notified the NRC Operations Center as such. At the time of this event, CP&L had been authorized to relocate Fire Protection Technical Specifications to the FSAR pursuant to Amendment 142 to the H. B. Robinson Operating License, and a 90-day period for implementation of this amendment was in affect. Although procedures were not yet in place to reflect the amendment, the amendment was effective immediately upon issuance (December 7, 1992). As such, the reporting requirements of 10 CFR 50.73 do not apply. This report is provided as information to followup the immediate notification made to the NRC Operations Center on February 13, 1993.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Robinson 2	11/19/2003	01/20/2004	Discovery of Two New Appendix R Safe Shutdown Vulnerabilities Abstract: During the development and review of an Engineering Change involving Appendix R Analysis, two postulated fire-induced transient conditions were identified. These conditions if not mitigated, could result in an unrecoverable condition. If a postulated fire were to occur causing specific circuit damage, operator actions to mitigate the transient would have to be taken in less than 10 minutes from the onset of circuit damage. Based on current analysis criteria, operator mitigating actions taken outside the Control Room and required in less than 10 minutes are not used due to the limited amount of time that the Control Room Staff would have to detect an equipment malfunction, determine its effect, and take mitigating actions. The fire-induced transient conditions identified include: 1) a postulated fire event that causes the spurious operation (closing) of the Volume Control Tank outlet isolation valve and loss of function for the Refueling Water Storage Tank Emergency Makeup to Charging Pump Suction isolation valve, and 2) a postulated fire event that causes the operation of both Pressurizer Power Operated Relief Valves concurrently. These transient conditions could occur due to a fire of sufficient magnitude in one of the following two fire zones: Fire Zone 19. Unit 2 Cable Spread Room. or Fire Zone 20, Emergency
Salem 1	08/29/1980	09/26/1980	A penetration fire barrier was open without a fire watch being established within one hour Abstract: A station qc inspector discovered a penetration fire barrier open between units 1 and 2 in the auxiliary building with no fire watch established. A contractor had removed the fire barrier to run a welding cable without notifying the senior shift supervisor and establishing a fire watch as required by procedure. Training is being improved to insure personnel are aware of the requirements and warning signs will be installed at penetrations and fire doors.
Salem 1	03/08/1981	04/06/1981	Loss of Audible Fire Alarm Signal Abstract: While performing routine testing on the Manual Fire Alarm System (Fire Alarm Pull Boxes) IAW Appendix B of the station's Fire Fighting Manual, two pull boxes did not generate audible alarm signals. Operator did not reset previously tested pull box in the fire zone. The pull box was reset and tests satisfactorily completed. In the current revising of the station's fire fighting manual, all procedures are being scrutinized to preclude future operator errors. The operator was counseled for his action.
Salem 1	03/16/1981	04/15/1981	Non-functional Fire Barriers Abstract: The Senior Shift Supervisor on Shift was requested by maintenance personnel to grant permission to replug several penetration fire barriers. The Senior Shift Supervisor discovered that no fire watches had been established when the plugs were removed on 2/18/81. The plugs were 3-1/2 inch welding lead plugs designed to retard the heat transferred from a fire on one side of the penetration to the other for a period of three hours. Personnel involved in the removing of the plugs were not familiar with procedures and documentation required. The personnel involved have been counseled. Administrative procedures are currently being revised to establish more effective administrative control when fire barriers are to be breached.
Salem 1	04/04/1981	05/01/1981	Loss of Audible Fire Alarm Abstract: While testing the fire detection system in accordance with the salem generating station fire fighting manual, it was discovered that no audible alarm signals were being generated. Previous similar occurrences: 81-06, 81-19, 81-26. A limit switch had drifted out of adjustment preventing the decoder from completing the sequential action necessary to generate the audible alarm. The decoder and its limit switch were readjusted, cycled and tested satisfactory.
Salem 1	06/26/1981	07/23/1981	Fuel Handling Building Fire Alarm Zone - Inoperable. Abstract: The control operator noticed a fuel handling building alarm on the fire protection annunciator was illuminated. Since the presence of the alarm blocks any other alarm in that zone from annunciating, the minimum required channels for that area were inoperable. A fire watch patrol was estabilised in the fuel handling building area in accordance with Tech spec 3.3.3.6.a. The pull box was properly reset and the fire protection annunciator was cleared.
Salem 1	08/27/1981	09/23/1981	Penetration Fire Barrier - Breached Abstract: An operator noticed that the insulation was off a duct outside the primary sample room. The insulation formed a penetration barrier. A continuous fire watch was established within one hour. The insulation was properly reinstalled.
Salem 1	10/29/1981	01/30/1986	Penetration Fire Barriers - Inoperable Abstract: On 10-29-81, Tech Spec Action Statement 3.7.11.a was entered and 14 fire doors were declared inoperable following a special inspection. Design changes were formulated to upgrade the fire doors in both unit 1 and 2. However, various problems with their implementation and inadequate management attention to the fire barrier problem allowed the conditions to be left unattended for an excessive period of time. At the request of PSE&G, ul performed an on-site inspection. As a result, 79 doors were replaced, 125 frames were repaired, 49 frames were replaced and 5 new doors and frames were installed to meet appendix 'r' requirements. Action Statement 3.7.11.a was terminated on 11-27-85.
Salem 1	12/29/1981	01/20/1982	Fire Detection Instrumentation - Inoperable. Abstract: During the test for wet pipe sprinkler flow for the Service Building, 88' Elevation, the audible alarm emitted only a continuous tone, without the coded signal. At 1115 hours breaker no. 13 in the miscellaneous signal cabinet was deenergized, rendering the alarm inoperable, and action statement 3.3.3.6 was entered. An operator was stationed at the 1rp5, fire zone alarm panel, to track alarm status. The coded signal did not sound because the encoder was mechanically jammed. The mechnical mechanism in the encoder was unjammed and tested satisfactorily. The alarm was declared operable and action statement 3.3.3.6 was terminated.
Salem 1	01/18/1982	10/20/1982	Cardox Fire Suppression System Inoperable Greater Than 14 Days - Special Report Abstract: On January 4 and 11, 1982, the switches for the Cardox Fire Suppression System for 1A, 1B, and 1C Diesel Generator Areas and the No. 12 Fuel Oil Storage Tank area were placed in the manual position in order to protect personnel working in the area and Action Statement 3.7.10.3 was entered. A continuous fire watch was established within one hour. On January 18 and 25, 1982, respectively, the Cardox System had been inoperable for greater than 14 days, therefore, a special report was required. A continuous fire watch was maintained. The named Cardox Systems were retained in the manual mode for personnel safety due to the maintenance outage. At the end of the outage, they were returned to automatic operation. At 0907 hours, May 1, 1982, Action Statement 3.7.10.3 was terminated.
Salem 1	07/12/1982	07/28/1982	Penetration Fire Barriers Non-Functional Abstract: During the performance of maintenance procedure M3Y-2, two floor penetrations in the control room were found to be non-functional and not included in the surveillance. Action Statement 3.7.11 was already in effect due to other open penetrations. The incident constitutes operation in a degraded mode in accordance with tech spec 6.9.1.9.b. See LERS: 81-106, 81-082, 81-030. The penetrations were apparently left open at the time of installation. The problem was likely overlooked because terminal fixtures obscured the penetrations. The openings were properly sealed and were incorporated into the surveillance.
Salem 1	10/11/1982	11/17/1982	Diesel Generator Area Low Pressure CO2 System Inoperable Abstract: The Diesel Generator Area Low Pressure CO system automatic feature was disabled and tagged out for planned maintenance. The tagout was necessary to insure personnel safety during work in the area. With the feature inoperable, action statement 3.7.10.3a applied. The feature will be inoperable until completion of the unit 1 refueling. The action statement requires a report in accordance with tech spec 6.9.2f. The co2 manual actuation capability was maintained. A continuous fire watch with backup fire suppression equipment was immediately established in the area, in compliance with the action statement. These measures will be in effect until completion of the refueling.
Salem 1	10/25/1982	11/10/1982	Iodine Removal and Pressure Relief System Fire Detection Instruments Inoperable Abstract: It was discovered that the thermal detectors for the Units 1 & 2 Iodine Removal Systems and Pressure Relief Systems had not been included in the fire detection instrumentation surveillance procedures. Testing of the detectors in accordance with surveillance requirements 4.3.3.6.1 had not been performed since system installation. The testing was subsequently performed satisfactorily; the detectors were apparently operable since installation. The event constituted operation in a degraded mode in accordance with Tech Specs 6.9.1.9.b. The detectors were omitted from the surveillance procedures due to oversight at the time of writing. New procedures have been written and are presently in the review process.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Salem 1	10/27/1982	11/24/1982	Penetration Fire Barriers Non-Functional Abstract: During routine surveillance of the 122 foot Elevation of the auxiliary building, 5 fire barrier penetrations were found to be non-functional. One barrier was open due to construction, two barriers were inadequately sealed, and sealing of the remaining two barriers had apparently been overlooked at installation. Action statement 3.7.11 was already in effect, dating back to October 29, 1981, due to other open penetrations; a fire watch was already assigned. The occurrence constituted operation in a degraded mode in accordance with Tech Spec 6.9.1.9.b. The fire barrier surveillance procedure did not identify or locate the penetrations. An improved procedure had been implemented; this was the first occasion on which the procedure was performed for this area. The penetrations were sealed on October 27, 1982. See LERs: 82-046, 81-106, 81-082.
Salem 1	11/09/1982	11/24/1982	Fire Detection Instrumentation Inoperable Abstract: During routine surveillance, an operator observed a Fire in Fire Detection Instrumentaton Panel 1FP3. Power to the panel was de-energized, and a number of fire detectors were rendered inoperable. Areas affected included the Switchgear Rooms, Battery Room (Elevation 64 feet), Diesel Generator Area and Diesel Fuel Storage Area. Due to the inoperability of the instruments, Action Statement 3.3.3.6a was entered. The occurrence constituted operation in a degraded mode in accordance with Tech Spec 6.9.1.9.b. See LERs: 82-082, 81-112, 81-068, 81-038, 81-026. The fire was extinguished and fire watch patrols were immediately established for the areas involved. The fire resulted from the failure of the panel alarm buzzer relay. The relay was replaced, the fire detection instrumentation was satisfactorily tested and the action statement was terminated.
Salem 1	09/13/1985	10/11/1985	Fire Watch Not Continuously Maintained I.A.W. Technical Specifications Abstract: POWER LEVEL - 100%. ON 9-13-85, THE AUTOMATIC ACTUATION FEATURE OF 1C DIESEL LOW PRESSURE CARBON DIOXIDE FIRE SUPPRESSION SYSTEM WAS DEFEATED FOR DIESEL MAINTENANCE. PER TECH SPEC REQUIREMENTS, A FIRE WATCH WAS POSTED DURING THE MAINTENANCE ACTIVITIES. HOWEVER, THE FIRE WATCH LEFT HIS POST AT THE END OF SHIFT, APPROX 1 1/2 HRS PRIOR TO THE FIRE SUPPRESSION SYSTEM BEING RESTORED TO AN OPERABLE STATUS. THE ROOT CAUSE OF THIS EVENT WAS THE LACK OF COORDINATION BETWEEN THE MAINTENANCE SUPERVISOR AND THE OPERATIONS SHIFT SUPERVISOR. THE MAINTENANCE SUPERVISOR FAILED TO AUTHORIZE OVERTIME OR TO MAKE ARRANGEMENTS FOR A RELIEF IN THE EVENT THAT THE TAGS WERE NOT CLEARED BY THE END OF THE SHIFT. THE SHIFT SUPERVISOR, IN TURN, DID NOT INFORM THE MAINTENANCE SUPERVISOR THAT THE TAGS WOULD NOT BE CLEARED BY THE END OF THE SHIFT. WAS POSSIBLE; HOWEVER, WITHOUT THE REQUIRED FIRE WATCH PRESENT, ACTUATION OF THE SYSTEM WOULD HAVE BEEN DELAYED IN THE EVENT A FIRE HAD OCCURRED. SUPERVISORS HAVE BEEN DIRECTED TO MAINTAIN ALL FIRE WATCHES ON POST UNTIL SUCH TIME THAT THEY ARE RELIEVED, AND THAT FIRE IMPAIRMENT TAGGING RELEASES SHOULD BE HANDLED IN AN EXPEDITIOUS MANNER. IN ADDITION, APPROPRIATE TRAINING PROGRAMS WILL BE UPGRADED TO EMPHASIZE THE DUTIES AND RESPONSIBILITIES OF THE FIRE
Salem 1	06/27/1986	07/25/1986	FIRE WATCH NOT CONTINUOUSLY MAINTAINED I.A.W. TECHNICAL SPECIFICATIONS Abstract: POWER LEVEL - 090%. ON JUNE 27, 1986, OPERATIONS SHIFT PERSONNEL DISCOVERED THAT THEY WERE NOT IN FULL COMPLIANCE WITH TECHNICAL SPECIFICATION REQUIREMENTS DUE TO A FIRE WATCH NOT BEING CONTINUOUSLY MAINTAINED FOR AN INOPERABLE FIRE DOOR. ONE FIRE WATCH WAS UTILIZED FOR BOTH THE FIRE DOOR, AND FOR A FIRE BARRIER PENETRATION IN THE IMMEDIATE VICINITY WHICH WAS BEING WORKED ON AT THE TIME. HOWEVER, AT THE COMPLETION OF WORK ON THE PENETRATION, THE FIRE WATCH WAS INADVERTENTLY RELEASED, LEAVING NO FIRE WATCH FOR THE INOPERABLE DOOR. THE 'ROOT' CAUSE OF THIS EVENT WAS THE LACK OF ADEQUATE PROCEDURES GOVERNING THE RESPONSIBILITIES OF ALL PERSONNEL INVOLVED WITH THE FIRE PROTECTION PROGRAM, AND BY AN INFORMAL MEANS OF COMMUNICATING FIRE IMPAIRMENT NOTIFICATIONS TO THE OPERATING SHIFT. AN INFORMATION DIRECTIVE, SPECIFYING THE METHODS TO BE USED IN DETERMINING COMPLIANCE WITH THE TECHNICAL SPECIFICATION FIRE WATCH REQUIREMENTS, WILL BE ISSUED TO ALL OPERATIONS DEPARTMENT PERSONNEL. THIS INFORMATION DIRECTIVE WILL PROMULGATE THE NECESSARY PROCEDURES TO BE FOLLOWED UNTIL SUCH TIME AS A NEW OPERATIONS DIRECTIVE IS ISSUED. THE OPERATIONS DIRECTIVE, IN CONJUNCTION WITH A REVISION TO ADMINISTRATIVE PROCEDURE AP-25 WILL ALSO IMPROVE COMMUNICATIONS BETWEEN DEPARTMENTS
Salem 1	07/31/1986	10/14/1986	Fire Door C-8-1 Inoperable, Failure to Enter L.C.O. Action Statement Abstract: POWER LEVEL - 100%. ON JULY 29, 1986, NO. 11 COMPONENT COOLING HEAT EXCHANGER WAS DECLARED INOPERABLE AND PREPARED FOR PLANNED MAINTENANCE. AT 2108 HOURS, THE DOOR WAS BLOCKED OPEN AND THE SHIFT TOLD THAT AN IMPAIRMENT PERMIT WAS BEING ISSUED FOR FIRE DOOR C-8-1. THE PERMIT SPECIFIED THAT THIS WAS A DOOR REQUIRED BY THE TECHNICAL SPECIFICATIONS. HOWEVER, THE OPERATORS, NOTING THAT THE DOOR HAD INSTALLED LOUVRES, DISAGREED WITH THE CLASSIFICATION AND DID NOT ENTER THE ACTION STATEMENT. ON JULY 31, 1986, DOOR C-8-1 WAS VERIFIED TO BE A TECHNICAL SPECIFICATION FIRE DOOR. THE ACTION STATEMENT WAS THEN ENTERED AND A FIRE WATCH POSTED. THE LOUVRES ON DOOR C-8-1 ARE SPRING LOADED WITH FUSIBLE LINKS AND ARE DESIGNED TO CLOSE ON A FIRE. THE CONFUSION CONCERNING THE FIRE DOOR CLASSIFICATION WAS COMPOUNDED BY A LACK OF DISTINGUISHING MARKS ON THE TECHNICAL SPECIFICATION FIRE DOORS AND THE FACT THAT SIMILAR DOORS ARE NON-TECHNICAL SPECIFICATION DOORS. AN ENTRY PLACED IN THE OPERATIONS NIGHT ORDER BOOK DIRECTS OPERATIONS SHIFT SUPERVISION TO CHECK WITH SITE PROTECTION WHENEVER THE CLASSIFICATION OF A FIRE BARRIER CLOSURE IS IN QUESTION. A COPY OF THIS LER WILL BE PLACED IN THE OPERATIONS DEPARTMENT NEWSLETTER FOR THE INFORMATION OF ALL OPERATORS. THE FIRE DOORS REQUIRED BY THE
Salem 1	10/01/1986	11/07/1986	T. S. 3.7.11 Non-Compliance - Fire Barrier Wall Impairment Discovered Abstract: POWER LEVEL - 100%. ON OCTOBER 1, 1986 TWO IMPROPERLY SEALED 2' CONDUIT PENETRATIONS IN THE SERVICE WATER INTAKE STRUCTURE FIRE BARRIER WALL WERE DISCOVERED. IT COULD NOT BE DETERMINED WHEN THE FIRE BARRIER WALL BECAME IMPAIRED. A ONE HOUR ROVING FIRE WATCH WAS ESTABLISHED UPON DISCOVERY OF THE IMPAIRMENT AND WAS CONTINUED UNTIL REPAIR OF THE PENETRATION SEALS WAS COMPLETED. INVESTIGATIONS ARE CONTINUING TO DETERMINE THE ROOT CAUSE OF THE FIRE BARRIER WALL IMPAIRMENT.
Salem 1	06/04/1987	07/16/1987	T. S. 3.7.11 Non-Compliance - Impaired Fire Barrier Penetrations Discovered Abstract: POWER LEVEL - 050%. ON JUNE 4, 1987, AT 0500 HOURS, FIRE PROTECTION DEPARTMENT (FPD) PERSONNEL DISCOVERED FOURTEEN (14) IMPROPERLY SEALED FIRE BARRIER CABLE PENETRATIONS WHICH LEAD FROM THE 100' ELEVATION RELAY ROOM TO A 113' ELEVATION 'CABLE VAULT'. ON JUNE 24, 1987, AT 1630 HOURS, SIX (6) ADDITIONAL INADEQUATELY SEALED FIRE BARRIER CABLE PENETRATIONS WERE DISCOVERED LEADING FROM THE RELAY ROOM (BUT ON DIFFERENT FIRE BARRIER BOUNDARIES). THIS IS CONTRARY TO THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.11. TECHNICAL SPECIFICATION ACTION STATEMENT 3.7.11.A WAS ENTERED UPON DISCOVERY OF THE IMPAIRED PENETRATIONS AND A ROVING ONE HOUR FIRE WATCH WAS ESTABLISHED. THE PENETRATIONS WERE SEALED WITHIN SEVEN DAYS OF DISCOVERY AND TECHNICAL SPECIFICATION ACTION STATEMENT 3.7.11.A WAS EXITED. THE ROOT CAUSE OF THE IMPAIRMENTS COULD NOT BE POSITIVELY DETERMINED. POSITIVE IDENTIFICATION OF WHEN OR BY WHOM THE PENETRATIONS WERE IMPAIRED SINCE THE LAST SURVEILLANCE COULD NOT BE MADE. A REVIEW OF THE ADMINISTRATIVE CONTROL OF PLANNED IMPAIRMENTS (FACILITY/EQUIPMENT MODIFICATIONS) IS CONTINUING.
Salem 1	03/24/1988	04/25/1988	T. S. Action Statement 3.7.11 Noncompliance - Hourly Roving Fire Watch Late Abstract: POWER LEVEL - 100%. ON MARCH 24, 1988, APRIL 4, 1988 AND APRIL 15, 1988, IT WAS DISCOVERED THAT A FEW HOURLY ROVING FIRE WATCHES WERE LATE BETWEEN 10 AND 32 MINUTES FOR FOUR AREAS. THIS IS CONTRARY TO THE REQUIREMENTS OF TECHNICAL SPECIFICATION ACTION STATEMENT 3.7.11. THESE AREAS REQUIRE A ROVING FIRE WATCH DUE TO INOPERABLE FIRE DAMPERS IN FIRE BARRIERS (REFERENCE SALEM UNIT 1 LER 272/88-007-00). THE ROOT CAUSE HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. REVIEWED THESE EVENTS. APPROPRIATE CORRECTIVE DISCIPLINARY ACTION HAS BEEN TAKEN. ADDITIONALLY, NUCLEAR FIRE & SAFETY DEPARTMENT MANAGEMENT HAS REVIEWED THESE EVENTS WITH DEPARTMENTAL PERSONNEL. SURVEILLANCES WITHIN THE REQUIRED TIME FRAME WAS STRESSED. ADMINISTRATIVE CONTROLS HAVE BEEN IMPLEMENTED TO MITIGATE FUTURE RECURRENCE OF LATE FIRE WATCHES INCLUDING REDUCTION OF THE TIME PERIOD BETWEEN ROVING FIRE WATCHES AND MORE STRINGENT COMMUNICATION REQUIREMENTS BETWEEN THE INDIVIDUALS CONDUCTING ROVING FIRE WATCHES AND THEIR SUPERVISION.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Salem 1	09/26/1988	10/25/1988	T.S. Action Statement 3.7.11 Non-Compliance - Hourly Roving FW Patrol Late; Pers. Error Abstract: POWER LEVEL - 100%. ON 9/26/88 AT 0420 HOURS, IT WAS DISCOVERED THAT THE HOURLY ROVING FIRE WATCH PATROL FOR SEVERAL AREAS WAS NOT COMPLETED WITHIN AN HOUR (I.E., BETWEEN 24 AND 32 MINUTES LATE). THE AREAS INVOLVED INCLUDE THE 122', 64', 55' AND 45' ELEVATION AUXILIARY EQUIPMENT AREAS AND THE STAIRWELL NO. 1, 113' ELEVATION PRIMARY SAMPLING LAB. ON 10/10/88 AT 0620 HOURS, IT WAS DISCOVERED THAT THE HOURLY ROVING FIRE WATCH PATROL WAS NOT COMPLETED WITHIN AN HOUR (I.E., APPROXIMATELY 20 MINUTES LATE) FOR THE 64' AND 55' ELEVATION AUXILIARY EQUIPMENT AREAS. THE ABOVE AREAS REQUIRE A ROVING FIRE WATCH PATROL DUE TO VARIOUS FIRE PROTECTION CONCERNS (E.G., INOPERABLE PENETRATION SEALS). LATE FIRE WATCHES ARE CONTRARY TO THE REQUIREMENTS SPECIFIED BY TECH SPEC ACTION STATEMENT 3.7.11. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. PATROLS HAD STOPPED PATROLLING AND HAD FALLEN ASLEEP. THE INDIVIDUALS INVOLVED WERE GIVEN A MEDICAL 'FITNESS FOR DUTY' EXAMINATION. RESULTS INDICATED THE INDIVIDUAL INVOLVED IN THE 9/26/88 EVENT WAS FIT (I.E., NEGATIVE RESULTS). THE RESULTS FOR THE INDIVIDUAL INVOLVED IN THE 10/10/88 EVENT INDICATED POSITIVE FOR MARIJUANA USAGE. SITE PROTECTION DEPARTMENT MANAGEMENT HAS REVIEWED THESE EVENTS AND APPROPRIATE CORRECTIVE DISCIPLINARY ACTION HAS
Salem 1	10/10/1988	02/08/1989	Tech. Spec. Action Statement Non-Compliance - Due to Personnel Error Abstract: POWER LEVEL - NG %. ON 1/25/89 IT WAS DISCOVERED BY PENETRATION SEAL GROUP PERSONNEL THAT TWO UNIT 1 RELAY ROOM PENETRATIONS, FIRST IDENTIFIED IN SEPT. 1988, HAD NOT BEEN ADDRESSED IN A SPECIAL REPORT AS PER TECH SPEC ACTION STATEMENT 3.7.11.A. TO PERSONNEL ERROR. A DATA ENTRY CLERK HAD NOT ENTERED THE IMPAIRMENT DATE FOR THE SUBJECT IMPAIRED PENETRATION SEALS INTO THE COMPUTER. WITHOUT THIS DATE, COMPUTER GENERATED REPORTS WHICH LIST IMPAIRED PENETRATION SEALS WOULD NOT LIST THESE PENETRATIONS. THESE REPORTS ARE USED TO GENERATE REPORTS WHICH ADDRESS IMPAIRED PENETRATION SEALS. THE INDIVIDUAL(S) INVOLVED IN THIS EVENT HAVE BEEN COUNSELED BY PENETRATION SEAL REVIEW GROUP MANAGEMENT AS TO THE NECESSITY FOR ATTENTION TO DETAIL. THE INVESTIGATION OF THE DATA ENCODING PROBLEM HAS BEEN COMPLETED. NO OTHER HISTORICAL IMPAIRED PENETRATION SEALS WERE FOUND. THE REPORT GENERATION COMPUTER PROGRAM HAS BEEN REVISED TO LIST IMPAIRED PENETRATION SEALS REGARDLESS OF ANY MISSING DATA. THE SUBJECT PENETRATIONS HAVE BEEN ADDED TO THE LISTINGS IN UNIT 1 SPECIAL REPORT 88-3, REVISION 6.
Salem 1, Salem 2	09/17/1987	10/16/1987	Potentially Inadequate Breaker Coordination Abstract: POWER LEVEL - 000%. ON SEPTEMBER 17, 1987 AT 2000 HOURS, IT WAS DETERMINED THAT BREAKER COORDINATION COULD NOT BE SHOWN TO BE DOCUMENTED FOR SEVERAL VOLTAGE LEVELS IN EITHER SALEM UNIT 1 OR UNIT 2. THIS CONCLUSION IS BASED ON A DRAFT REPORT OF AN EVALUATION OF PROTECTIVE RELAYING OF VITAL BUSSES WITH RESPECT TO THE REQUIREMENTS OF 10CFR50 APPENDIX R. THERE IS A POSSIBILITY THAT CIRCUITS ASSOCIATED WITH NON-SHUTDOWN LOADS DAMAGED BY A POSTULATED FIRE COULD CAUSE THE LOSS OF POWER TO SHUTDOWN EQUIPMENT FED FROM SEPARATE VITAL BUSSES. INVESTIGATIONS ARE CONTINUING TO IDENTIFY THE HISTORICAL BREAKER COORDINATION BASIS AND TO ESTABLISH THE ADEQUACY OF THE CURRENT CONFIGURATION. ROOT CAUSE WILL BE IDENTIFIED BASED UPON THE RESULTS OF THESE INVESTIGATIONS. RESULTS ARE EXPECTED BY THE END OF DECEMBER 1987. ACTIONS TAKEN UNTIL COMPLETION OF THE BREAKER COORDINATION STUDY INCLUDES ESTABLISHMENT OF FIRE WATCHES WHERE POSTULATED FIRES COULD POTENTIALLY DAMAGE REDUNDANT VITAL CABLING.
Salem 1, Salem 2	03/18/1988	04/14/1988	10CFR 50 Appendix R Cable Design Deficiency Due To Design Error Abstract: POWER LEVEL - 000%. ON MARCH 18, 1988, PSE&G ENGINEERS IDENTIFIED A DESIGN DEFICIENCY CONCERNING THE CABLE (CDC22-CT) WHICH PROVIDES AN ALTERNATE SOURCE OF CONTROL AND FIELD FLASHING POWER TO THE THREE DIESEL GENERATORS (D/GS) DURING A POSTULATED FIRE THAT REQUIRES ALTERNATE SHUTDOWN MEASURES. THIS CABLE ORIGINATES FROM THE 'C' TRAIN 125 VOLT VITAL BUS, RUNS THROUGH A CEILING CABLE TRAY IN THE 460V SWITCHGEAR ROOM, AND TERMINATES IN THE 1C DIESEL GENERATOR CONTROL ROOM. THE NUCLEAR REGULATORY COMMISSION (NRC) REQUIREMENTS IN THE CODE OF FEDERAL REGULATIONS 10CFR 50 APPENDIX R SECTION III.G.3, STATE THAT THE REQUIRED ALTERNATE SHUTDOWN CAPABILITY IS TO BE 'INDEPENDENT OF CABLES, SYSTEMS OR COMPONENTS IN THE AREA, ROOM OR ZONE UNDER CONSIDERATION'. HOWEVER, CONTRARY TO THIS REQUIREMENT, THE CDC22-CT CABLE IS NOT PHYSICALLY INDEPENDENT OF THE CEILING AREA WHICH IS THE 'ZONE UNDER CONSIDERATION'. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO A DESIGN ERROR. CORRECTIVE ACTION INCLUDES RE-ROUTING THE CDC22-CT CABLE IN ACCORDANCE WITH 1OCFR APPENDIX R CRITERIA DURING THE NEXT REFUELING OUTAGE. AN HOURLY ROVING FIRE WATCH (PREVIOUSLY ESTABLISHED FOR THE AREA FOR OTHER FIRE PROTECTION CONCERNS) WILL BE CONTINUED UNTIL COMPLETION OF CABLE RE-ROUTINE AND SATISFACTION OF THE OTHER
Salem 1, Salem 2	03/23/1988	04/22/1988	Fire Barrier Dampers Inadequate Due To Inadequate Review of Procurement Documents Abstract: POWER LEVEL - 100%. ON MARCH 23, 1988, IT WAS IDENTIFIED THAT SEVERAL SALEM UNIT 1 FIRE DAMPERS ARE NOT FIRE RATED NOR DID SEVERAL DUCT SECTIONS PENETRATING BARRIERS HAVE APPROVED FIRE BARRIER COATING. IT IS ASSUMED SALEM UNIT 2 COMPARABLE DUCTS AND DAMPERS ARE ALSO INADEQUATE. SUBSEQUENTLY, TECHNICAL SPECIFICATION ACTION STATEMENT 3.7.11 WAS ENTERED UPON DISCOVERY OF THE DAMPER AND DUCT INADEQUACIES FOR BOTH SALEM UNIT 1 AND SALEM UNIT 2. THE DAMPERS IN QUESTION WERE INSTALLED IN 1980. THE INSTALLATION WAS TO BE DONE IN ACCORDANCE WITH AN NRC LETTER DATED JANUARY 19, 1979. THIS LETTER, REQUIRING THE INSTALLATION OF 3 HOUR RATED FIRE DAMPERS, WAS SUPERCEDED BY AN APPROVED EXEMPTION REQUEST DATED SEPTEMBER 16, 1982 WHICH ACCEPTED THE INSTALLATION OF 1.5 HOUR RATED FIRE DAMPERS. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR IN THE ENGINEERING REVIEW OF PROCUREMENT DOCUMENTATION. IT COULD NOT BE DETERMINED WHY THE ENGINEERING PERSONNEL INVOLVED IN THE PREPARATION AND REVIEW OF THE DESIGN CHANGE PACKAGES DID NOT IDENTIFY THE DESIGN CONFIGURATION CONCERN OR WHY NOT ALL DUCTS REQUIRING FIRE WRAP WERE IDENTIFIED. APPROPRIATE) HAS BEEN ESTABLISHED FOR THE AREAS WHERE THE INADEQUATE DAMPERS/DUCTS ARE LOCATED.
Salem 1, Salem 2	08/12/1988	09/06/1988	T. S. Non-Compliance; Fire Barrier Pene. Inoperable Due To Inad. Procedural Guidance Abstract: POWER LEVEL - 000%. ON 8/12/88 IT WAS IDENTIFIED THAT SEVERAL PENETRATION SEALS DID NOT CONFORM TO THE CORRECT COLOR OR CELL STRUCTURE AS RECOMMENDED BY THE SILICONE FOAM MANUFACTURER. THE COLOR/CELL STRUCTURE INDICATE THE ABILITY OF A SEAL TO PROVIDE THE NECESSARY FIRE PROTECTION AS PER THE MANUFACTURER. THE COLOR/CELL STRUCTURE IS SET APPROXIMATELY 24 HOURS AFTER FOAM INSTALLATION. THEREFORE, IT CAN BE ASSUMED THAT THOSE PENETRATIONS WITHOUT THE APPROPRIATE COLOR/CELL STRUCTURE HAVE BEEN IMPAIRED SINCE INSTALLATION. THE INADEQUATE SEALS WERE IDENTIFIED BY PENETRATION SEAL REVIEW PROGRAM (PSRP) INSPECTORS IN THE COURSE OF PENETRATION INSPECTIONS IN THE UNIT 1 RELAY ROOM. THE APPARENT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO INADEQUATE PROCEDURAL GUIDANCE FOR THE INSTALLATION OF FIRE BARRIER PENETRATION FOAM SEALS. AN HOURLY FIRE WATCH WAS PREVIOUSLY ESTABLISHED FOR THE SUBJECT FIRE AREAS DUE TO OTHER FIRE PROTECTION CONCERNS AND WILL CONTINUE UNTIL ALL SUCH CONCERNS ARE RESOLVED. THE APPROPRIATE PROCEDURE HAS BEEN REVISED TO ADDRESS THE FOAM MANUFACTURER RECOMMENDATIONS. THE REPAIR OF THESE PENETRATIONS WAS NOT ACCOMPLISHED WITHIN 7 DAYS DUE TO THE ADDITIONAL REVIEW BEING CONDUCTED BY THE PSRP PERSONNEL. UPON COMPLETION OF THIS REVIEW THE PENETRATIONS
Salem 1, Salem 2	08/30/1988	09/27/1988	Missed T. S. Surveillance 4.7.11 Due to Inadvertent Administrative Control Abstract: POWER LEVEL - 000%. ON 8/30/88 A QUALITY ASSURANCE (QA) REVIEW OF TECH SPEC SURVEILLANCES IDENTIFIED SEVERAL MISSED FIRE BARRIER PENETRATION SURVEILLANCES, REQUIRED BY TECH SPEC SURVEILLANCE 4.7.11, FOR BOTH SALEM UNITS 1 & 2. QA HAD PREPARED A MATRIX OF TECH SPEC SURVEILLANCE REQUIREMENTS AS PART OF ITS RESPONSE TO AN OPEN CORRECTIVE ACTION IDENTIFIED IN UNIT 2 LER 311/88-004-00. THIS CORRECTIVE ACTION REQUIRED QA TO EVALUATE THE ADMINISTRATIVE CONTROL OF SURVEILLANCE RECURRING TASKS. SUBSEQUENT SURVEILLANCE OF THE SUJBECT FIRE BARRIERS IDENTIFIED 14 INOPERABLE PENETRATION SEALS. THE ROOT CAUSE OF THE MISSED SURVEILLANCE HAS BEEN ATTRIBUTED TO INADEQUATE ADMINISTRATIVE CONTROLS. THE CAUSE OF THE INADEQUATELY SEALED PENETRATIONS COULD NOT BE DETERMINED. CORRECTIVE ACTION TO PREVENT A RECURRENCE OF A MISSED FIRE BARRIER SURVEILLANCE INCLUDES: MONTHLY REVIEW OF A COMPUTER GENERATED WORK ACTIVITY REPORT; UPDATE OF THE MATRIX USED TO SUPPLEMENT TRACKING AND SCHEDULING OF SURVEILLANCES; AND PREPARATION OF AN ADMINISTRATIVE PROCEDURE THAT CLEARLY SPECIFIES PERSONNEL RESPONSIBILITIES FOR PLANNING, SCHEDULING, AND TRACKING SURVEILLANCES THROUGH COMPLETION. THE REPAIR OF THE INOPERABLE PENETRATION SEALS WAS NOT ACCOMPLISHED WITHIN 7 DAYS DUE TO THE ADDITIONAL REVIEW BEING

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Salem 1, Salem 2	09/09/1988	10/04/1988	T.S. Surveillance 4.7.11 Non-Compliance - Fire Pampers Not Surveilled - Inad. Admin. Con. Abstract: POWER LEVEL - 000%. ON SEPTEMBER 9, 1988, IT WAS IDENTIFIED, BY SITE PROTECTION PERSONNEL, THAT TWENTY-NINE (29) AIR BALANCE MODEL #119 DAMPERS, IN SEVERAL UNIT 1 AND UNIT 2 FIRE AREAS, HAVE NEVER BEEN SURVEILLED AS REQUIRED BY TECHNICAL SPECIFICATION 4.7.11. THE APPARENT ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO INADEQUATE ADMINISTRATIVE CONTROL. THE DAMPERS ALTHOUGH SHOWN ON CONTROLLED MECHANICAL ARRANGEMENT DRAWINGS, DID NOT HAVE UNIQUE EQUIPMENT IDENTIFIER TAG NUMBERS. CONSEQUENTLY, THE DAMPERS WERE NOT IDENTIFIED ON THE EQUIPMENT LISTS USED AS A REFERENCE TO PREPARE SURVEILLANCE PROCEDURES. SUBSEQUENTLY, THE DAMPER SURVEILLANCE REQUIREMENT WAS MISSED. THE SURVEILLANCE FOR THE SUBJECT DAMPERS WAS COMPLETED. ALL DAMPERS SUCCESSFULLY PASSED. THE SITE PROTECTION STAFF ENGINEER(S) HAVE BEEN COUNSELED ON THE USE OF AP-6, 'INCIDENT REPORT/LICENSEE EVENT REPORT PROGRAM'. ENGINEERING IS REVIEWING FIRE PROTECTION PROGRAMMATIC REQUIREMENTS TO ENSURE TIMELY DISSEMINATION OF INFORMATION TO DEPARTMENTS WHICH MAY BE AFFECTED. AS PART OF THE FIRE PROTECTION IMPROVEMENT PROGRAM, A DESIGN CHANGE WILL BE MADE TO HAVE THE APPROPRIATE P&ID SCHEMATICS IDENTIFY AND NUMBER (I.E. COMPONENT I.D.) THE DAMPERS.
Salem 1, Salem 2	10/01/1988	10/25/1988	T.S. Action Statement 3.7.11 Non-Compliance; Hourly Roving FW Patrol Late; Equip. Prob. Abstract: POWER LEVEL - 100%. ON 10/1/88, THE HOURLY ROVING FIRE WATCH PATROL FOR SEVERAL AREAS WAS NOT COMPLETED WITHIN AN HOUR (I.E., BETWEEN 22 AND 82 MINUTES LATE). THE AREAS INVOLVED INCLUDE THE UNIT 1 AND UNIT 2 FUEL HANDLING BUILDINGS, UNIT 1 RELAY ROOM, UNIT 1 BATTERY ROOM, UNIT 1 CHILLER ROOM, UNIT 1 INNER PIPING PENETRATION AREA, UNIT 1 78' E1. ELECTRICAL PENETRATION AREA, UNIT 2 64' EL. SWITCHGEAR & BATTERY ROOM. ALL SERVICE WATER (SW) CONTROL ROOMS, AND SW BAYS 1, 3, AND 4. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO AN EQUIPMENT PROBLEM ASSOCIATED WITH THE SECURITY SYSTEM COMPUTER. A FIRE WATCH WAS POSTED AT THE ENTRANCES TO THE SUBJECT FIRE AREAS UNTIL ACCESS TO THE AREAS WAS GIVEN BY SECURITY. THIS ALLOWED THE ROVING FIRE WATCH PATROL TO CONTINUE THEIR ROVE THEREBY NOT ALLOWING THE OTHER AREAS TO GO UNPATROLLED FOR GREATER THAN AN HOUR. DURING SHIFT TURNOVER BRIEFINGS, NUCLEAR SECURITY MANAGEMENT PROVIDED INSTRUCTION TO SECURITY PERSONNEL ADDRESSING THE OPENING OF SECURITY DOORS TO PERMIT FIRE WATCH PERSONNEL ACCESS TO PERFORM TECH SPEC REQUIRED ACTIONS. THIS BRIEFING HAS BEEN FOLLOWED UP WITH A MEMO TO SECURITY PERSONNEL FROM THE NUCLEAR SECURITY MANAGER. SECURITY WILL PROVIDE A VITAL ACCESS KEY TO FIRE PROTECTION. THE KEY WILL BE
Salem 1, Salem 2	01/15/1989	03/15/1989	T. S. Action Statement 3.7.11.a Non-Compliance Due to Personnel Error Abstract: POWER LEVEL - 100%. ON 2/17/89, PLANT PERSONNEL IDENTIFIED 24 IMPAIRED FIRE BARRIER PENETRATION SEALS, IMPAIRED DUE TO DESIGN CHANGE WORK, WHICH HAD NOT BEEN REPORTED TO THE NRC AS REQUIRED BY TECH SPEC ACTION STATEMENT 3.7.11.A. THE ACTION STATEMENT REQUIRES REPORTING, WITHIN 30 DAYS, OF IMPAIRED PENETRATION SEALS WHICH ARE NOT REPAIRED WITHIN SEVEN DAYS. TWENTY OF THESE PENETRATION SEALS WERE IMPAIRED IN DECEMBER 1988, TWO IN JANUARY 1989, AND TWO IN FEBRUARY 1989. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. ADMINISTRATIVE PROCEDURE AP-25, 'FIRE PROTECTION PROGRAM', WAS NOT COMPLIED WITH. THE JOB SUPERVISOR DID NOT INITIATE AN INCIDENT REPORT WHEN THE PENETRATION SEALS WERE IMPAIRED FOR GREATER THAN SEVEN DAYS. THE SUPERVISOR(S) INVOLVED IN THIS EVENT HAVE BEEN COUNSELED AS TO THE NEED TO BE AWARE OF ALL AP REQUIREMENTS. ADDITIONALLY, THIS EVENT HAS BEEN REVIEWED WITH THE ENGINEERING & PLANT BETTERMENT DEPT PROJECT MANAGEMENT AND SUPERVISION TO ENSURE A SIMILAR EVENT DOES NOT OCCUR. INVESTIGATIONS HAVE SHOWN THAT ADDITIONAL IMPAIRED SEALS HAVE BEEN REPORTED AS REQUIRED. THE IMPAIRED PENETRATION SEALS WILL BE RE-SEALED UPON COMPLETION OF THE ASSOCIATED DESIGN CHANGE WORK. UNTIL THEY ARE RE-SEALED, THE ROVING FIRE WATCH WILL CONTINUE. AP-25
Salem 1, Salem 2	10/08/1999	10/22/1999	Pressurizer PORV and Block Valves Do Not Meet the Requirements of 10CFR50 Appendix R Abstract: During a review of the Salem Post-fire Safe Shutdown Analysis a concern was identified with the cable routing of the air operated pressurizer Power Operated Relief Valves (PORVs) and motor operated block valves. The cable for each PORV and associated block valve is routed in the same cable tray inside the containment. The pressurizer PORVs and block valves are considered a high/low pressure interface point for 10CFR50 Appendix R analysis. The PORVs and block valves provide isolation of the pressurizer [high pressure] from the pressurizer relief tank (PRT) [low pressure]. Therefore each PORV/block valve combination is considered as redundant components that require proper separation in accordance with Section III.G.2 and III.L.7 of 10 CFR Appendix R when evaluating the affects of hot shorts, open circuits, or shorts to ground from causing spurious operation of these valves. The cause of occurrence is the failure to properly evaluate the high/low pressure interface function of the PORVs and block valves during the development of the Appendix R Safe Shutdown Analysis. Immediate and long-term corrective actions are described in detailed report. This event is reportable in accordance with 10CFR50.73(a)(2)(ii)(B), '...a condition that was outside the design the plant..." This LER also satisfies the special reporting requirements of the Salem Unit 1 and 2 Technical Specifications Section 6.9.3 and Salem Unit 2 License Condition 2.I.
Salem 1, Salem 2	10/28/1999	11/12/1999	125 VDC Control Power Circuits for 4KV Breakers Do Not Meet the Requirements of 10CFR50 Appendix R Abstract: During an ongoing review of the current Salem Post-fire Safe Shutdown Analysis, a concern was identified with the 125V DC control circuits for the 4KV circuit breakers in the post fire Alternate Shutdown (ASD) Area. In the event of a postulated fire in the ASD area, cables associated with the 4KV breaker 125 VDC control circuits could experience an external hot short on the positive side of the open/close coils. Such a short occurring in combination with multiple grounds (occurring due to postulated fire) on the negative 125 VDC circuit legs could result in energization of the closing or trip coils. This fire induced circuit failure (due to a combination of one hot short and two shorts to ground) could result in the inability to locally operate one or more 4KV breakers as required for alternate shutdown unless the hot short is removed. The multiple occurrence of this scenario could potentially cause multiple spurious operation and lead to loss of the vital buses. The cause of this event is attributed to human error. Personnel involved with the development of the Safe Shutdown Analysis incorrectly interpreted the guidance of Generic Letter 86-10 for the evaluation of spurious operation of equipment. Immediate and long-term corrective actions are described in the detailed report.
Salem 1, Salem 2, Hope Creek	07/01/1992	07/30/1992	This event is reportable in accordance with 10CFR50.73(a)(2)(ii)(B), “...a condition that was outside the design basis of the plant…” and 10CFR50.73(a)(2)(v), "...any event or condition that alone could have Noncompliance with Tech. Spec. 3.7.11 Action "a" due to personnel error. Abstract: POWER LEVEL - 000%. On July 1, 1992, firewatch supervision discovered that firewatch rove personnel at the Hope Creek Generating Station (HCGS) were apparently not performing rounds. Further investigation revealed that this problem also existed with Salem Generating Station (both Hope Creek and Salem are located on the same site). Investigation revealed that seventeen of the 35 firewatch personnel were involved in this event. The uncompleted firewatch roves is contrary to the requirements of Salem Station Technical Specification 3.7.11 Action 'a'. The cause of the occurrences was failure to comply with specific instructions and inappropriate work practices by personnel performing the roves. Lack of adequate supervision and contractor oversight were also contributing factors. Investigation is continuing to understand and address all contributing root causal factors. Corrective action taken included: suspension of the firewatch personnel involved; instructing firewatch supervisors on their responsibilities for ensuring firewatch roves are correctly completed; review of this event with current firewatch employees; copies of recent NRC notices on falsification of records were posted and distributed to current firewatch employees; and supervisors will be retrained in supervisory techniques relating to
Salem 2	05/05/1981	05/18/1981	Incorrect Cable Routing (Fire Protection) Abstract: DCR-663R1 was issued with the incorrect cable routing for the AC power feed from (2) 1ASDS 115v AC distribution panel to the fire protection process rack. DCP 1EC-1144 provided for the proper routing of cable 1ASDAC2-C2, T214, in accordance with the Fire Protection Cable interaction analysis for unit 1. DCP 2EC-1145 has been revised to change the cable routing for unit 2. This rerouting will be completed prior to June 5, 1981, and a 24 hour fire watch is being maintained until the work is completed.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Salem 2	09/01/1981	09/14/1981	Noncompliance With Facility Operating License DPR-75 Abstract: A redundant power cable, Conduit 2BDD-B(5'), in the diesel fuel oil storage tank room, was required to have fire wrap protection. When the work package accomplishing the fire wrap protection was being completed, the conduit in question was inadvertently overlooked, and not wrapped. The package was signed off as having been completed. A fire could have resulted in loss of ability to provide power from one diesel generator. The wrapping of conduit 2BDD-B(5') in the diesel fuel oil storage tank room, was completed and signed to work package specifications. Subsequently, a complete review of the cable wrapping design change package and other fire protection requirements of the facility operating license was conducted, and all required to date license commitments have been met.
Salem 2	07/15/1982	08/04/1982	Fire Protection Spray And/Or Sprinkler Systems - Missed Surveillance Abstract: During a review of testing it was noted that surveillance requirement 4.7.10.2.b had not been fulfilled. Surveillance 4.7.10.2.b requires cycling of each testable automatic valve in the Fire Suppression System every 12 months, and is normally accomplished by performing Appendix P of the fire fighting manual. The surveillance was overdue as of April 19, 1982 and Action Statement 3.7.10.2.a was entered retroactive to that time. The fire protection supervisor immediately performed appendix p. The systems tested satisfactorily on July 15, 1982, as they had during the previous performance of appendix p on January 16, 1981.
Salem 2	12/31/1982	01/27/1983	In anticipation of a new procedure, the Computer Inspection order (IO) cards for Appendix P were prematurely cancelled. Because the new procedure was not issued and no notice from the io system was sent, the surveillance was missed. Appendix P was performed fulfilling the surveillance, and Action Statement 3.7.10.2.a was terminated on july 15, 1982. New IO cards were issued and the implications of this occurrence were discussed with the personnel involved. Plant Systems - Low Pressure CO2 System - Inoperable Abstract: During routine operation, an operator discovered that the low pressure CO2 storage tank pressure was 275 psig, less than the 285 psig required by the tech specs. The Low Pressure CO2 System was declared inoperable, and action statement 3.7.10.3a was entered. Investigation of the problem revealed that the system refrigeration compressor had failed to stop at 295 psig and was still running. The compressor was de-energized and the pressure returned to normal. A continuous fire watch with backup fire suppression equipment was established in the affected areas.
Salem 2	01/31/1983	02/23/1983	The refrigeration compressor control pressure switch setpoint was checked and found to be satisfactory. Was attributed to an isolated malfunction. The switch was cycled and recalibrated, the Low Pressure CO2 System was declared operable, and the action statement was terminated. Low Pressure CO2 System Automatic Initiation Disabled Abstract: On January 18, 1983 during routine operation, the Diesel Generator Area Low Pressure CO2 System automatic initiation feature was disabled and tagged out for planned maintenance. The tagout was necessary to insure personnel safety during work in the area. With the feature inoperable, Action Statement 3.7.10.3a applied. Due to continuing work in the area projected during the upcoming refueling outage, the system was left disabled. After 14 days, the event required a special report in accordance with Tech Spec 6.9.2f. The co2 manual actuation capability was maintained. A continuous fire watch with backup fire suppression equipment was immediately established in the area, in compliance with the action statement. The measures will be in effect until completion of the refueling.
Salem 2	04/06/1983	04/27/1983	Low Pressure CO2 Systems were Declared Inoperable Abstract: On April 6, 1983, during routine shift rounds, an operator discovered the 10 Ton Cardox System pilot valve in the closed position. The valve is normally locked open to insure sufficient pilot gas is available for actuation of the master and master selector valves. All low pressure CO2 systems were declared inoperable, and action statement 3.7.10.3a was entered. The valve was opened and locked 26 minutes later, restoring the CO2 systems to an operable status. The event constituted operation in a degraded mode in accordance with Tech Spec 6.9.1.9b. Investigation of the event revealed that the valve may have been left closed following a system recharging operation on March 4, 1983. No procedure was in effect for that operation; and the pilot valve position was not checked in routine system surveillance. The procedures were revised accordingly.
Salem 2	05/30/1983	06/08/1983	Vital Instrument Inverter Fails Abstract: On May 30, 1983, during routine shutdown operation, the No. 2C Vital Instrument Inverter failed, rendering the associated electrical bus train inoperable. Since No. 2A Diesel Generator was also inoperable at the time, Action Statement 3.8.2.2 was entered. Containment integrity was established within 8 hours as required by the action statement. Due to operation less conservative than the least conservative aspect of a limiting condition for operation, the event is reportable in accordance with Tech Spec 6.9.1.8b. The fact that one surveillance test necessary to establish containment integrity was expired was overlooked until insufficient time remained to complete the test. A review of applicable procedures and Tech Specs will be performed to identify improvements which will prevent recurrence. The inverter was repaired and the action statement was terminated.
Salem 2	12/02/1983	12/30/1983	Fire Suppression System Pilot Valve Fails to Seat Properly Abstract: On December 2, 1983, while performing surveillance testing on the Low Pressure CO(2) fire suppression system, the pilot valve for 2FP377 did not completely seat following a satisfactory 'Puff-Test' of the Vital Switchgear rooms. The area was retested, and the pilot valve seated properly following the test. Failure of the pilot valve to reseat following system operation did not render the system inoperable. Improper seating was apparently due to frost on the pilot valve seat due to the rapidly expanding CO(2). Following a system retest, the valve seated properly. Satisfactory operation of the system was unaffected by the occurrence.
Salem 2	09/17/1986	10/16/1986	T. S. 3.7.11 Non-compliance - Impairment with No Fire Watch Abstract: POWER LEVEL - 000%. ON SEPTEMBER 17, 1986 AT 2225 HOURS, THE 9' BY 16' EQUIPMENT HATCH, BETWEEN ELEVATIONS 122' AND 100' IN THE AUXILIARY BUILDING, WAS DISCOVERED OPEN BY A FIRE DEPARTMENT ROVING PATROL. NO FIRE WATCH WAS POSTED AS REQUIRED BY TECH SPEC ACTION STATEMENT 3.7.11.A. THE ROOT CAUSE OF THIS EVENT IS PERSONNEL ERROR DUE TO INADEQUATE COMMUNICATION OF THE REQUIREMENT TO TREAT THE SUBJECT HATCH AS A FIRE BARRIER WHICH REQUIRES AN IMPAIRMENT PERMIT PRIOR TO OPEN IT. UPON DISCOVERY OF THE OPEN HATCH A ROVING FIRE WATCH WAS ESTABLISHED TO MAINTAIN SURVEILLANCE OF THE IMPAIRMENT UNTIL THE HATCH WAS CLOSED. TO PREVENT FUTURE RECURRENCE OF THIS EVENT A LETTER TO ALL APPLICABLE PERSONNEL HAS BEEN ISSUED SPECIFYING FLOOR HATCHES IN THE AUXILIARY BUILDING (EXCEPT THOSE WITH SPECIFIC EXEMPTION) ARE CONSIDERED FIRE BARRIERS AND OPENING THEM IS AN IMPAIRMENT REQUIRING COMPLIANCE WITH ADMINISTRATIVE PROCEDURE AP-25, 'FIRE PROTECTION PROGRAM'. ALSO, THE HATCHES WHICH ARE FIRE BARRIERS, WILL BE UNIQUELY IDENTIFIED.
Salem 2	10/16/1986	11/17/1986	S.3.7.11 Non-Compliance - Fire Barrier Penetration Discovered Impaired Abstract: POWER LEVEL - 000%. ON 10-16-86 A CABLE TRAY PENETRATION, LOCATED IN THE WALL BETWEEN THE AUXILIARY BUILDING 64' ELEVATION AND THE SWITCHGEAR ROOM, WAS DISCOVERED IMPAIRED BY FIRE DEPARTMENT PERSONNEL DURING VERIFICATION OF IMPAIRMENTS FOR OTHER WORK IN THE IMMEDIATE VICINITY OF THE DISCOVERED IMPAIRMENT. IN ACCORDANCE WITH TECH SPEC ACTION STATEMENT 3.7.11.A, A ONE HOUR ROVING FIRE WATCH WAS ESTABLISHED UPON DISCOVERY OF THE IMPAIRMENT. THE CAUSE OF THE IMPAIRMENT COULD NOT BE DETERMINED, HOWEVER, INVESTIGATIONS ARE CONTINUING. A LETTER TO ALL SUPERVISORY PERSONNEL HAS BEEN SENT STRESSING THE IMPORTANCE OF IDENTIFYING AND CONTROLLING FIRE BARRIER IMPAIRMENTS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Salem 2	05/06/1987	06/05/1987	T. S. 3.7.10.3 Non-Compliance - Inadequate Fire Watch Due To Personnel Error Abstract: POWER LEVEL - 088%. ON MAY 6, 1987, DURING THE LUNCH PERIOD, THE MAINTENANCE SUPERVISOR, RESPONSIBLE FOR WORK IN THE DIESEL GENERATOR (EK) AREA AND THE NOS. 21 AND 22 DIESEL FUEL OIL STORAGE TANKS AND TRANSFER PUMPS (DC) AREA, ESTABLISHED ONE INDIVIDUAL TO ACT AS THE FIRE WATCH FOR CONTINUOUS MONITORING OF BOTH AREAS. THIS WAS SUBSEQUENTLY DETERMINED TO BE INADEQUATE FIRE PROTECTION COVERAGE. THE TWO AREAS ARE ON DIFFERENT ELEVATIONS OF THE AUXILIARY BUILDING (100 FT AND 84 FT RESPECTIVELY) THEREBY PROHIBITING CONTINUOUS FIRE PROTECTION COVERAGE AS SPECIFIED BY TECHNICAL SPECIFICATION ACTION STATEMENT 3.7.10.3.A. THE ROOT CAUSE OF THIS EVENT WAS ATTRIBUTED TO PERSONNEL ERROR. THE COORDINATION OF THE JOB REQUIREMENTS WAS INADEQUATE BETWEEN DEPARTMENTS AND THE JOB SUPERVISOR PROVIDED INADEQUATE FIRE WATCH FOR THE JOB(S). CORRECTIVE ACTION INCLUDES REVIEWING THE ADMINISTRATIVE CONTROLS FOR PLANNING WORK WHICH INVOLVE FIRE PROTECTION IMPAIRMENTS. A DETAILED REVIEW OF THE STATION FIRE PROTECTION PROGRAM REQUIREMENTS WAS CONDUCTED WITH THE MAINTENANCE SUPERVISOR. A GENERAL REVIEW OF THE FIRE PROTECTION PROGRAM REQUIREMENTS AND INTERPRETATIONS AS WELL AS THIS INCIDENT WAS CONDUCTED WITH ALL OTHER MAINTENANCE SUPERVISION.
Salem 2	05/11/1987	06/08/1987	T. S. 3.7.11 Non-Compliance - Discovery of Fire Barrier Impairment Abstract: POWER LEVEL - 088%. ON MAY 11, 1987 AN UNSEALED PENETRATION BETWEEN THE UNIT 2 84 FT ELEVATION SWITCHGEAR ROOM AND THE 100 FT ELEVATION RELAY ROOM (FOR THE NON-SEGREGATED BUS DUCT WHICH CONNECTS THE REACTOR TRIP BREAKERS (JC) TO THE ROD CONTROL CABINETS (AJ)) WAS DISCOVERED. SINCE THE TWO ELEVATIONS ARE SEPARATE FIRE AREAS, A FIRE PROTECTION IMPAIRMENT PERMIT WAS INITIATED AND IN ACCORDANCE WITH TECHNICAL SPECIFICATION ACTION STATEMENT 3.7.11.A, A ONE HOUR ROVING FIRE WATCH WAS ESTABLISHED. INVESTIGATION REVEALED THE UNIT 1 IDENTICAL PENETRATION WAS ALSO NOT PROPERLY SEALED RESULTING IN THE SAME ACTION. INVESTIGATIONS INDICATE THE IMPAIRED PENETRATIONS HAVE BEEN IN EXISTENCE FOR AN UNDETERMINED PERIOD OF TIME. CORRECTIVE ACTION INCLUDES MAINTAINING THE FIRE WATCH UNTIL THE PENETRATIONS ARE FILLED WITH AN APPROVED 3 HOUR FIRE RATED BARRIER SEALING MATERIAL DURING THE NEXT OUTAGE OF SUFFICIENT DURATION DUE TO THE FEASIBILITY OF A UNIT TRIP. A COMPLETE REVIEW OF ALL FIRE BARRIER PENETRATION SEALS WILL BE CONDUCTED. IT WILL PROVIDE TRACEABLE IDENTIFICATION OF THE ADEQUACY OF THE PENETRATION SEALS AS RATED FIRE BARRIER SEALS.
Salem 2	06/19/1987	12/24/1987	Appendix R Criteria Non-Conformance - Inadequate Design Review Abstract: POWER LEVEL - 000%. THE FOLLOWING SYSTEM/COMPONENT CONDITIONS WERE IDENTIFIED BY A PSE&G TASK FORCE REVIEWING/EVALUATING SALEM STATION'S COMPLIANCE WITH THE REQUIREMENTS OF 10CFR 50 APPENDIX R. WHERE APPROPRIATE, FIRE WATCHES WERE ESTABLISHED. LONG TERM CORRECTIVE ACTION INCLUDES MAKING DESIGN CHANGE MODIFICATIONS, AS APPLICABLE. LER 87-009-00 ADDRESSED A SW SYSTEM CABLING APPENDIX R SEPARATION CRITERIA INADEQUACY. THE ROOT CAUSE WAS INADEQUATE DESIGN REVIEW. LER 87-009-01 ADDRESSED NON-SEISMICALLY QUALIFIED MARINITE WALLS LOCATED IN SALEM UNITS 1 & 2 460V SWITCHGEAR ROOM. CRITERIA. A SAMPLE OF DESIGN CHANGES INSTALLED BEFORE IMPLEMENTATION OF CURRENT DESIGN CONTROL PROCEDURES IS BEING CONDUCTED. LER 87-009-02 ADDRESSES RHR ROOM COOLERS (VF) CABLING APPENDIX R INADEQUACIES AND CONTROL CABLING APPENDIX R INADEQUACIES IS INADEQUATE DESIGN REVIEW. LER 87-009-03 ADDRESSED A D/G POWER CABLING APPENDIX R SEPARATION CRITERIA DEFICIENCY. THE ROOT LOCATED IN BOTH UNITS CO(2) EQUIPMENT ROOMS, IDENTIFIED ON 9/10/87. THE ROOT CAUSE WAS INADEQUATE DESIGN REVIEW. LER 87-009-05 ADDRESSED TWO ISSUES: UHF COMMUNICATION CONCERNS (BOTH UNITS) DURING A POSTULATED FIRE AND THE DECLARED INOPERABILITY OF ALL THREE D/G'S (EK) (BOTH UNITS) UPON POSTULATED ACUTATION OF THE LOW
Salem 2	06/23/1987	07/23/1987	T. S. 3.7.11 - Fire Barrier Impairment Non-Compliance Due to Personnel Error Abstract: POWER LEVEL - 034%. ON JUNE 23, 1987 AT 1645 HOURS, A FIRE PROTECTION OPERATOR DISCOVERED THE PENETRATION ABOVE FIRE DOOR 135-2 HAD BEEN IMPAIRED TO ALLOW PASSAGE OF WELDING LEADS. AFTER RUNNING THE LEADS, THROUGH THE PENETRATION THE MAINTENANCE WORKER SEALED THE PENETRATION, HOWEVER, THE SEAL WAS NOT ADEQUATE TO ASSURE THE REQUIRED THREE (3) HOUR FIRE BARRIER RATING. THE PENETRATION WAS IN THIS CONDITION FOR APPROXIMATELY 24 HOURS. FURTHER INVESTIGATION REVEALED AN IMPAIRMENT PERMIT HAD NOT BEEN COMPLETED (PER ADMINISTRATIVE PROCEDURE AP-25, 'FIRE PROTECTION PROGRAM') NOR HAD A FIRE WATCH BEEN ASSIGNED IN STATEMENT 3.7.11.A. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR. CORRECTIVE ACTION INCLUDED INITIATING AN IMPAIRMENT PERMIT AND AN HOURLY FIRE WATCH UNTIL THE PENETRATION WAS ADEQUATELY SEALED. THE MAINTENANCE WORKER WHO HAD IMPAIRED THE PENETRATION WAS COUNSELED AND RE-INDOCTRINATED IN THE REQUIREMENT OF AP-25.
Salem 2	04/04/1988	05/03/1988	T. S. Action Statement 3.7.11.a Non-Compliance - Hourly Rove Late Due To Personnel Error Abstract: POWER LEVEL - 100%. ON 4/4/88, IT WAS DISCOVERED THAT THE HOURLY ROVING FIRE WATCH WAS 23 MINUTES LATE FOR THE 122' AUX. BLDG. AREA (FIRE AREA 2FA-AB-122B). THIS AREA REQUIRES A ROVING FIRE WATCH DUE TO INOPERABLE FIRE DAMPERS IN FIRE BARRIERS (REFERENCE SALEM UNIT 1 LER 272/88 007-00). LATE FIRE WATCHES ARE CONTRARY TO THE REQUIREMENTS SPECIFIED BY TECH SPEC ACTION STATEMENT 3.7.1. THE LATE FIRE WATCHES WERE IDENTIFIED BY THE FIRE WATCH INDIVIDUAL INVOLVED. THE INDIVIDUAL REPORTED IT TO SUPERVISION IMMEDIATELY UPON RECOGNITION THAT THE FIRE WATCH WAS PERFORMED LATE. THE ROOT CAUSE OF THE LATE FIRE WATCH HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. ESTABLISHED SEQUENCE, FOR THE AREAS TO BE CHECKED, RESULTING IN THE LATE FIRE WATCH. THE FIRE WATCH DID NOT CAREFULLY REVIEW THE IMPAIRMENT CHECKLIST WHICH IDENTIFIES THE SEQUENCE IN WHICH TO CONDUCT THE ROVE. NUCLEAR FIRE & SAFETY DEPARTMENT MANAGEMENT HAVE REVIEWED THIS EVENT. APPROPRIATE CORRECTIVE DISCIPLINARY ACTION HAS BEEN TAKEN. ADDITIONALLY, NUCLEAR FIRE & SAFETY DEPARTMENT MANAGEMENT HAS REVIEWED THIS EVENT WITH DEPARTMENTAL PERSONNEL. THE SIGNIFICANCE OF PERFORMING HOURLY FIRE WATCH SURVEILLANCES WITHIN THE REQUIRED TIME FRAME WAS STRESSED. ADMINIS TRATIVE CONTROLS HAVE BEEN EXPANDED TO PRECLUDE FUTURE
Salem 2	10/31/1988	11/16/1988	T. S. Action Statement 3.7.11. Non-Compliance - Hourly Roving FW Patrol Late Due To Per. Err. Abstract: POWER LEVEL - 000%. ON 10/31/88 AT 0410 HOURS, IT WAS DISCOVERED THAT THE HOURLY ROVING FIRE WATCH PATROL FOR SEVERAL AREAS WAS NOT COMPLETED WITHIN AN HOUR (I.E., BETWEEN 20 AND 32 MINUTES LATE). THE AREAS INCLUDE THE COMMON RELAY ROOM CORRIDOR, 100' AND 78' ELEVATION MECHANICAL PENETRATION AREAS AND THE 100' ELEVATION DIESEL GENERATOR AREAS. THESE AREAS REQUIRE A ROVING FIRE WATCH PATROL DUE TO VARIOUS FIRE PROTECTION CONCERNS (E.G., INOPERABLE PENETRATION SEALS). THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. THE INDIVIDUAL PERFORMING THE ROVING FIRE WATCH PATROL HAD STOPPED PATROLLING AND HAD FALLEN ASLEEP. SITE PROTECTION SUPERVISION, UPON NOT RECEIVING THE REQUIRED 'PHONE-IN' FROM THE ROVING FIRE WATCH PATROL, INITIATED A SEARCH FOR THE INDIVIDUAL. THE SEARCH WAS CONCLUDED WHEN THE 'MISSING' INDIVIDUAL WAS FOUND SLEEPING. THE INDIVIDUAL HAD REVEALED, THROUGH INTERVIEWS AFTER THE EVENT, THAT HE HAD BEEN WORKING A SECOND JOB AFTER WORK AT PSE&G. THIS WORKLOAD HAD APPARENTLY CONTRIBUTED TO THE INDIVIDUAL BEING TIRED. THE INDIVIDUAL, WHO HAD FALLEN ASLEEP WAS GIVE A MEDICAL 'FITNESS FOR DUTY' EXAMINATION. THESE EVENTS HAVE BEEN REVIEWED BY SITE PROTECTION DEPARTMENT MANAGEMENT. BEEN TAKEN. IN ADDITION, SITE PROTECTION DEPARTMENT
Salem 2	01/04/1991	01/30/1991	Tech. Spec. 3.7.11.a noncompliance; Firewatch Rove Greater Than 1 Hour; Personnel Error Abstract: POWER LEVEL - 100%. ON 1/4/91 AT 1010 HOURS, IT WAS DISCOVERED THAT THE HOURLY ROVING FIRE WATCH PATROL FOR SEVERAL AREAS WAS NOT COMPLETED WITHIN ONE (1) HOUR (I.E., APPROX. 20 MINUTES LATE). THE AREAS INCLUDE THE 55' AND 64' ELEVATION AUXILIARY EQUIPMENT AREAS AND THE 84' ELEVATION DIESEL GENERATOR FUEL OIL STORAGE TANK AREA. THESE AREAS REQUIRE A ROVING FIRE WATCH PATROL DUE TO INOPERABLE PENETRATION SEALS. MISSED ROVING FIRE WATCH PATROLS ARE CONTRARY TO THE REQUIREMENTS SPECIFIED BY TECH SPEC ACTION STATEMENT 3.7.11. ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. INDIVIDUAL RESPONSIBLE TO COMPLETE THE FIRE WATCH ROVE PERFORMED THE ROVE OUT OF SEQUENCE, NOT IN ACCORDANCE WITH PROCEDURE. DETAIL. THIS INDIVIDUAL WAS PROPERLY TRAINED ON HOW TO CONDUCT THE FIRE WATCH ROVE AND HAD BEEN PROPERLY BRIEFED, PRIOR TO COMPLETING THE FIRE WATCH ROVE. UPON DISCOVERY OF THE FIRE WATCH ROVE BEING PERFORMED OUT OF SEQUENCE, SUPERVISION WAS CONTACTED AND THE AFFECTED FIRE AREAS WERE IMMEDIATELY CHECKED. THE INDIVIDUAL WHO CAUSED THE FIRE WATCH ROVE TO EXCEED ONE HOUR WAS INITIALLY SUSPENDED PENDING INVESTIGATIONS. HE WAS SUBSEQUENTLY TERMINATED. THIS EVENT HAS BEEN REVIEWED BY SITE PROTECTION DEPARTMENT MANAGEMENT AND CONTRACTOR MANAGEMENT

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Salem 2	10/02/1997	10/31/1997	Manual Reactor Trip From 100% Power Following Loss of Both Operating Steam Generator Feed Pumps Abstract: On October 2, 1997 Salem Unit 2 was manually tripped from 100% power following the loss of both operating Steam Generator Feed Pumps (SGFP). The event was caused by a failed analog circuit card in the Westrac Data Acquisition System (DAS). The DAS is a temporary system that was connected to the Advanced Digital Feedwater Control System (ADFCS) to monitor ADFCS performance in support of modification acceptance testing. The component failure produced a false signal in the ADFCS representative of low feedwater header pressure. The differential between this signal and main steam header pressure is compared to a programmed differential pressure set point to determine SGFP speed. In response to this condition, SGFP speed increased, raising feedwater flow to 120% of the full flow value. This reduced SGFP suction pressure to the SGFP Low Suction Pressure trip setpoint, tripping both operating SGFPs. Operations personnel promptly responded to this condition by manually tripping the reactor. Following the event, the DAS was disconnected from the ADFCS.
Salem 2	08/10/1998	08/24/1998	Failure to Post Continuous Firewatch as required by Fire Protection Plan Abstract: This Special Report is being made pursuant to the requirements of License Condition 2.I which requires that a 14 day report be submitted for cases where the provisions of the approved fire protection program are not maintained. Further, Tech Spec 6.9.3 states that "violations of the fire protection program ... which would have adversely affected the ability to achieve and maintain safe shutdown in the event of a fire shall be submitted ... via the Licensee Event Report System within 30 days." This report satisfies both of these requirements. At 0945 hours on 8/9/98 the smoke detectors associated with the Salem Unit 2 chiller room were placed in bypass as a result of spurious alarms and an hourly fire watch was established. At approximately 0640 hours on 8/10/98 it was determined that the fire watch should have been provided on a continuous basis due to a pre-existing impairment affecting cable wrap in the same fire zone. This pre-existing condition was associated with issues concerning qualification of fire barrier material that was used for the cable wrapping. Upon discovery a continuous fire watch was posted. The cause of this event was failure to recognize the concurrent conditions. This event was reported to the NRC by telephone at approximately 14:40 on 8/10/98.
Salem 2, Salem 1	09/09/1997	11/21/1997	Loss of Fire Protection Water to the Salem Unit 1 and 2 Auxiliary Building and Containments Abstract: At 2210 hrs on September 16, 1997, a Unit 1 Nuclear Control Operator (NCO) identified that the fire protection water for Salem Units 1 and 2 Auxiliary Buildings and Containment was isolated. Fire protection water for these areas is supplied via valves 1FP186 and 1FP187, which were found closed. While the exact cause of the valves being mispositoned could not be determined, the valves were most probably misaligned during relamping activities on September 9, 1997. The cause of the condition going unidentified is attributed to human error due to inattention to detail by the NCO and the Loss Prevention Operators during subsequent panel reviews. Fire protection personnel were promptly notified, and the valves were opened at 2237 hrs. Pursuant to License Conditions 2.C.(10) and 2.I of the Unit 2 Facility Operating License, a 24 hour report and a follow-up Special Report were made to the NRC on September 17 and September 30, 1997, respectively. This Special Report is being made in accordance with Technical Specification Section 6.9.3, and supplements the September 30, and October 15 1997 Special Reports.
Salem 2, Salem 1	07/14/1999	07/28/1999	Fire Program Deficiency - Limit Switch Cables Subject to Multiple Hot Shorts in Same Fire Area Abstract: This Special Report is being made pursuant to the requirements of License condition 2.I which requires that a 14 day report be submitted for cases where the provisions of the approved fire protection program are not maintained. Further, Technical Specification 6.9.3 states that "violations of the fire protection program ... shall be submitted ... via the Licensee Event Report System within 30 days." This report satisfies both of these requirements. During the on-going review of the Fire Protection Program and the post fire safe shutdown analysis as part of the fire wrap project it was determined that cables associated with the limit switches for both of the service water header valves (SW22) are routed through the same fire protection area (mechanical penetration area). This is not in conformance with the approved fire protection program. In the event of fire in this area, hot shorts are required to be postulated, per NRC guidance, in both of these cables. These shorts could result in the closure of both of the header valves with the attendant loss of service water to safety related equipment. Long term loss of service water would result in loss of some equipment necessary to maintain safe shutdown, if left uncorrected. The area in question has been subject to compensatory actions due to fire wrap
San Onofre 1	10/12/1982	12/20/1982	Abstract: THREE LAPSES IN FIRE WATCH COVERAGE AT SONGS-1 OCCURRED AS FOLLOWS: ON OCTOBER 12, 1982, A FIRE WATCH TEMPORARILY LEFT HIS POST TO TALK TO ANOTHER FIRE WATCH. ON OCTOBER 13, 1982, TWO FIRE WATCHES WERE IMPROPERLY SECURED DUE TO RADIOGRAPHY IN THE VICINITY. ON OCTOBER 20, 1982, A CONTINUOUS FIRE WATCH WAS TEMPORARILY ASSIGNED AS A ROVING FIRE WATCH. THREE LAPSES IN FIRE WATCH COVERAGE WERE CAUSED BY INADEQUATE FIRE WATCH SUPERVISION. THE FIRE WATCH WHO LEFT HIS POST WAS TERMINATED. A MEMO WAS ISSUED ON OCTOBER 13, 1982 TO ALL FIRE WATCHES REITERATING THEIR RESPONSIBILITIES. TWO SUPERVISORY POSITIONS WERE ADDED TO FIRE WATCH PROGRAM. ON OCTOBER 26, 1982 A MEMO WAS ISSUED TO CLARIFY THE AUTHORITY FOR RELEASE OF FIRE WATCHES.
San Onofre 1	08/14/1986	09/15/1986	Inadequate Establishment of Compensatory Fire Watch Abstract: POWER LEVEL - 000%. ON 8/14/86, AT 1530, DURING IMPLEMENTATION OF A MAINTENANCE ORDER (MO), IT WAS DISCOVERED HAT A COMPENSATORY 1-HOUR FIRE WATCH REQUIRED BY TECHNICAL SPECIFICATION 3.14.B.4.A HAD NOT BEEN POSTED FOR INOPERABLE FIRE DETECTION INSTRUMENTATION ASSOCIATED WITH THE DIESEL GENERATOR (DG) ROOMS. AT 1615, HOURLY FIRE WATCH PATROLS WERE ESTABLISHED. PER THE MO PROCEDURE, THE CONTROL ROOM SUPERVISOR (CRS) IS INFORMED OF ANY TECH. SPEC. EQUIPMENT FOUND INOPERATIVE ENABLING HIM TO DETERMINE WHETHER THE CONDITION INVOKES A TECH. SPEC. ACTION STATEMENT. IF SO, A LIMITING CONDITION FOR OPERATION ACTION REQUIREMENT (LCOAR) FORM IS GENERATED. FOR INOPERABLE FIRE PROTECTION EQUIPMENT, FIRE WATCHES ARE POSTED/SECURED BASED ON THE INITIATION/CLOSURE OF LCOARS. SUBSEQUENT INVESTIGATION REVEALED THAT THE MO WAS INITIATED ON 6/30/86, TO REPAIR THE REMOTE ANNUNCIATION SIGNAL FROM THE DG FIRE DETECTION SYSTEM TO THE FIRE COMPUTER AND CONTROL ROOM. AT THAT TIME, FIRE WATCHES WERE IN PLACE AS THE DG FIRE PROTECTION SYSTEM WAS ALREADY CONSIDERED INOPERABLE PENDING FINAL ACCEPTANCE OF RECENTLY COMPLETED SYSTEM DESIGN CHANGES. A LCOAR HAD BEEN GENERATED TO TRACK THE INOPERABILITY ASSOCIATED WITH HE DESIGN CHANGE WORK IN ACCORDANCE WITH PROCEDURES. HOWEVER, A LCOAR WAS NOT
San Onofre 1	03/17/1988	04/15/1988	Technical Specification Continuous Fire Watch Interrupted Due To Inadequate Post Orders Abstract: POWER LEVEL - 000%. AT 2235 ON 3/17/88, CONTRARY TO TECH SPEC 3.14.B.2.A, A CONTINUOUS FIRE WATCH FOR CONTAINMENT WAS INTERRUPTED WHEN THE CONTAINMENT EQUIPMENT HATCH (EH) WAS CLOSED. THE INTERRUPTION WAS NOT RECOGNIZED UNTIL 0720 ON 3/18/88 DURING REVIEW OF FIRE WATCH (FW) LOG ENTRIES BY THE FW SITE COORDINATOR. UPON RECOGNITION, A CONTINUOUS FW WAS RE-ESTABLISHED. THE FW POST HAD BEEN ESTABLISHED IN THE VICINITY OF THE EH TO OBSERVE BOTH THE TURBINE DECK AND CONTAINMENT INTERIOR. THE POST ORDERS FOR BOTH AREAS SPECIFIED A CONTINUOUS WATCH. HOWEVER, FW PERSONNEL FOR THIS POST HAD BEEN ORALLY INSTRUCTED TO CONDUCT HOURLY CHECKS INSIDE THE SECONDARY SHIELD, SINCE THE TURBINE DECK FW WAS NOT REQUIRED BY TS. DUE TO A LACK OF EXPLICIT POST ORDER INSTRUCTIONS, FW PERSONNEL BELIEVED THAT HOURLY CHECKS OF CONTAINMENT WERE ACCEPTABLE. FOR THE CONTAINMENT PRIOR TO CLOSURE OF THE EH. AS CORRECTIVE ACTIONS, FW PERSONNEL RESPONSIBLE FOR GENERATING POST ORDERS HAVE BEEN INSTRUCTED TO INCLUDE EXPLICIT WRITTEN INSTRUCTIONS FOR COMBINED FIRE AREAS TO ENSURE FW REQUIREMENTS ARE CLEARLY UNDERSTOOD. EXISTING COMBINED POST ORDERS HAVE BEEN REVISED, AS NECESSARY, TO BE MORE EXPLICIT. NEW COMBINED POST ORDERS ARE NOW RECEIVING ADDITIONAL REVIEW PRIOR TO THEIR ISSUANCE TO
San Onofre 1	02/21/1989	03/24/1989	Delinquent Fire Watch Posting For Inoperable Fire Detectors Due To Personnel Error Abstract: POWER LEVEL - 000%. AT 1836 ON 2/21/89, WHILE ATTEMPTING TO OPEN A BREAKER ASSOCIATED WITH A CONTAINMENT SUMP PUMP, AN OPERATOR INADVERTENTLY OPENED AN ADJACENT BREAKER RESULTING IN A LOSS OF POWER TO THE MAJORITY OF THE UNIT 1 EARLY WARNING FIRE DETECTION SYSTEM. APPROPRIATE ALARMS WERE RECEIVED IN THE EMERGENCY SERVICE OFFICES (ESO) OFFICE. RATHER THAN ESTABLISHING FIRE WATCHES AT LOCATIONS IDENTIFIED BY THE ALARMS PER THE ALARM RESPONSE PROCEDURES, THE ESOS RESPONDED TO WHAT THEY BELIEVED TO BE THE CAUSE OF THE ALARMS BASED ON PAST EXPERIENCE. THIS RESULTED IN THE FAILURE TO ESTABLISH FIRE WATCHES FOR 2 FIRE ZONES WITHIN 1 HR CONTRARY TO TS 3.14.B.4. THESE 2 FIRE ZONES ARE: 1) THE DC SWITCHGEAR AND BATTERY ROOMS, AND 2) THE REACTOR AUX. BLDG AND STORAGE ROOMS. THE INCORRECT ALARM ASSESSMENT MADE BY THE ESOS WAS IDENTIFIED AT APPROX. 2200 ON 2/21/89 DURING A FOLLOW-UP REVIEW OF THE ALARMS BY FIRE PROTECTION ENGINEERING PERSONNEL. APPROPRIATE FIRE WATCHES WERE ESTABLISHED AT APPROX. 0300 ON 2/22/89. THIS EVENT HAS BEEN DISCUSSED WITH THE OPERATOR WHO INADVERTENTLY OPENED THE INCORRECT BREAKER. ALL ESOS INVOLVED HAVE RECEIVED APPROPRIATE DISCIPLINARY ACTION. ADDITIONAL PLANNED CORRECTIVE ACTIONS INCLUDE: REVISING THE FIRE ALARM RESPONSE PROCEDURE; MAINTAINING OF A LIST

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

San Onofre 1	07/03/1989	08/02/1989	Fire Protection Spray System Plugged Nozzles Due to Ball Drip Valve Failure Abstract: POWER LEVEL - 040%. ON 6/29/89 WITH UNIT 1 AT 40% POWER, THE AIR FLOW TEST OF THE LUBE OIL RESERVOIR AND CONDITIONER FIRE PROTECTION SYSTEM (FPS) REVEALED THAT APPROX. 20 OF THE 78 FPS NOZZLES WERE PLUGGED. IT WAS DETERMINED ON 7/3/89 THAT THIS CONDITION COULD HAVE PRECLUDED ADEQUATE FIRE SUPPRESSION CAPABILITY TO CERTAIN AREAS. THE TECHNICAL SPECIFICATIONS (TSS) REQUIRE THAT A CONTINUOUS FIRE WATCH BE ESTABLISHED FOR SUCH A CASE, WHICH EXISTED PRIOR TO THE SURVEILLANCE. SINCE THIS CONDITION WAS UNKNOWN AT THE TIME, A FIRE WATCH HAD NOT BEEN PREVIOUSLY ESTABLISHED, CONSTITUTING A VIOLATION OF TSS. THE NOZZLE PLUGGING WAS DUE TO THE ACCUMULATION OF PIPING CORROSION MATERIAL INSIDE THE FIRE SPRAY HEADER AND NOZZLES, WHICH HAS BEEN ATTRIBUTED TO THE FAILURE OF THE BALL DRIP VALVE ASSOCIATED WITH THE HEADER DELUGE VALVE. THE BALL DRIP VALVE IS DESIGNED TO DRAIN NORMAL, EXPECTED LEAKAGE OF WATER PAST THE DELUGE VALVE TO PRECLUDE THE ACCUMULATION OF WATER IN THE HEADER. THE CAUSE OF THE BALL DRIP VALVE FAILURE HAS BEEN ATTRIBUTED TO THE SLOW BUILDUP OF CORROSION PRODUCTS ON ITS OPERATING MECHANISM. BALL DRIP VALVES HAVE NOT BEEN INCLUDED IN ANY SURVEILLANCES SUCH THAT THEY WOULD BE PERIODICALLY CHECKED. AIR WAS SYSTEMATICALLY BLOWN THROUGH THE LUBE OIL RESERVOIR AND CONDITIONER
San Onofre 1	07/01/1991	03/05/1992	MIS-ASSEMBLY OF THE 4160 VOLT ROOM HALON SYSTEM ACTUATION LINES Abstract: POWER LEVEL - 042%. AT 0524 ON 7/1/91, AN INADVERTENT ACTUATION OF THE HALON FIRE SUPPRESSION SYSTEM IN THE UNIT 1 4160 VOLT (4 KV) SWITCHGEAR ROOM OCCURRED. MOISTURE INTRUSION INTO THE HALON CONTROL PANEL ACTUATION CIRCUITRY CAUSED THE INADVERTENT ACTUATION. CONTRARY TO DESIGN, THE DISCHARGE WAS LIMITED SOLELY TO THE MAIN BANK MASTER BOTTLE. THE MAIN BANK SLAVE BOTTLES FAILED TO PROPERLY ACTUATE AS DESIGNED DUE TO AN INCORRECTLY CONNECTED ACTUATION LINE BETWEEN THE MASTER BOTTLE AND THE SLAVE BOTTLES. THE RESERVE BANK (REDUNDANT) HALON SYSTEM WAS SIMILARLY INCORRECTLY CONFIGURED AND WAS THEREFORE ALSO INCAPABLE OF COMPLETE DISCHARGE. AS A RESULT, BOTH BANKS OF THE 4 KV ROOM HALON SYSTEM WERE INOPERABLE. INVESTIGATION HAS CONCLUDED THAT THE ACTUATION LINES WERE INCORRECTLY CONNECTED DURING MAINTENANCE ACTIVITIES THAT OCCURRED EITHER IN 6/88 OR IN 4-5/89, WHEN THE MAIN AND RESERVE BANK MASTER BOTTLES WERE DISCONNECTED AND TRANSPORTED TO AN OFF-SITE VENDOR FOR SERVICING, AND REINSTALLED BY SCE. THIS EVENT REPRESENTS A CONDITION PROHIBITED BY TS 3.14.4, PART B. SCE'S INVESTIGATION HAS IDENTIFIED DEFICIENCIES IN: 1) MAINTENANCE PROCEDURES, 2) POST-MAINTENANCE VERIFICATION, 3) PRACTICES RELATED TO MARKING OF PARTS FOR CORRECT REASSEMBLY, 4) HALON SYSTEM KNOWLEDGE.
San Onofre 1	08/16/1991	09/16/1991	FAILURE TO SATISFY THE TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENTS ASSOCIATED WITH THE FIRE PROTECTION SYSTEM FOAM TANK LEVEL MEASUREMENTS Abstract: POWER LEVEL - 091%. ON 8/4/91, WITH UNIT 1 AT 91% POWER, WHILE PERFORMING THE TECH SPEC (TS) 4.15.3.A.1, 'FOAM SUPPRESSION SYSTEMS,' SURVEILLANCE TO VERIFY AN ACCEPTABLE LEVEL IN THE FIRE PROTECTION SYSTEM FOAM TANK ASSOCIATED WITH THE LUBE OIL CONDITIONER AND RESERVOIR, THE TANK SIGHT GLASS ISOLATION VALVES WERE OBSERVED TO BE CLOSED, CONTRARY TO THE SYSTEM DRAWING. THE VALVES WERE OPENED AND THE TANK LEVEL VERIFIED TO BE SATISFACTORY. ON 8/16/91, FOLLOWING AN INVESTIGATION OF THE CORRECT POSITION OF THE VALVES, IT WAS DETERMINED THAT THE PROCEDURE USED TO PERFORM PREVIOUS TS SURVEILLANCES DID NOT PRESCRIBE A SYSTEM ALIGNMENT WHICH WOULD PROPERLY EQUATE THE SIGHT GLASS LEVEL WITH THAT OF THE TANK. THIS CONDITION REPRESENTS A FAILURE TO SATISFY THE SURVEILLANCE REQUIREMENTS OF TS 4.15.3.A.1. NOTWITHSTANDING THE IMPROPERLY PERFORMED SURVEILLANCE, THE CONTENT OF THE TANK WAS DETERMINED TO BE SATISFACTORY. THE PROPER VALUE LINE UP FOR DETERMINING FOAM TANK LEVEL, AS PROVIDED FOR IN THE VENDOR MANUAL, WAS NOT INCORPORATED INTO APPROPRIATE OPERATIONS PROCEDURES AT THE TIME THE FOAM SYSTEM WAS INSTALLED IN 1980. THE METHODOLOGY FOR INCORPORATION OF DESIGN CHANGE INFORMATION WAS NOT SUFFICIENTLY RIGOROUS
San Onofre 2	02/14/1982	03/12/1982	Emergency Air Cleanup System Charcoal Filters Inadvertently Saturated with Water Abstract: During initial fuel load the control room emergency air cleanup system charcoal filters (E-419 & A-206) were inadvertently saturated with water. The redundant cleanup system (E-418 & A-207) was available and operable. While placing the FPS associated with the control room charcoal filters into service, an operator opened the isolation valve allowing water to flow through the tripped open deluge valve and flood the filters. The filters have been replaced and returned to operable status. Deluge valve has been locked open and the system placed under manual control.
San Onofre 2	03/03/1982	04/07/1982	Cable Riser Shaft Water Spray Fire Protection System Activated Inadvertently Abstract: During a maintenance activity the Cable Riser Shaft Water Spray Fire Protection System was inadvertently activated. The cable tray fire retardant barrier material was damaged by the water. The fire spray system was initiated due to a misunderstanding between personnel, allowing maintenance to begin on a manual switch before the spray system block valve was closed. Alternate manual switches are being reviewed to determine if two-positive action type switches can be installed.
San Onofre 2	04/01/1982	04/14/1982	Breeches in Fire Barriers Not Listed and Other Barrier Openings Used by Construction Personnel Abstract: Following initial fuel loading a reinspection of fire barriers required to be operable revealed that an earlier inspection had failed to list breaches of fire barriers other than piping and conduit penetrations whose seals were yet to be installed or were in need of repair. Additional openings in fire barriers were not included as requiring fire watches nor were they reported in March 29, 1982 list. A misunderstanding in instructions to determine the number and location of inoperable fire rated assemblies and seals in SONGS Unit 2 resulted in ommission of inoperable hatches and other fire barrier openings being utilized by ongoing construction efforts. All personnel involved have been reinstructed.
San Onofre 2	06/08/1982	07/09/1982	Fire Suppression Water Spray and Sprinkler System Manually Activated Abstract: Fire suppression water spray and sprinkler system operation was initiated by manual action of a deluge valve. Had the area protected by this deluge valve contained safety related equipment or systems, faulty operation of such systems may have resulted. The cause of manual actuation of the deluge valve could not be determined. Alternate manual actuators are being considered.
San Onofre 2	12/06/1982	01/05/1983	Two Fire Spray Systems Inoperable to Repair Leaking Valve Abstract: Two fire spray systems in the cable spreading room of the Control Building were declared inoperable in order to repair a leaking valve. The event was due to damaged seating surfaces of manual shutoff valve SA2301MU121 which resulted in minor leakage. And the system was declared operable.
San Onofre 2	02/24/1983	03/25/1983	Two Train's Control Room Emergency Air Cleanup Systems Declared Inoperable because of Improper Door Hardware Abstract: With both Units 2 and 3 in Mode 5, the door latch for door C3-67 between the Control Room and the north elevation 30' Cable Risers Gallery was discovered to be jamming intermittently and preventing the door from latching closed. Since this door is required to be closed during CREACUS actuation to provide sufficient positive pressure in the Control Room, Trains A and B CREACUS were declared inoperable at 1430. Since there were no operations involving core alterations or positive reactivity changes taking place at the time, LCO 3.7.5, Action Statement 'B' was satisfied. Intermittent jamming of the door was caused by excessive use. The door hardware appeared to be too light for the door. In accordance with special order 83-18, emergency maintenance was performed. Trains A and B CREACUS were declared operable at 0230 on 2/25/83 after posting a guard at the door to ensure proper latching after each entry or exit. An extensive maintenance program is currently being developed to prevent recurrence of this event. See also LER 83-020.
San Onofre 2	02/24/1983	03/25/1983	Insufficient Positive Pressure in the Control Room because of Unlatched Door Abstract: With both units 2 and 3 in Mode 5, Control Building Lobby door C3-63 was found unlatched and subsequent attempts to latch it failed. Since this door is required to be closed during CREACUS actuation to provide sufficient positive pressure in the control room, trains a and b CREACUS were declared inoperable at 0200. Since there were no operations involving core alterations or positive reactivity changes taking place at the time, LCO 3.7.5, action statement 'B' was satisfied. Inability of C3-63 to latch properly was caused by excessive use of the door. The latching hardware appeared to be too light for the door. In accordance with special order 83-18, emergency maintenance was performed to repair the latch. Trains A and B CREACUS were operable at 0545 on 2/24/83. An extensive maintenance program is currently being developed to prevent recurrence of this event. See also LER 83-020.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

San Onofre 2	03/03/1983	12/12/1983	Two Heat Detectors Found Bent or Broken Abstract: On March 3, 1983, with Unit 2 in Mode 5, 2 heat detectors in zone 53 failed the 6-month Surveillance Test S023-I-2.62. In accordance with LCO 3.3.3.7, Action Statement 'A', an hourly fire watch was posted. The deluge system and the remaining 52 detectors in Zone 53 remained operable. See LER 83-067 (Docket No. 50-361). The 2 heat detectors were found bent and broken due to unknown causes. New detectors were installed, retested, and zone 53 was returned to operable status on March 31, 1983. This is considered an isolated occurrence and no further corrective action is planned.
San Onofre 2	03/15/1983	04/14/1983	Control Room Emergency Air Cleanup System Declared Inoperable becaause of a Jammed Open Latch and Missing Doorknob Abstract: With Units 2 and 3 in Mode 5, fire watch personnel performing routine tours found a jammed open latch and a missing doorknob on door C3-67. By current interpretation this door must be closed for operability of CREACUS during its actuation, so both trains of CREACUS were declared inoperable at 1415. LCO 3.7.5, Action Statement 'B' was satisfied because no core alterations or positive reactivity changes were taking place. High door usage, door modifications, and lightweight latching mechanisms contributed to the door's failure. Emergency maintenance was ordered to repair the door, and CREACUS was declared operable at 2155 on 3/15/83. To prevent this event's recurrence a preventive maintenance program is being developed for the doors, and corrective maintenance will be handled as 'Emergency Work'. An hourly documented door patrol assures that the doors are functioning properly. Further actions to preclude repetition of this event will include administrative controls and compensatory measures currently under development. See also LER's 83-020 and 83-027.
San Onofre 2	05/22/1983	06/21/1983	Fire Panel Inoperable Abstract: On May 22, 1983, at 1200, with Unit 2 in Mode 1 and Unit 3 in mode 5, fire computer alarms were received for fire zones 22, 29, 30, 31, 32a, 32b, and 53. Investigation disclosed fire panel 2/3 l203 was inoperable. An hourly fire watch was established for the affected zones pursuant to LCO 3.3.3.7, with the exception of those zones with inoperable fire rated assemblies in which continuous fire watches were established pursuant to LCO 3.7.9. Inoperability of panel 2/3 l203 was due to a smoke detector that was incorrectly rewired following hvac and lighting work. The detector had a direct 220V DC short, resulting in a failed resistor and a blown 1 amp fuse in the DC control circuit. The detector was rewired correctly, and the resistor and 1 amp fuse were replaced. The fire panel was returned to service on May 22, 1983, at 1920.
San Onofre 2	05/27/1983	06/06/1983	Fire Watch Secured Prematurely Abstract: On May 27, 1983, while Units 2 and 3 were in Modes 1 and 5, respectively, a continuous fire watch was secured prior to returning the Zone 5 deluge water spray system to service. This is contrary to LCO 3.7.8.2 action statement a. An hourly fire watch patrol and backup fire suppression equipment were in place throughout this event. The failure to maintain a continuous fire watch was due to inadequate procedures covering termination of fire watches. The continuous fire watch was reinstated on June 1, 1983. By June 10, 1983, the applicable procedures will be changed to reflect requirements for terminating a fire watch. Training will be provided for all fire watch supervisors on the significance of Tech Spec requirements by July 1, 1983.
San Onofre 2	07/13/1983	08/12/1983	Cable Riser Fire Seals Missing Abstract: On July 13, 1983, with Units 2 and 3 in Modes 3 and 4, respectively, a penetration seal in zone 29 was discovered to be inoperable while performing a QC inspection of fire barrier penetrations in Cable Riser Room 236. Fire detectors associated with Zone 29 remained operable. Therefore, in accordance with Tech Spec 3.7.9, Action Statement 'A', an hourly fire watch was established within one hour. (see also LER 83-045, docket no. 50-362.) The cause of the inoperable seal appears to be an error during construction. Three 1 inch holes extend through the fire barrier penetration. Until the inoperable seal is repaired. No further corrective action is required.
San Onofre 2	10/17/1983	11/16/1983	Spurious Fire Protection System Deluge Actuation Occurs Abstract: On 10/17/83, with Units 2 and 3 in Mode 1, a spurious Fire Protection System deluge actuation occurred in the Control Bldg. North Cable Riser area. In accordance with LCO 3.7.8.2, Action 'A' and LCO 3.3.3.7, Action 'A', a continuous fire watch was established within 1 hour. The affected fire spray deluge system remained manually operable. The cause of the actuation is not known as there was no fire or smoke and the manual pull station had not been actuated. Investigation of the actuation system did not indicate a malfunction. The system was returned to service the same day. No further corrective action is planned.
San Onofre 2	12/05/1983	01/06/1984	Diesel Generator Building Flame Detector and Sprinkler Systems Inoperable Abstract: On 12/05/83, at 1255, with unit 2 in Mode 5, Zone 17 Diesel Generator Building pre-action flame detector 2BSH8974 alarmed and could not be reset. A continuous fire watch had already been established satisfying the requirements of LCO 3.3.3.7, Action 'A'. On 12/19/83, at 1012, reduction of fire watch coverage to an hourly basis rendered the associated spray/sprinkler system inoperable. LCO 3.7.8.2, action 'a' was entered and satisfied by the hourly fire watch. The continuous fire watch was reset at 1110 on 12/20/83 The cause of the alarm was due to a faulty component on a circuit card. The compensatory fire watch will remain in effect until the detector is returned to service.
San Onofre 2	01/11/1984	02/28/1984	Fire Protection Program Deficiencies Abstract: POWER LEVEL - 100%. AS REPORTED ON JAN 11, 1984, PURSUANT TO 10 CFR 50.72(B)(1)(II)(B) AND LICENSE CONDITION 2.G., THE PREPARATION OF THE UPDATED FIRE HAZARDS ANALYSIS (FHA) AND THE REVIEW OF ROUTINE FIRE PROTECTION SURVEILLANCE RESULTS, HAVE RESULTED IN THE ISSUANCE OF NONCONFORMANCE REPORTS (NCR'S) IDENTIFYING DEFICIENCIES IN IMPLEMENTING AND MAINTAINING IN EFFECT CERTAIN PROVISIONS OF THE FIRE PROTECTION PROGRAM. THESE DEFICIENCIES INVOLVE: FIRE PROTECTION SPRAY/SPRINKLER AND WATER SUPPLY SYSTEMS; CABLE SEPARATION AND FIRE WRAPS; FIRE BARRIERS; EMERGENCY LIGHTING; AND FIRE/SMOKE DETECTORS. THIS REPORT RESULTS FROM 91 NCR'S IDENTIFYING CONDITIONS WHICH HAVE BEEN DETERMINED TO BE IN NONCONFORMANCE WITH THE LICENSE, CURRENT FHA AND/OR THE TECH SPECS. FOR THE DEFICIENCIES IDENTIFIED HEREIN, COMPENSATORY MEASURES HAVE BEEN ESTABLISHED WHERE REQUIRED BY APPLICABLE TECH SPECS AND WILL REMAIN IN EFFECT UNTIL THE NCR DISPOSITIONS HAVE BEEN IMPLEMENTED. THIS REPORT IS ALSO SUBMITTED TO FULFILL THE REQUIREMENTS OF LICENSE CONDITION 2.G. RELATING TO LICENSE CONDITIONS 2.C(14)A/B AND 2.C.(12)A OF OPERATING LICENSES NPF-10 AND NFP-15 FOR UNITS 2 AND 3, RESPECTIVELY.
San Onofre 2	03/06/1984	06/01/1984	Fire Protection Program Deficiencies Abstract: POWER LEVEL - 100%. AS REPORTED ON MAR 7, 1984, PURSUANT TO 10CFR50.72(B)(1)(II)(B) AND LICENSE CONDITION 2.G, THE PREPARATION OF THE UPDATED FIRE HAZARDS ANALYSIS (FHA) AND THE REVIEW OF IE INFORMATION NOTICE (IN) 84-09 HAVE RESULTED IN THE ISSUANCE OF NONCONFORMANCE REPORTS (NCR'S) IDENTIFYING APPARENT DISCREPANCIES BETWEEN THE SCE FIRE PROTECTION PROGRAM AND NRC REQUIREMENTS. THIS REPORT RESULTS FROM 49 NCR'S IDENTIFYING CONDITIONS WHICH HAVE BEEN DETERMINED TO BE IN NONCONFORMANCE WITH THE LICENSE, THE CURRENT FHA AND/OR THE TECH SPECS. THESE APPARENT DISCREPANCIES INVOLVE: I&C CABLE PROTECTION; ASSOCIATED CIRCUIT ANALYSIS; SEPARATION CRITERIA INSIDE CONTAINMENT; ALTERNATIVE SAFE SHUTDOWN ANALYSIS; ALTERNATIVE SAFE SHUTDOWN MONITORING; FIRE HOSE HOUSES; ELECTRICAL CABLE CONSTRUCTION AND TESTING; VENTILATION SYSTEMS; FIRE PROTECTION EQUIPMENT INSTALLATION; THE USE OF COMBUSTIBLE MATERIALS; CABLE SEPARATION AND FIRE BARRIERS; AND, SMOKE AND FIRE DETECTORS. APPROPRIATE COMPENSATORY MEASURES HAVE BEEN IMPLEMENTED. THIS REPORT IS ALSO SUBMITTED TO FULFILL THE REQUIREMENTS OF LICENSE CONDITION 2.G RELATING TO LICENSE CONDITIONS 2.C(14)A AND 2.C(12)A OF OPERATING LICENSES NPF-10 AND NPF-15 FOR UNITS 2 AND 3, RESPECTIVELY.
San Onofre 2	06/11/1984	07/11/1984	Failure to Establish Fire Watch Abstract: POWER LEVEL - 100%. ON 6/11/84, AT 1345, WITH UNIT 2 IN MODE 1 AT 100% POWER, A SECTION OF THE UNITS 2 AND 3 FIRE MAIN (EIIS SYSTEM CODE KP) WAS ISOLATED TO PERFORM PIPING MODIFICATIONS, ISOLATING THE SPRAY/SPRINKLER SYSTEMS ASSOCIATED WITH THE UNIT 2 AUX. FEEDWATER PUMP ROOM, CABLE TUNNEL SECTIONS, AND THE 8' ELEV. OF THE SAFETY EQUIPMENT BLDG. ALL REQUIRED BACKUP FIRE SUPPRESSION EQUIPMENT WAS PROVIDED; HOWEVER, CONTINUOUS FIRE WATCHES WERE NOT ESTABLISHED WITHIN 1 HR PER LCO 3.7.8.2, ACTION STATEMENT 'A.' FIRE WATCHES WERE NOT ESTABLISHED UNTIL 1500 ON 6/16/84 WHEN THE EVENT WAS DISCOVERED WHILE EVALUATING THE IMPACT OF A FIRE MAIN RUPTURE. THERE WAS NO SIGNIFICANT DEGRADATION OF FIRE FIGHTING CAPABILITY SINCE FIRE DETECTION SYSTEMS REMAINED OPERABLE AND THE ONSITE FIRE BRIGADE WAS AVAILABLE TO RESPOND. THE CAUSE OF THIS EVENT WAS MISCOMMUNICATION WHICH RESULTED IN THE FIRE WATCHES NOT BEING PROPERLY ESTABLISHED. APPROPRIATE PERSONNEL HAVE REVIEWED THIS EVENT AND THE IMPORTANCE OF PREVENTING MISCOMMUNICATION HAS BEEN STRESSED. THIS IS CONSIDERED TO BE AN ISOLATED EVENT AND NO FURTHER CORRECTIVE ACTION IS PLANNED. THERE ARE NO REASONABLE OR CREDIBLE CIRCUMSTANCES UNDER WHICH THIS EVENT WOULD HAVE BEEN MORE SEVERE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

San Onofre 2	01/03/1985	01/30/1985	Missed Fire Watch Abstract: POWER LEVEL - 000%. ON 1-3-85, WITH UNIT 2 DEFUELED AND UNIT 3 IN MODE 1, ROUTINE 1 HR ROVING FIRE WATCHES WERE BEING CONDUCTED IN THE UNITS 2/3 ELECTRICAL TUNNEL IN ACCORDANCE WITH TECH SPEC 3.7.9 ACTION STATMENT 'A' BECAUSE OF A PLANNED INOPERABLE FIRE BARRIER. AT 1408, THE FIRE WATCH CONTACTED SECURITY PRIOR TO ENTERING THE UNITS 2/3 ELECTRICAL TUNNEL. HOWEVER, DUE TO A PLANNED OUTAGE OF THE SECURITY COMPUTER, SECURITY OFFICERS DID NOT RESPOND PROPERLY TO ALLOW ENTRY INTO THE UNITS 2/3 ELECTRICAL TUNNEL UNTIL 1505. THE CAUSE OF THE EVENT WAS INADEQUATE PRIOR PLANNING OF A SECURITY COMPUTER OUTAGE, AND A FAILURE OF PERSONNEL TO IMPLEMENT A REVISED ACCESS ROUTING OF THE FIREWATCH. TO PREVENT RECURRENCE, ACTION HAS BEEN TAKEN TO AUTHORIZE FIREWATCHES TO ENTER RESTRICTED AREAS DURING CONTINGENCIES WHEN SECURITY OFFICERS ARE NOT AVAILABLE. IN ADDITION, APPROPRIATE DISCIPLINARY ACTION WILL BE TAKEN WITH THE SECURITY OFFICERS WHO DID NOT RESPOND PROPERLY. THIS IS CONSIDERED TO BE AN ISOLATED EVENT. THERE ARE NO REASONABLE OR CREDIBLE CIRCUMSTANCES UNDER WHICH THIS EVENT WOULD HAVE BEEN MORE SEVERE.
San Onofre 2	03/19/1985	04/15/1985	Precautionary Evacuation of Fire Watch Abstract: POWER LEVEL - 000%. ON MARCH 19, 1985, AT 0700, WITH UNIT 2 IN MODE 4, A CONTINUOUS FIRE WATCH POSTED IN THE UNIT 2 ELECTRICAL CABLE TUNNEL WAS EVACUATED AS A PRECAUTIONARY MEASURE DUE TO THE SMELL OF AMMONIA GAS. THE FIRE WATCH WAS REQUIRED PURSUANT TO TECH SPEC 3.7.8.2 FOR AN INOPERABLE FIRE SUPPRESSION SYSTEM. AN INVESTIGATION WAS PERFORMED TO DETERMINE THE SOURCE OF THE AMMONIA GAS. THE STEAM TRAP DRAINS IN THE MAIN STEAM ISOLATION VALVE (MSIV) AND AUXILIARY FEED BUILDING AREAS WERE ALIGNED TO THE ATMOSPHERE AND RELIEVING STEAM AND AMMONIA WHICH WAS BEING DRAWN INTO THE CABLE TUNNEL BY THE EXHAUST FAN. THE AMMONIA HAD BEEN ADDED TO THE STEAM GENERATORS DURING A RECENT OUTAGE TO CONTROL PH. THE FIRE WATCH WAS REESTABLISHED AT 1030 ON MARCH 19, 1985, AFTER VENTILATING THE CABLE TUNNEL WITH PORTABLE EXHAUST FANS. IN ADDITION, OPERATIONS ALIGNED THE STEAM TRAPS TO THE CONDENSER AND ISOLATED THE SOURCE OF THE AMMONIA AT APPROXIMATELY 1100. THE AMMONIA GAS WAS NOT OF HIGH ENOUGH CONCENTRATION TO PRECLUDE ESSENTIAL PERSONNEL FROM PERFORMING DUTIES NECESSARY FOR SAFE OPERATION OF THE PLANT.
San Onofre 2	07/16/1985	08/15/1985	Improper Cancellation of a Continuous Fire Watch Abstract: POWER LEVEL - 100%. ON 7/16/85, ROUTINE 6-MONTH FIRE DETECTOR CHANNEL FUNCTIONAL TESTING WAS BEING PERFORMED ON THE CABLE TUNNEL SECTION 4 (FIRE BARRIER ZONE 30) SPRAY/SPRINKLER SYSTEM AND PURSUANT TO LCO 3.7.8.2, A CONTINUOUS FIRE WATCH WAS ESTABLISHED. AT APPROXIMATELY 1900, THE FIRE WATCH WAS REPORTED TO THE FIRE WATCH SUPERVISION THAT NO ACTIVITY WAS BEING PERFORMED IN THE AREA. THE FIRE WATCH SUPERVISOR THEN CALLED MAINTENANCE PERSONNEL AT 1915 TO ASCERTAIN THE NEED FOR THE FIRE WATCH. DUE TO PERSONNEL MISCOMMUNICATION, THE FIRE WATCH SUPERVISOR, BELIEVING THE FIRE WATCH WAS NOT REQUIRED, PREMATURELY AUTHORIZED THE REMOVAL OF THE FIRE WATCH AT 1930 ON 7/16. ON 7/17/85 AT 0830, PRIOR TO RESTORATION OF THE CABLE TUNNEL SPRAY/SPRINKLER SYSTEM, THE ERROR IN REMOVING THE FIRE WATCH WAS DISCOVERED AND THE FIRE WATCH WAS IMMEDIATELY RE-ESTABLISHED. FOR THIS SURVEILLANCE, FIRE WATCHES ARE CONTROLLED BY A SURVEILLANCE PROCEDURE WHICH REQUIRES MAINTENANCE PERSONNEL TO ESTABLISH A FIRE WATCH PRIOR TO PERFORMING WORK AND TO RELEASE THE FIRE WATCH AT THE COMPLETION OF THE WORK. MAINTENANCE PERSONNEL HAD, IN ACCORDANCE WITH PROCEDURE S023-I-2.72, ESTABLISHED THE FIRE WATCH. MAINTENANCE PERSONNEL HAD NOT COMPLETED THE SURVEILLANCE TESTING NOR THE PROCEDURE S023-I-2,72 (RELEASING THE FIRE WATCH
San Onofre 2	08/12/1986	11/06/1987	Reactor Trip Following Main Steam Isolation Signal Abstract: POWER LEVEL - 100%. ON AUGUST 12, 1986 AT 1330 WITH UNIT 2 AT 100% POWER, A REACTOR TRIP OCCURRED WHEN REACTOR COOLANT SYSTEM (RCS) PRESSURE REACHED THE CORE PROTECTION CALCULATOR (CPC) AUXILIARY TRIP SET POINT OF 2375 PSIA. THE RCS PRESSURE TRANSIENT RESULTED FROM MAIN STEAM ISOLATION VALVE (MSIV) CLOSURE WHEN THE MAIN STEAM ISOLATION SYSTEM (MSIS) WAS ACTUATED DURING SURVEILLANCE TESTING OF THE MSIS AUTOMATIC ACTUATION LOGIC. THE TRIP RECOVERY PROCEEDED NORMALLY AND THERE WERE NO SAFETY CONSEQUENCES ASSOCIATED WITH THIS EVENT. THE MSIS GROUP ACTUATION RELAYS ARE MAINTAINED ENERGIZED BY CURRENT THROUGH TWO PARALLEL CIRCUITS FROM THE ENGINEERED SAFETY FEATURES ACTUATION SYSTEM (ESFAS) TRIP INITIATION SOLID STATE RELAYS (SSR). DURING THE TECHNICAL SPECIFICATION REQUIRED SURVEILLANCE TEST, ONE SIDE OF THE PARALLEL CIRCUIT IS DE-ENERGIZED FOR BOTH TRAINS 'A' AND 'B' SIMULTANEOUSLY WHILE THE OTHER SIDE REMAINS ENERGIZED. DURING THIS TESTING, DE-ENERGIZATION OF THE SSR IN THE REMAINING PARALLEL CIRCUITRY RESULTED IN ACTUATION OF THE MSIS. FOLLOWING THE OCCURRENCE, EXTENSIVE INSPECTION AND TESTING OF ESFAS CIRCUITRY WAS CONDUCTED, HOWEVER, THE CONDITION COULD NOT BE DUPLICATED AND A FAILED COMPONENT COULD NOT BE IDENTIFIED. THROUGH SUBSEQUENT INVESTIGATION, HOWEVER, THE CAUSE OF THE OCCURRENCE WAS PREMATURE REMOVAL OF FIRE WATCH POSTING WITH A DIESEL GENERATOR SPRAY/SPRINKLER SYSTEM INOPERABLE Abstract: POWER LEVEL - 100%. AT 0045 ON 7/24/89, DURING A TOUR OF VARIOUS FIRE PROTECTION EQUIPMENT, A FIRE WATCH SUPERVISOR IDENTIFIED THAT THE UNIT 2 TRAIN 'B' DIESEL GENERATOR (2G003) LOCAL DELUGE CONTROL PANEL WAS IN ALARM. AT 0137, AFTER AN ATTEMPT TO RESET THE DELUGE ALARM WAS UNSUCCESSFUL, A FIRE WATCH WAS POSTED TO MEET THE REQUIREMENTS OF TECH SPECS (TS) 3.7.8.2. FURTHER INVESTIGATION DETERMINED THAT AT
San Onofre 2	07/24/1989	08/23/1989	0834 ON 7/22/89, THE HOURLY FIRE WATCH POSTED FOR MAINTENANCE ACTIVITIES HAD BEEN TERMINATED WITH THE 2G003 DELUGE SYSTEM INOPERABLE. THUS, THE REQUIREMENTS OF TS 3.7.8.2 WERE NOT MET FOR APPROX. 40 HOURS. THE ROOT CAUSE OF THIS EVENT IS THE FAILURE TO CAPTURE A CONTINUING DEFICIENCY ASSOCIATED WITH THE DELUGE VALUE WITHIN EXISTING PROGRAMS. ON 5/4/89, THE DELUGE VALVE WAS DECLARED INOPERABLE FOR THE PERFORMANCE OF MAINTENANCE. AT THAT TIME, INTERNAL VALVE LEAKAGE WAS DISCOVERED AND A MAINTENANCE ORDER (MO) GENERATED. PRIOR TO THE PERFORMANCE OF THE MO, ON 6/15/B9, A FIRE ALARM ASSOCIATED WITH THE VALVE WAS RECEIVED AT THE LOCAL CONTROL PANEL AND THE EMERGENCY SERVICE OFFICER'S (ESO) OFFICE. ALTHOUGH WORK ON THE MO WAS STILL IN PROGRESS, THE ADDITIONAL DEFICIENCY ASSOCIATED WITH THE ALARM WAS NOT CAPTURED. CONSEQUENTLY, THE DELUGE
San Onofre 2	11/07/1989	12/28/1989	POST-MAINTENANCE RETEST ON CHARGING PUMP 2P190 NOT PREFORMED DUE TO PERSONNEL OVERSIGHT Abstract: POWER LEVEL - 000%. ON 10/25/89, A PUMP REPACK AND ASSOCIATED PUMP MAINTENANCE WAS PERFORMED ON CHARGING PUMP 2P190. PER SECTION XI OF THE ASME BOILER AND PRESSURE VESSEL CODE AND APPLICABLE ADDENDA, AS INVOKED BY TECH SPEC (TS) 4.0.5, THE PERFORMANCE OF SUCH WORK REQUIRED BY INSERVICE TEST (IST) TO BE PERFORMED PRIOR TO, OR WITHIN 96 HRS AFTER RETURNING THE PUMP TO SERVICE. CONTRARY TO PROCEDURAL REQUIREMENTS, THE ASSOCIATED CHARGING SYSTEM WORK AUTHORIZATION RECORD (WAR) DID NOT SPECIFY THAT A POST-MAINTENANCE IST FOR 2P190 WAS REQUIRED. ON 11/7/89, AT 1510, WITH UNIT 2 IN MODE 5, WHEN 2P190 WAS RETURNED TO SERVICE AND THE CHARGING SYSTEM WAR WAS CLOSED, THE NEED FOR PERFORMANCE OF AN IST WAS NOT RECOGNIZED AND NOT PERFORMED. UPON DISCOVERY OF THIS DEFICIENCY, ON 11/28/89, AT 1645, AN IST ON 2P190 WAS PERFORMED SATISFACTORILY. SCE WAS UNAWARE THAT 2P190 WAS INOPERABLE BETWEEN 11/7/89 AND 11/28/89. ON 11/23/89, AT 2130, WITH UNIT 2 IN MODE 4, CHARGING PUMP 2P191 WAS DECLARED INOPERABLE FOR THE PERFORMANCE OF PUMP MAINTENANCE. THIS WAS FOLLOWED BY UNIT 2 ESCALATING FROM MODE 4 TO MODE 3 ON 11/23/89, AT 2206. SINCE LESS THAN TWO CHARGING PUMPS WERE OPERABLE, THIS REPRESENTED A VIOLATION OF TS 3.0.4. ROOT CAUSE IS OVERSIGHT BY OPERATIONS TECHNICAL SPECIFICATION VIOLATION INVOLVING A MISSED FIRE WATCH DUE TO A PROCEDURAL INADEQUACY Abstract: POWER LEVEL - 100%. At 1552 on 2/20/90 with Unit 2 operating at 100% power, Technical Specification (TS) fire door DG2201 located in the Unit 2 Diesel Generator (DG) building was determined to be impaired due to a sticky door latch. At 1656, in accordance with TS 3.7.9, Action 'a', an hourly fire watch was posted in two fire areas (2-DG-30-156, room 101 and 2-DG-30-158, room 103) which were located on either side of the fire door, according to the fire protection system computer
San Onofre 2	02/20/1990	01/17/1994	data base. During a review on 2/22/90 at 1328, it was determined that a TS violation had occurred because the rooms identified to be protected by fire door DG2201 were determined to be incorrect. The correct rooms were rooms 201 and 202 located in fire areas 2-DG-30-156 and 2-DG-30158, respectively. Since these rooms do not contain any fire detection or suppression systems, a continuous fire watch should have been posted. As required by TS 3.7.9, Action 'a', a continuous fire watch was posted in Room 201 on 2/22/90 at 1352. The root cause of this event was procedural inadequacy, in that the fire protection procedures do not provide sufficient guidance to identify the correct data needed to properly establish the required compensatory measures for this fire door impairment. Fire

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

San Onofre 2	11/14/1994	05/22/1995	INOPERABLE FIRE SPRINKLER SYSTEM Abstract: On 11/14/94, during surveillance testing of pre-action valve SA2301MU469, the valve release weight stuck and did not drop upon electronic actuation, and the valve did not open as required. On 1/26/95, Edison replaced the weight switch, the valve was tested satisfactorily, and the release weight was reset. In accordance with TS 3.7.9.2, an hourly fire watch had been maintained while the valve was inoperable. Edison initially believed the valve failed at the time of the surveillance. However, Edison subsequently determined that the weight switch, initially installed on the valve on 9/17/94, had been incorrectly assembled by the manufacturer, Micro Switch (a Division of Honeywell). On 4/20/95, Edison discovered that the weight switch had also been slightly mispositioned in the valve. Edison concluded the combination of the two factors resulted in intermittent binding of the release weight. Edison conservatively assumed the valve may have been inoperable between 9/20/94 and 11/14/94. Because an hourly fire watch was not in place as required by TS 3.7.8.2, Edison is providing this report in accordance with 10 CFR 50.73(a)(2)(i). Edison replaced the incorrectly manufactured weight switch on 1/26/95 and ensured it was correctly positioned. Edison confirmed that Micro Switch Part No. CPD-AR62 weight switches are only used in non-safety related fire
San Onofre 2, San Onofre 3	05/06/1985	06/03/1985	Delinquent Locked Fire Door Surveillance Abstract: Technical Specification 4.7.9.1.b requires verification of the position of each locked closed fire door every seven days. On May 15, 1985, during a documentation review by the Emergency Services Organization of fire door surveillances, it was determined that the 7-day surveillance scheduled for May 4, 1985, was not performed and the 25 extension allowed in Technical Specification 4.0.2 was exceeded on May 6, 1985. A review of the previous surveillance on April 27, 1985, and the subsequent surveillance on May 11, 1985, did not identify any deficiencies in the position of the locked fire doors. In addition, the administrative controls for the access of locked fire doors require, prior to access, that authorization from Emergency Preparedness be received in writing and a fire watch established. There is no evidence that these controls were violated; because of this it has been concluded that there was no significance to this event. The cause of this event was oversight. The inspector failed to review the daily work schedule to determine if he had been assigned surveillances. As corrective action the inspector was disciplined and all other inspectors were made aware of this event. In addition, the administrative controls for verifying surveillance completion were strengthened to ensure compliance with the surveillance schedules.
San Onofre 2, San Onofre 3	11/28/1988	01/03/1989	IMPROPERLY POSTED FIRE WATCH DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 100%. AT 1045 ON 11/28/88, A TECH SPEC REQUIRED FIRE DOOR LOCATED ON THE CORRIDOR NEAR THE MAIN ENTRANCE TO THE AUXILIARY BUILDING CONTROL AREA WAS FOUND TO BE INOPERABLE DURING THE 'ONCE PER 24-HOUR' SURVEILLANCE CONDUCTED PURSUANT TO TS 4.7.9.1.A. AS PROVIDED FOR IN THE IMPAIRMENT, AT 1131, AN HOURLY COMPENSATORY FIRE WATCH WAS IMPLEMENTED. THIS IS CONTRARY TO TS 3.7.9, ACTION 'A', WHICH REQUIRES A CONTINUOUS FIRE WATCH, SINCE THE FIRE ZONE ON EITHER SIDE OF THE INOPERABLE FIRE DOOR DID NOT CONTAIN AN OPERABLE FIRE DETECTION SYSTEM. AT 1330, ON 12/2/88, THE FIRE DOOR WAS RETURNED TO SERVICE. DURING THE PROCESS OF TERMINATING THE IMPAIRMENT, THE ERROR WAS DISCOVERED. THE REQUIRED COMPENSATORY MEASURE WAS NOT APPROPRIATELY IMPLEMENTED BECAUSE, CONTRARY TO PROCEDURAL REQUIREMENTS, THE EMERGENCY SERVICE OFFICER (ESO) AND THE ESO SHIFT CAPTAIN FAILED TO EVALUATE THE IMPAIRMENT IN ACCORDANCE WITH THE CRITERIA CONTAINED IN THE PROCEDURES. HAD THE PROCEDURES BEEN FOLLOWED CLOSELY, THE COMPENSATORY FIRE WATCH WOULD HAVE BEEN PROPERLY DETERMINED. AS CORRECTIVE ACTIONS, THE AUTHORITY TO INITIATE AND APPROVE IMPAIRMENTS BY THE PERSONNEL INVOLVED WAS IMMEDIATELY SUSPENDED. THE EVENT WAS DISCUSSED WITH THE PERSONNEL INVOLVED AND RE-INSTRUCTION ON PROCEDURAL REQUIREMENTS
San Onofre 2, San Onofre 3	11/01/1989	03/28/1990	Missed Fire Watch Posting Due to Personnel Error Abstract: POWER LEVEL - 000%. ON 11/1/89 AT 1200, WITH UNIT 2 IN MODE 5 AND UNIT 3 OPERATING AT 100%, DURING ROUTINE TECH SPEC (TS) TESTING OF FIRE DETECTION INSTRUMENTATION, THE SUPERVISORY ALARM CIRCUIT FOR FIRE DETECTION PANEL 2L1981 FAILED TO FUNCTION. PER TS 3.3.3.7, AN HOURLY FIREWATCH WAS REQUIRED TO BE POSTED IN THE VARIOUS UPDATED FIRE HAZARDS ANALYSIS (UFHA) AREA/ZONES ASSOCIATED WITH PANEL 2L1981. CONTRARY TO TS, AN HOURLY FIREWATCH WAS NOT POSTED IN 2 TS UFHA AREA/ZONES (UNIT 2 SALTWATER PUMP ROOM AND UNITS 2/3 SALTWATER COOLING PIPE TUNNEL). ON 12/5/89, AN HOURLY FIREWATCH WAS POSTED IN ALL THE UFHA AREA/ZONES SERVED BY PANEL 2L1981 IN PREPARATION FOR TESTING OF THE FAILED FIRE DETECTION CIRCUITS. ON 12/8/89, THE SUPERVISORY FIRE DETECTION ALARM CIRCUIT FOR PANEL 2L1981 WAS DECLARED OPERABLE AFTER SATISFACTORY TESTING. THE TS VIOLATION WAS DISCOVERED ON 2/6/90, DURING A REVIEW OF FIREWATCH RECORDS BY EMERGENCY PREPAREDNESS (EP) PERSONNEL. DURING THE EVALUATION OF THE IMPAIRED PANEL FOR IDENTIFYING THE REQUIRED COMPENSATORY MEASURES, EP PERSONNEL RELIED UPON THE COMPUTER BASED FIRE PROTECTION INFORMATION SYSTEM (FPIS) AND DID NOT FOLLOW THE FIRE PROTECTION IMPAIRMENT EVALUATION PROCEDURE WHICH CONTAINS THE CORRECT INFORMATION REGARDING THE SPECIFIC FIRE AREA/ZONES ASSOCIATED WITH PANEL 2L1981.
San Onofre 2, San Onofre 3	02/27/1991	03/29/1991	FIRE WATCHES NOT ESTABLISHED WITHIN ONE HOUR CONTRARY TO TECHNICAL SPECIFICATION 3.3.3.7 Abstract: POWER LEVEL - 100%. AT 1535 ON 2/27/91, WITH UNITS 2 AND 3 OPERATING IN MODE 1 AT 100% POWER, BASED UPON INFORMATION RECEIVED IN THE CONTROL ROOM INCLUDING; A GROUND ALARM, A REPORT OF WATER NEAR NON-TECHNICAL SPECIFICATION (TS) PYROTRONICS CONTROL PANEL 2/3L-201-3 (IT WAS RAINING HEAVILY AT THE TIME), AND THE INABILITY TO RESET SPURIOUS SUPERVISORY AND FIRE ALARMS FROM THE PANEL, OPERATORS APPROPRIATELY OPENED POWER SUPPLY BREAKER 2L-414-13 TO DE-ENERGIZE THE PANEL. OPENING THE BREAKER ALSO CAUSED THE DEENERGIZATION OF A RELATED TS PYROTRONICS CONTROL PANEL 2/3L-201-1. AS A RESULT, 31 HOURLY FIRE WATCHES IN THE UNIT 2/3 AUX. RADWASTE BUILDING WERE REQUIRED TO BE ESTABLISHED. THE ESTABLISHMENT OF FIRE WATCHES WAS NOT COMPLETED WITHIN THE 1 HOUR REQUIRED BY TS 3.3.3.7. APPROPRIATE FIRE WATCHES WERE IN PLACE BY 1800. THE CAUSE OF THIS EVENT WAS THAT THE WORK PROCESS ASSOCIATED WITH THE ESTABLISHMENT OF THE FIRE WATCHES REQUIRED BY THE DE-ENERGIZATION OF TS PYROTRONICS CONTROL PANEL 2/3L-201-1 WAS UNWELDY AND COULD NOT BE ACCOMPLISHED WITHIN THE 1 HOUR TS ACTION REQUIREMENT. AN INVESTIGATION INTO THE CAUSE OF THE SPURIOUS SUPERVISORY AND FIRE ALARMS FROM PANEL 2/3L-201-3 IS CURRENTLY ONGOING. CONTINGENCY PLANS FOR SIMILAR SCENARIOS ARE BEING
San Onofre 2, San Onofre 3	12/02/1997	01/02/1998	Fire Damper Not In Technical Specification Data Base Abstract: On 2/6/96, SONGS personnel unsuccessfully drop-tested fire damper SARW504165001FD, then repaired it and made it operable. on 12/2/97, during an audit of the Plant and Equipment Data Management System (PEDMS), SONGS personnel recognized that fire damper SARW504165001FD was not in the Licensee Controlled Specification (LCS) surveillance procedure. Consequently, between August 1993 (date damper added to Technical Specifications (TS)) and February 1996 (date damper drop tested), Southern California Edison (SCE) had not visually inspected this fire damper every 18 months as required by (then in force) TS Surveillance Requirement 4.7.9.2. Additionally, due to the condition of the damper when tested on 2/6/96, it is likely the damper was inoperable for more than one hour. Because SCE could not have known the damper was inoperable prior to its drop-test, and did not know the damper was a TS damper, a roving fire watch was not posted as required by (then in force) TS 3.7.9.a. Consequently, SCE is reporting this occurrence in accordance with 10 CFR 50.73(a)(2)(i). This occurrence was caused by a cognitive personnel error (utility, non-licensed). When certain fire barriers were added to the TS on 8/24/93, fire damper SARW504165001FD was inadvertently omitted. Immediately upon discovery, on 12/2/97, SONGS workers verified fire damper SARW504165001FD operable by inspecting and drop testing it satisfactorily. The damper was added to the LCS surveillance
San Onofre 2, San Onofre 3	01/20/2000	02/17/2000	Inadequate Design-SWC Pump Control Circuits Do Not Meet Fire Protection Design Basis Abstract: On January 20, 2000, at 1431 PST, SCE notified (NRC Log No. 36608) that some cables in the Saltwater Cooling pipe tunnel were missing a portion of their fire wraps required to meet 10CFR50, Appendix R, Section III.G. On January 25, 2000, subsequent engineering investigation determined that a design change was implemented in circa 1987, which was intended to eliminate the need to wrap these cables. However, this design change for the SWC Pump control circuits did not provide an isolation fuse as intended. Consequently, SCE is reporting this condition as outside the design basis of the plant in accordance with 10 CFR 50.73 (a)(2)(ii)(B). The cause is attributed to design error by a contract engineering firm (non-utility, non-licensed). SCE immediately ensured that an hourly fire watch was posted in the SWC pipe tunnel and in each Unit's SWC pump room. SCE will modify the affected circuits to eliminate the potential vulnerability discussed above. The condition had minimal safety significance.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

San Onofre 3	02/20/1983	12/12/1983	Update on Deluge Panel Internals from Cable Tunnel Spray System Found Corroded Abstract: On May 11, 1983, while in Mode 5, the spray system that protects Cable Tunnel Section 3 (Zone 30) was declared inoperable when deluge panel 3TSH-8951 internals were found corroded. Per LCO's 3.3.3.7 and 3.7.8.2, Action Statements 'A', a continuous fire watch with backup suppression equipment was established within 1 hour. The system remained manually operable. 3TSH-8951 was subsequently determined to have been inoperable since performance of the 6-mo. Channel functional surveillance on 2/20/83 (see ler 83-067, Docket No. 50-361). Corrosion of the panel internals was due to water intrusion resulting from improper closure. Damaged parts were replaced, and the panel declared operable on July 30, 1983.
San Onofre 3	02/22/1983	04/05/1983	Diesel Generator Sprinkler System Spuriously Initiates Abstract: With Unit 3 in Mode 5, the sprinkler system that protects Diesel Generator G-002 spuriously initiated, leaving the actuation fire detector inoperable until it could be reset. Accordingly, lco 3.3.3.7 action statement 'a' was entered and a continuous fire watch was established. On February 25, 1983, the detector was restored to operable status. The fire deluge system remained operable. The cause of the sprinkler system actuation is unknown. No construction activity was being performed in the area and a review of the fire computer printouts, fire watch logs, Control Operator logs and discussions with fire watch personnel and maintenance personnel did not identify any apparent cause for actuation. A continuous fire watch and backup fire suppression equipment were established within one hour. This is considered an isolated occurrence and no further corrective action is planned.
San Onofre 3	02/24/1983	04/05/1983	Cable Tunnel Spray System Spuriously Actuates Abstract: While in Mode 5, the spray system that protects Cable Tunnel Section 10 spuriously actuated, leaving the actuation fire detector inoperable until it could be reset. Accordingly, lco 3.3.3.7 Action Statement 'A' was entered and a fire watch was established. On March 7, 1983 the detector was restored to operable status. The fire deluge system remained manually operable. The cause of the spray system is unknown although it was most likely due to construction activity in the area. A continuous firewatch and backup fire suppression equipment were established within one hour. This is considered an isolated occurrence and no further corrective action is planned.
San Onofre 3	03/31/1983	05/03/1983	Cable Riser Fire Spray System Spuriously Activates Abstract: While in Mode 5, the fire spray system that protects Control Bldg. Cable Riser elev. 30 ft. Spuriously actuated. LCO 3.7.8.2 action statement 'a' was entered. Also lco 3.3.3.7 action statement 'a' was entered since the associated actuation fire detectors were inoperable until the system was reset on April 30, 1983. A continuous fire watch was established within one hour. The affected fire spray system remained manually operable. A review of the control operator logs and discussions with fire watch and maintenance personnel did not identify any apparent cause of actuation. Compensatory measures remained in place until the fire spray system was returned to service. Initial attempts to reset the deluge valve resulted in valve leakage. As corrective action, the proper resetting technique will be provided, in writing, to operations personnel.
San Onofre 3	04/04/1983	05/03/1983	Cable Gallery Fire Spray System Spuriously Actuates Abstract: While in Mode 5, the fire spray system that protects Radwaste Bldg. Cable gallery spuriously actuated. LCO 3.7.8.2 Action Statement 'A' was entered. Also LCO 3.3.3.7 Action Statement 'A' was entered since the associated actuation fire detectors were inoperable until the system was reset on April 16, 1983. A continuous fire watch was established within one hour. The affected fire spray system remained manually operable. A review of the control operator logs and discussions with fire watch and maintenance personnel did not identify any apparent cause of actuation. Compensatory measures remained in place until the fire spray system was returned to service on April 16, 1983. Initial attempts to reset the deluge valve resulted in valve leakage. As corrective action, the proper resetting technique will be provided, in writing, to operations personnel.
San Onofre 3	06/14/1983	07/14/1983	Five Fire Barrier Penetration Seals Found Damaged Abstract: On june 14, 1983 with unit 3 in mode 5, while performing a qc inspection of fire barrier penetration seals, five seals in the diesel generator bldg Were found damaged. In accordance with Tech Spec 3.7.9, an hourly fire watch was established within one hour. The cause of the damage to the seals could not be determined. Compensatory fire watches will remain in effect until the damaged fire barrier seals are repaired. This is believed to be an isolated occurrence and, therefore, no further corrective action is required.
San Onofre 3	07/28/1983	08/26/1983	Deluge Spray System Inadvertently Activated Abstract: On July 28, 1983, at 1340, with Unit 3 in Mode 4, the Zone 68 deluge spray system was inadvertently activated. LCO 3.7.8.2 action statement 'a' was entered. Also LCO 3.3.3.7 Action Statement 'A' was entered since the associated actuation fire detectors were inoperable until the system was reset on July 28, at 1635. A continuous fire watch was established within one hour. The fire deluge system remained manually operable. (see also LER 82-023, Docket No. 50-361.) The inadvertent actuation of the deluge system was due to the accidental tripping of the manual trip lever during cable tray cleaning activities. A design change is being implemented to install cover boxes with break glass on all deluge manual trip levers. This design change was completed for the Zone 68 deluge system on August 8, 1983.
San Onofre 3	01/07/1984	02/06/1984	January 7 and 8, 1984, Suspended Hourly Fire Watch Patrols Abstract: POWER LEVEL - 000%. ON JAN. 7, 1984, AT 1022 AND AT 1645, WITH UNIT 3 IN MODE 3, AND ON JAN. 8, 1984, AT 1440, WITH UNIT 3 IN MODE 5, PRECAUTIONARY PENETRATION BLDG EVACUATIONS WERE INITIATED IN THE PIPING PENETRATION AREA WHEN THE AIRBORNE IODINE AND NOBLE GAS CONCENTRATIONS WERE OBSERVED TO INCREASE ABOVE THE PRECAUTIONARY EVACUATION LEVEL PROVIDED IN PROCEDURE S0123-VII-7.4. CONCENTRATIONS OF IODINE INCREASED TO A MAXIMUM OF 3.4 E-10 MICRO CURIE/CC AND NOBLE GASSES TO A MAXIMUM OF 3.2 E-5 MICRO CURIE/CC. THE AIRBORNE RADIOACTIVITY DID NOT EXCEED REGULATORY OR TECH SPEC LIMITS. TECH SPEC REQUIRED HOURLY FIRE WATCHES IN AREAS CONTAINING SAFETY RELATED EQUIPMENT WERE SUSPENDED FOR ONE HR AND SIXTEEN MINS, TWO HRS AND FIVE MINS, AND ONE HR, RESPECTIVELY. THESE EVENTS WERE INITIALLY REPORTED PURSUANT TO 10 CFR 50.72(B)(1)(VI) AND ARE REPORTED HEREIN PURSUANT TO 10 CFR 50.36 AND 50.73(A)(2)(I)(B). THESE EVENTS DID NOT CAUSE EXPOSURES TO INDIVIDUALS EXCEEDING REGULATORY LIMITS. SCE HAD EARLIER INITIATED AN ENGINEERING EVALUATION TO DETERMINE THE CAUSE AND CORRECTIVE ACTION FOR AIRBORNE RADIOACTIVITY IN THE PENETRATION BLDG. ALTHOUGH THIS EVALUATION HAS IDENTIFIED THE NEED FOR SOME CORRECTIVE ACTION IN THE FORM OF VALVE MAINTENANCE TO MINIMIZE LEAKAGE, THE EVALUATION IS NOT YET COMPLETED. ALL
San Onofre 3	08/24/1984	08/27/1984	Missing Conduit Fire Wrapping Abstract: POWER LEVEL - 005%. ON 8-24-84, WITH UNIT 3 IN MODE 2, AN ENGINEERING EVALUATION WAS COMPLETED ON A NONCONFORMANCE REPORT (NCR) WHICH IDENTIFIED A CONDITION WHEREIN 3 1/2 FEET OF CONDUIT FIRE WRAPPING FOR THE TURBINE-DRIVEN AUX FEEDWATER PUMP POWER AND CONTROL CABLES WAS MISSING CONTRARY TO THE FIRE HAZARDS ANALYSIS. IN ACCORDANCE WITH TECH SPEC 3.7.9, ACTION STATEMENT 'A', AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED UPON DISCOVERY AND WILL REMAIN IN EFFECT UNTIL THE CONDUIT IS WRAPPED. THE CONDITION REPRESENTS AN ADDITIONAL EXAMPLE OF DEFICIENCIES PREVIOUSLY REPORTED IN LERS 84-001, 015, 024, 030, AND 041 (DOCKET NO. 50-361). THE CONDITION APPARENTLY WAS UNDETECTED DURING THE PREVIOUS SYSTEM WALKDOWNS BECAUSE A CLERICAL ERROR IN PREPARATION OF THE SYSTEM WALKDOWN LIST OMITTED THIS CONDUIT. THIS REPORT IS ALSO SUBMITTED TO FULFILL THE REQUIREMENTS OF LICENSE CONDITION 2.G. RELATING TO LICENSE CONDITION 2.C.(12)A OF OPERATING LICENSE NPF-15 FOR UNIT 3.
San Onofre 3	08/09/1985	09/03/1985	Improper Posting Of Fire Watch Abstract: POWER LEVEL - 055%. ON 8-9-85, AT 2200, WITH UNIT 3 AT 55% POWER A PLANNED FIRE PROTECTION (EIIS SYSTEM CODE KP) OUTAGE COMMENCED, ISOLATING THE SPRAY/SPRINKLER SYSTEM (EIIS COMPONENT CODE SRNK) FOR THE AUX FEEDWATER PUMP AREA. CONTRARY TO TECH SPEC 3.7.8.2, ACTION STATEMENT 'A', AN HOURLY FIRE WATCH WAS POSTED INSTEAD OF A CONTINUOUS FIRE WATCH. THE ERROR WAS CORRECTED 1 1/2 HRS AFTER THE REQUIRED CONTINUOUS FIRE WATCH SHOULD HAVE BEEN POSTED. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR. THE FIRE CAPTAIN DID NOT FOLLOW PROCEDURES TO VERIFY THE REQUIREMENTS FOR THE FIRE WATCH, RELYING INSTEAD ON MEMORY. IN REVIEWING THE DOCUMENTATION, HE DISCOVERED THE ERROR AND TOOK IMMEDIATE CORRECTIVE ACTION. THE FIRE CAPTAIN RECEIVED DISCIPLINARY ACTION. ALL FIRE CAPTAINS RECEIVED ADDITIONAL TRAINING IN THE TECH SPECS AND THE USE OF PROCEDURES FOR THE REMOVAL FROM SERVICE OF FIRE PROTECTION EQUIPMENT.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

San Onofre 3	03/10/1989	04/10/1989	Delinquent Fire Watch Posting for Inoperable Fire Detectors Due to Programmatic Oversight Abstract: POWER LEVEL - 100%. AT 0801 ON 3/10/89, FOLLOWING COMPLETION OF TECH SPEC (TS) SURVEILLANCE TESTING OF ACTUATION FIRE DETECTORS OUTSIDE UNIT 3 CONTAINMENT, FIRE WATCHES POSTED FOR THE PERFORMANCE OF THE SURVEILLANCE WERE SECURED BY FIRE PROTECTION ENGINEERING (FPE). UNKNOWN TO FPE HOWEVER, ON MARCH 7 AT 1445, PART OF THE TS SURVEILLANCE (A PORTION OF THE SAFETY EQUIPMENT BLDG. ELECTRICAL TUNNEL SUPERVISORY SYSTEM) HAD FAILED, RENDERING THAT PORTION OF THE SYSTEM INOPERABLE. AT 1637 ON 3/10/89, FOLLOWING NOTIFICATION TO FPE OF THE FAILURE, AN HOURLY FIRE WATCH WAS POSTED AS REQUIRED PER TS 3.3.3.7. THE EMERGENCY SERVICE OFFICERS (ESOS) ARE RESPONSIBLE FOR THE ESTABLISHMENT OF APPROPRIATE FIRE PROTECTION COMPENSATORY MEASURES PURSUANT TO TS REQUIREMENTS. IN LATE 1987/EARLY 1988, AS THE RESULT OF AN OVERSIGHT WHICH OCCURRED WHILE MODIFYING THE PROGRAM BY WHICH NOTIFICATION OF THE ESOS IS ACCOMPLISHED, OPERATIONS FAILED TO CAPTURE THE REQUIREMENT TO NOTIFY THE ESOS WHEN THEY ARE INFORMED OF A FAILED FIRE PROTECTION EQUIPMENT SURVEILLANCE. APPROPRIATE OPERATIONS PERSONNEL HAVE BEEN ADVISED TO ACCOMPLISH THE REQUIRED NOTIFICATIONS TO THE ESOS. OPERATIONS PROCEDURES WILL BE REVISED TO INCORPORATE THIS REQUIREMENT. IN ADDITION, A REVIEW WILL BE PERFORMED OF ALL
San Onofre 3	08/08/1989	05/03/1990	Delinquent Firewatch Posting for Inoperable Fire Detection Equipment Abstract: POWER LEVEL - 100%. ON APRIL 3, 1990, WITH UNIT 3 OPERATING AT 100% POWER, EMERGENCY PREPAREDNESS PERSONNEL REVIEWING A NONCONFORMANCE REPORT RECOGNIZED THAT A SUPERVISORY CIRCUIT FOR FIRE DETECTION IN AN ELECTRICAL TUNNEL WAS INOPERABLE AND THAT APPROPRIATE COMPENSATORY MEASURES HAD NOT BEEN IMPLEMENTED AS REQUIRED BY TECHNICAL SPECIFICATION (TS) 3.3.3.7 (AN HOURLY FIREWATCH POSTED WITHIN ONE HOUR). SUBSEQUENT INVESTIGATION DETERMINED THAT THE SUPERVISORY SYSTEM HAD FALLED A TS SURVEILLANCE TEST ON AUGUST 7, 1989, AND HAD BEEN INOPERABLE SINCE THAT TIME. IN ADDITION, A MANUAL HAND PULL RELEASE FOR A DELUGE VALVE ASSOCIATED WITH ANOTHER FIRE DETECTION SYSTEM HAD ALSO FAILED DURING PERFORMANCE OF THE SAME TS SURVEILLANCE. A REVIEW OF COMPENSATORY MEASURES TAKEN BETWEEN AUGUST 8, 1989 AND APRIL 3, 1990 DETERMINED THAT HOURLY FIREWATCHES HAD NOT BEEN POSTED AS REQUIRED TO SATISFY THE REQUIREMENTS OF TS 3.3.3.7. THE MISSED FIREWATCHES WERE THE RESULT OF A FAILURE TO DECLARE THE FIRE DETECTORS INOPERABLE FOLLOWING A TS SURVEILLANCE. AS A RESULT, FIREWATCHES POSTED FOR THE PERFORMANCE OF TESTING WERE REMOVED PREMATURELY UPON THE COMPLETION OF THE TESTING. THE SUPERVISORY RELAY FAILURE WAS DUE TO A CURRENT LEAKAGE PATH TO GROUND AND THE FAILURE AT THE MANUAL PULL
San Onofre 3	06/08/2011	08/05/2011	Wiring Error in Charging Pump Motor Circuitry Results in Loss of Fire Isolation Capability Abstract: On June 8, 2011, it was determined that the fire isolation switch for the Unit 3 Train A Charging Pump (3P190) motor control circuit had not been wired correctly in both the as-built drawing and field wiring configuration. This condition existed since original installation of the fire isolation switch in 1981. Consequently, if a postulated fire-induced circuit fault developed on the circuit and operators stopped 3P190, the circuit fault would result in a loss of capability to restart the pump locally at the switchgear. 3P190 is credited in the 10 CFR 50 Appendix R Safe Shutdown program for fire scenarios in the Alternative Shutdown Fire Areas (including Control Room). Due to the wiring error, this pump may have been unavailable during a postulated Appendix R fire event, resulting in a condition outside the Appendix R design basis. This event is reportable in accordance with 10 CFR 50.73(a)(2)(ii)(B) as an unanalyzed condition that significantly degraded plant safety. Although the fire isolation switch was impaired, 3P190 remained operable and capable of fulfilling its safety function for all design basis accidents. Appropriate compensatory measures were taken and 3P190 was subsequently returned to fully qualified status on June 14, 2011. The safety significance of this event was determined to be
Seabrook	09/05/1989	12/19/1989	Unsealed Penetrations in the CST Enclosure Abstract: POWER LEVEL - 000%. CONTRARY TO TECHNICAL SPECIFICATION 3.7.1.3 IT HAS BEEN DETERMINED THAT THERE ARE THREE UNSEALED PIPING PENETRATIONS IN THE CONDENSATE STORAGE TANK (CST) ENCLOSURE. ON SEPTEMBER 5, 1989, WHILE IN MODE 5, THE QUESTION WAS RAISED AS TO WHETHER THESE PENETRATIONS WERE SEALED. AFTER INVESTIGATING FURTHER, IT WAS DETERMINED THEY ARE NOT SEALED AND THUS THE CST ENCLOSURE IS INOPERABLE. THE CST ENCLOSURE IS REQUIRED BY TECH SPECS TO BE OPERABLE IN MODES 1, 2, AND 3. SEABROOK STATION HAS ENTERED MODE 3 TWICE AND MODE 2 ONCE WITHOUT THE CST ENCLOSURE BEING OPERABLE. PRIOR TO INITIAL CRITICALITY, AS WAS THE ENTIRETY OF THE FIRST OF THE TWO ENTRIES INTO MODE 3, THERE WAS NO SAFETY SIGNIFICANCE. THE SECOND ENTRY INTO MODE 3 WAS DURING LOW POWER TESTING, WHEN MODE 2 WAS ALSO ENTERED. AT THAT TIME THE SAFETY SIGNIFICANCE WAS MINIMAL. THE CAUSE IS ATTRIBUTED TO HYDROSTATIC PENETRATION SEALING REQUIREMENTS NOT BEING COMPLETELY TRANSFORMED INTO FIELD FABRICATION AND INSTALLATION DETAIL DRAWINGS. CORRECTIVE ACTION FOR THIS INCIDENT INCLUDES SEALING THE UNSEALED PENETRATIONS AND ALSO REVISING THE TECH SPECS SURVEILLANCE LOG TO PROVIDE CLARIFICATION OF THE REQUIREMENT FOR CST ENCLOSURE INTEGRITY. THIS IS THE FIRST EVENT OF THIS TYPE AT SEABROOK STATION.
Seabrook	05/10/1994	06/09/1994	Voluntary LER 94-007-00, Inadequate High Radiation Area Controls Abstract: POWER LEVEL - 000%. On May 10, 1994, at 1100 a Health Physics (HP) Supervisor on rounds discovered a High Radiation Area barrier repositioned which allowed access into the Volume Control Tank (VCT) area without the proper controls. The HP supervisor replaced the barrier to the proper position and searched the room for personnel, finding none. Two independent surveys of the VCT tank room were performed yielding the same results. The surveys determined that the radiation levels in this room indicated a maximum dose of 100mR/hr at 30 centimeters. Technical Specification 6.11 requires that each High Radiation Area, as defined in 10CFR20, be conspicuously posted and barricaded. The radiation levels specified in 10CFR20 for a High Radiation Area are 'in excess' of 100mR/hr at 30 centimeters. Based on the two radiation surveys performed after the barrier was found repositioned, the area did not meet the strict definition of a High Radiation Area and therefore posting and barricading, while unquestionably appropriate, was not required based on strict language of 10CFR20. Since the two independent surveys indicated radiation levels right on the High Radiation Area threshold, reporting of the barricade repositioning is in keeping with North Atlantic's conservative reporting philosophy. There were no adverse
Seabrook	11/02/2004	12/23/2004	Fire Scenario Results in Unanalyzed Condition Potential Loss of Charging Abstract: On November 2, 2004, a review of potential fire scenarios found that fires in four plant areas could disable both charging system trains. A fire could cause a spurious closure of the volume control tank (VCT) outlet valve and cause damage to the operating charging pump. The fire could also damage the cables for the standby charging pump, rendering both charging pumps unavailable. Since the station's design basis is that one train of required systems is free of fire damage, these scenarios result in an unanalyzed condition. The analyses for fire areas, prepared in the mid-1980s, reviewed spurious equipment operation. However, the report failed to consider the unique interaction between the spurious closure of a VCT outlet valve and the operating charging pump in the redundant train. Compensatory actions that were implemented to mitigate the effects of this condition include: establishing an hourly fire patrol in the four fire areas of concern, minimizing combustible materials in the four areas, briefing the operators on this condition, and revising procedures to establish an alternate flow path to the charging pump in response to a fire alarm in any of the four areas. A design change is being planned to correct this condition. The condition resulted in no adverse safety consequences; however, it is of regulatory
Sequoyah 1	04/30/1980	10/14/1980	Four (4) Mechanical Penetrations were Discovered to be Breached Abstract: Two 16 inch and two 20 inch mechanical penetration fire barrier penetrations were found breached leading from reactor building no. 2 into the emergency gas filter treatment system filter room which contains unit 1 safety related equipment. These open penetrations degraded the fire barrier compartmentalization for the egts room had a fire developed in the unit 2 reactor building, it might have propogated into the EGTS room. These penetrations are associated with reactor building no. 2 and were evidently omitted by construction as a unit 1 requirement due to location. These penetrations are being placed into functional status on MR's 098760, 098761, 098762 and 098763. This will be completed by June 13, 1980.
Sequoyah 1	02/21/1984	03/20/1984	Isolated Fire Protection Spray Header Abstract: POWER LEVEL - 000%. ON 02/23/84 AT 1200(C), FIRE PROTECTION DELUGE VALVE 0-FCV-26-211 WAS FOUND ISOLATED WITH NO CONTINUOUS FIRE WATCH IN PLACE. INVESTIGATION REVEALED THAT THE DELUGE VALVE HAD BEEN ISOLATED AT APPROXIMATELY 0353(C) ON 02/21/84 IN ORDER TO DRAIN THE SPRINKLER HEADER WHICH HAD BEEN CHARGED BY A SPURIOUS SIGNAL. THE UNIT OPERATOR FAILED TO INITIATE A CONTINUOUS FIRE WATCH AS REQUIRED BY LCO 3.7.11.2 AND LATER FAILED TO HAVE THE ISOLATION VALVE REOPENED AFTER THE SPRINKLER HEADER HAD DRAINED. A CONTINUOUS FIRE WATCH WAS INITIATED ON DISCOVERY OF THE CONDITION, AND THE ISOLATION VALVE (0-HCV-26-1125) WAS REOPENED AT 1249(C) ON 02/23/84.
Sequoyah 1	06/27/1984	07/19/1984	Fire Detector Inoperability Abstract: POWER LEVEL - 100%. A THERMAL FIRE DETECTOR WAS DISCOVERED INOPERABLE DURING THE PERFORMANCE OF A SURVEILLANCE INSTRUCTION. A 1 HR FIRE WATCH SHOULD HAVE BEEN ESTABLISHED, BUT IT WAS NOT. OPERATIONS PERSONNEL WERE NOTIFIED, BUT THE SHIFT ENGINEER (SE) WAS NOT NOTIFIED. THE FIRE DETECTOR WAS REPLACED AND RETURNED TO SERVICE BEFORE THE ERROR WAS DISCOVERED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 1	07/27/1984	08/10/1984	Failure to Comply With Appendix R of 10CFR50 Abstract: POWER LEVEL - 100%. FOLLOWING AN INSPECTION OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. INTERACTIONS WERE FOUND THAT INVOLVED POWER FEEDS FROM THE 6900V SHUTDOWN BOARD TO THE 480V SHUTDOWN TRANSFORMERS, REDUNDANT DIVISIONS OF ERCW PUMP, FIRE PUMP, COMPONENT COOLING WATER PUMPS, AUX FEEDWATER PUMPS AND PRESSURIZER HEATERS. NO INTERACTIONS WERE FOUND INVOLVING THE CHARGING PUMPS. FIRE WATCHES HAVE BEEN ESTABLISHED AS REQUIRED PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL CONTINUE UNTIL COMPLIANCE WITH APPENDIX R CAN BE MADE. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. AN IMPLEMENTATION SCHEDULE FOR CORRECTIVE ACTIONS WILL BE SUBMITTED TO THE NRC ON JAN 1, 1985.
Sequoyah 1	08/15/1984	08/29/1984	Failure to Comply With Appendix R of 10CFR50 Abstract: POWER LEVEL - 100%. FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAVE BEEN ESTABLISHED AS REQUIRED PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL CONTINUE UNTIL COMPLIANCE WITH APPENDIX R CAN BE MADE. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - ONE - SQRO-50-327/84046.
Sequoyah 1	09/11/1984	09/25/1984	Failure to Comply With Appendix R of 10CFR50 Abstract: POWER LEVEL - 100%. FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT TILL FULL COMPLIANCE WITH APPENDIX 'R' CAN BE MADE. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - TWO - SQRO-50-327/84046 AND SQRO-50-327/84049.
Sequoyah 1	09/27/1984	10/10/1984	Failure to Comply With Appendix R of 10CFR50 Abstract: POWER LEVEL - 000%. FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT TILL FULL COMPLIANCE WITH APPENDIX R CAN BE ACHIEVED. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - THREE - SQRO-50-327/84046, SQRO-50-327/84049, AND SQRO-50-327/84051.
Sequoyah 1	10/09/1984	10/23/1984	Failure to Comply With Appendix R of 10CFR50 Abstract: POWER LEVEL - 100%. FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT TILL FULL COMPLIANCE WITH APPENDIX R CAN BE ACHIEVED. THIS REPORT ALSO CONTAINS DETAILS ON RCP OIL COLLECTION SYSTEM WHICH ALSO DOES NOT MEET 10 CFR 50 APPENDIX R REQUIREMENTS. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - FOUR - SQRO-50-327/84046, SQRO-50-327/84049, SQRO-50-327/48051, AND SQRO-50-327/84057.
Sequoyah 1	10/18/1984	11/01/1984	Failure to Comply With Appendix R of 10CFR50 Abstract: POWER LEVEL - 100%. FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT TILL FULL COMPLIANCE WITH APPENDIX R CAN BE ACHIEVED. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73(A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - FIVE - SQRO-50-327/84046, SQRO-50-327/84049, SQRO 50-327/84051, SQRO-50-327/84057, AND SQRO-50-327/84059.
Sequoyah 1	10/22/1984	11/05/1984	Failure to Comply With Appendix R of 10CFR50 Abstract: POWER LEVEL - 000%. FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA, DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT TILL FULL COMPLIANCE WITH APPENDIX R CAN BE ACHIEVED. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. THIS REPORT COVERS EVENTS REPORTED BY TELECOPY ON THE FOLLOWING DATES: 10/12/84, 10/24/84, 10/29/84, AND 10/30/84. PREVIOUS OCCURRENCES - SIX - SQRO-50-327/84046, SQRO-50-327/84049, SQRO-50-327/84051, SQRO-50-327/84057, SQRO-50-327/84059, AND SQRO-50-327/84063.
Sequoyah 1	12/01/1984	12/31/1984	Failure to Comply with One (1) Hour Fire watch Required Per Technical Specification 3.7.12 Abstract: POWER LEVEL - 100%. ON 12-1-84, AT 0000 CST, THE HOURLY FIRE WATCH ROUTE 'C' WAS NOT PERFORMED AS REQUIRED IN ACTION A OF TECH SPEC 3.7.12. AT 2300 CST ON 11-30-84, THE PERSONNEL ON ROUTE 'C' FIRE WATCH WENT TO ROUTE 'B' FOR OVERTIME DUTY. HIS REPLACEMENT DID NOT SHOW UP FOR WORK, WHICH RESULTED IN NO FIRE WATCHES ON ROUTE 'C' UNTIL 0510 CST. THIS CONDITION IS REPORTABLE PER 10 CFR 50.73(A)(2)(I) AND SPECIAL REPORT REQUIREMENTS PER TECH SPEC 3.7.12.
Sequoyah 1	12/18/1984	12/31/1984	Failure to Comply With Appendix R of 10CFR50 Abstract: POWER LEVEL - 100%. FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA, DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER THE ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT UNTIL FULL COMPLIANCE WITH APPENDIX R CAN BE ACHIEVED. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73(A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. THIS REPORT COVERS EVENTS REPORTED BY TELECOPY ON 12-19-84. SEVEN PREVIOUS OCCURRENCES - 327/84-046, 327/84-049, 327/84-051, 327/84-057, 327/84-059, 327/84-063, AND 327/84-067.
Sequoyah 1	01/15/1985	09/16/1986	Failure to Comply with Appendix R of 10 CFR 50 Abstract: POWER LEVEL - 100%. FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, THREE CONDUITS WERE FOUND TO HAVE MISSING OR DAMAGED KAOWOOL INSULATION; THEREFORE, THE CONDUITS WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA DUE TO COMMITMENTS ALREADY MADE BY TVA IN DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS IN ACCORDANCE WITH THE ACTION STATEMENT OF TECHNICAL SPECIFICATION 3.7.12. THIS REPORT IS REQUIRED IN ACCORDANCE WITH LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.12. THIS REPORT COVERS EVENTS REPORTED BY TELECOPY ON JANUARY 16, 1985. THERE WAS NO EFFECT ON PUBLIC HEALTH OR SAFETY.
Sequoyah 1	01/20/1985	02/15/1985	Failure to Comply With One-hour Fire Watch Abstract: POWER LEVEL - 100%. ON FIVE SEPARATE OCCASIONS, AN HOURLY FIRE WATCH WAS NOT PERFORMED WITHIN 1 HR. ALL FIRE WATCHES WERE IMMEDIATELY REESTABLISHED OR COMPLETED UPON DETECTION OF THE MISSED FIRE WATCH. 10CFR50.73(A)(2)(I) AND THE SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS EVENTS 327/84-075.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 1	02/06/1985	03/07/1985	Failure to Comply with One-Hour Fire Watch Abstract: POWER LEVEL - 100%. ON SEVEN SEPARATE OCCASIONS, AN HOURLY FIRE WATCH WAS NOT PERFORMED WITHIN ONE HOUR. ALL FIRE WATCHES WERE COMPLETED WITHIN THREE HOURS AFTER THE LAST WATCH. ALL OF THE MISSED FIRE WATCHES WERE CAUSED BY EQUIPMENT FAILURES. THIS CONDITION IS REPORTABLE PER 10 CFR 50.73 (A)(2)(I) AND THE SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. THE FIRST EVENT (2200 CST ON FEBRUARY 6): THE HOURLY FIRE WATCH WAS NOT PERFORMED FOR THE ESSENTIAL RAW COOLING WATER (ERCW) PUMPING STATION. THE KEYCARD CONTROLS FOR AN OUTSIDE ACCESS DOOR (PS-4) WERE NOT FUNCTIONING AND WOULD NOT ALLOW PERSONNEL TO ENTER THE BUILDING. THE SECOND EVENT (0400 CST ON FEBRUARY 8): THE HOURLY FIRE WATCH WAS NOT PERFORMED FOR THE ERCW PUMPING STATION. THE KEYCARD CONTROLS FOR AN OUTSIDE ACCESS DOOR (PS-6) WERE FROZEN AND WOULD NOT ALLOW PERSONNEL TO ENTER THE BUILDING. THE THIRD EVENT (0215 CST ON FEBRUARY 12): THE HOURLY FIRE WATCH WAS NOT PERFORMED FOR THE ERCW PUMPING STATION. THE INCLEMENT WEATHER (ICE AND SNOW STORM) CAUSED AN OUTSIDE DOOR (PS-5) TO BE FROZEN SHUT. THE FOURTH, FIFTH, SIXTH, AND SEVENTH EVENTS ARE DESCRIBED IN THE LER. THE DOOR TO THE TSC HAS BEEN MODIFIED WITH A SECURITY KEYCARD READER IN PREPARATION FOR CHANGES TO SEQUOYAH'S PHYSICAL SECURITY PLAN. PREVIOUS OCCURRENCES -
Sequoyah 1	03/12/1985	04/08/1985	Failure to Comply with One-Hour Fire Watch Abstract: POWER LEVEL - 100%. AN HOURLY FIRE WATCH WAS NOT PERFORMED WITHIN 1 HR DUE TO AN INOPERABLE DOOR. DOOR A 123 TO THE UNIT 1 AUX BLDG SUPPLY AIR FAN ROOM WAS FOUND TO BE INOPERABLE, AND A MAINTENANCE REQUEST WAS ISSUED. THE DOOR OPENING BAR WAS HANGING LOOSE, AND THE DOOR COULD NOT BE OPENED. MECHANICAL MAINTENANCE PERSONNEL WORKED ON THE DOOR AND WERE ABLE TO RELEASE THE DOOR LATCHES ALLOWING THE DOOR TO OPEN. AFTER THE DOOR WAS OPENED, IT WAS DISCOVERED THAT THE SCREWS THAT SECURE THE PULL HANDLE TO THE LATCH ROD LEVER HAD BROKEN. THE FIRE WATCH WAS REESTABLISHED AS SOON AS THE DOOR WAS REPAIRED. THIS CONDITION IS REPORTABLE PER 10 CFR 50.73(A)(2)(I) AND THE SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. SIMILAR EVENTS - 327/84-075, 327/85-008 AND 327/85-011.
Sequoyah 1	03/21/1985	04/18/1985	Failure to Comply with One-Hour Fire Watch Abstract: POWER LEVEL - 100%. ON 7 OCCASIONS, AN HOURLY FIRE WATCH WAS NOT PERFORMED WITHIN 1 HR DUE TO INOPERABLE DOORS. THE FIRE WATCHES WERE REESTABLISHED AS SOON AS THE DOORS WERE REPAIRED. THIS CONDITION IS REPORTABLE PER 10 CFR 50.73(A)(2((I) AND THE SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. THE FIRST 2 EVENTS OCCURRED AT 1300 CST ON 3-21-85. THE HOURLY FIRE WATCH COULD NOT BE PERFORMED FOR THE UNIT 1 VENTILATION AND PURGE ROOM OR THE UNIT 1 AUX BLDG SUPPLY AIR FAN ROOM. THIS WAS DUE TO INOPERABILITY OF DOOR A-123. THE DOOR LATCH WAS REPAIRED. THE THIRD EVENT OCCURRED AT 1800 CST ON 3-24-85. THE HOURLY FIRE WATCH COULD NOT BE PERFORMED FOR THE UNIT 1 125V BATTERY ROOM II DUE TO INOPERABILITY OF DOOR A-181. THE LOCKSET WAS REMOVED. THE FOURTH EVENT OCCURRED AT 0816 CST ON 3-27-85. THE HOURLY FIRE WATCH COULD NOT BE PERFORMED FOR RHR PUMP ROOM 1-B. THIS WAS DUE TO INOPERABILITY OF DOOR A-5. A NEW LOCK WAS INSTALLED. THE FIFTH AND SIXTH EVENTS OCCURRED AT 0610 CST AND 1330 CST ON 3-28-85. THE HOURLY FIRE WATCH COULD NOT BE PERFORMED AT THE UNIT 1 ADDITIONAL EQUIPMENT BLDG. JAMMED SHUT. THE SEVENTH EVENT OCCURRED AT 0507 CST ON 3-30-85. THE HOURLY FIRE WATCH COULD NOT BE PERFORMED AT THE UNIT 1 AUX BLDG SUPPLY AIR FAN ROOM. THIS WAS DUE TO INOPERABILITY OF DOOR A-122. THE LOCK WAS REPAIRED. PREVIOUS
Sequoyah 1	04/04/1985	05/02/1985	Failure To Comply With One-Hour Fire Watch Abstract: POWER LEVEL - 100%. AT 1800 CST ON 4-4-85, THE HOURLY FIRE WATCH FOR THE UNIT 1 AUX BLDG SUPPLY AIR FAN ROOM COULD NOT BE CONDUCTED BECAUSE DOOR A-123 WOULD NOT OPEN. IT WAS FOUND THAT THE PIN THAT SECURES THE LOWER DOGGING PIN TO THE DOGGING PIN RELEASE ROD HAD COME OUT. FIRE WATCHES WERE REESTABLISHED AS SOON AS POSSIBLE AFTER THE PROBLEM WAS FOUND AND REPAIRED, ALTHOUGH SOME HOURLY FIRE WATCHES WERE NOT PERFORMED. THE DOOR FAILED IN A CLOSED LOCKED CONDITION WHICH ASSURED OPERABILITY AS A FIRE BARRIER. THESE EVENTS ARE REPORTABLE PER 10 CFR 50.73 A.2.I AND THE SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - 327-85-013, 85-012, 85-011, 85-008, 85-003, AND 84-075.
Sequoyah 1	04/13/1985	06/26/1987	Conduits Found Penetrating a Fire Barrier Without Being Sealed Due to a Design Error in Drawings Abstract: POWER LEVEL - 037%. THIS LER IS REVISED IN ITS ENTIRETY TO CHANGE THE COMPLETION DATE FOR THE CORRECTIVE ACTION AND TO CHANGE THE LER TO THE NEW FORMAT. ON APRIL 13, 1985, AT 1300 CST WITH UNIT 1 IN MODE 1, IT WAS DISCOVERED BY PLANT PERSONNEL PERFORMING A CONDUIT INSPECTION IN ACCORDANCE WITH COMMITMENTS MADE IN LER SQRO-50-328/85003 THAT THREE CONDUITS IN THE 1A 480 VOLT CONTROL AND AUXILIARY BUILDING VENTILATION BOARD ROOM WERE NOT SEALED AS REQUIRED BY THE PLANT'S FIRE PROTECTION PLAN. NO IMMEDIATE OPERATOR ACTION WAS REQUIRED SINCE A FIRE WATCH ALREADY EXISTED IN THE AREA. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE INADEQUATE CONDUIT DRAWINGS. THE DRAWINGS FAILED TO ADDRESS SEALING OF CONDUITS. THE DRAWINGS WERE REVISED TO ADD A NOTE THAT REQUIRES THE CONDUIT TO BE SEALED. THE EFFORT TO LOCATE UNSEALED CONDUIT IS CONTINUING. THE CONDUITS THAT NEED TO BE SEALED WILL BE COMPLETED BY AUGUST 31, 1987. THIS REPORT WAS REQUIRED IN ACCORDANCE WITH LICENSE CONDITION 2.H, 10 CFR 50.73, PARAGRAPH A.2.II, AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12.
Sequoyah 1	05/24/1985	06/21/1985	Failure to Comply with One-Hour Fire Watch Abstract: POWER LEVEL - 100%. AT 1000 CST ON 5-24-85 THE HOURLY FIRE WATCH FOR THE UNIT 1 AUX BLDG SUPPLY AIR FAN ROOM COULD NOT BE CONDUCTED BECAUSE DOOR A-123 WOULD NOT OPEN. IT WAS FOUND THAT BECAUSE OF EXCESSIVE PULLING TO OVERCOME DOOR WEIGHT AND PRESSURE DIFFERENTIAL, THE DOOR HANDLE WAS BROKEN. WAS RETURNED TO OPERABLE STATUS. THE DOOR FAILED IN A CLOSED LOCKED CONDITION WHICH ASSURED OPERABILITY AS A FIRE BARRIER. PREVIOUS OCCURRENCES - 327/85-015, 85-013, 85-012, 85-011, 85-008, 85-003, AND 84-075.
Sequoyah 1	06/17/1985	07/15/1985	Failure To Complete Hourly Fire Watch Abstract: POWER LEVEL - 000%. THE HOURLY FIRE WATCHES WERE NOT CONDUCTED FOR THE 1400 CST HOUR ON JUNE 17, 1985 OR THE 2300 CST HOUR ON JUNE 22, 1985. HOURLY FIRE WATCHES WERE NOT COMPLETED FOR THE FOLLOWING AREAS: (1) UNIT 2 WEST MAIN STEAM VALVE ROOM, (2) UNIT 2 ADDITIONAL EQUIPMENT BUILDING, (3) UNIT 1 WEST MAIN STEAM VALVE ROOM, (4) AUXILAIRY FEEDWATER TERRY TURBINE 2A-S, (5) RESIDUAL HEAT REMOVAL PUMP ROOM 2B, AND (6) RESIDUAL HEAT REMOVAL PUMP ROOM 2A. THE FIRE WATCH WAS UNABLE TO ENTER THESE AREAS BECAUSE THE NEW POWER BLOCK SECURITY SYSTEM WAS BEING IMPLEMENTED AND THE PROGRAM FOR CARD READER ACCESS HAD NOT BEEN PROPERLY MODIFIED. THESE EVENTS ARE ATTRIBUTED TO A DELAY IN REVISING THE FIRE WATCH CHECK SHEETS TO INCORPORATE THE AFFECTED AREAS AND INADEQUATE CARD READER PROGRAMMING. THIS IS REPORTABLE PER 10 CFR 50.73 PARAGRAPH A.2.I AND THE SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12.
Sequoyah 1	07/04/1985	07/26/1985	Failure To Comply With One-hour Fire Watch Abstract: POWER LEVEL - 100%. AN HOURLY FIRE WATCH WAS NOT PERFORMED WITHIN ONE HOUR DUE TO AN INOPERABLE DOOR. THE FIRE WATCH WAS REESTABLISHED AS SOON AS THE DOOR WAS REPAIRED. THIS CONDITION IS REPORTABLE PER 10 CFR 50.73 PARAGRAPH A.2.I AND THE SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12.
Sequoyah 1	07/29/1985	08/29/1987	Auxiliary Building Isolation Occurred as a Result of High Radiation Levels from Cracked CVCS Sample Line Weld Due to Fatigue Failure Abstract: POWER LEVEL - 100%. THIS LER IS BEING REVISED TO INCLUDE ADDITIONAL INFORMATION ON THE EVENT AND TO AMEND THE CORRECTIVE ACTION. THIS LER IS REVISED IN ITS ENTIRETY TO COMPLY WITH NUREG-1022. ON JULY 29, 1985, WITH UNITS 1 AND 2 IN MODE 1 AT 100 PERCENT POWER, AN AUXILIARY BUILDING ISOLATION OCCURRED AT 2225 CST. THE ISOLATION WAS AUTOMATICALLY INITIATED BY HIGH RADIATION LEVELS WHICH WERE DETECTED BY THE AUXILIARY BUILDING STACK VENTILATION MONITOR, RM-90-101. UPON THE ISOLATION, THE AUXILIARY BUILDING GAS TREATMENT SYSTEM STARTED AND PROVIDED FILTRATION OF EFFLUENTS EXITING THE BUILDING TO THE ENVIRONMENT. THE OFFSITE DOSE LIMITS. THE LEAK WAS LOCATED ON THE UNIT 2 LETDOWN LINE AT A SAMPLE LINE CONNECTION WELD UPSTREAM OF VALVE 2-62-674 IN THE CHEMICAL AND VOLUME CONTROL SYSTEM. THIS SAMPLE LINE IS DOWNSTREAM OF THE LETDOWN HEAT EXCHANGERS AND UPSTREAM OF THE VOLUME CONTROL TANK. THE LEAK WAS ISOLATED, AND CLEANUP WAS INITIATED FOR APPROXIMATELY 600 GALLONS OF REACTOR COOLANT FLUID WHICH DRAINED TO A COLLECTION TANK. THE CAUSE OF THE FAILURE OF THE METAL IN THE WELD HEAT AFFECTED ZONE WAS DETERMINED TO BE HIGH CYCLE, VIBRATION-INDUCED FATIGUE INITIATED FROM THE OUTSIDE DIAMETER OF THE PIPE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 1	08/25/1985	09/25/1985	Failure to Comply With One-hour Fire Watch Abstract: POWER LEVEL - 000%. FIRE WATCHES HAVE BEEN ESTABLISHED WHERE APPENDIX R DEFICIENCIES MAY EXIST. THIS REPORT CONCERNS MISSED HOURLY FIRE-WATCH INSPECTIONS 8-25, 26, AND 28, AND 9-13-85, FOR SOME OF THESE AREAS. FOR ALL EVENTS, BOTH UNITS WERE IN MODE 5 AT 0% POWER. ON 8-25-85 EMPLOYEES WERE PERFORMING SURVEILLANCE INSTRUCTION-26.1A, 'LOSS OF OFFSITE POWER WITH SAFETY INJECTION - DG 1A-A CNTMT ISOL TEST.' THIS TEST INVOLVING DEENERGIZING THE 6.9 KV SHUTDOWN BOARDS AND SIMULATED DG LOAD REJECTION AND LOSS OF DG WITH NO OFFSITE POWER, AFFECTED THE POWER SUPPLY TO THE COMPUTER USED FOR THE CARD-KEY SYSTEM. AS A RESULT, THE FIRE WATCH COULD NOT GAIN ACCESS TO AREAS CONTROLLED BY CARD KEY AND WERE NOT ABLE TO COMPLETE THE INSPECTIONS. SI-26.1A ALSO INVOLVES INITIATION OF A PHASE A ISOLATION SIGNAL WITH SUBSEQUENT AUX BLDG ISOLATION (ABI). AS PRESCRIBED BY SYSTEM OPERATING INSTRUCTION (SOI)-30.5D, 'RECOVERY FROM AUX BLDG ISOLATION,' ACCESS WAS PROHIBITED TO AVOID PERSONNEL INJURY WHICH WOULD RESULT FROM THE LARGE PRESSURE TRANSIENTS DURING AN ABI. IN ADDITION, MANIPULATION OF THE AUX BLDG VENTILATION SYSTEMS RESULTED IN A HEALTH PHYSICS CLASSIFICATION OF AIRBORNE RADIOACTIVITY WITH COMMENSURATE ACCESS CONTROLS. BECAUSE OF THESE RESTRICTIONS, FIRE-WATCH INSPECTIONS COULD NOT BE PERFORMED. ON 8-29-85 THE
Sequoyah 1	12/06/1985	01/06/1986	Missed Hourly Fire Watches Due To Inaccessability Abstract: POWER LEVEL - 000%. ON DECEMBER 6, 1985, BOTH UNITS WERE IN MODE 5 AT 0 PERCENT POWER. BECAUSE OF BORON SOLIDIFICATION AND BUILDUP IN THE DRAIN LINE TO THE FLOOR DRAIN COLLECTOR TANK FROM THE CONDENSATE DEMINERALIZER WASTE EVAPORATOR, WATER BACKED UP INTO THE AREA OF THE OVERFLOW DRAIN. HEALTH PHYSICS SECTION DECLARED THE 2A-S AUXILIARY FEEDWATER (AFW) TERRY TURBINE ROOM, THE 2A CENTRIFUGAL CHARGING PUMP ROOM, AND THE UNIT 2 PENETRATION ROOM AND PIPE CHASE AS CONTAMINATED AREAS WITH STRINGENT DRESS OUT REQUIREMENTS SPECIFIED FOR ENTRY IN THESE AREAS. AS A RESULT, THE HOURLY FIRE WATCHES WERE NOT CONDUCTED AS REQUIRED BY TECH SPEC 3.7.12 FOR 7 HOURS IN THE AFW TERRY TURBINE ROOM AND FOR 12 HOURS IN THE CENTRIFUGAL CHARGING PUMP ROOM AND PENETRATION ROOM AND PIPE CHASE. FIRE WATCHES WERE RESUMED BY ASSIGNING A DEDICATED FIRE WATCH TO THE SUBJECT AREAS. THE DRAIN WAS UNPLUGGED ON DECEMBER 9, 1985. TO PREVENT FUTURE OCCURRENCES, TVA IS PROCESSING A PURCHASE REQUEST TO OBTAIN THE SERVICES AND EQUIPMENT OF EXPERIENCED NUCLEAR DRAIN CLEANERS. IT IS EXPECTED THAT TOTAL CLEANING OF THE DRAINS WILL PRECLUDE FUTURE BLOCKAGE PROBLEMS. FAILURE TO COMPLETE HOURLY FIRE WATCHES IS REPORTABLE UNDER 10 CFR 50.73, PARAGRAPH A.2.I, AND THE SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12.
Sequoyah 1	01/28/1986	02/26/1986	MISSED HOURLY FIRE WATCHES DUE TO INACCESSIBILITY Abstract: POWER LEVEL - 000%. FIRE WATCH PERSONNEL WERE UNABLE TO COMPLY WITH THE ACTION STATEMENT OF TECH SPEC 3.7.12 ON 4 SEPARATE OCCASIONS. THE ACTION STATEMENT REQUIRES AN HOURLY FIRE WATCH PATROL WHEN A FIRE BARRIER, IN A FIRE ZONE BOUNDARY PROTECTING SAFETY-RELATED AREAS, IS NONFUNCTIONAL. 3.7.12, AND IT IS CONSIDERED TO BE PART OF THIS REPORT. ON 2-3, 2-6, AND 2-17-86, THE FIRE WATCH COULD NOT ENTER APPLICABLE ROOMS TO CHECK FOR FIRES BECAUSE OF INOPERABLE FIRE DOORS. ON 1-28-86, THE FIRE WATCH COULD NOT CHECK 3 ROOMS BECAUSE OF THE REMOVAL OF AN IRRADIATED SPECIMEN FROM THE SPENT FUEL PIT. THE FIRE WATCH WAS ABLE TO RESUME HIS PATROL AS SOON AS THE SPECIMEN WAS MOVED IN THE LATTER CASE AND AS SOON AS THE DOORS COULD BE OPENED IN THE FORMER CASES. THERE WERE NO EVENTS IN THE SUBJECT ROOMS OR SURROUNDING AREAS WHICH WOULD HAVE REQUIRED A FIRE BARRIER OR A FIRE WATCH. IN CASES WHERE THE DOORS WERE INOPERABLE, THE FIRE WATCH COULD FEEL OF A DOOR OR LOOK FOR SMOKE IF HE COULD NOT ENTER THE ROOM TO DETERMINE IF A FIRE WAS IN PROGRESS. ALSO THE FIRE DETECTOR ON ONE SIDE OF THE FIRE BARRIER WAS OPERABLE AS REQUIRED BY TECH SPEC.
Sequoyah 1	02/18/1986	04/15/1986	MISSED HOURLY FIRE WATCH DUE TO INACCESSIBILITY AND A PERSONNEL ERROR Abstract: POWER LEVEL - 000%. FIRE WATCH PERSONNEL WERE UNABLE TO COMPLY WITH THE ACTION STATEMENT OF TECH SPEC 3.7.12 ON 3 SEPARATE OCCASIONS, AND A FIRE WATCH WAS NOT INITIATED ON ONE OCCASION. THE ACTION STATEMENT REQUIRES AN HOURLY FIRE WATCH PATROL WHEN A FIRE BARRIER, IN A FIRE ZONE BOUNDARY PROTECTING SAFETY-RELATED AREAS, IS NONFUNCTIONAL. A SPECIAL REPORT IS ALSO REQUIRED IN ACCORDANCE WITH TECH SPEC 3.7.12, AND IT IS CONSIDERED TO BE PART OF THIS REPORT. ON FEB 18, MAR 1, AND MAR 5, THE FIRE WATCH COULD NOT ENTER APPLICABLE ROOMS TO CHECK FOR FIRES BECAUSE OF INOPERABLE FIRE DOORS. ON 3-3, THE FIRE WATCH WAS NOT INITIATED AS REQUIRED BECAUSE OF A PERSONNEL ERROR. A BREACHING PERMIT WAS ISSUED, BUT THE SHIFT TECHNICAL ADVISOR DID NOT REALIZE THAT THE DG BLDG WAS NOT IN THE NORMAL FIRE WATCH PATROL AREA, AND THE CRAFT FOREMAN ON THE WORK ORDER DID NOT KNOW THAT A FIRE WATCH HAD NOT BEEN INITIATED. OF THE ALLOWED 7 DAYS. THERE WERE NO EVENTS IN THE SUBJECT ROOMS OR SURROUNDING AREAS WHICH WOULD HAVE REQUIRED A FIRE BARRIER OR A FIRE WATCH. IN CASES WHERE THE DOORS WERE INOPERABLE, THE FIRE WATCH COULD FEEL OF A DOOR OR LOOK FOR SMOKE IF HE COULD NOT ENTER THE ROOM TO DETERMINE IF A FIRE WAS IN PROGRESS. ALSO, THE FIRE DETECTOR ON ONE SIDE OF THE FIRE BARRIER WAS OPERABLE AS REQUIRED
Sequoyah 1	03/18/1986	05/27/1986	MISSED HOURLY FIRE WATCHES BECAUSE OF INACCESSIBILITY Abstract: POWER LEVEL - 000%. THIS REVISION CORRECTS AN ADMINISTRATIVE ERROR AND DOCUMENTS THE ACTUAL DATE ACTION WAS TAKEN FOR ONE OF THE CORRECTIVE ACTIONS. A ROVING FIRE WATCH PERSON WAS UNABLE TO COMPLY WITH THE ACTION STATEMENT OF TECH SPEC (TS) 3.7.12. THE ACTION STATEMENT REQUIRES AN HOURLY ROVING FIRE WATCH WHEN A FIRE BARRIER, IN A FIRE ZONE BOUNDARY PROTECTING SAFETY-RELATED AREAS, IS NONFUNCTIONAL. A SPECIAL REPORT IS ALSO REQUIRED IN ACCORDANCE WITH TS 3.7.12, AND IT IS CONSIDERED TO BE PART OF THIS REPORT. ON MARCH 18, 1986, THE FIRE WATCH COULD NOT ENTER TWO ROOMS TO CHECK FOR FIRES BECAUSE OF AN INOPERABLE FIRE DOOR. THE FIRE WATCH WAS ABLE TO RESUME HIS PATROL AS SOON AS THE DOOR COULD BE OPENED. THIS DOOR HAS BEEN INOPERABLE ON FOUR PREVIOUS OCCASIONS IN 1986. ALL PREVIOUS OCCASIONS WERE CAUSED BY EITHER THE SCREW BACKING OUT OF THE PULL HANDLE OR THE SCREW BREAKING INTO INSIDE THE PULL HANDLE. THESE SCREWS ARE BRASS AND ARE BEING REPLACED WITH STEEL SCREWS. ALSO, LOCKTITE WILL BE USED TO HOLD THE SCREWS IN PLACE, AND A PREVENTATIVE MAINTENANCE PROGRAM WAS INITIATED ON MAY 5, 1986 (IN LIEU OF THE ORIGINAL COMMITTED MAY 1, 1986 DATE), TO HELP MAINTAIN THE DOOR IN AN OPERABLE STATUS. ONLY ONE OTHER DOOR OF THIS TYPE HAS HAD THIS PROBLEM AND THEN ONLY ON ONE OCCASION. THERE
Sequoyah 1	05/25/1986	06/20/1986	Security Computer Malfunction Causes Missed Fire Watch Abstract: POWER LEVEL - 000%. ON MAY 25, 1986, THE HOURLY FIRE WATCH REQUIRED BY TECHNICAL SPECIFICATION (TS) 1 LIMITING CONDITION FOR OPERATION (L.C.O.) 3.7.12 WAS NOT FULLY COMPLETED BETWEEN THE HOURS OF 1300 CDT AND 1400 CDT. AT THE TIME OF THE EVENT, BOTH UNITS WERE IN MODE 5 AT LESS THAN 200 DEGREES F. A POWER TRANSIENT ON THE PLANT SECURITY MICRO ACCESS COMPUTER (MAC-540) CAUSED A LOSS OF ACCESS MEMORY THEREBY LOCKING ALL ACCESS DOORS. BECAUSE OF THIS, PLANT FIRE WATCHES COULD NOT OPEN EVERY DOOR REQUIRED DURING THE 1300 CDT TO 1400 CDT ROUND. THE SHIFT ENGINEER (SE) INSTRUCTED THEM TO PHYSICALLY FEEL EACH DOOR THAT COULD NOT BE OPENED. THE ROOT CAUSE OF THE EVENT HAS BEEN DETERMINED TO BE A LACK OF A PREVENTATIVE MAINTENANCE (PM) PROGRAM ON THE BACKUP BATTERY FOR THE MAC- 540 MEMORY. ADDITIONALLY, THERE WERE DELAYS IN REESTABLISHING MEMORY INTO THE COMPUTER BECAUSE THE COMPUTER DISK DRIVE WOULD NOT ACCEPT INFORMATION FROM THE BACKUP DISK. A PM PROGRAM IS BEING WRITTEN FOR BOTH THE BATTERY AND THE DISK DRIVE TO ENSURE THEIR FUTURE OPERATION. ADDITIONALLY, THE TYPE OF DISK USED FOR BACKUP IS BEING CHANGED FROM A HARD SECTOR TO SOFT SECTOR DISK. ALL ITEMS WILL BE COMPLETE BY AUGUST 1, 1986. THE FIRE WATCH WAS COMPLETED IN ALL ACCESSIBLE SPACES, AND PLANT FIRE DETECTION AND SUPPRESSION
Sequoyah 1	07/18/1986	08/18/1986	PERSONNEL ERROR RESULTED IN FIRE BARRIER BREACHES GREATER THAN SEVEN DAYS Abstract: POWER LEVEL - 000%. THIS REPORT ADDRESSED TWO OCCURRENCES OF FIRE BARRIERS BEING BREACHED IN EXCESS OF THE SEVEN-DAY ACTION TIME SPECIFIED BY TECH SPEC 3.7.12. THIS IS REPORTABLE IN ACCORDANCE WITH THE SPECIAL REPORT REQUIREMENTS OF 3.7.12 AND 10 CFR 50.73, PARAGRAPH A.2.I.B. ON JULY 26, 1986, IT WAS DETERMINED THAT DOOR A-8 TO UNIT 2 RESIDUAL HEAT REMOVAL PUMP ROOM 2A-A HAD BEEN LEFT OPEN MORE THAN SEVEN DAYS. THIS DOOR WAS BREACHED TO ALLOW USE OF A FAN TO PROVIDE ADDITIONAL ROOM COOLING. ON JULY 18, 1986, IT WAS DISCOVERED THAT A CABLE PENETRATION BETWEEN TRAIN 'A' 6.9KV AND TRAIN 'B' 480V SHUTDOWN BOARD ROOM HAD BEEN OPEN, APPARENTLY SINCE INITIAL CONSTRUCTION. THESE OCCURRENCES ARE ATTRIBUTED TO PERSONNEL ERROR. THE FIRE BARRIERS WERE RETURNED TO FUNCTIONAL STATUS AS SOON AS POSSIBLE. INVOLVED PERSONNEL WILL BE CAUTIONED ON THE NEED TO FOLLOW PROCEDURES AND THE POTENTIAL IMPACT OF INOPERABLE FIRE BARRIERS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 1	12/10/1986	01/09/1987	Fire Watch Was Not Performed Due To A Lack Of Communication Between Employees Abstract: POWER LEVEL - 000%. ON 12-10-86, WITH UNIT 1 IN MODE 5 (0% POWER, 260 PSI, 135 F), UNIT 2 IN MODE 5 (0% POWER, 110 PSI, 129 F), AND DIESEL GENERATOR (D/G) 2B-B OUT OF SERVICE, MAINTENANCE PERSONNEL WERE PERFORMING WORK IN D/G BOARD ROOM 1A-A. THE MAINTENANCE FOREMAN REQUESTED THE CO2 SYSTEM FOR THAT ROOM TO BE REMOVED FROM SERVICE FOR PERSONNEL SAFETY REASONS. OPERATIONS REMOVED THE CO2 FROM SERVICE, ENTERED LCO 3.7.11.3, AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED AS REQUIRED BY THE ACTION STATEMENT OF THE LCO. UPON COMPLETION OF THE MAINTENANCE ACTIVITIES IN D/G BOARD ROOM 1A-A, THE MAINTENANCE FOREMAN NOTIFIED OPERATIONS THAT THE CO2 SYSTEM MAY BE RETURNED TO SERVICE. MINUTES LATER, THE FOREMAN OBSERVED AN OPERATOR CHECKING THE CO2 SYSTEM AND ASSUMED THE OPERATOR WAS RETURNING THE CO2 SYSTEM TO SERVICE. THE FOREMAN, UNDER THE IMPRESSION THE CO2 SYSTEM WAS IN SERVICE, DISMISSED THE FIRE WATCH. DURING SHIFT TURNOVER WHILE REVIEWING THE EVENTS OF THE PREVIOUS SHIFT, THE OPERABILITY OF THE CO2 SYSTEM IN D/G BOARD ROOM 1A-A WAS QUESTIONED. AN ASSISTANT UNIT OPERATOR (AUO) WAS DISPATCHED TO THE D/G BUILDING. IT WAS REPORTED THE CO2 SYSTEM WAS NOT IN SERVICE, AND A FIRE WATCH WAS NOT OBSERVED. THE CO2 SYSTEM WAS IMMEDIATELY RETURNED TO SERVICE,
Sequoyah 1	12/31/1986	03/04/1987	Technical Specification Fire Barrier Penetrations Not Verified To Be Functional Due To A Personnel Error Abstract: POWER LEVEL - 000%. The purpose of this revision is to provide additional information on the corrective action taken pertaining to this event. On December 31, 1986, at 0745 CST with unit 1 in mode 5 (0 percent power, 190 psig, 128 degrees Fahrenheit) and unit 2 in mode 5 (0 percent power, 260 psig, 120 degrees Fahrenheit), a fire protection engineer identified eight fire dampers in the Diesel Generator (D/G) Building that were not being verified functional by a visual inspection every 18 months as required by Technical Specification (TS) Surveillance Requirement (SR) 4.7.12.a. This requirement should have been met by performance of Surveillance Instruction (SI)-233.3, 'Visual Inspection of Penetration Fire Barriers - Fire Dampers.' On January 18, 1987, a fire damper in the unit 1 volume control tank room and a fire damper in the unit 2 turbine driven auxiliary feedwater pump room were identified as not being included in SI-233.3. These conditions were discovered as a result of reviewing the flow diagrams for the heating, ventilating, and air conditioning systems and system verification walkdowns. This condition is reportable in accordance with 10 CFR 50.73, paragraph a.2.i.B, and the TS Limiting Condition for Operation 3.7.12. The cause of these conditions is determined to be a
Sequoyah 1	09/14/1990	05/12/1992	Sequoyah Unit 1 reactor trip from low steam generator level as a result of a feedwater transient initiated by the failure of a vital inverter during a transfer from the maintenance of the normal power supply. Abstract: POWER LEVEL - 098%. THIS LER IS BEING REVISED TO UPDATE THE CORRECTIVE ACTION RESULTING FROM CONTINUED EVALUATION OF THE EVENT. ON SEPTEMBER 14, 1990, WITH UNIT 1 IN MODE 1, A REACTOR TRIP OCCURRED AT 1613 EASTERN DAYLIGHT TIME. THE TRIP WAS GENERATED FROM A LOW-LOW STEAM GENERATOR WATER LEVEL SIGNAL IN LOOP 2. THE LOW LEVEL WAS THE RESULT OF A FEEDWATER TRANSIENT INITIATED BY THE FAILURE OF A VITAL INVERTER. THE INVERTER FAILURE OCCURRED AFTER THE COMPLETION OF MAINTENANCE ACTIVITIES ON THE INVERTER AND DURING THE TRANSFER OF THE INVERTER FROM ITS MAINTENANCE POWER SUPPLY TO ITS NORMAL POWER SUPPLY. DURING THE TRANSFER, THE INVERTER OUTPUT VOLTAGE DROPPED TO ZERO BECAUSE OF THE FAILURE OF THE INVERTER'S SILICON-CONTROLLED RECTIFIERS. THIS DEENERGIZED THE 1-II VITAL INSTRUMENT POWER BOARD. THE LOSS OF POWER RESULTED IN THE MAIN FEEDWATER REGULATOR VALVES CLOSING AND THE MAIN FEEDWATER PUMPS DROPPING TO MINIMUM SPEED. THIS REDUCED FEEDWATER FLOW TO ALL FOUR STEAM GENERATORS. PLANT SYSTEMS RESPONDED PROPERLY AND THE SHUTDOWN POSED NO DANGER TO PLANT EMPLOYEES OR THE GENERAL PUBLIC. THE UNIT WAS STABILIZED IN ACCORDANCE WITH PLANT PROCEDURES. THE VITAL
Sequoyah 1	09/04/1991	10/04/1991	Smoke Detectors in Duct Work of Clean Air Systems Inoperable Because of Misoriented Covers Abstract: POWER LEVEL - 095%. ON SEPTEMBER 4, 1991, AT 1842 EASTERN DAYLIGHT TIME (EDT) WITH UNITS 1 AND 2 OPERATING IN MODE 1, LIMITING CONDITION FOR OPERATION (LCO) 3.3.3.8 WAS ENTERED BECAUSE THE SMOKE DETECTORS IN THE EMERGENCY GAS TREATMENT SYSTEM AND THE AUXILIARY BUILDING GAS TREATMENT SYSTEM, WERE DETERMINED TO BE INOPERABLE. AN HOURLY FIRE WATCH WAS ESTABLISHED FOR THE AFFECTED AREAS. THIS CONDITION WAS DISCOVERED DURING ROUTINE REPLACEMENT OF AN INOPERABLE DETECTOR WHEN OPERATIONS PERSONNEL NOTICED POTENTIAL LEAKAGE PATHS FOR AIRBORNE RADIOACTIVITY FROM THE DUCT WORK. INFORMAL INSPECTION OF OTHER DUCT DETECTORS REVEALED ADDITIONAL PROBLEMS WITH THE DETECTORS INCLUDING MISORIENTATION OF THE DETECTOR COVERS AND MISSING SENSITIVITY TEST JACK LIDS. MISORIENTATION OF THE DETECTOR COVER REDUCES THE AIR FLOW THROUGH THE DETECTORS CAUSING THE INSTRUMENT TO EFFECTIVELY BECOME INOPERABLE. A WORK REQUEST WAS INITIATED TO CORRECT THE CONDITIONS, AND LCO 3.3.3.8 WAS EXITED AT 2118 EDT ON SEPTEMBER 6, 1991, EXCEPT FOR FOUR INACCESSIBLE DETECTORS LOCATED IN THE UNIT 1 LOWER CONTAINMENT COOLER AREA. THESE DUCT DETECTORS WILL BE INSPECTED AND CORRECTED DURING THE UNIT 1 CYCLE 5 REFUELING OUTAGE. THIS REPORT ALSO FULFILLS THE REQUIREMENTS OF THE SPECIAL REPORT
Sequoyah 1	05/07/1993	06/07/1993	Failure to Establish a Fire Watch as Required by Technical Specifications in Response to Breaching a Fire Barrier Abstract: POWER LEVEL - 000%. On May 7, 1993, with Unit 1 in Mode 6 for the Unit 1 Cycle 6 refueling outage, Fire Operations personnel were conducting a fire protection inspection walkdown of the auxiliary building when they discovered a fire barrier breached without the proper compensatory measures established. On May 5, 1993, the door leading to the room that houses the 1A containment spray heat exchanger was breached and the appropriate fire watch was not established. Upon discovery of the breach, the shift operations supervisor was informed, Limiting Condition for Operation (LCO) 3.7.12 was entered, and the appropriate compensatory measure was established. An investigation revealed that the door had been breached by a TVA offsite organization performing eddy-current testing on the heat exchanger. The cause of the event was determined to be lack of knowledge of SQN fire protection requirements by the TVA offsite organization and a lack of supervision of offsite personnel by SQN personnel. site organizations regarding their responsibilities for control of offsite organizations' personnel performing work activities at SQN. The eddy-current activities were completed, the fire barrier was reestablished, and LCO 3.7.12 was exited on May 10, 1993.
Sequoyah 1	12/04/1995	01/02/1996	Failure to Establish Containment Temperature Monitoring Following Trouble Alarm on Fire Detector Panel Abstract: On December 4, 1995, at approximately 1525 Eastern standard time (EST), with Unit 1 in Mode 1 at 100 percent power, an alarm came in for Panel 0-L-629. The UO acknowledged the alarm and reported to the ASOS that the alarm was a trouble alarm for Panel 0-L-629. The zone on the panel that initiated the trouble alarm is for two thermal detectors located on Unit 1 Reactor Coolant Pump (RCP) 4. The UO also reported that the same panel had a trouble alarm earlier in the day and had cleared itself The UO then proceeded with an earlier task. It was also time for shift turnover, and the UO became involved in turnover activities and failed to check the status of the alarm or pass on the alarm information to the oncoming shift. At 1842 EST, the evening shift personnel noticed the trouble alarm was in for Panel 0-L-629, and when it was determined that the faulted zone was required by technical specifications, the action statements for Limiting Conditions for Operation 3.3.3.8 and 3.7.11.2 were entered. Since the actual instrument is located 'inside containment, hourly monitoring of containment temperature was begun. The root cause of this event was operator error. A lessons learned was issued for required reading, and the procedure was revised to establish two minutes as the
Sequoyah 1, Sequoyah 2	04/17/1987	06/02/1987	An Inoperable Fire Barrier Which Was Not Brought To The Attention Of The Shift Engineer For One Day Thus Causing a Violation Of Technical Specification Abstract: POWER LEVEL - 000%. THIS REVISION IS WRITTEN TO CLARIFY THE ACTION TO PREVENT RECURRENCE FOR THIS EVENT. ON APRIL 17, 1987, AT 1145 EST WITH BOTH UNITS IN MODE 5, IT WAS DISCOVERED BY AN INDUSTRIAL SAFETY INDIVIDUAL THAT FIRE DOOR D-10 IN DIESEL CELL 1A-A WAS TAGGED FOR REPAIR (APRIL 16, 1987) DUE TO AN INOPERABLE SELF-CLOSING MECHANISM, BUT A FIRE BREACHING PERMIT WAS NOT WRITTEN AS REQUIRED BY PHYSICAL SECURITY INSTRUCTION-13, 'FIRE.' THE C02 PROTECTION SYSTEM WAS ALSO RENDERED INOPERABLE BY THE INOPERABLE FIRE DOOR THUS CAUSING A VIOLATION OF THE TECHNICAL SPECIFICATIONS. A FIRE BARRIER BREACHING PERMIT WAS SUBMITTED AT 1430 EST, AND LIMITING CONDITION FOR OPERATIONS (LCOS) 3.7.11.3.C AND 3.7.12 WERE ENTERED. A CONTINUOUS FIRE WATCH WAS ESTABLISHED AT 1448 EST. THE ROOT CAUSE OF THIS EVENT WAS A PERSONNEL ERROR BY THE ASSISTANT UNIT OPERATOR (AUO) THAT FILED THE WORK REQUEST BUT FAILED TO WRITE A FIRE BARRIER BREACHING PERMIT. THE SELF-CLOSING MECHANISM ON THE FIRE DOOR, D-10, WAS REPAIRED ON APRIL 17, 1987, AT 2209 EST, AND THE LCOS WERE EXITED. ADDITIONALLY, AN UPCOMING QUARTERLY TRAINING SESSION FOR OPERATIONS PERSONNEL WILL INCLUDE ADDITIONAL TRAINING ON THE REQUIREMENTS FOR BREACHING FIRE BARRIERS.

Sequoyah 1, Sequoyah 2	01/11/1988	02/10/1988	50 Amp Circuit Breakers May Not Preclude Auto-Ignition of Associated Cables Contrary to 10 CFR Appendix R Due to Misapplication of Breaker Curves Abstract: POWER LEVEL - 000%. ON JANUARY 11, 1988, AT APPROXIMATELY 1500 EST, UNITS 1 AND 2 WERE IN MODE 5 (0 PERCENT POWER, 4 PSIG, 125 DEGREES F AND 0 PERCENT POWER, 130 PSIG, 123 DEGREES F, RESPECTIVELY), AN ASSESSMENT WAS INITIATED TO DETERMINE THE CONSEQUENCES OF CLASS 1E CABLES IDENTIFIED AS NOT ADEQUATELY BEING PROTECTED FROM CABLE INSULATION AUTO-IGNITION TEMPERATURES. IT HAD PREVIOUSLY BEEN NOTED DURING SURVEILLANCE TESTING THAT GENERAL ELECTRIC (GE) 50-AMP TYPE TED BREAKER HAD A HIGH RATE OF FAILURE. THE TEST CRITERIA WAS REVIEWED AND RESULTED IN THE DISCOVERY OF TWO DIFFERENT TIME-CURRENT TRIP CHARACTERISTIC CURVES FOR GE 50-AMP TYPE TED CIRCUIT BREAKERS. THIS DISCOVERY RESULTED IN A REVIEW OF THE 10 CFR 50, APPENDIX R CABLE AND PENETRATION CALCULATIONS. THE CALCULATION REVIEW DISCOVERED THAT ALL THE GE 50-AMP TYPE TED BREAKERS WERE ASSUMED TO HAVE THE SAME CHARACTERISTIC CURVE. THE CALCULATION WAS THEN REVISED USING BOTH CURVES, AS APPLICABLE, RESULTING IN THE DISCOVERY OF 24 BREAKERS THAT DID NOT ADEQUATELY PROTECT THE NO. 8 AWG AND NO. 10 AWG CABLES FROM AUTO-IGNITION TEMPERATURES. THE BREAKERS ALLOWING THE CABLES TO BE SUSCEPTIBLE TO AUTO-IGNITION CONDITIONS WERE INSTALLED IN UNIT 1 AND UNIT 2.
Sequoyah 1, Sequoyah 2	07/23/1988	09/15/1989	High Airborne Activity Level in the Auxiliary Building Resulted in the Suspension of Fire Watch Patrols and Subsequent Noncompliance with Technical Specification 3.7.12. Abstract: POWER LEVEL - 000%. ON 7/23/88, WITH UNIT 1 IN MODE 5 (COLD SHUTDOWN), THE HOURLY FIRE WATCH PATROL THROUGH THE 734 FT ELEVATION OF THE AUX. BLDG. (REFUELING FLOOR) WAS SUSPENDED FROM 0700 EDT TO 1500 EDT BECAUSE OF AN UNEXPECTED INCREASE IN THE AIRBORNE RADIOACTIVITY IN THAT AREA. THE SUBJECT FIRE WATCH PATROL WAS REQUIRED BY ACTION STATEMENT (A) TO LIMITING CONDITION FOR OPERATION (LCO) 3.7.12 AS A COMPENSATORY MEASURE FOR 3 BREACHED FIRE BARRIERS. FIRE BARRIER BREACHING PERMITS WERE ISSUED AS PART OF A WORKPLAN TO REROUTE A CABLE TO PRECLUDE A POTENTIAL 'APPENDIX R' CABLE INTERACTION AND ENSURE THE AVAILABILITY OF REACTOR COOLANT SYSTEM (RCS) LETDOWN FOLLOWING A POSTULATED FIRE. THE IMMEDIATE CAUSE OF THIS EVENT WAS THE HIGH LEVEL OF AIRBORNE RADIOACTIVITY IN THE AUX. BLDG. THIS CONDITION REPRESENTED AN OVERRIDING PERSONNEL SAFETY CONCERN AND ACCESS TO THE AREA WAS SUBSEQUENTLY RESTRICTED. THE ROOT CAUSE WAS VALVE LEAKS THAT ALLOWED NITROGEN TO LEAK INTO THE RCS DURING SAFETY INJECTION SYSTEM TESTING. THE INLEAKAGE CAUSED A RISE IN THE INDICATED RCS LEVEL AND PROMPTED OPERATORS TO OPEN THE REACTOR VESSEL HEAD VENTS. THE HEAD VENT LINE CONNECTS WITH THE PRESSURIZER SAFETY VALVE DISCHARGE LINE TO VENT
Sequoyah 1, Sequoyah 2	09/08/1988	09/22/1988	Increased Airborne Activity Level In The Auxiliary Building Resulted In The Suspension of Fire Watch Patrol and Subsequent Noncompliance With Technical Specification 3.7.12 Abstract: POWER LEVEL - 000%. ON SEPTEMBER 8, 1988 WITH UNIT 1 IN MODE 5 (COLD SHUTDOWN) AND UNIT 2 IN MODE 1 AT 70 PERCENT POWER, THE HOURLY FIRE WATCH THROUGH THE 669 FOOT ELEVATION OF THE AUXILIARY BUILDING WAS SUSPENDED FROM 0622 EDT TO 0815 EDT BECAUSE OF AN UNEXPECTED INCREASE IN THE AIRBORNE RADIOACTIVITY IN THAT AREA. THE FIRE WATCH PATROL WAS REQUIRED FOR ACTION (A) TO LIMITING CONDITION FOR OPERATION (LCO) 3.7.12 BECAUSE OF A BREACHED FIRE BARRIER. THE BREACHING PERMIT HAD BEEN ISSUED ON SEPTEMBER 6, 1988 TO REPAIR FLUSH BOLTS ON FIRE DOOR A-26. THE IMMEDIATE CAUSE OF THIS EVENT WAS THE INCREASED LEVEL OF AIRBORNE RADIOACTIVITY IN THE AUXILIARY BUILDING. THIS CONDITION PRESENTED AN OVERRIDING PERSONNEL SAFETY CONCERN AND ACCESS TO THE AREA WAS SUBSEQUENTLY RESTRICTED. THE CAUSE OF THE AIRBORNE CONDITION WAS A VENTING OF THE UNIT 1 VOLUME CONTROL TANK FOLLOWED BY OPENING OF THE WASTE GAS SYSTEM FOR MAINTENANCE ON THE STRAINERS TO THE WASTE GAS COMPRESSORS. RECENTLY INSTALLED BETA MAX WHOLE BODY FRISKERS PROVIDED RADCON PERSONNEL AN EARLY WARNING OF AN INCREASED AIRBORNE ACTIVITY LEVEL DUE TO THEIR INCREASED SENSITIVITY. THE SMALL INCREASE IN AIRBORNE WAS NOTED WHEN SIX NUCLEAR
Sequoyah 1, Sequoyah 2	09/30/1988	12/08/1988	Inadequate Fire Watch Patrol Resulted in a Noncompliance with Technical Specification 3.7.12. Abstract: POWER LEVEL - 000%. THIS LER IS BEING REVISED TO PROVIDE CLARIFICATION TO CORRECTIVE ACTIONS. ON 9/30/88, WITH UNIT 1 IN MODE 4 (0% POWER, 355 PSIG, 244F) AND UNIT 2 IN MODE 1 (65% POWER, 2235 PSIG, 564F) A CONCERN WAS BROUGHT TO THE ATTENTION OF TVA MANAGEMENT BY THE NRC RESIDENT INSPECTOR INVOLVING THE ADEQUACY OF THE SQN FIRE WATCH PATROLS. THE FIRE WATCH PATROLS WERE REQUIRED BY ACTION STATEMENT (A) TO LIMITING CONDITION FOR OPERATION (LCO) 3.7.12 AS A COMPENSATORY MEASURE FOR SEVERAL NON-FUNCTIONAL FIRE BARRIERS IN THE AUXILIARY BUILDING (AB) AND CONTROL BUILDING (CB). THE OPERABILITY OF AREA FIRE DETECTORS ON AT LEAST ONE SIDE OF THE BREACHED PENETRATION AND THE ESTABLISHMENT OF AN HOURLY FIRE WATCH PATROL WHENEVER A FIRE BARRIER PENETRATION HAS BEEN DETERMINED TO BE NON-FUNCTIONAL. THE CONCERN WAS THAT FIRE WATCH PATROLS, PERFORMED BY TWO SPECIFIC INDIVIDUALS ON 9/28/88, WERE INADEQUATE. TO VALIDATE THIS CONCERN, TVA MANAGEMENT INITIATED AN INVESTIGATION WHICH CONCLUDED THAT THE INDIVIDUAL WHO WAS ASSIGNED TO THE FIRE WATCH ROUTE 'A' HAD NOT MADE ONE OF THE REQUIRED HOURLY PATROLS BECAUSE HE WAS NOT IN THE PROTECTED AREA FOR THE 1000 EDT TO 1100 EDT HOURLY FIRE WATCH ON 9/28. THE OTHER INDIVIDUAL MADE ALL REQUIRED HOURLY
Sequoyah 1, Sequoyah 2	03/19/1989	04/13/1989	CO2 System Protecting Computer Room Was Discovered Inoperable Due To Personnel Error Abstract: POWER LEVEL - 100%. ON 3/19/89, AT APPROX. 0600 EST, WITH UNIT 1 IN MODE 1 (100% REACTOR POWER) AND UNIT 2 IN MODE 5 (COLD SHUTDOWN), IT WAS DISCOVERED THAT THE SWITCH ON THE LOCAL CONTROL PANEL FOR THE CO(2) FIRE SUPPRESSION SYSTEM PROTECTING THE COMPUTER ROOM WAS IN THE 'OFF' POSITION, THUS MAKING THE SYSTEM INOPERABLE. THE FIRE OPERATIONS SHIFT SUPERVISOR WAS IMMEDIATELY NOTIFIED AND DISPATCHED A FIRE OPERATOR TO INVESTIGATE THE CONDITION. A CHECK TO DETERMINE IF THE SYSTEM SHOULD BE INOPERABLE REVEALED THAT NO LOG ENTRIES WERE MADE TO REMOVE THE CO(2) SYSTEM FOR THE COMPUTER ROOM FROM SERVICE AND THE SYSTEM WAS IMMEDIATELY RETURNED TO OPERABLE STATUS. SUBSEQUENT TO RETURNING THE SYSTEM TO NORMAL, AN INVESTIGATION ENSURED TO DETERMINE HOW THE SWITCH WAS LEFT IN THE 'OFF' POSITION. IT WAS REVEALED, BY THE UNIT 2 AUXILIARY INSTRUMENT ROOM ON 3/18/89 TO FACILITATE WORK ACTIVITIES. UPON ARRIVING AT THE WORK AREA THE FIRE OPERATOR RECALLED THAT HE HAD AUXILIARY INSTRUMENT ROOM AS WELL AS THE ADJACENT CONTROL PANEL FOR THE COMPUTER ROOM DUE TO A LACK OF IDENTIFICATION EXTERNAL TO THE PANELS. THE CONTROL PANELS FOR THE CO(2) SYSTEMS ARE CONTROLLED TO ALLOW LIMITED ACCESS. DUE TO THE CONTROLS IN PLACE TO LIMIT ACCESS AND THAT THE FIRE
Sequoyah 1, Sequoyah 2	07/13/1989	08/31/1989	Diesel generator board room fire protection system inoperable when fire door was inoperable because of inadequate technical review of a surveillance test deficiency Abstract: POWER LEVEL - 100%. THIS REPORT DESCRIBES AN EVENT CONCERNING THE OPERABILITY OF THE DIESEL GENERATOR (D/G) BOARD ROOM 1A-A CARBON DIOXIDE (CO2) FIRE PROTECTION SYSTEM WHEN FIRE DOOR O-DOR-410-D24A FAILED TO CLOSE DURING PERFORMANCE OF SURVEILLANCE INSTRUCTION (SI) 237.2. THIS EVENT WAS DISCOVERED ON 7/13/89, WHEN THE SHIFT OPERATIONS SUPERVISOR (SOS) WOULD NOT ACCEPT WORK REQUEST (WR) B252362 AS COMPLETE BECAUSE IT REFERENCED A DEFICIENCY FOUND DURING THE PERFORMANCE OF SI-237.2, BUT THE SAME SI WAS NOT REPERFORMED AS A POSTMAINTENANCE TEST (PMT). FURTHER INVESTIGATION DETERMINED THE DEFICIENCY HAD BEEN EVALUATED BY AN SOS ON 6/1/89, AS NOT AFFECTING TECH SPEC OPERABILITY OF THE D/G BUILDING CO(2) SYSTEM SINCE THE FIRE DOOR WAS LEFT CLOSED. SURVEILLANCE REQUIREMENT (SR) 4.7.11.3.2.B.1 REQUIRES THE FIRE DOOR RELEASE MECHANISMS TO BE CAPABLE OF BOTH MANUAL AND AUTOMATIC ACTUATION FOR CO(2) SYSTEM OPERABILITY. THE FIRE DOOR WAS DECLARED INOPERABLE BY THE SOS ON 7/13/89, AND LIMITING CONDITION FOR OPERATION (LCO) 3.7.11.3 ACTION WAS ENTERED. THE FIRE DOOR WAS REPAIRED, APPLICABLE PORTIONS OF SI-237.2 WERE REPERFORMED, AND THE LCO ACTION WAS EXITED ON 7/14/89. THE ROOT CAUSE WAS AN INADEQUATE TECHNICAL
Sequoyah 1, Sequoyah 2	10/27/1989	11/22/1989	Failure to demonstrate operability of spray and/or sprinkler systems as required by technical specifications as a result of an inadequate procedure. Abstract: POWER LEVEL - 100%. ON OCTOBER 27, 1989, WITH UNIT 1 IN MODE 1 (100 PERCENT POWER, APPROX. 2,235 LBS. PER SQUARE INCH GAUGE (PSIG), AND REACTOR COOLANT SYSTEM AVERAGE TEMPERATURE (TAVG) AT 578F), AND UNIT 2 IN MODE 1 (30% POWER, APPROX. 2,235 PSIG, AND TAVG AT 554 DEGREES F), OPERATIONS PERSONNEL DECLARED THE SPRAY AND/OR SPRINKLER SYSTEMS FOR THE VOLUME CONTROL TANK ROOMS ON ELEVATION 690 OF THE AUX. BLDG AND THE REACTOR COOLANT PUMP AREAS IN THE REACTOR BUILDINGS INOPERABLE FOR BOTH UNITS. TECH SPEC LIMITING CONDITION FOR OPERATION (LCO) 3.7.11.2 WAS ENTERED AT 0001 EASTERN DAYLIGHT TIME ON 10/27/89. THE SPRINKLERS WERE DECLARED INOPERABLE AS A RESULT OF FAILURE TO PERFORM SURVEILLANCE REQUIREMENT 4.7.11.2.C WITHIN THE REQUIRED 18-MONTH FREQUENCY ON BOTH UNITS. ALSO, ACTION STATEMENT (A) OF LCO 3.7.11.2 REQUIRES AN HOURLY FIRE WATCH TO BE PERFORMED. THIS ACTION COULD NOT BE COMPLIED WITH BECAUSE OF THE HIGH RADIATION IN THE AREAS IDENTIFIED. THIS EVENT IS BEING REPORTED IN ACCORDANCE WITH 10 CFR 50.73, PARAGRAPH A.2.I.B, AND ALSO THE REQUIREMENTS OF ACTION STATEMENT (A) OF LCO 3.7.11.2 FOR A SPECIAL REPORT. THE CAUSE OF THIS EVENT IS AN INADEQUATE PROCEDURE. THE SURVEILLANCE INSTRUCTION (SI) WAS NOT UTILIZED AND DID NOT

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 1, Sequoyah 2	12/04/1989	12/22/1989	Fire suppression system deluge valve isolated for more than one hour without required continuous fore watch established as a result of personal communication breakdown Abstract: POWER LEVEL - 100%. ON DECEMBER 4, 1989, WITH UNIT 1 AT 71 PERCENT POWER AND UNIT 2 AT 100 PERCENT POWER, A PORTION OF THE AUTOMATIC FIRE SUPPRESSION SYSTEM WAS INOPERABLE FOR MORE THAN ONE HOUR WITHOUT A CONTINUOUS FIRE WATCH BEING ESTABLISHED IN AREAS IN WHICH REDUNDANT SYSTEMS OR COMPONENTS COULD BE DAMAGED AS REQUIRED BY LIMITING CONDITION FOR OPERATION (LCO) 3.7.11.2 (SPRAY AND/OR SPRINKLER SYSTEMS). DELUGE VALVE 0-FCV-26-183 WAS ISOLATED TO PREVENT ITS ACTUATION VIA SMOKE DETECTORS SENSING EXHAUST FUMES FROM A TRUCK DELIVERING A SPARE REACTOR COOLANT PUMP ROTOR TO THE AUXILIARY BUILDING RAILROAD BAY. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO A PERSONAL COMMUNICATION BREAKDOWN WHEN TRYING TO REOPEN THE DELUGE VALVE AFTER THE TRUCK LEFT. THIS BREAKDOWN IN COMMUNICATION WAS THE RESULT OF INADEQUATE ATTENTION TO DETAIL BY THE FOREMAN IN CHARGE OF THE TRUCK UNLOADING EVOLUTION. AS IMMEDIATE CORRECTIVE ACTION, THE DELUGE VALVE WAS OPENED, THEREBY RESTORING AUTOMATIC ACTUATION CAPABILITY TO THE FIRE SUPPRESSION STEM. THE FOREMAN IN CHARGE OF THE TRUCK UNLOADING EVOLUTION HAS BEEN COUNSELLED REGARDING HIS FAILURE TO ENSURE THE DELUGE VALVE WAS REOPENED ON TIME.
Sequoyah 1, Sequoyah 2	12/15/1989	01/16/1990	Increased airborne activity in the auxiliary building resulted in the suspension of fire watch patrols and subsequent noncompliance with Technical Specifications 3.7.12. Abstract: POWER LEVEL - 100%. AT 1533 EASTERN STANDARD TIME (EST) ON DECEMBER 15, 1989, WITH UNIT 1 AT 100 PERCENT POWER AND UNIT 2 AT 80 PERCENT POWER. THE HOURLY FIRE WATCH PATROL THROUGH THE AUXILIARY BUILDING COULD NOT BE COMPLETED BECAUSE OF INCREASED LEVELS OF AIRBORNE RADIOACTIVITY. AT 1430 EST A LEAK WAS IDENTIFIED FROM A FITTING ON A UNIT 1 VOLUME CONTROL TANK (VCT) LEVEL TRANSMITTER. AT 1500 EST ENTRY INTO THE AUXILIARY BUILDING WAS RESTRICTED, AND AT 1525 EST, THE AUXILIARY BUILDING WAS EVACUATED. AS A RESULT, THE FIRE WATCH PATROL WAS NOT ALLOWED TO ENTER THE AUXILIARY BUILDING FOR THE HOURLY ROUNDS REQUIRED BY ACTION STATEMENT (A) OF LIMITING CONDITION FOR OPERATION 3.7.12. PERSONNEL WERE ALLOWED TO RETURN TO THE AUXILIARY BUILDING AT 1800 EST WHEN AIR SAMPLES SHOWED AIRBORNE ACTIVITY HAD RETURNED TO AN ACCEPTABLE LEVEL, AND THE HOURLY FIRE WATCH PATROL WAS RESUMED. THE ROOT CAUSE OF THIS EVENT WAS THE VCT LEVEL TRANSMITTER LEAK, WHICH WAS THE SOURCE OF THE AIRBORNE ACTIVITY. THE CORRECTIVE ACTION TAKEN TO ELIMINATE THE SOURCE OF THE AIRBORNE ACTIVITY WAS TO ISOLATE THE VCT LEVEL TRANSMITTER AND TIGHTEN THE LEAKING FITTING. A WORK REQUEST WAS WRITTEN TO REPLACE THE FITTING.
Sequoyah 1, Sequoyah 2	12/16/1989	01/16/1990	Limiting Condition for Operation 3.0.3 entered when the refueling water storage tank level transmitters failed because of freezing during cold weather. Abstract: POWER LEVEL - 100%. AT 0357 EST ON 12/16/89, WITH UNIT 1 IN MODE 1, THE REFUELING WATER STORAGE TANK (RWST) LEVEL TRANSMITTERS 1-LT-63-50 AND 51 HAD FAILED HIGH. AT 0828 EST WITH UNIT 2 IN MODE 1, RWST LEVEL TRANSMITTERS 2-LT-63-50, 52 HAD FAILED HIGH. AS A RESULT, BOTH UNITS ENTERED LIMITING CONDITION FOR OPERATION (LCO) 3.0.3 AT 0357 AND 0828 RESPECTIVELY. THE FAILURES WERE BECAUSE OF FREEZING FROM EXTREME COLD WEATHER. ADDITIONAL TRANSMITTER FAILURES OCCURRED IN THE EAST MAIN STEAM VALVE VAULT AND OUTSIDE THE AUX. BLDG. ROOT CAUSE OF THE FREEZING OF THE RWST SENSE LINES WAS PRIOR REMOVAL OF POWER TO HEATERS AND THERMOSTATS INSTALLED IN THE TRANSMITTER ENCLOSURES DUE TO AN INAPPROPRIATE USE OF CALCULATIONS. THE ROOT CAUSE OF THE FREEZING SENSE LINES IN THE MAIN STEAM VALVE VAULT WAS INADEQUATE CONSIDERATION OF FREEZE PROTECTION REQUIREMENTS DURING DESIGN CHANGES TO INCREASE VENTILATION FLOW. THE ROOT CAUSE OF TRANSMITTER SENSE LINES FREEZING ON THE OUTSIDE OF THE AUX. BLDG. WAS INSULATION NOT IN ACCORDANCE WITH DESIGN REQUIREMENTS. IMMEDIATE CORRECTIVE ACTIONS CONSISTED OF OBTAINING DISCRETIONARY ENFORCEMENT TO EXTEND OPERATION IN LCO 3.0.3, ISSUING NIGHT ORDERS TO ENSURE ADEQUATE RWST WATER LEVELS EXISTED,
Sequoyah 1, Sequoyah 2	06/01/1990	09/10/1990	Main control room fire detectors inoperable as a result of inadequate design review Abstract: POWER LEVEL - 000%. THIS LER IS BEING REVISED TO PROVIDE ADDITIONAL CORRECTIVE ACTIONS FOR THE EVENT. ON JUNE 1, 1990, AT 0930 EASTERN DAYLIGHT TIME WITH UNIT 1 IN MODE 2, AND UNIT 2 IN MODE 1, IT WAS DISCOVERED THAT THE REMOVAL OF THE LIGHTING DIFFUSER PANELS IN THE MAIN CONTROL ROOM AFFECTED THE AIR FLOW PATTERN SUCH THAT THE IONIZATION-TYPE SMOKE DETECTORS ARE EFFECTIVELY INOPERABLE. LIMITING CONDITION FOR OPERATION (LCO) 3.3.3.8 WAS ENTERED AT 0930 EDT ON JUNE 1, 1990, AND AN HOURLY FIRE WATCH WAS ESTABLISHED. THE LIGHTING DIFFUSERS WERE REMOVED IN DECEMBER 1989 TO BE CLEANED AND A TEMPORARY ALTERATION CHANGE FORM (TACF) WAS INITIATED TO LEAVE THEM OUT BECAUSE OF THE IMPROVED LIGHTING EFFECT. A PERMANENT DESIGN CHANGE WAS REQUESTED IN JANUARY 1990, WHICH RESULTED IN DESIGN CHANGE NOTICE 2178 BEING ISSUED ON MARCH 23, 1990. THE ROOT CAUSE OF THE EVENT IS INADEQUATE DOCUMENTATION OF INITIAL DETECTOR DESIGN ASSUMPTIONS AND INADEQUATE DISCIPLINE DESIGN REVIEW WHEN THE DECISION WAS MADE TO REMOVE THE DIFFUSER PERMANENTLY. CORRECTIVE ACTIONS INCLUDED CLARIFICATION OF DISCIPLINE FIRE PROTECTION REVIEW RESPONSIBILITIES AND WILL INCLUDE INSTALLATION OF CLEAR PLASTIC PANELS IN THE MAIN CONTROL ROOM BY FEBRUARY 15, 1991.
Sequoyah 1, Sequoyah 2	08/31/1990	10/02/1990	Required surveillance inspection not performed on four fire door dampers as a result of an inadequate procedure Abstract: POWER LEVEL - 100%. THE LER IS BEING REVISED TO ADD REFERENCE TO ONE PREVIOUS OCCURRENCE OF A SIMILAR EVENT INADVERTENTLY OMITTED FROM THE INITIAL LER. ON AUGUST 31, 1990, WITH UNITS 1 AND 2 IN MODE 1, IT WAS DISCOVERED THAT SURVEILLANCE INSPECTIONS ON FOUR FIRE DAMPERS LOCATED IN FIRE DOORS IN THE AUXILIARY BUILDING HAD NOT BEEN PERFORMED WITHIN THE REQUIRED TIME INTERVAL. ALTHOUGH THE SUBJECT FIRE DOORS ARE INCLUDED IN THE APPROPRIATE SURVEILLANCE INSTRUCTION (SI), NO ACCEPTANCE CRITERIA ARE GIVEN FOR THE FIRE DAMPERS. THEREFORE, THERE IS NO RECORD OF THE FIRE DAMPERS HAVING BEEN INSPECTED. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO AN INADEQUATE PROCEDURE. UPON DISCOVERY OF THE PROBLEM, LIMITING CONDITION FOR OPERATION (LCO) 4.0.3 WAS ENTERED. A WORK REQUEST WAS PREPARED AND COMPLETED THE SAME DAY FOR INSPECTION OF EACH OF THE FIRE DAMPERS. ALL FOUR FIRE DAMPERS WERE VERIFIED TO BE FUNCTIONAL, AND LCO 4.0.3 WAS EXITED. THIS PROBLEM WAS VERIFIED TO BE LIMITED TO ONLY THE FOUR SUBJECT DAMPERS. THE SI WILL BE REVISED TO INCLUDE ACCEPTANCE CRITERIA FOR THE FIRE DAMPERS PRIOR TO THE NEXT SCHEDULED PERFORMANCE, BUT NO LATER THAN DECEMBER 1, 1991.
Sequoyah 1, Sequoyah 2	03/05/1991	04/04/1991	Diesel Generator room fire protection system inoperable because of an incorrectly terminated wire which was the result of inappropriate personnel actions. Abstract: POWER LEVEL - 100%. ON MARCH 5, 1991, AT APPROXIMATELY 1315 EASTERN STANDARD TIME (EST), WITH UNITS 1 AND 2 IN MODE 1, WHILE PERFORMING A REGULARLY SCHEDULED FIRE PROTECTION SURVEILLANCE INSTRUCTION, IT WAS DISCOVERED THAT THE INTERFACE WIRING BETWEEN PANEL O-L-619 AND THE 1B-B DIESEL GENERATOR (D/G) ROOM CARBON DIOXIDE (C02) SYSTEM HAD BEEN INCORRECTLY TERMINATED. THIS WAS THE RESULT OF INAPPROPRIATE PERSONNEL ACTIONS. AT THIS TIME, THE CO2 AND FIRE PROTECTION SYSTEMS WERE INOPERATIVE (BECAUSE OF THE ON-GOING PERFORMANCE OF SURVEILLANCE TESTING) AND COMPENSATORY MEASURES WERE IN PLACE. SUPERVISION AND ENGINEERING WERE NOTIFIED AT THIS TIME. THEIR REVIEW CONCURRED THAT A WIRING DISCREPANCY EXISTED. THE SHIFT OPERATIONS SUPERVISOR (SOS) WAS NOTIFIED AT APPROXIMATELY 1400 EST. THE D/G BUILDING FIRE PROTECTION AND SUPPRESSION WAS PLACED BACK IN-SERVICE, EXCEPT THE 1B-B D/G ROOM CO2 SYSTEM WHERE FIRE WATCHES REMAINED IN-PLACE UNTIL THE PROBLEM WAS CORRECTED. WORK ORDERS WERE ALSO INITIATED TO INSPECT THE OTHER DIESEL BUILDING AND PLANT FIRE PROTECTION PANELS FOR SIMILAR SITUATIONS. THE PROBLEM ON FIRE PROTECTION PANEL O-L-619 WAS CORRECTED AND THE SYSTEM WAS DECLARED OPERABLE AT 1100 EST ON MARCH 6, 1991.
Sequoyah 1, Sequoyah 2	04/29/1991	07/31/1991	Inoperable penetration seals that were not inspected or identified as a result of a deficient procedure Abstract: POWER LEVEL - 100%. THIS LER IS BEING REVISED TO PROVIDE THE RESULTS OF ADDITIONAL INVESTIGATION. ON APRIL 29, 1991, WITH UNITS 1 AND 2 OPERATING IN MODE 1, IT WAS DETERMINED THAT FIRE BARRIER PENETRATION SEALS HAD NOT BEEN VISUALLY INSPECTED AS REQUIRED BY TECHNICAL SPECIFICATION (TS) 4.7.12. TECHNICAL INADEQUACIES IN SURVEILLANCE INSTRUCTION SI) 233.1E, 'MECHANICAL PENETRATION FIRE BARRIER VISUAL INSPECTION,' INCLUDING INADEQUATE ACCEPTANCE CRITERIA, WERE DISCOVERED DURING AN INVESTIGATION OF FIRE BARRIER DISCREPANCIES. THE SI INADEQUACIES CONTRIBUTED TO NOT IDENTIFYING INOPERABLE PENETRATION SEALS DURING THE TECHNICAL SPECIFICATION 4.7.12 SURVEILLANCE. THE NONFUNCTIONAL SEALS WERE IDENTIFIED DURING A WALKDOWN IN THE AREA ON MAY 31, 1990. A REACHING PERMIT WAS ISSUED AND CLOSED WITHIN 7 DAYS OF IDENTIFICATION BASED ON A PERFORMANCE OF A PORTION OF SI-233.1E UTILIZING THE DEFICIENT ACCEPTANCE CRITERIA TO DETERMINE OPERABILITY. THE PENETRATIONS WERE SEALED ON JUNE 8, 1990. THE PROCEDURES IMPLEMENTING THE TS SR WILL BE REVISED AND ADDITIONAL SURVEILLANCE PERFORMED AS DEEMED APPROPRIATE.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 1, Sequoyah 2	05/15/1991	09/06/1991	Failure to conduct visual inspection of expansion joint seals previously not considered to be fire barriers and discovery that seal material does not meet fire barrier requirements. Abstract: POWER LEVEL - 100%. THIS LER IS BEING REVISED TO UPDATE THE CORRECTIVE ACTIONS ASSOCIATED WITH THIS EVENT. ON 5/15/91, AT 1800 EDT, WITH UNITS 1 AND 2 OPERATING IN MODE 1 IT WAS DETERMINED THAT THE EXPANSION JOINT MATERIAL BETWEEN THE REACTOR BUILDING SHIELD WALLS AND THE AUXILIARY BUIDLING DID NOT MEET UNDERWRITERS' LABORATORY (UL) OR FACTORY MUTUAL STANDARDS FOR A FLAME SPREAD OF LESS THAN 25 FEET. LIMITING CONDITION FOR OPERATION (LCO) 3.7.12 WAS ENTERED ON BOTH UNITS AND APPROPRIATE FIRE WATCHES ESTABLISHED. THE EXPANSION JOINTS BETWEEN THE AUXILIARY BUILDING AND SHEILD BUILDINGS AT ELEVATIONS 669, 690, 706, 714, 734, AND 759 CONTAIN A MATERIAL FOR WHICH STANDARD IS NOT AVAILABLE AND THEREFORE, THE CONFIGURATION CANNOT BE CONSIDERED A CREDITABLE FIRE BARRIER. INVESTIGATION DETERMINED THAT THESE SEALS HAVE BEEN IN PLACE SINCE INITIAL CONSTRUCTION, THE INITIAL DESIGN DID NOT CONSIDER THESE SEALS TO BE A FIRE BARRIER; AND ACCORDINGLY, THEY WERE NOT INCLUDED IN THE SURVEILLANCE AND SUBSEQUENT MATERIAL PROVIDED REASONABLE ASSURANCE THAT THE MATERIAL IS CERTIFIABLE AS A FIRE BARRIER AND QUALIFICATION TESTING IS BEING PURSUED. TESTING OF THE MATERIAL AND EVALUATION OF THE TEST RESULTS ARE
Sequoyah 1, Sequoyah 2	06/02/1991	07/05/1991	Limiting Condition for Operation 3.0.3 was entered when the control room emergency ventilation system was declared inoperable because a pressure boundary door was improperly breached open. Abstract: POWER LEVEL - 100%. ON 6/2/91, AT 1705 EASTERN DAYLIGHT TIME (EDT) WITH UNITS 1 AND 2 OPERATING IN MODE 1 AT 100% POWER, LIMITING CONDITION FOR OPERATION (LCO) 3.0.3 WAS ENTERED WHEN THE CONTROL ROOM EMERGENCY VENTILATION SYSTEMS (CREVS) WAS DETERMINED TO BE INOPERABLE. THE CREVS WAS DETERMINED TO BE INOPERABLE BECAUSE A VENTILATION BOUNDARY DOOR WAS IMPROPERLY BREACHED. MODIFICATIONS GROUP WAS IMPLEMENTING A DESIGN CHANGE INVOLVING AN ASBESTOS ABATEMENT IN THE RELAY ROOM ON ELEVATION 732 OF THE CONTROL BUILDING AND HAD BREACHED A BOUNDARY DOOR TO FACILITATE TRAFFIC AND REMOVAL OF ASBESTOS. THE BREACH WAS IMPROPERLY CONTROLLED AS A RESULT OF INAPPROPRIATE PERSONNEL ACTIONS. AFTER DETERMINING THE BREACH WAS INAPPROPRIATE, THE STRUCTURE WAS DISMANTLED IN AN ORDERLY MANNER. LCO 3.0.3 WAS EXITED AT 1735 EDT WHEN THE STRUCTURE WAS REMOVED AND THE DOOR CLOSED. CORRECTIVE ACTIONS INCLUDE ADDITIONAL TRAINING, PROCEDURE AND PROCESS REVISIONS, AND COMMUNICATION OF EXPECTATIONS REGARDING PERFORMANCE.
Sequoyah 1, Sequoyah 2	06/10/1991	07/10/1991	Fire watch patrols were not performed because of radiological conditions and a failure of administrative controls Abstract: POWER LEVEL - 100%. ON JUNE 10, 1991, WITH UNITS 1 AND 2 OPERATING IN MODE 1, FIRE WATCHES REQUIRED BY TECH SPEC LCOS 3.3.3.8 AND 3.7.12 ACTION STATEMENTS WERE MISSED IN THE AUXILIARY BUILDING AND THE ADDITIONAL EQUIPMENT BUILDING BECAUSE OF AN AIRBORNE CONDITION THAT OCCURRED AT 2017 EDT. ADDITIONALLY, FIRE WATCH PATROLS IN THE ABGTS ROOM IN THE AUXILIARY BUILDING, ELEVATION 714, AND THE UHI AREA IN THE ADDITIONAL EQUIPMENT BUILDING REQUIRED BY ACTION STATEMENT (A) OF LCO 3.7.12 WERE NOT PERFORMED BECAUSE OF A FAILURE IN THE ADMINISTRATIVE CONTROL OF FIRE WATCH PATROLS. AS CORRECTIVE ACTION, THE DETECTORS THAT WERE OUT OF SERVICE WERE RETURNED TO OPERABLE STATUS, THE AIRBORNE CONDITION WAS CORRECTED, THE FIRE WATCHES WERE REESTABLISHED, AND ADMINISTRATIVE CONTROL OF FIRE WATCH PATROLS HAS BEEN STRENGTHENED. THESE EVENTS ARE BEING REPORTED IN ACCORDANCE WITH 10 CFR 50.73(A)(2)(I)(B) AS AN OPERATION PROHIBITED BY TECHNICAL SPECIFICATIONS.
Sequoyah 1, Sequoyah 2	06/12/1991	07/12/1991	Inadvertent breach of the main control room and cable spreading room fire barrier and pressurization boundary during the Unit 2 Cycle 4 refueling outage because of inappropriate personnel actions Abstract: POWER LEVEL - 100%. ON 6/12/91, AT APPROX. 1250 EDT WITH UNITS 1 AND 2 IN MODE 1, A BREACH TO THE CONTROL ROOM PRESSURIZATION BOUNDARY WAS DISCOVERED DURING THE ROUTINE PERFORMANCE OF A SURVEILLNANCE INSTRUCTION. UNITS 1 AND 2 APPLIED THE ACTION PROVISIONS OF LIMITING CONDITION FOR OPERATION (LCO) 3.7.12, AND A WORK REQUEST WAS WRITTEN TO CORRECT THE PROBLEM. ON 6/13/91, AT APPROX. 1331, THE BREACH HAD BEEN SEALED AND DOCUMENTED, AND ACTION STATEMENT A OF LCO 3.7.12 WAS EXITED. INVESTIGATION OF THE EVENT DETERMINED THAT THE BREACH OCCURRED ON OR ABOUT 8/8/90, DURING THE IMPLEMENTATION OF THE UNIT 2 CYCLE 4 REFUELING OUTAGE GAMMA METRICS MODIFICATION. MODIFICATIONS' CRAFT WERE INSTRUCTED TO INSTALL A CONDUIT IN THE BOTTOM OF PANEL 2-M-13 CABINET II, BUT THROUGH INAPPROPRIATE PERSONNEL ACTIONS, MISTAKENLY INSTALLED THE CONDUIT IN CABINET III. PART OF THE INSTALLATION PROCEDURE REQUIRED THE FIRE BARRIER IN THE BOTTOM OF THE PANEL TO BE BREACHED. THE INCORRECT INSTALLATION WAS IDENTIFIED AND CORRECTED. HOWEVER, THE INADVERTENT BREACH THROUGH THE FIRE BARRIER AND PRESSURIZATION BOUNDARY WAS NOT RECOGNIZED, AND CORRECTIVE ACTION WAS NOT INITIATED TO REPAIR
Sequoyah 1, Sequoyah 2	06/13/1991	07/31/1991	Inoperable penetration seal that was not inspected or identified as a result of a deficient procedure Abstract: POWER LEVEL - 100%. ON JUNE 13, 1991, WITH UNITS 1 AND 2 OPERATING IN MODE 1, IT WAS DETERMINED THAT A FIRE BARRIER PENETRATION HAD NOT BEEN PROPERLY SEALED AND VISUALLY INSPECTED AS REQUIRED BY TECHNICAL SPECIFICATION (TS) 4.7.12. THE NONFUNCTIONAL SEALS WERE IDENTIFIED DURING A WALKDOWN OF THE AREA ON JUNE 13, 1991. THE PENETRATION WAS SEALED ON JUNE 18, 1991. INVESTIGATION INTO THE CAUSE OF THE DEFICIENT SEAL IS ONGOING. TECHNICAL INADEQUACIES IN SURVEILLANCE INSTRUCTION (SI) 233.1E, 'MECHANICAL PENETRATION FIRE BARRIER VISUAL INSPECTION,' INCLUDING INADEQUATE ACCEPTANCE CRITERIA, CONTRIBUTED TO NOT IDENTIFYING INOPERABLE PENETRATION SEALS DURING PREVIOUS SURVEILLANCES. THE PROCEDURES IMPLEMENTING THE TS SURVEILLANCE REQUIREMENT WILL BE REVISED, AND ADDITIONAL SURVEILLANCES WILL BE PERFORMED AS APPROPRIATE . THIS REPORT IS BEING REPORTED IN ACCORDANCE WITH 10 CFR 50.73(A)(2)(I)(B) AND UNIT 2 LICENSE CONDITION 2.H.
Sequoyah 1, Sequoyah 2	07/08/1991	08/07/1991	Fire Watch Patrol Was Not Performed Because of Inadequate Shift Turnover Abstract: POWER LEVEL - 100%. ON JULY 8, 1991, WITH UNITS 1 AND 2 OPERATING IN MODE 1, A FIRE WATCH REQUIRED BY TECHNICAL SPECIFICATION 3.7.12, ACTION STATEMENT (A), WAS NOT PERFORMED FOR APPROXIMATELY FOUR HOURS. THE FIRE WATCH WAS NOT PERFORMED BECAUSE OF INADEQUATE SHIFT TURNOVER, WHICH RESULTED FROM INEFFECTIVE COMMUNICATION OF THE REVISED TURN OVER PROCESS, STAFFING REQUIREMENTS TO THE FIRE WATCH, AND THE FIRE PROTECTION FOREMAN. THE FIRE WATCH WAS REESTABLISHED UPON DISCOVERY. THE REQUIREMENTS ASSOCIATED WITH SHIFT TURNOVER HAVE BEEN REVIEWED WITH ALL FIRE WATCHES.
Sequoyah 1, Sequoyah 2	07/11/1991	02/07/1992	Operations with Unqualified Penetration Seals Caused by Thermal Movements Abstract: POWER LEVEL - 100%. ON JULY 11, 1991, WITH BOTH UNITS OPERATING IN MODE 1, A CONDITION WAS IDENTIFIED INVOLVING UNQUALIFIED PENETRATION SLEEVE SEALS BECAUSE OF PIPING THERMAL MOVEMENTS. THE UNQUALIFIED SLEEVE SEALS CONSIST OF DOW-CORNING 3-6548 ROOM TEMPERATURE VULCANIZING (RTV) SILICONE FOAM. PIPING THROUGH FOUR UNIT 1 AND FIVE UNIT 2 PENETRATIONS EXCEEDED THE AXIAL MOVEMENT CRITERIA OF 15 PERCENT OF THE MINIMUM ANNULAR DISTANCE AND THREE UNIT 1 AND THREE UNIT 2 PENETRATIONS EXCEEDED THE 1/4-INCH LIMIT FOR RADIAL MOVEMENTS. THE CAUSE OF THE EXISTING UNQUALIFIED PENETRATIONS IS THAT ORIGINAL DESIGN REQUIREMENTS RELATIVE TO RTV FOAM SEALS WERE INADEQUATE. CORRECTIVE ACTIONS INCLUDE MAINTAINING REQUIRED FIRE WATCH COVERAGE IN THE INTERIM, MODIFYING THE UNQUALIFIED SEALS AND ESTABLISHING AN ACTION PLAN TO ADDRESS THE REMAINING SLEEVE SEAL ISSUES. THIS REPORT IS BEING SUBMITTED AS REQUIRED BY 10 CFR 50.73(A)(2)(I)(B) AND IN FOLLOW-UP TO SPECIAL REPORT 91-11.
Sequoyah 1, Sequoyah 2	08/12/1991	08/26/1991	Operation With Barriers That Did Not Comply with Underwriters Laboratories Configurations Resulting from Deterioration of Material, Inappropriate Personnel Actions or Initial Installations Inadequacies Abstract: POWER LEVEL - 100%. ON AUGUST 12 1991 WITH UNIT 1 AND UNIT 2 OPERATING IN MODE 1, A CONDITION WAS IDENTIFIED INVOLVING NONFUNCTIONAL FIRE BARRIERS. THIS CONDITION WAS DISCOVERED DURING IMPLEMENTATION OF CORRECTIVE ACTIONS ASSOCIATED WITH SPECIAL REPORT 91-03 REVISION 1, DATED JUNE 7, 1991. AS-FOUND CONDITIONS IN SEVEN FIRE BARRIER WALLS DID NOT COMPLY WITH UNDERWRITERS LABORATORIES TESTED CONFIGURATIONS. THE DURATION AND CAUSE OF THESE CONDITIONS COULD NOT CONCLUSIVELY BE DETERMINED. THEY COULD HAVE RESULTED FROM INAPPROPRIATE PERSONNEL ACTION DETERIORATION OF MATERIAL OR INITIAL INSTALLATION NOT CONFORMING TO COMPARTMENTATION REQUIREMENTS. CORRECTIVE ACTION INCLUDES REPAIR OF THE SUBJECT DEFICIENCIES INSPECTING THE REMAINING FIRE BARRIERS TO PROVIDE A BASELINE OF QUALIFICATION, UPGRADING SURVEILLANCE TO ENSURE BARRIERS ARE MAINTAINED AND RAISING PERSONNEL AWARENESS THROUGH GENERAL EMPLOYEE TRAINING.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 1, Sequoyah 2	10/22/1991	11/21/1991	Inoperable fire detector circuit supervision due to inadequate understanding and review Abstract: POWER LEVEL - 000%. ON OCTOBER 2, 1991, WITH UNIT 1 IN MODE 5 AND UNIT 2 IN MODE 1, IT WAS DISCOVERED THAT AN ALARM CONDITION ON A FIRE DETECTION PANEL 'MASKS' TROUBLE ALARMS ON THE PANEL. BECAUSE SEVERAL ALARMS HAVE BEEN IN CONTINUOUSLY, THE DETECTOR SUPERVISORY CIRCUITS REQUIRED BY SURVEILLANCE REQUIREMENT 4.3.3.8.2 HAVE BEEN FUNCTIONALLY INOPERABLE, WITHOUT COMPLYING WITH THE CORRESPONDING ACTION PROVISIONS. THIS CONDITION RESULTED FROM A LACK OF UNDERSTANDING OF THE SPECIFIC FIRE DETECTION SYSTEM FEATURE AND A LACK OF SENSITIVITY TO FULLY EVALUATING CONTINUED OPERATION WITH ALARM CONDITIONS. THE CONTINUOUS ALARM CONDITIONS HAVE BEEN DISABLED, AND OPERATORS HAVE BEEN TRAINED ON THE MASKING FEATURE OF ALARM CONDITIONS. ADDITIONAL CORRECTIVE ACTIONS ARE BEING TAKEN TO INSTITUTIONALIZE THE AWARENESS OF THE MASKING FEATURE.
Sequoyah 1, Sequoyah 2	11/19/1992	12/18/1992	Failure to Perform a Fire Watch Within the TimeFrame Required by Technical Specifications Abstract: POWER LEVEL - 100%. On November 19, 1992, at approximately 1000 Eastern standard time (EST), with Units 1 and 2 in power operation at approximately 100 percent power, it was discovered that a fire watch patrol was not performed within the timeframe required. It was determined by use of vital area access control system card key entry and exit times that the assigned fire watch individual did not patrol some areas during performance of the November 5, 1992, 1500 EST fire watch. Further investigation revealed that two fire watch personnel had split one fire watch route and performed the fire watch patrol simultaneously. However, documents completed by the two individuals did not reflect a change in route. This improper performance caused the 1600 EST fire watch patrol to arrive late to some areas of the route by as much as 28 minutes. The cause of the late performance of the fire watch patrol was the result of two fire watch personnel failing to follow procedures. Additional fire protection related records were reviewed, and no additional discrepancies were found. Appropriate disciplinary action was taken with the involved individuals. Management expectations for procedure adherence and the importance of fire watch patrol duty was emphasized with fire watch personnel.
Sequoyah 1, Sequoyah 2	12/11/1992	01/11/1993	Failure to Establish a Fire Watch As a Result of Personnel Inattention to Detail Abstract: POWER LEVEL - 100%. On December 12, 1992, at approximately 1930 Eastern standard time (EST), with Units 1 and 2 in power operation at approximately 100 percent power, it was discovered that a continuous fire watch had not been established within the required timeframe for an alarm received on the control room fire detection panel. On December 11, 1992, at 1443 EST, during routine performance of a surveillance instruction (SI), a local panel alarm was received and acknowledged by the fire operator in the control room. The alarm identified a power failure that rendered the automatic fire suppression system, associated with one local fire protection panel, inoperable. The SI test director and the unit operator were not aware of the alarm. Also, the fire operator failed to identify the alarm condition upon completion of testing. The event was identified by an assistant shift operations supervisor when he observed that the alarm was present and questioned the unit operator. After identification of the event, Limiting Condition for Operation 3.7.11.2 was entered, and actions were taken to establish continuous fire watches. The cause of the event is attributed to inattention to detail by the fire operator. The involved personnel were counseled on the importance of attention to detail.
Sequoyah 1, Sequoyah 2	05/14/1993	06/10/1993	Failure to Perform a Fire Watch Within the Timeframe Required by Technical Specifications Abstract: POWER LEVEL - 000%. On May 14, 1993, at 1315 Eastern daylight time, it was discovered that a fire watch patrol was not performed within the timeframe required by technical specifications. The fire watch patrol had been established in the diesel generator (D/G) building as a compensatory measure for a breached fire door. The fire watch evacuated the D/G building when a fire panel alarm sounded. The fire watch mistakenly believed that the alarm was the carbon dioxide actuation/evacuation alarm. The fire panel alarm was in response to smoke from welding that was in progress in the shop area of a different site building. The alarm was reset in five minutes; however, approximately 2 hours and 20 minutes elapsed before the fire watch returned to duty. The cause of the late performance of the fire watch patrol was inadequate supervision of the fire watch individual by the fire protection foreman. The fire watch patrol was subsequently reestablished. Personnel involved were counseled on their responsibilities concerning the SQN Fire Protection Program.
Sequoyah 1, Sequoyah 2	06/19/1993	08/17/1993	Auxiliary Building Gas Treatment System Start as a Result of a Fire in the Unit 2 General Supply Fan Room Abstract: POWER LEVEL - 000%. On July 19, 1993, at 1135 Eastern daylight time (EDT), Operations received notification of a fire in the Unit 2 auxiliary building general supply fan room on Elevation 714. and exhaust fans were stopped and Train B of the auxiliary building gas treatment system was manually initiated to prevent airborne radioactivity increases and to maintain negative pressure in the auxiliary building. A team was dispatched to the area, and it was discovered that the steam generator wet layup recirculation pump No. 4 motor was on fire. The fire was extinguished and auxiliary building ventilation was returned to normal.
Sequoyah 1, Sequoyah 2	12/08/1994	01/09/1995	Failure to Perform an Hourly Fire Watch as Required by Technical Specifications Abstract:
Sequoyah 1, Sequoyah 2	12/18/1995	01/17/1996	Inoperability of the Carbon Dioxide System for the Computer Room Resulting from an Inadequate Design Change Abstract: On December 18, 1995, it was determined that the design of the ventilation system to the computer room would not completely isolate the room on a carbon dioxide injection. The identified condition would not allow the carbon dioxide system in the computer room to function as required by Technical Specification 3.7.11.3. A modification to the ventilation system was made in May 1990 to provide additional air flow in the room. Additional supply and exhaust dampers (three each) were added to the system; but were not provided with the right dampers to isolate during a carbon dioxide injection. The root cause of the condition was determined to be personnel error by the designers. isolation of the computer room on a carbon dioxide system actuation. This report also satifies the reporting requirement for Technical Specification Limiting Condition for Operation 3.7.11.3 Action (a).
Sequoyah 1, Sequoyah 2	01/21/1996	02/20/1996	Missed Fire Watch Abstract: On January 26, 1996, with Units 1 and 2 operating in Mode 1 at 100 percent power, it was discovered that a fire watch patrol was not performed within the timeframe required by technical specifications. During a routine review of the access control system computer printouts, it was discovered that the assigned fire watch did not patrol some of the assigned areas in the control building on January 21, 1996, during the 0400 Eastern standard time (EST) fire watch. The route check sheets and fire watch journal logs were completed as if the assigned fire watch had completed the route as required by the procedure. The 0300 EST fire watch was properly conducted as required by the procedure, as was the subsequent fire watch at 0500 EST. Following the discovery of this event, access control system records were reviewed for personnel assigned to fire watch duty from January 3 through January 30, 1996. One additional individual was identified that failed to perform a fire watch patrol in all of the assigned areas. No other instances were identified where a fire watch failed to enter an assigned area. The appropriate disciplinary action was taken with the involved individuals. Management expectations for the proper performance of firewatch duties was emphasized with firewatch personnel. Random reviews of access control system computer records at SQN continue to be
Sequoyah 1, Sequoyah 2	07/18/1996	08/19/1996	An Auxiliary Building Secondary Containment Boundary/Fire Barrier was not Maintained as Required by Design Resulting from a Failure to Follow the Design Control Process. Abstract: On July 18, 1996, with Units 1 and 2 in power operation at approximately 100 percent, it was determined that a drain line, including a section of 2-inch polyvinyl chloride (PVC) piping, was routed from the raw cooling water booster pump skid through a 3-inch mechanical penetration that ties into an auxiliary building roof drain. The drain fine penetrates an auxiliary building secondary containment enclosure (ABSCE) boundary/fire barrier in the auxiliary building and does not meet the associated design requirements. Therefore, the use of the PVC rendered the installed configuration inoperable. The root cause of the identified condition is a failure to follow the design control process. The design control process provides the requirements for modifications to the plant. The control room staff promptly entered the appropriate technical specification limiting condition for operation (LCO) action. The PVC pipe was subsequently removed, and the ABSCE boundary wall/fire barrier was restored to an operable condition. A walkdown of piping in the auxiliary building was performed to identify any additional applications where PVC may have been used; no additional examples were identified. This report also satisfies the

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 2	01/30/1985	06/26/1987	Conduits Found Penetrating a Fire Barier Without Being Sealed Due to Design Error in Drawings Abstract: POWER LEVEL - 100%. THIS LER IS REVISED IN ITS ENTIRETY TO CHANGE THE COMPLETION DATE FOR THE CORRECTIVE ACTION AND TO CHANGE THE LER TO THE NEW FORMAT. AT 1200 CST ON JANUARY 30, 1985, WITH BOTH UNITS IN MODE 1, IT WAS DISCOVERED BY PLANT PERSONNEL WORKING IN THE UNIT 2 PENETRATION ROOM THAT ELECTRICAL CONDUIT PASSING THROUGH FIRE BARRIERS WERE NOT SEALED ON BOTH ENDS OF THE FIRE BARRIER AS REQUIRED BY THE FIRE PROTECTION PLAN. A FIRE WATCH WAS ALREADY ESTABLISHED IN THE AFFECTED AREAS DUE TO PREVIOUS DEFICIENCIES WITH 10 CFR 50, APPENDIX R REQUIREMENTS. THE FIRE WATCH SATISFIES THE REQUIREMENTS OF THE PLANT'S TECHNICAL SPECIFICATION 3.7.12 AND WILL REMAIN IN EFFECT FOR AREAS WHERE THE FIRE BARRIER IS INOPERABLE UNTIL COMPLIANCE WITH THE FIRE PROTECTION PLAN IS ACHIEVED. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE INADEQUATE CONDUIT DRAWINGS. THE DRAWINGS FAILED TO ADDRESS SEALING OF CONDUITS. THE DRAWINGS WERE REVISED TO ADD A NOTE THAT REQUIRES THE CONDUIT TO BE SEALED. THE EFFORT TO LOCATE UNSEALED CONDUIT IS CONTINUING. THE CONDUITS THAT NEED TO BE SEALED WILL BE COMPLETE BY AUGUST 31, 1987. THIS REPORT WAS REQUIRED IN ACCORDANCE WITH LICENSE CONDITION 2.H, 10 CFR 50.73, PARAGRAPH A.2.II, AND SPECIAL REPORT REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.12. THIS REPORT
Sequoyah 2	04/23/1985	05/22/1985	Failure to Complete Hourly Fire Watch Due to Inoperable Door Abstract: POWER LEVEL - 100%. AT 1200 CST ON 4-23-85, THE HOURLY FIRE WATCH COULD NOT BE CONDUCTED FOR THE UNIT 2 AUX BLDG SUPPLY AIR FAN ROOM OR THE UNIT 2 AUX BLDG SUPPLY AIR INTAKE FILTER ROOM BECAUSE DOOR A-132 COULD NOT BE OPENED. IT HAS BEEN DETERMINED THAT THE FAILURE OF THE DOOR HANDLE, WHICH RESULTED IN INABILITY TO OPEN THE DOOR, WAS CAUSED BY EXCESSIVE PULLING TO OVERCOME DOOR WEIGHT AND PRESSURE DIFFERENCES BETWEEN THE ROOMS SEPARATED BY THE DOOR. PERIODIC SURVEILLANCE WILL BE PERFORMED AT LEAST ONCE EVERY 18 MONTHS AND DOOR HANDLE MOVING PARTS GREASED AND OILED AS REQUIRED. THIS EVENT IS REPORTABLE PER 10 CFR 50.73, PARAGRAPH A.2.I AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - SEVEN (SQRO-50-327/85-015, 85-013, 85-012, 85-011, 85-008, 85-003 AND 84-075).
Sequoyah 2	11/06/1986	12/05/1986	ONE FIRE DETECTION INSTRUMENT WAS NOT TESTED BECAUSE OF A PROCEDURAL DEFICIENCY Abstract: POWER LEVEL - 000%. ON 11-6-86, AT 1500 CST WITH UNIT 1 IN MODE 5 (0% POWER, 250 PSIG, 132 F) AND UNIT 2 IN MODE 5 (0% POWER, 350 PSIG, 125 F), IT WAS DISCOVERED DURING A REVIEW OF SURVEILLANCE INSTRUCTION (SI)-234.1, 'TECH SPEC FIRE DETECTORS,' THAT 8 FIRE DETECTION INSTRUMENTS WERE LISTED FOR ZONE 297 IN THE UNIT 2 PORTION OF THE MAIN CONTROL ROOM; HOWEVER, THE TECH SPECS REQUIRE THAT 9 INSTRUMENTS BE DEMONSTRATED OPERABLE AT LEAST ONCE EVERY 6 MONTHS. FURTHER INVESTIGATION REVEALED THAT FIRE DETECTION INSTRUMENT XS-13-36T SHOULD HAVE BEEN INCLUDED FOR ZONE 297 IN THE SI BUT HAD BEEN DELETED. THE INSTRUMENT WAS DECLARED INOPERABLE. LIMITING CONDITION FOR OPERATION (LCO) 3.3.3.8 WAS ENTERED, AND A FIRE WATCH PATROL WAS ESTABLISHED. THE INSTRUMENT WAS TESTED AND DETERMINED OPERABLE ON 11-24-86. THE SI IS BEING REVISED TO INCLUDE FIRE DETECTORS XS-13-36T. THIS LER FULFILLS THE SPECIAL REPORT REQUIREMENT OF LCO 3.3.3.8.
Sequoyah 2	09/14/1989	10/13/1989	Incorrect Smoke Detectors Located in Unit Annulus Zone 374 Due to Personnel Error Abstract: POWER LEVEL - 100%. ON 9/14/89, WITH UNITS 1 AND 2 IN MODE 1 AT 100% POWER, 2,235 POUNDS PER SQUARE INCH GAUGE, 578F, IT WAS DISCOVERED THAT THE MINIMUM NUMBER OF OPERABLE PHOTOELECTRIC FIRE DETECTORS WAS NOT MAINTAINED FOR FIRE ZONE 374 IN THE ANNULUS AREA OF UNIT 2, AS REQUIRED BY TECH SPEC (TS) LIMITING CONDITION FOR OPERATION (LCO) 3.3.3.8 AND SHOWN ON TABLE 3.3-11. DURING THE PERFORMANCE OF SURVEILLANCE INSTRUCTION (SI) 234.7, 'TECHNICAL SPECIFICATION FIRE DETECTORS,' THREE FIRE DETECTORS WERE IDENTIFIED AS IONIZATION-TYPE DETECTORS. THE REMAINING 19 DETECTORS WERE IDENTIFIED AS PHOTOELECTRIC-TYPE FIRE DETECTORS. TS TABLE 3.3-11 REQUIRES A MINIMUM NUMBER OF 20 PHOTOELECTRIC FIRE DETECTORS BE OPERABLE IN FIRE ZONE 374. WITH ONLY 19 PHOTOELECTRIC FIRE DETECTORS INSTALLED AND OPERABLE, SQN HAD OPERATED IN A CONDITION PROHIBITED BY TSS. THE THREE IONIZATION-TYPE DETECTORS WERE DECLARED INOPERABLE, AND LCO 3.3.3.8 WAS ENTERED AT 0223 EASTERN DAYLIGHT TIME (EDT) ON SEPTEMBER 15, 1989. AN HOURLY FIRE WATCH WAS ESTABLISHED, A CONDITION ADVERSE TO QUALITY REPORT WAS INITIATED, AND A WORK REQUEST TO REPLACE THE THREE INCORRECT INSTRUMENTS WAS WRITTEN AND IMPLEMENTED. LCO 3.3.3.8 WAS EXITED AT 2141 EDT ON 9/15/89, AFTER THE DETECTORS WERE REPLACED AND SI-234.7 WAS SUCCESSFULLY
Sequoyah 2	09/27/1990	10/25/1990	Fire watch failed to follow procedures and survey an area on his assigned patrol route with an inoperable fire barrier penetration Abstract: POWER LEVEL - 000%. ON SEPTEMBER 27, 1990, AT 1430 EASTERN DAYLIGHT TIME (EDT) WITH UNIT 2 IN MODE 6 FOR A REFUELING OUTAGE, IT WAS DISCOVERED THAT ONE OF THE FIRE WATCH PERSONNEL FAILED TO FOLLOW HIS ASSIGNED PATROL ROUTE AND SURVEY AN AREA WITH AN INOPERABLE FIRE BARRIER PENETRATION. BREACH PERMIT 10308 WAS ISSUED SEPTEMBER 22, 1990, FOR THE UNIT 2 PRESSURIZER HEATER TRANSFORMER ROOM ON ELEVATION 759 TO PERMIT CABLE PULLING ACTIVITIES. IN COMPLIANCE WITH THE LIMITING CONDITION FOR OPERATION (LCO) 3.7.12 ACTION STATEMENT, A ROVING FIRE WATCH WAS ESTABLISHED TO PERIODICALLY SURVEY THE ROOM FOR DETECTION AND PREVENTION OF FIRE. ONE OF FIVE FIRE WATCH PERSONNEL ASSIGNED THE PATROL ROUTE SIGNED THE LOG SHEET WITHOUT INSPECTING THE UNIT 2 PRESSURIZER HEATER TRANSFORMER ROOM. THE FIRE WATCH SIGN-OFF LOG WAS ORIGINALLY LOCATED IN THE UNIT 2 PRESSURIZER HEATER TRANSFORMER ROOM. HOWEVER, THE LOG HAD BEEN MOVED AND WAS LOCATED ON ELEVATION 734. THE CAUSE OF THIS EVENT IS THE FIRE WATCH PERSON FAILED TO FOLLOW PROCEDURES. THE CORRECTIVE ACTION WAS TO RELOCATE THE SIGN-OFF LOG OUTSIDE THE PRESSURIZER HEATER TRANSFORMER ROOM ON ELEVATION 759 AND APPROPRIATELY DISCIPLINE THE FIRE WATCH EMPLOYEE.
Sequoyah 2	02/11/1991	05/02/1991	Failure to comply with Technical Specification Action Statement and establish the appropriate compensatory measures. Abstract: POWER LEVEL - 100%. ON 2/19/91, WITH UNIT 2 IN MODE 1, IT WAS DETERMINED THAT ON 2/11/91, UNIT 2 HAD OPERATED IN A CONDITION PROHIBITED BY TECH SPEC 3.3.3.8 LIMITING CONDITION FOR OPERATION (LCO) ACTION STATEMENT (A). ACTION STATEMENT (A) REQUIRES A FIRE WATCH TO BE ESTABLISHED WITHIN AN HOUR UPON ENTERING THE LCO. ON 2/11/91, FIRE PROTECTION PANEL O-L-630 WAS REMOVED FROM SERVICE FOR MAINTENANCE, AND OPERATIONS ENTERED LCO 3.3.3.8. BECAUSE OF THE EXPECTED SHORT DURATION, NO FIRE WATCH WAS ESTABLISHED. OPERATIONS ORDERED THE WORK STOPPED AND RETURN OF THE PANEL TO NORMAL WHEN ALL FOUR FIRE PUMPS STARTED UNEXPECTEDLY. OPERATIONS PREMATURELY EXITED THE LCO WHEN INFORMED THAT THE PANEL HAD BEEN RETURNED TO NORMAL. COMMUNICATIONS BETWEEN OPERATIONS PERSONNEL AND MAINTENANCE PERSONNEL WAS INADEQUATE CAUSING OPERATIONS TO CONSIDER THE PANEL TO BE OPERABLE. TROUBLESHOOTING LATER REVEALED THE PANEL WAS INOPERABLE AND OPERATIONS WAS NOTIFIED. LCO 3.3.3.8 WAS RE-ENTERED. UNIT 2 OPERATED APPROXIMATELY SIX HOURS WITHOUT ESTABLISHING A FIRE WATCH. MULTIPLE CAUSES AND CONTRIBUTING FACTORS HAVE BEEN IDENTIFIED, INCLUDING AN INADEQUATE PROCEDURE, POOR COMMUNICATION, INADEQUATE TRAINING, AND FAILURE TO FOLLOW PROCEDURES. CORRECTIVE
Sequoyah 2	06/09/1992	07/09/1992	Failure to Perform a Surveillance Instruction Within the Required Time Frame Abstract: POWER LEVEL - 100%. On June 9, 1992, at approximately 1750 Eastern daylight time, with Unit 2 in power operation at approximately 100 percent, the operator at the controls (OAC) determined that a surveillance instruction (SI) for verification of boron concentration in the cold leg accumulator had not been performed within the timeframe required by technical specifications. The missed SI was identified during routine performance of the control room shift log surveillance instruction when the OAC observed that a cold leg accumulator level increase had occurred during a previous shift, and boron concentration had not been verified. The SI was not performed within time limits because of inadequate communications and follow-up. Upon discovery of the missed SI, Operations immediately entered Limiting Condition for Operation (LCO) 3.5.1.1.a and notified the Radiochemistry Laboratory to verify boron concentration in the accumulator. The cold leg accumulator was sampled, boron concentration was found well within technical specification requirements, and the LCO was exited.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Sequoyah 2, Sequoyah 1	01/10/1987	02/10/1987	Breach Permit Not Initiated When Damaged Kaowool Was Discovered Resulting In A Failure To Comply With Technical Specification Action Requirements Abstract: POWER LEVEL - 000%. ON 1-10-87, WITH UNITS 1 AND 2 IN MODE 5 (0% POWER, 0 PSIG, 110 F AND 0%, 300 PSIG, 128 F, RESPECTIVELY), IT WAS DISCOVERED THAT A FIRE BREACH PERMIT WAS NOT WRITTEN WHEN DAMAGED KAOWOOL (FIRE PROTECTION MATERIAL) WAS FOUND. THUS, LCO 3.7.12 WAS NOT ENTERED NOR WERE THE ACTION STATEMENTS OF THAT TECH SPEC. THE MAINTENANCE EMPLOYEE WHO DISCOVERED THE DAMAGED KAOWOOL AND WROTE A WORK REQUEST TO CORRECT THE PROBLEM WAS NOT AWARE THAT A PHYSICAL INSTRUCTION 13, 'FIRE,' FIRE BREACH PERMIT WAS REQUIRED WHEN KAOWOOL IS DEBASED. THIS PERSONNEL ERROR LED TO A DEGRADED FIRE BARRIER WITHOUT OPERATIONS' KNOWLEGE. THE KAOWOOL WAS REPAIRED, BUT NOT UNTIL A MONTH AND A HALF AFTER THE WORK REQUEST WAS INITIATED. MAINTENANCE WILL PROVIDE ADDITIONAL TRAINING ON THE REQUIREMENTS OF THE FIRE BREACH PERMIT AND WHEN IT SHOULD BE INITIATED. THIS REPORT FULFILLS THE REQUIREMENTS OF BOTH 10 CFR 50.73, PARAGRAPH A.2.I AND THE SPECIAL REPORT REQUIRED BY THE ACTION STATEMENT OF LCO 3.7.12.
Shoreham	01/04/1985	02/04/1985	Suspended Fire Watch Tour Abstract: POWER LEVEL - 000%. THIS REPORT IS PURSUANT TO SPECIAL REPORT REQUIREMENT OF TECH SPEC 6.9.2. ON 12-22-84 AND 7 OTHER DAYS FOLLOWING THIS DATE, HOURLY FIRE WATCH PATROLS WERE SUSPENDED FOR TIME PERIODS LONGER THAN WHAT WAS AGREED TO IN SNRC 1122. THESE SUSPENDED FIRE PATROLS WERE DUE TO AN INCONSISTENCY, WHICH WAS NOT RECOGNIZED, BETWEEN THE APPROVED STARTUP PROCEDURE FOR FUEL LOADING AND THE FIRE WATCH COMMITMENT SET FORTH IN SNRC 1122. WHEN THE DISCREPANCY WAS DISCOVERED THE STARTUP PROCEDURE WAS CHANGED.
Shoreham	01/08/1985	02/07/1985	Missed Continuous Fire Watches Abstract: POWER LEVEL - 000%. 12-8-84 LILCO'S SHOREHAM NUCLEAR POWER STATION (SNPS) WAS ISSUED A LOW POWER LICENSE. AT THIS TIME THE AUTOMATIC FEATURE OF THE CO-2 FIRE SUPPRESSION SYSTEM HAD BEEN MADE INOPERABLE BECAUSE OF PERSONNEL SAFETY CONSIDERATIONS, REQUIRING HOURLY FIRE WATCH PATROLS IN AREAS PROTECTED BY THE CO-2 SYSTEMS. THE CO-2 SYSTEM WAS OPERABLE TO THE EXTENT THAT IT COULD HAVE BEEN MANUALLY INITIATED AT ALL TIMES. WHEN FUEL LOADING OPERATION BEGAN ON 12-21-84 CERTAIN AREAS REQUIRED CONTINUOUS FIRE WATCHES WHERE THE POSSIBILITY EXISTED THAT REDUNDANT EQUIPMENT REQUIRED TO BE OPERABLE COULD BE AFFECTED BY A FIRE. THESE WATCHES WERE NOT INSTATED UNTIL 1-8-85 WHEN THE PROBLEM WAS DISCOVERED. ON 1-30-85 THE ENGINEERING EVALUATION OF THE CONDITIONS RESULTED IN THE DETERMINATION THAT THERE WAS NO REDUNDANT EQUIPMENT IN THE 103 SWITCHGEAR ROOM, OR IN THE ELECTRIC MANHOLE NUMBER ONE. BASED ON THIS EVALUATION THE CONTINUOUS FIRE WATCHES IN THESE 2 AREAS WERE NEVER REQUIRED. THE CONTINUOUS FIRE WATCH IN THE RELAY ROOM WILL REMAIN UNTIL SUCH TIME AS THE CO-2 FIRE SUPPRESSION SYSTEM IS MADE OPERABLE.
Shoreham	03/05/1986	04/02/1986	Continuous Fire Watch in Relay Room Not Met Due to Fire Watch Person Being Asleep Abstract: POWER LEVEL - 000%. ON MARCH 5, 1986 AT 0244, A CONTINUOUS FIRE WATCH IN THE RELAY ROOM REQUIRED BY TECH SPEC SECTION 3.7.7.3 WAS NOT MET WHEN THE FIRE WATCH PATROL ASSIGNED TO THE AREA WAS FOUND ASLEEP. THE PLANT WAS IN OPERATIONAL CONDITION 5 WITH THE MODE SWITCH IN REFUEL AND ALL RODS INSERTED IN THE CORE. THE FIRE WATCH WAS REQUIRED DUE TO THE INOPERABILITY OF THE AUTOMATIC C02 SUPPRESSION SYSTEM. A SECURITY GUARD HAD ENTERED THE RELAY ROOM (CONTROL BLDG. ELEV. 44') AT 0244 AND NOTICED THAT THE FIRE WATCH WAS ASLEEP. HE IMMEDIATELY NOTIFIED THE WATCH ENGINEER, WHO THEN NOTIFIED A TECHNICIAN IN THE FIRE PROTECTION GROUP. BOTH INDIVIDUALS MET THE SECURITY OFFICER IN THE RELAY ROOM AND VERIFIED THAT THE FIRE WATCH WAS ASLEEP. THE INDIVIDUAL WAS IMMEDIATELY AWAKENED AND RELIEVED OF HIS POST. UPON FURTHER INVESTIGATION OF THE INCIDENT, HE WAS SUBSEQUENTLY TERMINATED. PLANT MANAGEMENT WAS NOTIFIED OF THE EVENT AND THE NRC WAS NOTIFIED AT 1350 PER 10CFR50.72. ALTHOUGH IT IS NOT KNOWN EXACTLY HOW LONG THE FIRE WATCH HAD BEEN ASLEEP, A FIRE WATCH PATROL ENTERED THE RELAY ROOM EIGHTEEN (18) MINUTES PRIOR TO THE EVENT AND IDENTIFIED NO PROBLEMS AT THIS TIME. FIRE DETECTORS IN THE AREA WOULD HAVE DETECTED A FIRE AND AN ALARM WOULD HAVE ANNUNCIATED
Shoreham	03/10/1986	04/04/1986	Continuous Fire Watch Required By Tech. Spec. 3.7.8 was missed due to Fire Watch being stuck in Elevator Abstract: POWER LEVEL - 000%. ON MARCH 10, 1986 AT APPROXIMATELY 0330, A CONTINUOUS FIRE WATCH PATROL IN THE REACTOR SECONDARY BUILDING, REQUIRED BY TECH SPEC 3.7.8 WAS NOT MET DUE TO THE FIRE WATCH PATROL BEING STUCK IN AN ELEVATOR FOR APPROXIMATELY TWENTY- FIVE MINUTES. THE PLANT WAS IN OPERATIONAL CONDITION 5 (REFUEL) WITH THE MODE SWITCH IN SHUTDOWN AND ALL RODS INSERTED IN THE CORE. THE CONTINUOUS FIRE WATCH WAS REQUIRED DUE TO INOPERABLE FIRE RATED ASSEMBLIES (FIRE STOPS AND SEALS, AND FIRE DAMPERS). THE CONTINUOUS FIRE WATCH PATROL HAD ENTERED THE ELEVATOR AT ELEVATION 112' AND WAS ON HIS WAY UP TO ELEVATION 150' TO CONTINUE HIS TOUR. HOWEVER, THE ELEVATOR BECAME STUCK IN BETWEEN THE TWO ELEVATIONS. THE WATCH ENGINEER WAS IMMEDIATELY NOTIFIED OF THE PROBLEM AND AT 0355, THE INDIVIDUALS IN THE ELEVATOR WERE REMOVED AND THE CONTINUOUS FIRE WATCH WAS RESUMED. THE ELEVATOR WAS SUBSEQUENTLY REPAIRED LATER THAT DAY. PLANT MANAGEMENT WAS NOTIFIED OF THE EVENT AND THE NRC WAS NOTIFIED AT 0704 PER 10CFR50.72. THIS IS AN ISOLATED CASE AND NO FURTHER CORRECTIVE ACTION IS WARRANTED. LERS 86-002 AND 86-013 DISCUSS SIMILAR EVENTS CONCERNING MISSED FIRE WATCHES.
Shoreham	09/08/1986	10/03/1986	Missed continuous fire watch in Relay Room required by Tech Spec. 3.7.7.3 due to CO2 injection in the normal Switchgear Room Abstract: POWER LEVEL - 000%. ON 9-8-86 AT 1021, AN INADVERTENT CO2 INJECTION INTO THE NORMAL SWITCHGEAR ROOM (TURBINE BLDG. ELEV. 20'-8') CAUSED AN EVACUATION OF THE CONTROL BUILDING, RESULTING IN A MISSED CONTINUOUS FIRE WATCH IN THE RELAY ROOM (CONTROL BLDG. ELEV. 44') AS REQUIRED BY TECH SPEC 3.7.7.3. THE PLANT WAS IN OPERATIONAL CONDITION 4 (COLD SHUTDOWN) AT THE TIME, WITH THE MODE SWITCH IN SHUTDOWN AND ALL RODS INSERTED IN THE CORE. INSTRUCTIONS WERE GIVEN ON THE STATION EQUIPMENT CLEARANCE PERMIT (SECP) TO CROSS-TIE 1 MCC TO ANOTHER PRIOR TO PERFORMING MAINTENANCE ON A BREAKER, BUT THIS WAS NOT REFLECTED ON THE TAGGING ORDER. OPENING THE BREAKER RESULTED IN A LOSS OF POWER TO THE CO2 MASTER CONTROL VALVE. THE MASTER CONTROL VALVE OPENED ADMITTTING CO2 TO THE SELECTOR CONTROL VALVE FOR THE NORMAL SWITCHGEAR ROOM. THE SELECTOR CONTROL VALVE WAS OPEN SLIGHTLY DUE TO 2 SCREWS BEING WEDGED IN THE SEAT CAUSING A FLOW OF CO2 THROUGH THE VALVE AND INTO THE NORMAL SWITCHGEAR ROOM. AT 1042, A CONTROL BUILDING (INCLUDING THE RELAY ROOM) AND NORMAL SWITCHGEAR ROOM EVACUATION WAS INITIATED AS A PRECAUTIONARY MEASURE TO PRECLUDE ANY INJURY TO PERSONNEL IN THE AREA. THE BREAKER WAS CLOSED AND AT 1120 THE EVACUATION WAS CANCELLED
Shoreham	04/10/1987	04/24/1987	Continuous relay room fire watch not met due to fire watch person being asleep Abstract: POWER LEVEL - 000%. ON APRIL 10, 1987 AT 0630, A CONTINUOUS RELAY ROOM FIRE WATCH REQUIRED BY TECH SPEC SECTION 3.7.7.3 WAS NOT MET WHEN THE FIRE WATCH (PERSON) ASSIGNED TO THE AREA WAS FOUND ASLEEP. THE PLANT WAS IN OPERATIONAL CONDITION 5 (REFUEL) WITH THE MODE SWITCH IN REFUEL AND ALL RODS INSERTED IN THE CORE. THE CONTINUOUS FIRE WATCH WAS REQUIRED DUE TO THE INOPERABILITY OF THE AUTOMATIC CAPABILITY OF THE CO(SUB 2) SYSTEM IN THE ROOM (THE SYSTEM CAN BE MANUALLY INITIATED LOCALLY, IF REQUIRED). AT 0630, A SHIFT SECURITY AGENT, WHILE ON TOUR INSPECTING THE RELAY ROOM (ELEV. 44') VITAL AREA PORTALS OBSERVED THE FIRE WATCH (PERSON) ASLEEP IN HIS CHAIR. THE SECURITY AGENT REPORTED TO THE CONTROL ROOM (ELEV. 63') AND NOTIFIED THE WATCH ENGINEER OF THE SITUATION. HE THEN RETURNED TO THE RELAY ROOM, WHERE HE FOUND THE FIRE WATCH (PERSON) AWAKE. AT 0700, THE FIRE WATCH (PERSON), A CONTRACTED MAINTENANCE PERSON, SWITCHED FROM THE STATIONARY WATCH TO A FIRE WATCH PATROL AS SCHEDULED. ALTHOUGH IT IS NOT KNOWN EXACTLY HOW LONG THE FIRE WATCH (PERSON) HAD BEEN ASLEEP, A FIRE WATCH PATROL (PERSON) ENTERED THE ROOM TWENTY THREE (23) MINUTES PRIOR TO THE EVENT AND IDENTIFIED NO PROBLEMS AT THAT TIME. UPON NOTIFICATION OF THE EVENT, THE FIRE WATCH'S (PERSON) SUPERVISOR

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Shoreham	07/15/1987	05/16/1990	HVAC Penetration Design Deficiencies Identified After Detailed Review of INPO 83-69 Resulting in License violation Abstract: POWER LEVEL - 000%. ON 7/15/87 AT 1330, IT WAS BROUGHT TO THE ATTENTION OF PLANT MANAGEMENT BY THE NUCLEAR ENGINEERING DEPARTMENT THE EXISTENCE OF DESIGN DEFICIENCIES IN THE PLANT'S HVAC SYSTEMS. THE PLANT WAS IN OPERATIONAL CONDITION 5 (COLD SHUTDOWN) WITH THE MODE SWITCH IN SHUTDOWN AND ALL RODS INSERTED IN THE CORE. THERE ARE SIX INSTANCES WHERE HVAC PENETRATIONS OF FIRE BARRIERS EXIST WITHOUT FIRE DAMPERS. THIS CONDITION VIOLATES THE REQUIREMENTS SET FORTH IN THE FIRE HAZARDS ANALYSIS REPORT (FHAR) AND WAS THEREFORE A VIOLATION OF LICENSE CONDITION 2.C.3.A (FIRE PROTECTION PROGRAM) OF NPF36. THE PENETRATIONS ARE LOCATED THROUGHOUT VARIOUS PARTS OF THE PLANT. WERE INSTITUTED IN THOSE AREAS REQUIRING THEM IN ACCORDANCE WITH TECH SPEC SECTION 3.7.8. THE NRC WAS NOTIFIED AT 0852 ON 7/16/87 PER LICENSE CONDITION 2.F. THE EVENT RESULTED FROM A FINAL DETAILED REVIEW OF INFORMATION NOTICE 83-69, 'IMPROPERLY INSTALLED FIRE DAMPERS AT NUCLEAR POWER PLANTS' BY THE LICENSEE'S ARCHITECT ENGINEERING CONSULTANT GROUP. THIS REVIEW OUTLINED THE DEFICIENCIES IN THE FIRE DAMPERS. THIS SUPPLEMENTAL REPORT IS BEING SUBMITTED TO INFORM THE COMMISSION OF THE STATUS OF CORRECTIVE ACTIONS TAKEN.
Shoreham	07/25/1987	08/21/1987	Hourly Fire Watch Patrols Required by the Fire Protection Program Were Not Met Due to Personnel Injury Abstract: POWER LEVEL - 000%. ON JULY 25, 1987 AT 0227, THREE FIRE WATCH PATROLS WERE MISSED DUE TO THE FIRE WATCH PATROL PERSON BEING INJURED. THE PLANT WAS IN OPERATIONAL CONDITION 4 (COLD SHUTDOWN) WITH THE MODE SWITCH IN SHUTDOWN AND ALL RODS INSERTED IN THE CORE. AN HOURLY FIRE WATCH PATROL WAS REQUIRED IN THE FOLLOWING AREAS: THE TURBINE BUILDING CLEAN AND DIRTY OIL ROOM ELEV. 15' DUE TO AN INOPERABLE FIRE DAMPER, THE MAIN LUBE OIL ROOM IN THE TURBINE BLDG. ELEV. 44' DUE TO AN INOPERABLE FIRE DAMPER AND THE MAIN STEAM STOP VALVES, ELEV. 37' DUE TO AN INOPERABLE SPRINKLER SYSTEM. THESE PATROLS WERE REQUIRED BY THE FIRE PROTECTION PROGRAM. WHEN THE INDIVIDUAL RESPONSIBLE TO PERFORM THE PATROL INJURED HIS KNEE, HE NOTIFIED HIS FOREMAN WHO SENT A REPLACEMENT TO COVER THE REST OF THE PATROL. HOWEVER, THE REPLACEMENT DID NOT STOP AT THE AREAS PREVIOUSLY IDENTIFIED IN THIS REPORT. THE SUBSEQUENT PATROLS OF THOSE AREAS WERE PERFORMED. AFTER A REVIEW OF THE LOG SHEETS WAS PERFORMED BY FIRE PROTECTION, THE THREE MISSED FIRE WATCHES WERE IDENTIFIED. THE WATCH ENGINEER WAS NOTIFIED AT 0548. PLANT MANAGEMENT WAS NOTIFIED OF THE EVENT AND THE NRC WAS NOTIFIED PER LICENSE CONDITION NPF-36, 2.F. ALL FOREMEN RESPONSIBLE FOR INDIVIDUALS PERFORMING FIRE WATCH PATROLS
Shoreham	10/25/1987	11/20/1987	Hourly Fire Watch Patrol late by 20 minutes due to personnel error Abstract: POWER LEVEL - 000%. ON 10/25/87 AN HOURLY FIRE WATCH PATROL WAS LATE 20 MINUTES DUE TO PERSONNEL ERROR. THE PLANT WAS IN OPERATIONAL CONDITION 4 (COLD SHUTDOWN) WITH THE MODE SWITCH IN SHUTDOWN AND ALL CONTROL RODS INSERTED IN THE CORE. SEVERAL STOPS ALONG A PATROL ROUTE WERE INVOLVED IN THE EVENT. AN HOURLY FIRE WATCH PATROL IS REQUIRED THROUGHOUT SEVERAL AREAS OF THE REACTOR BUILDING, TURBINE BUILDING AND RADWASTE BUILDING DUE TO INOPERABLE FIRE RATED ASSEMBLIES. HOURLY PATROLS THROUGH THE REACTOR BUILDING ARE REQUIRED PURSUANT TO TECH SPEC 3.7.8.A AND THE SNPS FIRE PROTECTION PROGRAM. PATROLS THROUGH THE TURBINE AND RADWASTE BUILDINGS ARE REQUIRED PURSUANT TO THE FIRE PROTECTION PROGRAM AND ARE NOT TECH SPEC RELATED. ONE HOUR AND 20 MINUTES HAD ELAPSED BETWEEN 2 CONSECUTIVE PATROLS THEREBY VIOLATING TECH SPECS AND THE FIRE PROTECTION SUPERVISION REVEALED THE DISCREPANCY. FIRE PROTECTION PERSONNEL MADE IMMEDIATE NOTIFICATION TO THE WATCH ENGINEER UPON DISCOVERY. PLANT MANAGEMENT WAS NOTIFIED OF THE EVENT AND THE NRC WAS NOTIFIED IN ACCORDANCE WITH LICENSE CONDITION NPF-36 2.F. THE INDIVIDUAL RESPONSIBLE FOR THE LATE FIRE WATCH PATROL HAS BEEN COUNSELED AND A LETTER HAS BEEN PLACED IN HIS PERSONNEL FILE.
Shoreham	12/28/1993	01/25/1994	Fire in Primary Containment Requiring Containment Evacuation and Off-Site Fire Department Assistance Abstract: POWER LEVEL - 000%. On 12/28/93, at 2245 hours, a fire occurred in the Reactor Building Primary Containment which required an evacuation and assistance from an off-site fire department. The fire occurred when falling slag from oxy-acetylene torch cutting entered a jet pump nozzle access window in the biological shield wall and ignited a portion of a temporary water collection system (paper towel, rope, herculite and griffolyn). This water collection system was installed to collect the potentially contaminated cooling water produced from core boring through the slightly activated bioshield wall. The Fire Brigade was activated at 2247 hours and directed people to evacuate the area. The Wading River Fire Dept. was called at 2304 and arrived at 2311 hours. The fire was declared out at 2320 hours. Eleven people reported to the First Aid Office suffering from smoke inhalation. The NRC was notified of this event at 2345 hours per 10CFR50.72 (b) (1) (vi). This event is also reportable per 10CFR50.73 (a) (2) (x). Corrective actions included suspension of work within the bioshield wall until resolution of concerns regarding egress, ventilation, emergency lighting/ communications, and personnel accountability. Also, all fire permits were temporarily withdrawn and reassessed. Finally,
South Texas 1	02/23/1993	03/26/1993	Unplanned Actuation of an ESF Damper due to the Presence of Halon Abstract: POWER LEVEL - 000%. On February 24,, 1993, Unit 1 was in Mode 5 at 0% power. At 0000 hours, a halon actuation occurred in the plant computer room, associated distribution room and associated battery room. Subsequently, an Engineered Safety Features (ESF) automatic isolation of the plant computer room damper (HE-FV-9603) occurred due to the presence of a halon actuation signal. Operators then manually closed the main supply damper to the computer and relay room (HE-9699). Automatic closure of the dampers associated with the distribution and battery rooms also occurred to isolate these rooms due to the presence of the halon actuation signal. The cause of this event was that the effects of an electrical load test on the Fire Protection System were not considered prior to the performance of the test. A contributing cause was less than adequate guidance on the use of load cells. Corrective actions include revising the Fire Hazards Evaluations procedure to include examples of activities which require performance of a Fire Hazard Evaluation, and performing an evaluation to determine if additional measures can be taken to prevent future inadvertent actuations of the fire protection system. Additionally, the Planners Guide will be revised to add precautions for the use of load cells. LER\93071002.U1
South Texas 1, South Texas 2	10/31/2013	12/23/2013	Unanalyzed Condition - Direct Current Ammeter Circuits without Overcurrent Protection Abstract: On October 31, 2013, at approximately 1834 Central Daylight Time during review of industry operating experience, South Texas Project (STP) determined an unanalyzed condition exists related to the Control Room (CR) fire analysis. The original design of ammeter circuits which provide CR current indication for the non-Class 48 VDC battery and battery charger circuits and for the non-Class turbine lube oil emergency pump control circuit does not include overcurrent protection features to limit fault current. In the postulated event, a fire in the CR could cause a ground loop through unprotected ammeter wiring or control circuit wiring and potentially result in excessive current flow and heating to the point of causing a secondary fire outside the CR in the cable raceways. The postulated secondary fire could affect the availability of equipment needed to place the plant in a safe shutdown condition during a CR fire event. This scenario has not been analyzed in accordance with 10 CFR 50 Appendix R. Compensatory fire watch measures have been implemented and remain in place for the affected fire zones in the plant. The cause was determined to be that the original design of the affected CR circuits did not adequately address fire protection program requirements. A design change is planned to correct the latent
St. Lucie 1	01/16/1981	02/13/1981	Noted 4 Missing Fire Barriers in the Reactor Auxiliary Building Abstract: The NRC resident inspector noted 4 missing fire barriers in the Reactor Auxiliary Building. A fire watch was posted. All fire barriers were inspected and 10 more deficient barriers were found. Second occurrence of this type, see LER 335-79-33. The cause was insufficient control of fire barrier work by backfit personnel. Action taken included immediate posting of a fire watch patrol, inspection of all barriers, and repair of deficient barriers. In addition, stricter controls of fire barrier work have been implemented.
St. Lucie 1	05/16/1991	06/14/1991	Late Technical Specification Required Fire Watch Patrol due to Personnel Error Abstract: POWER LEVEL - 100%. ON 5/16/91, WHILE OPERATING AT 100% POWER, UNIT 1 EXPERIENCED A LATE FIRE WATCH PATROL OF THE SHIELD BUILDING ANNULUS AREA. DUE TO MODIFICATIONS BEING PERFORMED TO THE UNIT 1 FIRE DETECTION SYSTEM, THE 'B' SIDE FIRE DETECTION SYSTEM WAS OUT OF SERVICE, FOR WHICH TECH SPEC 3.3.3.7 REQUIRES AN 8 HOUR FIRE WATCH INSPECTION OF THE SHIELD BUILDING ANNULUS. A CONCURRENT 10 HOUR SURVEILLANCE RUN OF A SHIELD BUILDING EXHAUST FAN CREATED A DIFFERENTIAL PRESSURE ACROSS THE ANNULUS DOOR THAT MADE IT IMPOSSIBLE TO OPEN AND GAIN ACCESS TO PERFORM THE INSPECTION. UPON NOTIFICATION OF THIS CONDITION, THE CONTROL ROOM SENIOR REACTOR OPERATOR ASSUMED THAT THE FIRE WATCH WAS REQUIRED SHIFTLY RATHER THAN EVERY 8 HOURS, AND CONTINUED THE EXHAUST FAN SURVEILLANCE. WHEN THE SITE FIRE PROTECTION DEPARTMENT LATER NOTIFIED THE CONTROL ROOM THAT THE FIRE WATCH WAS LATE, OPERATORS SECURED THE 6B SHIELD BUILDING EXHAUST FAN TO ALLOW THE FIRE WATCH TO BE PERFORMED. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR. THE SURVEILLANCE RUN OF THE SHIELD BUILDING EXHAUST FAN INTERFERED WITH THE SCHEDULED FIRE WATCH, RESULTING IN THE FIRE WATCH TIME INTERVAL BEING EXCEEDED. CORRECTIVE ACTIONS FOR THIS EVENT WERE TO SECURE THE SHIELD BUILDING EXHAUST FAN TO ALLOW ACCESS TO THE ANNULUS, PERFORM THE

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

St. Lucie 1	08/10/1995	08/22/1995	Loss of Reactor Coolant Inventory Through a Shutdown Cooling Relief Valve due to Lack of Design Margin Abstract: At 0018 on August 10, 1995, Unit 1 was in Mode 4 in the process of cooling down and depressurizing the Reactor Coolant System (RCS) to investigate the failure of the Power Operated Relief Valves (PORV). The 1A Low Pressure Safety Injection (LPSI) pump was started to initiate flow for Shutdown Cooling (SDC operation. A thermal relief in the common LPSI discharge piping, lifted during the pump start and did not reseat. SDC operation continued until 0215, August 10, when the lifting relief was discovered and the LPSI pump was stopped. The root cause of the event was the lack of design margin between the relief valve lifting and reseating setpoints and normal SDC system pressure. Corrective actions include: 1) The lift setpoint pressure was increased and the minimum required blowdown was reduced, 2) The LPSI thermal relief valve was replaced, and 3) The available design margin for 114 other Safety Related relief valves on both St Lucie units has been evaluated. 17 of these valves will require additional analysis and actions will be taken to increase the margin between system operating pressure and the lift/reseat setpoints where appropriate.
St. Lucie 1	03/05/1998	04/02/1998	Conditions Identified Outside Appendix R Design Bases Abstract: On March 5, 1998, Unit 1 was in Mode 1 at 100 percent reactor power. While performing an on-going 10 CFR 50 Appendix R fire protection safe shutdown review, Engineering identified two conditions that did not meet Appendix R fire protection design requirements. The issues pertained to 1) the potential for a primary system high pressure/low pressure interface condition as a result of fire induced power operated relief valve cable faults, and 2) required one hour fire barriers not being installed on essential conduits for charging pump 1A in fire zone N. The cause for the identified conditions was determined to be personnel error during the original implementation of 10 CFR 50 Appendix R requirements. Florida Power and Light established enhanced compensatory measures, including 30 minute roving fire watches in the Unit 1 reactor auxiliary building. Additional corrective actions include the issuance of fire breach permits, training, and future modifications to eliminate the identified conditions.
St. Lucie 1	10/17/2007	12/14/2007	Floor Penetration Seals Outside Appendix R Design Basis Abstract: On October 17, 2007, St. Lucie Unit 1 was in Mode 1 at 100 percent reactor power. In August 2007, FPL identified that certain fire penetration seal configurations in the floor of the Unit 1 Cable Spread Room (CSR) may not meet the three-hour fire rating requirements. On October 17, 2007, FPL concluded that the noncomplying seal configurations were reportable under 10 CFR 50.72 and 10 CFR 50.73 requirements. The existing penetration configurations, as installed, represent an unanalyzed condition which significantly degraded plant safety. The apparent cause was determined to be a legacy issue stemming from inadequate original construction and installation of the fire seals. At the time of discovery condition reports were initiated and general fire barrier impairments logged in accordance with the Fire Protection Program. The degraded penetrations continue to be compensated by a roving fire watch in accordance with the Fire Protection Program. Corrective actions planned include installing penetration seal configurations or restoring the barrier under the Vital AC Bus #1 and the 1A Load Test Panel. Further inspections will be conducted on similar electrical penetrations within Unit 1 and Unit 2 to determine if other occurrences of this condition may exist.
St. Lucie 1, St. Lucie 2	01/31/1987	09/15/1988	3 Hour Fire Barrier Walls Found To Contain Voids In The Interior Grouting Due To Construction Practices Resulting In Derating Of Some Fire Walls Abstract: POWER LEVEL - 100%. IN LATE JANUARY, 1987, DURING THE PREPARATION OF FSAR FIRE PROTECTION APPENDICES FOR ST. LUCIE UNITS 1 AND 2 (PSL 1 & 2), FLORIDA POWER AND LIGHT IDENTIFIED THAT SPECIFIC MASONRY BLOCK WALLS WHICH WERE ASSUMED TO BE 3 HOUR FIRE BARRIERS MAY NOT HAVE BEEN COMPLETELY FILLED WITH GROUT. UNGROUTED (INTERIOR) BLOCK WALLS HAVE A 1.75 HOUR FIRE RATING VERSUS A 3 HOUR RATING FOR A FILLED WALL. A 1.75 HOUR FIRE RATING WAS DETERMINED TO PROVIDE SUFFICIENT CAPABILITY TO CONTAIN A FIRE ASSOCIATED WITH THE IDENTIFIED WALLS UNTIL THE FIRE IS EXTINGUISHED. THE ROOT CAUSE WAS CONSTRUCTION PRACTICES AND CORRECTIVE ACTIONS WERE TO MAINTAIN A FIRE WATCH AND TO GROUT FILL WALLS AND JUSTIFY THEIR AS FOUND FIELD CONDITION. THE ANOMALY WAS EVALUATED AT THE TIME OF DISCOVERY AND DETERMINED NOT TO BE REPORTABLE UNDER GENERIC LETTER 86.10, 10 CFR 50.72 OR 50.73. INFORMATIONAL PURPOSES.
St. Lucie 1, St. Lucie 2	07/28/1997	08/27/1997	Inoperable Mechanical Fire Penetrations Outside Appendix R Design Bases Abstract: On July 28, 1997, St. Lucie Units 1 and 2 were in Mode 1 at 100 percent power. FPL was investigating work backlogs and determined that the corrective actions associated with NRC Information Notice (IN) 94-28, that dealt with fire protection barrier deficiencies, were still pending. The original IN review required the evaluation of 218 mechanical penetration seals because the installed condition did not correlate to fire barrier qualification testing. However, the original review did not establish if the 218 seals were operable. An operability assessment for the 218 penetration seals was performed and of this population, seven penetration seals in Unit 1 and eight penetration seals in Unit 2 are inoperable. The apparent cause of this event was that the seal manufacturer did not provide formal documentation for installed seals that deviated from qualification test configurations. Additionally, the problem identification and corrective action procedure in place during the original IN review was weak in that the requirements and guidance for performing operability assessments were not well defined. Corrective actions include: 1) the existing hourly roving fire watch includes the 15 inoperable seals, 2) Generic Letter 86-10 mechanical fire penetration evaluations will be performed for the 218 mechanical Emergency Lighting Outside Appendix R Design Bases Abstract: On January 21, 1998, Units 1 and 2 were in Mode 1 at 100 percent reactor power. While utility personnel were performing an extensive plant fire protection compliance analysis, FPL determined that eight-hour battery backed emergency lighting units required for Appendix R alternate shutdown were not provided for selected alternate shutdown manual action areas, and a one hour ENS phone call was made.
St. Lucie 1, St. Lucie 2	01/21/1998	02/19/1998	The apparent cause of this event was cognitive personnel error during the translation of Appendix R Section III.J requirements into the St. Lucie emergency lighting design and procedures. Interim corrective actions include the use of existing emergency diesel generator backed lighting fixtures that were evaluated to provide adequate lighting, and the proceduralized use of battery powered lights staged in selected areas of the site. Long term corrective actions include review and update of the safe shutdown analyses for manual actions and emergency lighting enhancements, and providing the deficient areas identified with emergency lighting that meets the requirements of Appendix R, Section III.J.

St. Lucie 1, St. Lucie 2	12/12/2006	01/27/2011	Internal Conduit Penetration Seals outside Appendix R Design Basis Abstract: On December 12, 2006, St. Lucie Units 1 and 2 were in Mode 1 at 100 percent reactor power. During the normal course of work FPL identified that the penetration seal configuration used for internal conduit penetration seals, although operable, were degraded due to inadequate qualification testing methods. The documented test results do not provide an adequate basis for qualification of the internal conduit penetration seals to perform as a 3-hour fire barrier. Approximately 1050 conduits at St. Lucie Unit 1 and approximately 2500 conduits at St. Lucie Unit 2 may be affected. The apparent cause was determined to be a legacy issue occurring during the time of the Unit 1 Appendix R modifications, and the original construction of Unit 2. The apparent cause was determined to be misinterpretation of fire test reports and guidelines from the NRC. At the time of discovery a condition report was initiated and general fire barrier impairments logged and issued in accordance with the Fire Protection Program. Corrective actions completed or planned include the development and implementation of a fire test that will bound the as-installed internal conduit seal design, a walkdown and documentation of the
St. Lucie 2	09/26/1983	10/26/1983	Fire Zones Sprinkler System Inoperable Abstract: At power, welding repeatedly actuated zone 20 sprinkler solenoid valve f2 and it failed. Valve F2 was manually isolated and a continuous fire watch set. Then F2 was thought to have been reset open and watch removed. 14 hours later F2 was found to be not open and a roving fire watch set. Tech Spec 3.7.11.2 requires continuous fire watch if zone has redundant equipment. 3 hours later continuous fire watch was set. Valve F2 was fixed on 9/30. Separate roving fire watch was set throughout. First event of type. The causes included repeated inadvertent actuation, reset of the actuation valve by a different operator (solenoid reset requires opening manual isolation first), pressure was not promptly verified, and tardy identification of redundant system zone caused wrong fire watch to be set. Actions were to set fire watch, repair solenoid, and instruct personnel.
St. Lucie 2	04/28/1986	05/28/1986	DEVIATION FROM TECHNICAL SPECIFICATION DUE TO PERSONNEL ERROR Abstract: POWER LEVEL - 000%. ON 28 APRIL 1986, ST. LUCIE UNIT 2 WAS SHUT DOWN IN MODE 6 (REFUELING) FOR A SCHEDULED REFUELING OUTAGE. AT APPROXIMATELY 0510 HOURS A CONTRACTOR BARGAINING UNIT PERSONNEL WALKOUT OCCURRED. DURING THE 24 HOURS OF THE WALKOUT A REQUIRED HOURLY FIRE WATCH WAS NOT CONDUCTED. THE FIRE WATCH DISCREPANCY WAS SUBSEQUENTLY DISCOVERED DURING A ROUTINE INSPECTION BY UTILITY QUALITY ASSURANCE PERSONNEL WHEN IT WAS NOTICED THAT THE FIRE WATCH LOG SHEET HAD NOT BEEN SIGNED SINCE THE WALKOUT BEGAN. THIS DEVIATION FROM TECH SPEC 3/4.7.12 WAS REPORTED TO PLANT MANAGEMENT ON 29 APRIL. DURING THE DISTRACTION OF THE WALKOUT THE FIRE WATCH REQUIREMENT WAS OVERLOOKED DUE TO A COGNIZANT PERSONNEL ERROR BY CONTRACTOR PERSONNEL. THE 'REQUEST TO BREACH FIRE BARRIER' PROCEDURE WILL BE REVISED TO PROVIDE MORE EXPLICIT INSTRUCTIONS FOR ESTABLISHING FIRE WATCHES AND CONTINGENCY MEASURES DURING WALKOUTS OR BACK SHIFTS. FORMAL TRAINING WILL ALSO BE CONDUCTED ON THIS PROCEDURE ONCE IT HAS BEEN REVISED.
St. Lucie 2	06/11/1997	07/11/1997	Incorrect Original Cable Tray Fire Stop Assembly Installation Outside Appendix R Design Bases Abstract: On June 11, 1997, St. Lucie Unit 2 was in Mode 1 at 100 percent power. Inspection results indicated that generically, two sided cable tray fire stop assemblies lacked the installation of ceramic fiber between cables within the fire barrier. FPL determined that the as-built configuration of two sided cable tray fire stop assemblies did not meet the tested configuration for a three hour fire rated assembly. All the St. Lucie Unit 2 two sided cable tray fire stop assemblies were declared inoperable. The apparent cause of this event was due to personnel error during the implementation of design drawings or insufficient design guidance during initial installation. Corrective actions include the posting of hourly fire watch patrols that were established to compensate for the inoperable fire stop assemblies. Repairs or plant modifications will be implemented to restore the affected fire stop assemblies to their required three hour fire rating.
St. Lucie 2	02/06/1998	03/05/1998	High/Low Pressure Shutdown Cooling Interface Outside Appendix R Design Bases Abstract: On February 6, 1998, Unit 2 was in Mode 1 at 100 percent reactor power. While performing an on-going 10 CFR 50 Appendix R fire protection safe shutdown review, Engineering identified a portion of the low pressure safety injection system which does not meet Appendix R requirements. The issue involves the potential for a primary system high pressure/low pressure interface condition as a result of multiple fire induced three phase hot short cable faults. The cause for the identified condition has been determined to be personnel error during the preparation and issuance of a plant modification that was not properly evaluated against the design basis requirements established during original plant design for primary system high/low pressure interfaces. A postulated fire could result in a fire induced high pressure/low pressure interface between the reactor coolant and shutdown cooling systems due to the spurious opening of multiple valves via the unlikely multiple hot short cable fault failure mode. Florida Power and Light established a 30 minute roving fire watch in the Unit 2 reactor auxiliary building which includes the subject fire areas as a compensatory measure. Additional corrective actions include fire breach permits, training, and a future modification to eliminate the potential high/low pressure interface condition.
St. Lucie 2	09/18/1998	10/14/1998	Fire Protection SSA Re-Verification Identified Potential PORV and 2A EDG Cable Failure Modes Abstract: On September 18, 1998, St. Lucie Unit 2 was in Mode 1 at 100 percent power. During the current re-verification effort for the St. Lucie Unit 2 fire protection Safe Shutdown Analysis, Florida Power and Light identified discrepancies between Fire Protection design requirements and field conditions. These discrepancies concern cable failure modes that could affect the operation of the pressurizer power operated relief valves, V1474 and V1475, and the 2A emergency diesel generator. Postulated fire induced hot shorts of pressurizer power operated relief valve control power cables within the control room reactor turbine generator boards could result in spurious operation of the power operated relief valves. Postulated fire induced damage to the 2A emergency diesel generator hot shutdown control panel circuits could result in damage to the 2A emergency diesel generator. These conditions were caused by inadequate translation and implementation of Fire Protection requirements into the St. Lucie Unit 2 safe shutdown analysis. Interim compensatory measures include remote camera observation, pre-existing 30-minute roving fire watches, and procedure changes. Modifications to the 2A emergency diesel generator hot shutdown control panel circuitry were made to resolve the 2A emergency diesel generator issue, and modifications to resolve the PORV issue are planned.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

St. Lucie 2	03/04/2004	05/03/2004	Control Room Floor Fire Penetrations Not Bounded By Tested Configurations Abstract: On March 4, 2004, St. Lucie Unit 2 was in Mode 1 at 100 percent reactor power. FPL determined that several control room floor fire penetration seals located in the reactor-turbine generator control boards were inoperable because the as-found conditions were not per the tested configurations. A condition report was initiated for these conditions and fire impairments were logged against the affected fire seals in accordance with the St. Lucie Fire Protection Program. The inadequate change documentation for design and field installation verification activities during initial construction of St. Lucie Unit 2 led to this condition. Compensatory fire watches were verified to be in place at the time of discovery in the affected fire areas. FPL will restore the affected fire penetrations during the SL2-15 refueling outage.
Summer 1	05/26/1981	04/22/1988	Two 2 Inch Core Drills Found Unsealed: Root Cause Unknown Abstract: POWER LEVEL - 100%. TWO 2-INCH CORE DRILLS CONTAINING ONE AND A HALF INCH CONDUIT WERE FOUND UNSEALED. A REVIEW OF CONSTRUCTION DOCUMENTATION IDENTIFIED THAT BOTH CORE DRILLS WERE INSTALLED UNDER A FIELD CHANGE REQUEST 'B' THAT WAS INITIATED IN MAY 1981. THE ELECTRICAL CIRCUITS CONTAINED IN THE CONDUITS ARE IDENTIFIED ON THE E-SERIES (ELECTRICAL) DRAWINGS; HOWEVER, THE CORE DRILLS WERE NOT IDENTIFIED ON THE COMPOSITE (FLOOR/WALL LAYOUT) DRAWINGS. IMMEDIATELY UPON DISCOVERY, THE SHIFT SUPERVISOR WAS NOTIFIED, A CONTINUOUS FIRE WATCH ESTABLISHED, AND A PRIORITY 1 MAINTENANCE WORK REQUEST INITIATED FOR REPAIR. THE CONSEQUENCES DUE TO THIS EVENT WERE MINIMAL. THE CORE DRILL PENETRATED FIFTY-ONE INCHES OF CONCRETE AND EACH TWO INCH CORE DRILL HAS A ONE AND A HALF INCH CONDUIT PASSING THROUGH IT WHICH REDUCES THE PENETRATION OPENING TO ONE QUARTER INCH AROUND THE INSIDE CIRCUMFERENCE. THE FIRE LOADING IN EACH AREA, AS PROVIDED IN THE FIRE PROTECTION EVALUATION REPORT, IS SUCH A SMALL VALUE THAT THE REQUIRED FIRE BARRIER BETWEEN THE AREAS WOULD BE LESS THAN THIRTY MINUTES. IN ADDITION, NO SAFE SHUTDOWN EQUIPMENT IS LOCATED IN THE AFFECTED AREAS. TWO ADDITIONAL WALLS HAVE BEEN INSPECTED WITH THE RESIDENT NRC INSPECTOR PRESENT DURING THE INSPECTION OF ONE AND NO DISCREPANCIES IDENTIFIED.
Summer 1	09/16/1982	10/15/1982	Due to Welding Being Performed in the Area, the Smoke Detecotrs were Removed Abstract: The Action Statement of Tech Spec 3.7.9.2(e) was entered as a result of smoke detectors associated with the Preaction Sprinkler System on Control Building 400 foot elevation being removed so that welding could be performed in the area without affecting the sprinkler system. Due to welding being performed in the area, the smoke detectors were removed to avoid tripping the sprinkler system deluge valve. Corrective action was to comply with Tech Spec Action Statement by having a one hour fire watch patrol implemented for areas which do not have redundant equipment. The detectors were subsequently reinstalled and the Sprinkler System verified to be functional.
Summer 1	09/29/1982	10/26/1982	This Event is Attributed to a Personnel/Numerical Error Abstract: Surveillance Test Procedure (STP) 128.017 implements Tech Spec 4.7.10.2.(c) to perform weekly verification that locked closed fire doors are in their correct position. This STP was due September 26, 1982; instead, STP-128.007 was performed. The correct STP (128.017) was performed on September 29, 1982. All doors were found locked closed and the plant had previously established a roving one hour fire watch patrol which would have detected a possible fire. The event is attributed to a personnel/numerical error. The wrong STP (128.007) was conducted. The correct STP (128.017) was subsequently performed. Personnel involved in surveillance testing have been instructed to identify scheduled surveillance tests both by name and number before performing the test.
Summer 1	12/07/1982	12/21/1982	The Shift Firewatch Leader Departed the Site Early Without Notifying the Operations Shift Supervisor Abstract: A Fire Watch Patrol was not executed for Zone FF, Room 236-01, in the Intermediate Building from 1600 hours to 2000 hours. The Fire Watch had been implemented per Tech Spec's Action Statement as area smoke detectors were inoperable. The Shift firewatch leader departed the site early without notifying the operations shift supervisor. Another fire watch person failed to report to work or call in. Subject personnel were dismissed. The licensee generated correspondence to inform all fire watch personnel on correct absentee measures.
Summer 1	12/15/1982	01/13/1983	The Doors were not Included in the Auxiliary Operator Logs Revision Abstract: It was discovered during a review of fire door surveillance procedures that several fire doors had not been verified to be closed as required by Tech Spec surveillance requirements. The plant had previously established a one (1) hour roving fire watch patrol. The doors were not included in the auxiliary operator log revision; therefore, they were not checked. A temporary log was generated by which the doors were checked. The log is being revised to include all of the fire doors in order to ensure that they are checked.
Summer 1	01/12/1983	02/22/1983	The Service Water Pumphouse Failed to Reset Abstract: On January 12, 1983, with the Plant in Mode 1, Fire Detector Zone DDD in the Service Water Pumphouse failed to reset during the performance of an operational test. There were no adverse consequences. An hourly fire watch patrol established within one (1) hour of the occurrence provided assurance that any fire would have been promptly discovered and extinguished. The failure to reset was due to a grounded smoke detector. The detector head had not been properly installed in the base of the assembly after a previously performed sensitivity test. The ground cleared after the head was installed properly, and the system was returned to service on January 19, 1983. Test personnel have been cautioned on the proper installation of smoke detectors.
Summer 1	03/05/1983	03/31/1983	Fire Detector System Control Room Alarm Capability Lost for Zones Abstract: On arch 5, 1983, at 1815 hours, with the Plant in Mode 1, Fire Detector System Control Room alarm capability was lost for Intermediate Building Zones AA, BB, and CC; and for Diesel Generator Building Zones DG (427), DG (436). These detectors are required to be operable perTech Spec 3.3.3.7. There were no adverse consequences because a fire watch patrol was established within one (1) hour as required by Action Statement (A) of Tech Spec 3.3.3.7. Cause was determined to be a blown fuse on an instrument card. The fuse was replaced, and the detectors were returned to operable status on March 5, 1983, at 1945 hours.
Summer 1	03/08/1983	04/07/1983	Conduit Containing Smoke Detector Ciruits Cut During Core Drilling for a Plant Modification Abstract: On March 8, 1983, with the plant in Mode 1, a conduit containing smoke detector circuits was cut during core drilling for a plant modification. A fire watch patrol of the affected zones was established within one (1) hour of the failure determination. The hourly fire watch patrol minimized the possibility of a fire being undetected. A visual inspection of the core drill area failed to see the conduit embedded in the fireproofing material. The conduit and cable were replaced. The fire detection zones were returned to operable status on March 22, 1983. The procedure for core drilling is being revised to require probing of fireproofing material prior to drilling.
Summer 1	03/24/1983	04/22/1983	Two Reactor Building Fire Detection Zones Declared Inoperable Abstract: On March 24, 1983, with the plant in Mode 5, Reactor Building Fire Detection Zones OOO and PPP were declared inoperable when the power supply breaker was opened. Intermittent trouble alarms were being received from the zones; therefore, the electrical service was isolated to allow maintenance personnel to locate and repair the problem. An eight (8) hour fire watch patrol was established. The plant was in an outage at the time of the occurrence, and the fire watch patrol minimized the possibility of a fire being undetected. The cause was a faulty power supply transformer in smoke detector IXA-4964E located in Zone PPP. The transformer was replaced, and the zones returned to operable status at 1700 hours on March 29, 1983, upon completion of a satisfactory operational test. No additional corrective action is deemed necessary.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Summer 1	03/31/1983	08/04/1983	Surveillance of Some Fire Doors not Performed Abstract: During the Steam Generator Modification Outage from March to May 1983, it was discovered that the surveillance of some plant fire doors had not been performed per Tech Specs 4.7.10.2(a) and (b). The event increased the probability that a fire door may not have been in the correct position to serve as a fire barrier. However, the integrated fire and security system remained operable for fire detection. Plant logs, which included the surveillance of these doors, became fragmented when areas of the normal radiation control area were altered for the outage. As a result, watch stations failed to perform the amended surveillances as required. Plant logs have been revised to aid in the transfer of watch responsibilities in the future.
Summer 1	03/31/1983	04/29/1983	Fire Detection Instrumentation Abstract: On March 29, 1983, with the Plant in Mode 5, a trouble alarm was received from Fire Detection Zone NNN in the Control Building (Elev. 482'). Operations personnel investigating the alarm on March 31, 1983, discovered that the zone would not respond to a simulated smoke condition. Typically, trouble alarms are not alarm limiting. The major equipment in the zone was protected during the inoperable period by an independently operating deluge sprinkler system. The potential did exist for a fire to be initially undetected during the two-day period. An hourly fire watch patrol was established within one hour. A short had occurred as a result of a smoke detector head not being fully locked into the base assembly. The detector was properly installed in the base assembly, and the zone returned to operable status on March 31, 1983. Guidelines will be developed to provide direction for the timely identification and resolution of fire detector problems.
Summer 1	04/20/1983	05/20/1983	Horizontal Firebarrier Damaged During Maintainance Activities Abstract: On April 20, 1983, with the plant in Mode 5, the horizontal fire barrier above Service Water Booster Pump 'A' (Intermediate Building 412') was found damaged. There were no adverse consequences due to the above noted event because the horizontal fire barrier, though damaged, continued to serve as a partial barrier. The entire area is protected by Ionization Detectors and a preaction sprinkler system which remained operative. A one (1) hour fire watch patrol was established in accordance with Action Statement (a) of Tech Spec 3.7.10. The fire barrier was apparently damaged during maintenance activities in the immediate area. The damaged barrier was replaced with a new barrier and declared operable at 0901 hours on April 22, 1983.
Summer 1	05/06/1983	06/03/1983	Maronite Board Fire Barrier Broken Abstract: On May 6, 1983, with the plant in Mode 5, an operations employee inadvertently stepped through a Maronite Board fire barrier located above the 'A' Service Water Booster Pump. The Maronite was still functional as a partial fire barrier. The potential for any adverse consequence was minimized as a continuous fire watch was established within one (1) hour in accordance with Tech Spec 3.7.10 action statement (a). The barrier was repaired by May 7, 1983. The subject area has been posted to keep personnel off the barrier. Also, a station memorandum has been issued to further disseminate this information. The licensee is currently evaluating possible preventive measures for long term solution. Any resulting modifications will be implemented upon design approval and material procurement.
Summer 1	05/17/1983	06/15/1983	Water Damage to Two Modules in the Preaction Sprinkler Panel Abstract: At 1610 hours on May 17, 1983, with the Plant in Mode 4, Zone K of the Fire Service System locked in 'Trouble Alarm' status. Upon receipt of the alarm, the associated deluge valve was tripped charging the sprinkler header; and in accordance with Action Statement (a) of Tech Specs 3.3.3.7, a one (1) hour fire watch patrol was established to inspect the affected zone. There were no adverse consequences since the sprinklers would have functioned as designed. The cause of the trouble alarm has been attributed to water damage to two (2) modules located in preaction sprinkler panel XPN-091, which was wet down during maintenance activities on the condensate polisher internals which are located above the affected panel. A request for engineering evaluation has been submitted to better seal panel XPN-091 to prevent recurrence.
Summer 1	05/19/1983	06/02/1983	Intermediate Building Sprinkler Systems Inoperable Abstract: At 0656 hours, with the plant in Mode 3, the Intermediate Building Preaction Sprinkler System deluge valve was tripped open when a steam leak activated a smoke detector. An operator made the system inoperable at 0730 hours when he closed the manual isolation valve. The Shift Supervisor was not aware until 0930 hours that the system was isolated. There were no adverse consequences from this event. A fire watch patrol in the general area and operable smoke detectors would have detected any fires. Cause is attributed to personnel error and lack of system knowledge. The deluge valve was reset, and the sprinkler system returned to operable status by 1030 hours on May 19, 1983. In order to prevent a recurrence of the event, the operator has been counselled, training on system operation has been initiated, and a change to display information on system status is to be performed.
Summer 1	06/07/1983	07/06/1983	Control Building Fire Feedwater Fails to Alarm During Test Abstract: On June 7, 1983, with the Plant in Mode 1, Smoke Detector IXA-4993G failed to respond to a simulated alarm condition. Zone XX (Control Building Elevation 463') was declared inoperable at 1430 hours and an hourly fire watch was established. The room containing the inoperable detectors is normally occupied and there is a high degree of confidence that a fire in the area would have been detected prior to the discovery of the failure. The cause of the inoperable condition was due to a broken base assembly on the smoke detector. The base assembly had an open circuit which prevented an alarm condition. The component was replaced and the zone returned to operable condition on June 10, 1983. No additional action is planned.
Summer 1	06/09/1983	07/06/1983	Several Smoke Detectors in Control Building Inoperable Abstract: On June 9 & 10, 1983, with the plant in Mode 1, Smoke Detectors in Control Building Zone A (Rooms 48-02, 36-04) were inoperable. The alarm was acknowledged, the associated deluge valve was verified tripped and, in accordance with Action Statement (a) of Tech Spec 3.3.3.7, a one (1) hour Fire Watch Patrol was established. The smoke detectors were inoperable due to being put into alarm by welding in the area. A Fire Watch Patrol was initiated and upon completion of the welding activity, the affected detectors and deluge valve were reset and the system declared operable. No further corrective action required.
Summer 1	06/16/1983	07/15/1983	inoperable Fire Barrier in Service Water Pump House Abstract: On June 16, 1983, at 1330 hours, with the plant in Mode 1, Fire Barrier Kaowool Wrap on conduit SWC-87C located in the Service Water Pump House was declared INOPERAABLE. The affected conduit is located adjacent to the access ladder to the pump sump room (25-03). An hourly fire watch was immediately established. The area smoke detectors and sprinkler system were operable and would have functioned as designed. The triple wrap Kaowool Fire Barrier was torn by high traffic on the access ladder. Once identified, the damaged area was expeditiously repaired. The licensee is currently evaluating the situation in regard to providing better protection to the fire barrier. The evaluation is expected to be completed by July 31, 1983.
Summer 1	06/26/1983	07/26/1983	Auxiliary Building Smoke Detector was not reset Abstract: On June 26, 1983, at 0710 hours, Operations personnel discovered that Auxiliary Building Smoke Detector Zone HH was in alarm and had been inoperable since 1307 hours on June 24, 1983. The alarm was initially received/acknowledged on June 24 when a smoke detector was activated by welding in the area. A fire watch was in the area at the time to observe the welding. The zone was not reset upon completion of the welding. There were no adverse consequences resulting from the inoperable smoke detector zone. The cause of the inoperable condition was personnel error. Operations personnel failed to reset the zone after the welding activity. The zone was reset and returned to operable status by 0815 hours on June 26, 1983. Station Administrative Procedure (SAP-200) is being revised to prevent recurrence.
Summer 1	07/01/1983	07/28/1983	Smoke Detector Fails to Reset Abstract: On July 1, 1983, with the Plant in Mode 1, Smoke Detector SMK-CB-3 (Zone W-W) would not reset at the integrated fire and security panel and was declared inoperable. There were no adverse consequences due to this event. An hourly fire watch patrol was established in accordance with action statement (a) of Tech Spec 3.3.3.7, 'Fire Detection Instrumentation.' this event was due to the failure of the teletype printed control board in the cathode ray tube circuitry. The defective component was replaced and the system was declared operable July 5, 1983. No additional corrective action is planned.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Summer 1	07/19/1983	08/11/1983	Two Fire Barriers in Battery Room Conduits Found Removed Abstract: On July 19, 1983, while performing a fire barrier surveillance, the Kaowool Blanket (fire barrier) was found removed from two (2) conduits in the Battery Ventilation Room (IB 23-01). There were no adverse consequences due to this event. The smoke detectors located in the room were verified to be operable, and a one (1) hour roving fire watch patrol was established as required by Action Statement (a) of Tech Specs 3.7.10, 'Fire Rated Assemblies'. The cause of this event has been attributed to previous maintenance activity in the area. Repair of the fire barrier was completed July 21, 1983. The licensee considers this to be an isolated incident and, as such, plans no further corrective action.
Summer 1	08/17/1983	08/31/1983	CR Fire Barrier Missing Abstract: On August 17, 1983, at 1230 hours, with the Plant in Mode 1, the east wall fire barrier in Control Building Room CB-36-02 was declared DEGRADED when an unsealed conduit in a newly installed junction box was found by operations personnel. Work was in progress to downgrade the wall to non-fire rated, but the conduit was installed prior to the downgrade. There were no adverse consequences because the smoke detectors were operable and an hourly fire watch was established. The cause of this occurrence is attributed to personnel error. The occurrence was discussed with the personnel involved. On August 23, 1983, the subject fire barrier was downgraded.
Summer 1	09/14/1983	09/27/1983	Fire Watch not Established Abstract: On September 9, 1983, the fire barrier (Kaowool) surrounding the HVAC ducts in the HVAC Chiller Rooms was removed in order to perform a Quality Control Inspection. On September 14, 1983, it was recognized that an hourly fire watch patrol had not been established as required by Action Statement (a) of Tech Spec 3.7.10, 'Fire Rated Assemblies.' the consequence of this event was the degradation of the three (3) hour fire barrier between the chiller rooms and the chilled water pump room. The cause of this event was due to personnel error. Immediate corrective action taken at 1430 hours, September 14, 1983, was the verification that the area fire detectors were operable and the initiation of an hourly fire watch patrol. This event has been discussed with the supervisory personnel to ensure that upon authorizing work to start, the required fire watch patrol has been established.
Summer 1	10/10/1983	10/27/1983	Smoke Detectors in Two Zones Inoperable Abstract: At 1030 hours, October 10, 1983, smoke detectors in Zone PP, Table 3.3-11 of Tech Spec 3.3.3.7, 'Fire Detection Instrumentation,' was declared inoperable. At 0830, October 11, 1983, RIAC Panel #12 locked into alarm and would not reset. Smoke detectors associated with this panel are located in the intermediate building 412' and 436' elevations. There were no adverse consequences due to this event. The licensee complied with action statement (a) of Tech Spec 3.3.3.7. These events were due to steam leaks in the areas of the detectors. Deluge valves were verified tripped, and a one hour fire watch patrol established. Repairs were made to the leaks, and RIAC panel #12 was declared operable at 1445 hours, October 13. Additional repairs were made, and Zone PP declared operable at 1130 hours, October 21, 1983. The licensee plans no additional corrective action.
Summer 1	11/07/1983	12/05/1983	Service Water Pump House Fire Barriers Found Damaged Abstract: On Nov. 7th and 17th, 1983, damaged fire barriers were identified in the Service Water Pump House. The damaged fire barriers were located at SWPH 25-06 where a toggle bolt tore through the wall leaving a six inch (6') hole, and in room SW 41-01A where a new lighting junction box had been installed. There were no adverse consequences due to this event. The licensee complied with action statement a of Tech Spec 3.7.10, 'fire rated assemblies'. The cause of this event was due to maintenance activity in the area. Immediate action taken was the verification of the operability of smoke detectors in the area and the establishment of an hourly fire watch patrol. The damaged fireproofing was repaired and declared operable on Nov. 10th and 23rd, 1983, respectively. No additional action is planned.
Summer 1	01/11/1984	02/02/1984	Missed Fire Watch Patrol Abstract: POWER LEVEL - 100%. AT 0800, JAN. 11, 1984, IT WAS IDENTIFIED THAT THE HOURLY ROVING FIRE WATCH PATROL FOR THE AUXILIARY BUILDING (WEST PENETRATION), ROOM 63-03, HAD NOT BEEN PERFORMED DURING THE PREVIOUS 8 HRS AS REQUIRED BY TECH SPEC 3.7-10, 'FIRE RATED ASSEMBLIES.' THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR. THE APPLICABLE INFORMATION WAS NOT TRANSFERRED FROM THE PREVIOUS DAILY FIRE WATCH LOG TO THAT OF JAN. 11TH. PROBABLE CONSEQUENCES OF THIS EVENT WERE MINIMAL. THE AREA IS PROTECTED BY SMOKE DETECTORS, AND THE ZONE FIRE LOADING FOR THE AREA IS 8,800 BTU/FT2. THE FOLLOWING ACTION HAS BEEN TAKEN TO PRECLUDE RECURRENCE. THE ROVING FIRE WATCHES ON MIDSHIFT ARE NOW VERIFYING REQUIRED CHECKS, PER THE REMOVAL AND RESTORATION LOG, DAILY WITH THE SHIFT SUPERVISOR AT MIDNIGHT.
Summer 1	04/09/1984	05/09/1984	Damaged Kaowool Fire Barrier Abstract: POWER LEVEL - 000%. ON APRIL 9, 1984, OPERATIONS QUALITY CONTROL IDENTIFIED DEGRADATION OF KAOWOOL FIRE WRAP ON THREE (3) CABLE TRAYS AND FOUR (4) CONDUITS LOCATED IN THE CHASE AREA OF THE CONTROL BUILDING (412' AND 435' ELEVATIONS). THE LICENSEE IMMEDIATELY VERIFIED THE OPERABILITY OF THE FIRE SUPPRESSION SYSTEM IN THE AFFECTED AREAS AND ESTABLISHED A ONE (1) HOUR ROVING FIRE WATCH AS REQUIRED BY THE TECH SPEC 3.7.10. INVESTIGATION OF THIS EVENT BY THE FIRE PROTECTION COORDINATOR ATTRIBUTES THE CAUSE TO AGING AND TO PERSONNEL WALKING ON THE WRAP. THE CONSEQUENCES OF THIS EVENT WERE MINIMAL. FIRE SUPPRESSION IN THE AFFECTED AREAS INCLUDES SMOKE DETECTORS AND PREACTION SPRINKLERS WHICH WERE OPERABLE. REPAIR OF THE DEGRADED WRAP HAS BEEN COMPLETED. STATION ORIENTATION TRAINING NOW INCLUDES CARE AND PROTECTION OF FIRE BARRIER MATERIAL LOCATED THROUGHOUT THE PLANT. THE LICENSEE PLANS NO ADDITIONAL CORRECTIVE ACTION.
Summer 1	08/02/1984	08/31/1984	Fire Barrier Abstract: POWER LEVEL - 098%. ON 8-2-84, IT WAS IDENTIFIED THAT A NORMALLY BOLTED CLOSED FIRE BARRIER ASSEMBLY LOCATED IN THE AUX BLDG 463' ELEVATION WAS CLOSED BUT NOT BOLTED. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO INSTALL THE MISSING BOLTS. IN ADDITION, AN INVESTIGATION WAS INITIATED TO IDENTIFY THE CAUSE OF THIS EVENT. DUE TO PERSONNEL ERRORS, ESTABLISHED PROCEDURES WERE NOT PROPERLY ADHERED TO IN THE REMOVAL OF THIS FIRE BARRIER. DURING THIS EVENT, THE LICENSEE FAILED TO COMPLY WITH ACTION STATEMENT (A) OF TECH SPEC 3.7.10, 'FIRE RATED ASSEMBLIES.'
Summer 1	08/08/1984	09/07/1984	Degraded Fire Barriers Abstract: POWER LEVEL - 100%. ON AUGUST 8, 1984, OPERATIONS QUALITY CONTROL PERSONNEL DISCOVERED MISSING OR DEGRADED KAOWOOL IN BATTERY VENTILATION ROOMS IB-23-01 AND IB-23-02. THE LICENSEE IMMEDIATELY INITIATED ACTION AS REQUIRED BY THE APPLICABLE TECH SPEC ACTION STATEMENT. REPAIRS TO THE KAOWOOL WERE COMPLETED AND THE FIRE RATED ASSEMBLIES WERE DECLARED OPERABLE ON AUGUST 13, 1984. AN INVESTIGATION BY THE LICENSEE FAILED TO IDENTIFY THE CAUSE OF THIS EVENT. AN INTEROFFICE NOTICE HAS BEEN DISTRIBUTED TO ALL RESPONSIBLE MANAGERS REQUIRING THAT THEY EMPHASIZE THE IMPORTANCE OF THE KAOWOOL FIRE BARRIER PROGRAM TO THEIR PERSONNEL.
Summer 1	09/07/1984	10/05/1984	Degraded Fire Barriers Abstract: POWER LEVEL - 081%. ON 9-7-84, AT 1445 HRS, THE 'M' BOARD HORIZONTAL FIRE BARRIER LOCATED ABOVE THE 'A' SERVICE WATER BOOSTER PUMP WAS DECLARED INOPERABLE UPON DISCOVERY OF A HOLE IN THE BARRIER. THE 'M' BOARD FIRE BARRIER IS LOCATED BETWEEN THE 'A' SERVICE WATER BOOSTER PUMP AND OVERHEAD CABLE TRAYS. THE HOLE WAS FOUND BY A ROVING FIRE WATCH DURING A ROUTINE INSPECTION. THE EXACT DATE OF THE EVENT COULD NOT BE DETERMINED. THE AREA SMOKE DETECTORS WERE VERIFIED OPERABLE, HOURLY FIRE WATCHES ESTABLISHED AND A MAINTENANCE WORK REQUEST GENERATED. THE DAMAGED BARRIER WAS REPLACED WITH A NEW BARRIER AND DECLARED OPERABLE ON 9-11-84, AT 1440 HRS. AN EVALUATION IS BEING MADE TO DETERMINE AN APPROPRIATE MODIFICATION WHICH WOULD PREVENT RECURRENCE. UNTIL THIS MODIFICATION IS IMPLEMENTED, A DAILY SURVEILLANCE OF THE FIRE BARRIER WILL BE ESTABLISHED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Summer 1	09/20/1984	10/16/1984	Breached Fire Barrier Abstract: POWER LEVEL - 072%. ON 9-20-84, AT 1430 HRS, WHILE REPAIRING SILICONE FOAM FIRE SEAL BLOCKOUT #ELB-2037, TRACE #687, AN ADJACENT BLOCKOUT (#ELB-2037, TRACE #686) WAS FOUND WITH FOAM REMOVED. BOTH FIRE BARRIERS ARE LOCATED IN CONTROL BLDG RM 36-11 (RELAY ROOM). THERE WAS NO FIRE BARRIER REMOVAL PERMIT ISSUED TO BREACH TRACE #686 AND ATTEMPTS TO LOCATE THE PERSON(S) WHO REMOVED THE BARRIER WERE UNSUCCESSFUL. THE FIRE BARRIER WAS DECLARED INOPERABLE. THE AREA SMOKE DETECTORS WERE VERIFIED OPERABLE, AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED AND A MAINTENANCE WORK REQUEST WAS GENERATED TO REPAIR THE BARRIER. ALL FIRE BARRIERS IN THE AREA WERE INSPECTED FOR DEGRADATION WITH NO ADDITIONAL PROBLEMS DISCOVERED. FIRE BARRIER (TRACE #686) WAS OPERABLE WHEN INSPECTED 6-18-84, DURING NORMAL SURVEILLANCES. THE BREACHED BARRIER WAS REPAIRED, SATISFACTORILY INSPECTED AND DECLARED OPERABLE ON 9-21-84, AT 1515 HRS. CONTINUED EMPHASIS IS BEING STRESSED IN THE STATION ORIENTATION TRAINING CLASSES ON THE IMPORTANCE OF STATION FIRE BARRIERS. ADDITIONALLY, THE MONTHLY SAFETY LECTURES FOR 10-84 HAVE BEEN FORMATTED TO FURTHER INCREASE PERSONNEL AWARENESS IN THIS AREA.
Summer 1	06/18/1985	07/26/1985	Separation of Vital Power Cable Trays Abstract: POWER LEVEL - 100%. SPECIAL REPORT 85-006 (ENCLOSURE 1) DATED 6-18-85, IDENTIFIED THAT AN 'A' DIVISION VITAL POWER SYSTEM TRAY WAS NOT SEPARATED FROM 'B' DIVISION TRAYS CONTAINING CABLES FOR REDUNDANT FUNCTION AS REQUIRED BY 10 CFR 50 APPENDIX R. FOR CORRECTIVE ACTION, A 1-HR ROVING FIRE WATCH WAS ESTABLISHED, AND AN EVALUATION WAS INITIATED TO DETERMINE IF A POTENTIAL SUBSTANTIAL SAFETY HAZARD EXISTED. THE INADEQUATE SEPARATION HAS BEEN EVALUATED AND IS CONSIDERED A SUBSTANTIAL SAFETY HAZARD AND IS, THEREFORE, REPORTABLE UNDER 10 CFR 21. MODIFICATIONS TO MEET APPENDIX R REQUIREMENTS WILL BE COMPLETED BY 3-31-86.
Summer 1	08/20/1985	09/18/1985	Missed Hourly Fire Watch Abstract: POWER LEVEL - 100%. A FOAM/PRESSURE FIRE BARRIER LOCATED AT THE 425' ELEVATION BETWEEN THE CONTROL BUILDING (CB 25-02) AND THE TURBINE BUILDING HAD BEEN DECLARED INOPERABLE (TO FACILITATE THE ROUTING OF AN ELECTRICAL CABLE) AND COMPENSATORY ACTION HAD BEEN TAKEN. DUE TO PERSONNEL ERROR, AN HOURLY FIRE WATCH WAS NOT PERFORMED AS REQUIRED BY TECH SPEC 3.7.10, 'FIRE RATED ASSEMBLIES,' FROM 2400 HOURS ON AUGUST 19, 1985 UNTIL 1800 HOURS ON AUGUST 22, 1985. AT MIDNIGHT ON AUGUST 19 WHEN A NEW FIRE WATCH LOG WAS INITIATED, PATROL AREA CB 25-02 WAS INADVERTENTLY CHANGED TO CB 36-02. UPON DISCOVERY OF THE ERROR, THE LOG WAS CORRECTED, SMOKE DETECTORS IN THE AREA WERE VERIFIED OPERABLE AND THE HOURLY FIRE WATCH PATROL ESTABLISHED. TO PRECLUDE RECURRENCE, THE LICENSEE HAS TAKEN THE FOLLOWING CORRECTIVE ACTION. A NEW FIRE WATCH LOG WILL BE INITIATED AT 1200 HOURS DAILY IN LIEU OF 2400 HOURS AND WILL BE VERIFIED BY THE FIRE PROTECTION COORDINATOR DURING NORMAL OPERATING HOURS AND BY THE SHIFT SUPERVISOR ON HOLIDAYS AND WEEKENDS.
Summer 1	02/28/1986	03/21/1986	Failure to Perform Hourly Fire Watch Patrol While Fire Barrier Removed for Modifications Abstract: POWER LEVEL - 100%. ON FEBRUARY 20, 1986, AT 0815 HOURS, A FIRE BARRIER REMOVAL PERMIT WAS INITIATED TO FACILITATE A CORE DRILL AND CONDUIT SEAL IN THE AUXILIARY BUILDING (AB), ELEVATION 444. COMPENSATORY ACTION WAS TAKEN AS REQUIRED BY TECH SPECS, AN HOURLY FIRE WATCH PATROL ESTABLISHED AND ZONE AB-12-07 ADDED TO THE FIRE WATCH LOG. AT 1200 HOURS, FEBRUARY 20, 1986, A NEW FIRE WATCH LOG WAS INITIATED AND ZONE AB-12-07 WAS INADVERTENTLY OMITTED. THIS DISCREPANCY WAS NOT IDENTIFIED UNTIL 1200 HOURS FEBRUARY 22, 1986 DURING A REVIEW OF THE LOGS BY THE CONTROL ROOM SUPERVISOR AT WHICH TIME THE REQUIRED ONE HOUR FIRE WATCH PATROL WAS REESTABLISHED. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR AND INADEQUATE REVIEW OF THE LOGS BY THE FIRE PROTECTION COORDINATOR. ALL INDIVIDUALS INVOLVED IN THIS EVENT HAVE RECEIVED FORMAL COUNSELLING. IN ADDITION, ON MARCH 5, 1986, THE MANAGEMENT REVIEW BOARD, CHAIRED BY THE VICE-PRESIDENT, NUCLEAR OPERATIONS, CONDUCTED A FORMAL INQUIRY INTO THIS EVENT. THE BOARD ASSIGNED THE FIRE PROTECTION COORDINATOR TO PARTICIPATE IN CORRECTIVE ACTION TO PRECLUDE RECURRENCE.
Summer 1	07/17/1986	08/15/1986	Failure to Perform Hourly Fire Watch Patrol Abstract: POWER LEVEL - 100%. ON 7-17-86, THE FIRE PROTECTION COORDINATOR REQUESTED AN INDEPENDENT VERIFICATION THAT ROVING FIRE WATCH PATROLS WERE BEING PERFORMED WITHIN THE 1 HOUR TIME LIMIT AS REQUIRED BY THE LICENSEE'S TECH SPECS. TO PERFORM THIS VERIFICATION, RECORDS WERE REVIEWED TO DETERMINE WHO HAD ENTERED AND EXITED AUXILIARY BUILDING DOOR 304A LEADING TO INTERMEDIATE BUILDING (IB) ROOM 12-02, WHICH REQUIRED A 1 HOUR ROVING FIRE WATCH FOR EITHER TECH SPEC OR APPENDIX R COMMITMENTS. THIS INITIAL REVIEW INDICATED THAT NOT ALL OF THE REQUIRED INSPECTIONS FOR THIS ROOM HAD BEEN PERFORMED BY 3 CERTAIN INDIVIDUALS IN THE ROVING FIRE WATCH GROUP. SUBSEQUENTLY, A MORE DETAILED INVESTIGATION INTO THE RECORDS WAS INITIATED WHICH IDENTIFIED 3 ADDITIONAL INDIVIDUALS WHO HAD FAILED TO ENTER THE ROOM ON SEVERAL OCCASIONS TO PERFORM THE REQUIRED PATROL. THEREFORE, SEVERAL 1 HOUR REQUIRED SURVEILLANCES FOR IB 12-02 WERE MISSED. THE CAUSE OF THIS EVENT WAS THE FAILURE TO FOLLOW ESTABLISHED PROCEDURES. FIVE OF THE INDIVIDUALS INVOLVED IN THIS EVENT HAVE BEEN TERMINATED FROM EMPLOYMENT WITH SOUTH CAROLINA ELECTRIC AND GAS COMPANY. THE 6TH INDIVIDUAL RECEIVED FORMAL COUNSELING, 3 DAYS SUSPENSION, AND A PAY REDUCTION. IN ADDITION, THE SECURITY ORGANIZATION, DUE TO THEIR PRIOR EXCELLENT PERFORMANCE AND CLOSE
Summer 1	09/08/1986	10/08/1986	LATE FIRE WATCH PATROL Abstract: POWER LEVEL - 100%. ON 9-8 AND 9-25-86, RESPECTIVELY, THE HOURLY FIRE WATCH PATROLS WERE NOT PERFORMED IN VARIOUS AREAS IN THE TIME REQUIRED BY TECH SPECS. THE CONSEQUENCES DUE TO THESE EVENTS WERE MINIMAL. THE ELAPSED TIME BETWEEN PATROLS FOR THE AFFECTED AREAS VARIED FROM 64 TO 79 MINUTES. WHERE INSTALLED, THE FIRE SUPPRESSION SYSTEM REMAINED OPERABLE. ONE FIRE ZONE (AB1.4), WHICH REQUIRED A PATROL DUE TO 2 INOPERABLE SMOKE DETECTORS, HAS A VERY LOW FIRE LOAD (4,7000 BTU/SQ FT) AND THE ADJACENT DETECTORS TO THE INOPERABLE UNITS REMAINED OPERABLE. THE CAUSE OF THESE EVENTS WAS DUE TO PERSONNEL ERROR. ALL PERSONNEL INVOLVED HAVE BEEN COUNSELED. IN ADDITION, THE LICENSEE WILL CONTINUE PERFORMING 48 FIRE WATCH PATROLS PER DAY IN LIEU OF THE 24 REQUIRED BY THE TECH SPECS.
Summer 1	11/01/1986	11/19/1986	FAILURE TO ESTABLISH A CONTINUOUS FIRE WATCH Abstract: POWER LEVEL - 100%. AT 1400 HOURS, 11-1-86, DUE TO A FAULT, SMOKE DETECTORS IN VARIOUS FIRE ZONES WENT INTO ALARM AND WOULD NOT RESET. THE SMOKE DETECTORS WERE DECLARED INOPERABLE, AND AN HOURLY FIRE WATCH PATROL WAS INITIATED FOR THE AFFECTED ZONES. AT 1230, 11-3, IT WAS IDENTIFIED THAT 1 OF THE ZONES HAD AN INOPERABLE FIRE BARRIER AND AS SUCH REQUIRED A CONTINUOUS FIRE WATCH. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO ESTABLISH A CONTINUOUS FIRE WATCH AS REQUIRED BY TECH SPEC 3.3.3.7, FIRE DETECTION INSTRUMENTATION. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR. WHEN THE SMOKE DETECTORS WERE DECLARED INOPERABLE, THE RESPONSIBLE INDIVIDUAL FAILED TO PERFORM AN ADEQUATE REVIEW OF THE STATUS OF FIRE BARRIERS IN THE VARIOUS ZONES. THE CONSEQUENCES OF THIS EVENT WAS MINIMUM DUE TO THE VERY LOW FIRE LOADING (8500 BTU/SQ FT) IN THE AREA AND THE BREACH THROUGH THE FIRE BARRIER WAS LESS THAN A HALF INCH IN DIAMETER. IN ADDITION, THE AREA WAS PATROLLED EVERY 30 MINUTES. THE MANAGER OF OPERATIONS HAS DISCUSSED THIS EVENT AT THE WEEKLY STAFF MEETING, AND A COPY OF THIS REPORT WILL BE PLACED IN THE REQUIRED READING FOR CONTROL ROOM WATCH STANDERS.
Summer 1	02/24/1987	03/18/1987	Failure to Establish Required Firewatch Patrol Abstract: POWER LEVEL - 092%. ON 2/25/87 A REVIEW OF THE ROVING FIRE WATCH PATROL (RFWP) LOG IDENTIFIED THAT A RFWP WAS ESTABLISHED IN 'B' BATTERY CHARGER ROOM (IB-412-04) IN LIEU OF 'C' CHILLER EQUIPMENT ROOM (IB-412-14). THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR IN THE COMMUNICATION OF THE ROOM NUMBER IB-412-14 ON 2/24/87 AT 1300 HOURS BETWEEN THE SENIOR FIRE PROTECTION TECHNICIAN AND SECURITY PERSONNEL. ALTHOUGH AN RFWP WAS NOT ESTABLISHED IN IB-412-14 PER TECH SPECS SECTION 3.7.10, THE FIRE DETECTION INSTRUMENTATION AND 'B' TRAIN CHILLED WATER REMAINED OPERABLE DURING THE 11 HOUR AND 15 MINUTE TIME PERIOD OF THIS EVENT. IMMEDIATE CORRECTIVE ACTIONS WERE TAKEN TO ESTABLISH THE RFWP IN IB-412-14 ON 02/25/87 AT 0015 HOURS. THE LICENSEE HAS INITIATED A PROCEDURE CHANGE TO REQUIRE THE RFWP TO VERIFY THE RFWP LOG AGAINST THE FIRE BARRIER REMOVAL LOG AND/OR THE REMOVAL AND RESTORATION LOG, AND TO REQUIRE FACE-TO-FACE COMMUNICATIONS OF APPROPRIATE PERSONNEL PRIOR TO AN ADDITION OR DELETION OF ROOMS LISTED ON THE RFWP LOG. IN THE INTERIM, A PROGRAM HAS BEEN ESTABLISHED INCORPORATING THE ABOVE ACTIONS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Summer 1	05/26/1987	06/25/1987	Blocked Open Fire Damper Abstract: POWER LEVEL - 000%. ON MAY 26, 1987, FIRE DAMPER XFD-175 WAS DISCOVERED IN THE BLOCKED OPEN POSITION WITH NO ROVING FIRE WATCH ESTABLISHED IN THE AFFECTED AREA AS REQUIRED BY TECHNICAL SPECIFICATIONS SECTION 3.7.10, 'FIRE RATED ASSEMBLIES.' OPERATIONS PERSONNEL IMMEDIATELY PLACED THE FIRE DAMPER ON THE ROVING FIRE WATCH PATROL LOG AND VERIFIED THE OPERABILITY OF THE AREA SMOKE DETECTORS IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS SECTION 3.7.10, 'FIRE RATED ASSEMBLIES.' THE CAUSE OF THE EVENT WAS DUE TO A QUALITY CONTROL (QC) PERSONNEL ERROR COMPOUNDED BY AN OPERABILITY DETERMINATION MADE BASED UPON AN UNVERIFIED SUMMARY STATUS OF 'ACCEPT-AS-IS' IN THE COMPUTER TRACKING SYSTEM. THE SUBJECT FIRE DAMPER HAD BEEN BLOCKED OPEN DURING A NON-CONFORMANCE EVALUATION CONCERNING AN UNQUALIFIED COMPONENT ON THE FIRE DAMPER. THE UNQUALIFIED COMPONENT WAS SUBSEQUENTLY FOUND TO BE ACCEPTABLE. QUALITY CONTROL PERSONNEL FAILED TO NOTIFY THE RESPONSIBLE GROUP TO RETURN THE FIRE DAMPER TO ITS OPERABLE CONDITION AND OPERATIONS PERSONNEL DECLARED THE FIRE DAMPER OPERABLE BASED UPON A SUMMARY STATUS IN THE COMPUTER TRACKING SYSTEM. THERE WERE NO ADVERSE CONSEQUENCES DUE TO THIS EVENT. THE SMOKE DETECTORS REMAINED OPERABLE IN THE AREA DURING THIS EVENT, AND THE LICENSEE CONSIDERS THIS AN ISOLATED OCCURRENCE.
Summer 1	07/29/1987	08/27/1987	Fire Protection Surveillance Noncompliance Abstract: POWER LEVEL - 100%. AT 1910 HOURS, JULY 29, 1987, THE INTEGRATED FIRE AND SECURITY (IF&S) SYSTEM FAILED DUE TO SEVERE ELECTRICAL STORMS. THE SYSTEM WAS RESTORED AT 0200 HOURS, JULY 30 WITH THE EXCEPTION OF ONE PANEL (LOOP REMOTE LR 9) WHICH WAS IN BYPASS. LR9 WAS SUBSEQUENTLY DECLARED OPERABLE AT 1830 HOURS, JULY 30. AT 1230 HOURS, JULY 30, IT WAS IDENTIFIED THAT CONTAINMENT TEMPERATURE HAD NOT BEEN MONITORED BETWEEN THE HOURS OF 1910, JULY 29 TO 0200, JULY 30 AND THAT FIRE AREAS MONITORED BY LR9 HAD NOT BEEN PATROLLED FROM 0200 UNTIL 1230 HOURS, JULY 30. THE CONTROL ROOM SUPERVISOR FAILED TO PROPERLY DOCUMENT THE FAILURE OF THE IF&S SYSTEM AND FAILED TO INITIATE THE MONITORING OF THE CONTAINMENT AIR TEMPERATURE AS A REQUIRED BY TECHNICAL SPECIFICATIONS. WHEN THE SYSTEM WAS RESTORED AT 0200 HOURS, WITH THE EXCEPTION OF LR9, CONTINUATION OF COMPENSATORY ACTION FOR THE AREAS MONITORED BY LR9 WAS NOT VERIFIED DUE TO LACK OF PROCEDURAL GUIDANCE. THE FOLLOWING CORRECTIVE ACTIONS WILL BE TAKEN AS A RESULT OF THIS EVENT: 1. STATION ADMINISTRATIVE PROCEDURE (SAP-131), 'FIRE PROTECTION PROGRAM PLAN,' WILL BE REVISED TO ADDRESS ALL ASPECTS OF THE FIRE PROTECTION PROGRAM. 2. A FIRE PROTECTION LEADER WILL BE ASSIGNED TO EACH SHIFT AND WILL BE THE 'SINGLE POINT CONTACT' FOR ALL FIRE PROTECTION RELATED ACTIVITIES. 3. THE DUTY SHIFT
Summer 1	12/29/1987	01/28/1988	Missed Fire Watch Due to Inadequate Procedure Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 0810 HOURS, 12/29/87, THE INTEGRATED FIRE COMPUTER SYSTEM (IFCS) WAS REMOVED FROM SERVICE. A FIRE WATCH PATROL WAS ESTABLISHED AND THE FIRE WATCH LOG IN THE FIRE SERVICE SYSTEM OPERATING PROCEDURE (SOP-509) WAS UTILIZED TO DOCUMENT THE FIRE WATCH PATROL. AT APPROXIMATELY 2110 HOURS, A DETAILED REVIEW OF THE FIRE WATCH PATROL LOG BY THE FIRE PROTECTION COORDINATOR REVEALED THAT FOUR ROOMS WERE NOT LISTED. IMMEDIATE ACTION WAS TAKEN TO ESTABLISH ROVING PATROLS IN THESE ROOMS AND TO CORRECT THE FIRE WATCH LOG. THE EVENT WAS CAUSED BY AN INADEQUATE FIRE SERVICE SYSTEM OPERATING PROCEDURE, SOP-509. ON JANUARY 6, 1988, A MANAGEMENT REVIEW BOARD MEETING CHAIRED BY THE VICE PRESIDENT, NUCLEAR OPERATIONS, CONVENED TO REVIEW THIS EVENT. THE FOLLOWING CORRECTIVE ACTIONS WERE DETERMINED TO ADDRESS IMMEDIATE CONCERNS: 1. THE SYSTEM OPERATING PROCEDURE FOR FIRE SERVICE (SOP-509) WAS REVIEWED AGAINST THE TECH SPECS IN ORDER TO PROVIDE ASSURANCE THAT THERE WERE NO FURTHER DISCREPANCIES. 2. THE PROVISION OF FIRE PROTECTION SHIFT LEADERS (OFFICERS) AS REFERENCED IN LER 87018 IS ON SCHEDULE TO MEET THE 3/31/88 COMMITMENT DATE. THE ADDITION OF THESE FIRE PROTECTION OFFICERS WILL PROVIDE ADDED ATTENTION TO THE DAILY FIRE PROTECTION ACTIVITIES AND ALLOW SINGLE POINT ACCOUNTABILITY
Summer 1	12/29/1987	01/21/1988	Failure to Establish a Continuous Fire Watch Due to Personnel Error Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 2240 HOURS, DECEMBER 29, 1987, DURING THE REVIEW OF STATION LOGS, THE CONTROL ROOM SUPERVISOR NOTED THAT AN AUXILIARY OPERATOR (AO) HAD MADE A LOG ENTRY NOTING THAT A FIRE DOOR HAD NOT BEEN FULLY SHUT WHEN EXITING THE PENETRATION AREA DUE TO WIRES RUNNING UNDER THE DOOR. BECAUSE THE INTEGRATED FIRE COMPUTER SYSTEM (IFCS) HAD PREVIOUSLY BEEN REMOVED FROM SERVICE, NOT FULLY CLOSING THE FIRE DOOR REQUIRED A CONTINUOUS FIRE WATCH. THE CONTROL ROOM SUPERVISOR INITIATED IMMEDIATE ACTION TO FULLY SHUT THE FIRE DOOR. THE CAUSE OF THIS EVENT WAS DUE TO PERSONNEL ERROR. THE AO WAS AWARE THAT THE IFCS WAS REMOVED FROM SERVICE. HOWEVER, THE AO HAD THE MISCONCEPTION THAT A CONTINUOUS FIRE WATCH AND A CONTINUOUS ROVING FIRE WATCH WERE THE SAME. ON JANUARY 6, 1988, A MANAGEMENT REVIEW BOARD MEETING, CHAIRED BY THE VICE PRESIDENT, NUCLEAR OPERATIONS CONVENED TO REVIEW THIS EVENT. THE FOLLOWING CORRECTIVE ACTION WILL BE TAKEN AS A RESULT OF THIS EVENT: 1. WILL BRIEF EACH SHIFT OF THIS EVENT AND LESSONS LEARNED. 2. A COPY OF THIS REPORT WILL BE PLACED IN OPERATIONS REQUIRED READING. 3. AO TRAINING WILL BE REVIEWED AND UPGRADED IF REQUIRED.
Summer 1	04/26/1988	05/26/1988	Failure to Establish Fire Watch for Relay Room Due to Personnel Error Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 0715 HOURS ON APRIL 26, 1988, THE ONCOMING OPERATIONS' SHIFT SUPERVISOR IDENTIFIED THAT A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT HAD NOT BEEN ESTABLISHED FOR THE RELAY ROOM AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.9.3.A. THE REQUIREMENTS OF THIS ACTION STATEMENT SHOULD HAVE BEEN IMPLEMENTED AT 0635 HOURS FOLLOWING ISOLATION OF THE C02 SYSTEM, WHICH PROVIDES FIRE PROTECTION FOR THE RELAY ROOM EQUIPMENT. THE CAUSE OF THIS EVENT WAS AN INADEQUATE REVIEW OF PAPERWORK DUE TO PERSONNEL ERROR. THE CONSEQUENCES WERE MINIMAL SINCE THE DURATION OF THE NONCOMPLIANCE WAS APPROXIMATELY 50 MINUTES AND AN HOURLY FIRE WATCH PATROL ROUTINELY INSPECTED THE AREA. THE FOLLOWING CORRECTIVE ACTIONS WERE INITIATED AS A RESULT OF THIS EVENT: 1. EFFECTIVE MAY 13, 1988, SCHEDULING PERSONNEL DISCONTINUED ASSIGNING REMOVAL AND RESTORATION NUMBERS TO PAPERWORK. CONTROL ROOM PERSONNEL WILL PERFORM THIS FUNCTION IN THE FUTURE. 2. INVOLVED PERSONNEL ARE TO REVIEW THIS INCIDENT WITH EACH OPERATIONS SHIFT BY JULY 10, 1988. 3. OPERATIONS WILL ESTABLISH AN IMPROVED INTERFACE WITH THE ON-SHIFT FIRE PROTECTION OFFICER FOR THE REVIEW OF FIRE SERVICE RELATED PAPERWORK BY JUNE 15, 1988.
Summer 1	06/07/1988	09/13/1991	Steam Path Yielding Potential for Affecting Unqualified Equipment Abstract: POWER LEVEL - 000%. ON 6/7/88, WITH THE PLANT AT MODE 3, SOUTH CAROLINA ELECTRIC & GAS COMPANY (SCE&G) WAS NOTIFIED BY GILBERT ASSOCIATES, THE ARCHITECT ENGINEER FOR THE VIRGIL C. SUMMER NUCLEAR STATION, OF A DESIGN DEFECT YIELDING THE POTENTIAL FOR A STEAM PROPAGATION PATH WHICH COULD AFFECT SAFE SHUTDOWN EQUIPMENT. BOTH A DIRECT STEAM PATH THROUGH FLOOR PENETRATIONS AND A MORE TORTUOUS PROPAGATIONAL PATH WERE IDENTIFIED. THE TORTUOUS STEAM PATH IS THE RESULT OF A STEAM BREAK RELEASING STEAM WHICH TRAVELS THROUGH SEVERAL FIRE DOORS, UP ONE ELEVATION IN A STAIRWELL, AND THROUGH SEVERAL FLOOR PENETRATIONS LEADING BACK DOWN TO THE ORIGINAL ELEVATION BEFORE ARRIVING AT THE SAFE SHUTDOWN EQUIPMENT. UPON VERIFICATION OF THE POTENTIAL PROBLEM BY SCE&G PERSONNEL, OPERATIONS PERSONNEL INITIATED TAKING THE PLANT FROM MODE 3 TO MODE 4. VARIOUS INTERIOR PLANT DOORS WERE OPENED TO ALLOW FOR THE RELIEF OF PRESSURE BUILD-UPS AND ANOTHER DOOR WAS SEALED TO PREVENT MOISTURE INTRUSION IN THE EVENT OF THE POSTULATED STEAM BREAK. ULTIMATELY SEVERAL DOORS WERE STRUCTURALLY REINFORCED, SEVERAL DOORS HAD SEALING MATERIALS ADDED TO PREVENT STEAM FLOW OR MOISTURE INTRUSION AND EVALUATIONS WERE PERFORMED TO VERIFY THAT THE IN-PLACE FIRE BARRIER PENETRATION SEALS WOULD ALSO SERVE AS
Summer 1	08/30/1988	10/06/1988	Failure to Perform Fire Watch Following Fire System Computer Malfunction Abstract: POWER LEVEL - 100%. AT APPROX. 2034 HOURS ON 8/30/88, LIGHTNING STRUCK THE METEOROLOGICAL TOWER AT THE VIRGIL C. SUMMER NUCLEAR STATION. IT IS BELIEVED THAT THE LIGHTNING INDUCED A LOGIC SHIFT IN ONE OF THE REMOTE SIGNAL PROCESSING UNITS FOR THE INTEGRATED FIRE SYSTEM (IFS) COMPUTER. THE CHANGE IN LOGIC CAUSED THE EQUIPMENT TO GO INTO AN OFF-LINE STATUS AND CONSEQUENTLY WAS INCAPABLE OF PROCESSING ALARMS OR ADVISORIES FROM DETECTORS LOCATED IN EIGHTEEN (18) AREAS OF THE INTERMEDIATE BUILDING. DUE TO INADEQUATE TRAINING AND PROCEDURAL GUIDANCE, THE FIRE PROTECTION OFFICERS (FPO) WHO REVIEWED AN ALARM SUMMARY FROM THE COMPUTER FAILED TO UNDERSTAND THE SIGNIFICANCE OF A COMPUTER GENERATED SYMBOL. THE OFF-LINE STATUS WAS IDENTIFIED AT 0730 HOURS AND COMPENSATORY ACTION AS REQUIRED BY TECH SPECS, HAD BEEN COMPLETED BY 0830 HOURS ON 9/6/88. THE IFS LOGIC ERROR WAS CORRECTED AND SYSTEM OPERATION RESTORED BY 1505 HOURS ON 9/6/88. THE FOLLOWING CORRECTIVE ACTIONS ARE TO BE TAKEN AS A RESULT OF THIS EVENT: THIS EVENT HAS BEEN REVIEWED WITH EACH FPO TO INSURE THAT THEY ARE KNOWLEDGEABLE OF IFS COMPUTER SYMBOLS AND ACTIONS TO BE TAKEN; SECURITY RESPONSE GUIDELINES HAVE BEEN MODIFIED TO REQUIRE THAT THE FPO BE CONTACTED DIRECTLY FOR ALL FUTURE POWER SUPPLY ALARMS; SYSTEM

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Summer 1	01/13/1994	02/11/1994	Outside Design Basis For Appendix R Analysis Abstract: POWER LEVEL - 100%. This report is being submitted pursuant to requirements of 10 CFR50.73 and satisfies the requirements of 10 CFR 21.2(c). On January 13, 1994, at approximately 1550 hours, a condition was identified for the Appendix R analysis where the plant has been determined to be outside the design basis due to analysis for circuits that may be susceptible to 'hot shorts.' A modification was made which installed solenoid operated isolation valves in the chill water supply to the lube oil coolers associated with the charging/safety injection (C/SI) pumps. During the review of a modification to replace the now installed valves, it was identified that thirteen circuits associated with the original installation are routed in fire zones which are 'prohibited' for the associated piece of equipment. Immediate corrective action taken included establishing hourly fire watch patrols in the affected zones, control power leads to the valve associated with the C/SI pump to be maintained in operation were lifted to preclude closure due to a hot short, and notification was made as required by 10CFR50.72(b)(1)(ii)(B). Additional corrective action will be the revision of the Fire Emergency Procedures to include action to 'fail open' the chill water isolation valves for fires in the affected zones. This action will return the plant to within the Appendix R analysis
Summer 1	05/03/2011	07/01/2011	Failure to Maintain One Train of Safe Shutdown Systems in Accordance with Appendix R Section III.G.a/III.G.3 Abstract: On May 3, 2011 at 0514 hours, V.C. Summer Nuclear Station (VCSNS) determined the following: During circuit analysis review for transitioning the Fire Protection Program to NFPA 805, VCSNS identified a violation of the Appendix R requirement to maintain one train of systems free of fire damage, which are necessary to achieve and maintain Hot Shutdown conditions. VCSNS determined that a fire in the Main Control Room (MCR), the Cable Spreading Room (CSR), or the Control Building (CB) 412 North Chase could result in a hot short that could actuate a relay and trip and lock out all incoming breakers to the B-train essential electrical bus (XSW1DB). A root cause analysis was conducted and determined the cause was human error in the Appendix R analysis performed for VCSNS by a vendor. Immediate corrective actions consisted of establishing roving fire watches in the affected areas and revising the FireEmergency Procedures (FEPs) to ensure the ability to achieve/maintain Hot Shutdown conditions. This report also provides a 10 CFR Part 21 written notification.
Summer 1	05/03/2011	07/01/2011	Failure to Maintain One Train of Safe Shutdown Systems in Accordance with Appendix R Section III.G.a/III.G.3 Abstract: On May 3, 2011 at 0514 hours, V.C. Summer Nuclear Station (VCSNS) determined the following: During circuit analysis review for transitioning the Fire Protection Program to NFPA 805, VCSNS identified a violation of the Appendix R requirement to maintain one train of systems free of fire damage, which are necessary to achieve and maintain Hot Shutdown conditions. This violation applies to postulated fires in the Main Control Room (MCR) or Cable Spreading Room (CSR). Circuits were identified in the MCR and the CSR that impact a control power circuit that could result in the loss of ability to start the B Emergency Diesel Generator (EDG) using local controls. A root cause analysis was conducted and determined that the root cause was a less than adequate design change/configuration management process. Specifically, a design modification caused the subject vulnerability and the associated Appendix R review (both performed by a vendor for VCSNS) did not ensure the issue was corrected. Immediate corrective actions consisted of establishing roving fire watches and installing jumpers to defeat the subject control power start permissive contacts.
Summer 1	10/16/2013	12/11/2013	Unfused Direct Current (DC) Ammeter Circuits in Control Room Result in 10CFR50 Appendix R Unanalyzed Condition Abstract: As a result of recent industry operating experience (OE 305419, EN 49411, EN 49419) regarding the impact of unfused Direct Current (DC) ammeter circuits in the Control Room, Virgil C. Summer Nuclear Station (VCSNS) performed a review of ammeter circuitry. On October 16, 2013, the review determined the described condition to be applicable to VCSNS resulting in an unanalyzed condition with respect to 10CFR50 Appendix R analysis requirements. The wiring design for the ammeters contains a shunt in the current flow from each DC battery or charger. The ammeter wiring attached to the shunt does not contain fuses. It is postulated that a fire could cause one of the ammeter wires to hot short to ground. Concurrently, the fire could cause another DC wire from the opposite polarity on the same battery or the same battery charger to also short to ground. This would cause a ground loop through the unfused ammeter cable. The potential exists that the cable could heat up causing a secondary fire in the ammeter raceway. The secondary fire could adversely affect safe shutdown equipment and potentially cause the loss of the ability to safely shutdown per 10CFR50 Appendix R. The apparent cause of this event is double short to ground faults of opposite polarity were
Surry 1	11/24/1980	12/23/1980	Non-Compliance with Fire Protection Procedures Abstract: Improperly sealed fire barrier penetrations in safety related areas were discovered. Fire watches were not established within one hour as required by Tech. Specs. After evaluating deficiencies, special fire watches were established and repairs initiated.
Surry 1	07/01/1981	07/29/1981	Unsealed Conduit with no Fire Watch Abstract: Following installation of new cables from the cable spreading room to the #1 cable tunnel, the fire seal in one penetration was not restored and a fire watch was not maintained. Construction personnel failed to restore the fire barrier seal after completion of cable installation, and did not post a fire watch. The fire barrier was sealed, and the construction personnel have been reinstructed in the importance of maintaining a fire watch at open fire barrier.
Surry 1	07/02/1981	07/29/1981	Fire Barrier Penetrations not Sealed Abstract: Two unsealed fire barrier penetrations were discovered during a QC walkdown of the cable spreading room area. No fire watch had been established, contrary to Tech Spec. Construction personnel failed to install a fire barrier seal, or post a fire watch, after opening penetrations to install a new cable. A fire watch was posted, and a seal installed. Construction personnel have been reinstructed in the importance of fire barrier seals and the maintenance of fire watches at open barriers.
Surry 1	08/03/1981	08/24/1981	Fire Barrier penetrations not Sealed Abstract: Three electrical penetrations were found open without the presence of a fire watch as required by T.S. construction personnel failed to install a fire barrier or post a fire watch after opening penetrations to install new cables. A fire watch was posted and the penetrations were subsequently sealed. Requirements for sealing fire stops have been reviewed with contractor management.
Surry 1	08/04/1981	08/21/1981	Excess Control Room Leakage Abstract: During performance of control and relay room envelope pressure test, the positive differential pressure acceptance criterion was not met. The pressure requirements were not met due to worn seals around four doors and one electrical penetration that was properly sealed for fire protection, but was not air tight. The electrical penetration was resealed and the door seals were replaced. The leakage test was then performed with satisfactory results.
Surry 1	11/13/1981	11/20/1981	Open Fire Barrier Abstract: A cover plate between the cable vault and the auxiliary building was found removed, without a fire watch present. Construction personnel failed to restore the fire barrier after removing the cover plate and did not post a fire watch. The cover plate was reinstalled. Construction management has been reminded of the requirements for breaching fire barriers.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Surry 1	12/23/1981	01/22/1982	Fire Door Inoperable Abstract: It was found that the sliding fire door between the unit 1 and unit 2 emergency switchgear rooms was partially open and unattended. A firewatch was dispatched to the area. Other fire protection systems remained operable and no fires were reported during the event. One of two counterweights normally attached to the fire door became disconnected; the intact counterweight acted to partially open the door. The fire watch who was dispatched to the scene closed the door and reconnected the counterweight.
Surry 1	09/29/1982	10/29/1982	Inoperable high Pressure Cardox System Abstract: Performance of PT-24.2a revealed that the High Pressure Cardox system for the Fuel Oil Pump houses was inoperable. This event is contrary to Tech Spec 3.21.d.2(b) and is reportable per Tech Spec 6.6.2.b.(2). Scale and corrosion products caused a zone discharge solenoid valve to stick open. The valve was cleaned and replaced, and the system was returned to service. The cardox header and solenoid valve piping will be evaluated with respect to corrosion.
Surry 1	08/30/1983	09/30/1983	Fire Door Inoperable Abstract: With the Unit at 100% power, the Fire Marshall discovered that Fire Door #42 would not latch. This is contrary to Tech Spec 3.21.g.1 and is reportable per Tech Spec 6.6.2.b.(2). The fire door was in the closed position and a continuous fire watch was established. Fire detection and suppression systems remained operable. The hinges on the door were worn from normal use, and did not hold the door in its frame. The hinges were replaced and the fire door returned to an operable status.
Surry 1	08/30/1983	09/16/1983	Low Pressure CO2 System Inoperable Abstract: With the unit at 100% power, the low pressure CO2 system and the fire detection system for No. 1 cable vault tunnel were inoperable, without a fire watch. This event is contrary to Tech Spec 3.21.D.3.A and is reportable per Tech Spec 6.6.2.b.(2). A fire in the affected area may have gone unnoticed, however backup safe shutdown instrumentation was available. The cause was due to personnel error, specifically the fire watch was terminated without the fire suppression and detection system operable. Upon discovery, a fire watch was posted and the fire suppression and detection systems were returned to service.
Surry 1	08/23/1984	09/21/1984	Fire Door Open Abstract: POWER LEVEL - 080%. ON 8-23-84, AT 0200 HRS, WITH THE UNIT AT 80% POWER, AN OPERATOR PERFORMING A ROUTINE WALKDOWN DISCOVERED AN AIR HOSE BLOCKING OPEN THE FIRE DOOR BETWEEN MECHANICAL EQUIPMENT SPACE #1 AND THE CABLE SPREADING ROOM. THE AIR HOSE WOULD HAVE PREVENTED THE DOOR FROM CLOSING IN THE EVENT OF A FIRE. AT THIS TIME, NO FIRE WATCH WAS PRESENT IN THE AREA AS REQUIRED BY TECH SPECS. MISINTERPRETATION OF END OF SHIFT WALKDOWN PROCEDURES.
Surry 1	10/28/1984	11/27/1984	Inoperable CO2 Abstract: POWER LEVEL - 000%. ON 10-28-84, AT 0540 HRS, WITH UNIT 1 AT COLD SHUTDOWN, AND UNIT 2 AT 100% POWER, AN OPERATOR PERFORMING A WALKDOWN OF UNIT #1 CABLE TUNNEL AREA DISCOVERED THAT AN ASSIGNED FIRE WATCH WAS NOT PRESENT AND THE CO(SUB 2) SYSTEM FOR THE AREA WAS LOCKED OUT. DURING THE TIME BETWEEN THE COMPLETION OF WORK BY CONTRACT WORKERS (0300 HRS) AND THE UNIT #1 CABLE TUNNEL WALKDOWN, PERFORMED BY OPERATIONS AT 0540 HRS, NO FIRE WATCH WAS PRESENT IN THE AREA AS REQUIRED BY TECH SPECS.
Surry 1	03/18/1985	04/17/1985	Lockout of Auto CO2 Abstract: POWER LEVEL - 100%. ON 3-18-85 AT 1720 HRS WITH UNIT 1 AND 2 AT 100% POWER, AN OPERATOR DISCOVERED WHILE CLEARING TAGS ON VARIOUS FIRE ZONES, THAT THE TAG INTENDED FOR FIRE ZONE 8 (UNIT 2 CONTAINMENT PENETRATION AREA) HAD BEEN PLACED ON FIRE ZONE #5 (UNIT 1 CABLE VAULT AREA). AS A CONSEQUENCE, FIRE ZONE #5 CARBON DIOXIDE SYSTEM AUTO INITIATION HAD BEEN LOCKED OUT SINCE 0825 HRS THAT DAY WITH NO FIRE WATCH PRESENT AS REQUIRED BY TECH SPECS.
Surry 1	04/03/1985	05/02/1985	Lockout of Auto CO2 Abstract: POWER LEVEL - 100%. ON APRIL 3, 1985, AT 1700 HOURS, WITH UNIT 1 AT 100% POWER AND UNIT 2 AT REFUELING SHUTDOWN, AN OPERATOR DISCOVERED, WHILE CLEARING TAGS ON VARIOUS FIRE ZONES, THAT THE AUTOMATIC INITIATION OF CO2 FOR FIRE ZONE #7 HAD BEEN LOCKED OUT AND NO FIRE WATCH WAS PRESENT AS REQUIRED BY TECH SPECS. OPERATIONS PERSONNEL WILL VERIFY THAT A FIRE WATCH HAS BEEN POSTED IN THE AREA(S) AFFECTED PRIOR TO REMOVING ANY FIRE PROTECTION SYSTEM FROM SERVICE.
Surry 1	03/13/1987	06/11/1987	Improper Routing of Appendix 'B' Related Cables Abstract: POWER LEVEL - 100%. WITH UNIT 1 AT 100% POWER AND UNIT 2 IN COLD SHUTDOWN, DURING THE PROCESS OF THE ANNUAL UPDATE OF THE 10 CFR 50 APPENDIX 'R' REPORT, IT WAS DISCOVERED THAT A DESIGN CHANGE PACKAGE HAD RE-ROUTED POWER AND CONTROL CABLES EIIS-CBL OF EMERGENCY DIESEL GENERATOR EIIS-DG (EDG) NO. 1 THROUGH THE UNIT 2 CABLE VAULT AND TUNNEL. THIS AREA ALREADY CONTAINED CABLES ASSOCIATED WITH EDG NO. 3. THIS CONDITION IS NOT IN ACCORDANCE WITH APPENDIX 'R' SECTION III G.2 WHICH REQUIRES SEPARATION OF REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT. IT WAS DETERMINED THAT, DUE TO INSTALLED FIRE DETECTION AND SUPPRESSION SYSTEMS IN THE U-2 CABLE VAULT AND TUNNEL FIRE AREA, NO IMMEDIATE ACTION WAS REQUIRED. A DESIGN CHANGE WAS COMPLETED TO RE-ROUTE THE EDG NO. 3 CONTROL CABLES TO RESTORE THE REQUIRED SEPARATION OF REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT. PRIOR TO COMPLETION OF THE DESIGN CHANGE, THE AFFECTED AREA WAS INSPECTED AT LEAST ONCE A SHIFT. A COMPLETE REVIEW OF APPENDIX 'R' RELATED DESIGN CHANGES WAS UNDERTAKEN. AS A RESULT OF THIS REVIEW TWO DISCREPANCIES WERE IDENTIFIED RELATING TO SEPARATION OF APPENDIX 'R' TELECOMMUNICATIONS CABLES AND/OR ANTENNAS. THESE CONCERNS WERE ADDRESSED AND MODIFICATIONS HAVE BEEN COMPLETED TO RESTORE THE REQUIRED SEPARATION.
Surry 1	04/21/1988	05/11/1988	Failure To Comply With Technical Specification Due To Administrative Oversight Abstract: POWER LEVEL - 000%. ON APRIL 21, 1988 AT 1700 HOURS, WITH UNIT 1 IN REFUELING SHUTDOWN, DURING THE PERFORMANCE OF A PERIODIC TEST, THE THREE CONTAINMENT SMOKE DETECTORS (EIIS-IC) LOCATED IN THE AIR RECIRCULATION DUCT WORK WERE DETERMINED TO BE INOPERABLE. TECHNICAL SPECIFICATION 3.21.B.1 REQUIRES THAT A MINIMUM OF ONE OF THESE DETECTORS BE OPERABLE OR A FIRE PATROL WATCH INSPECT THE AREA HOURLY. A SPECIFIC FIRE WATCH WAS NOT POSTED UNTIL 1615 HOURS ON APRIL 25, 1988. THE 'A' AND 'B' SMOKE DETECTORS FAILED DUE TO A LOOSE CONNECTION AT THEIR REMOTE MONITORING PANEL (EIIS-PL). THE CAUSE OF THE FAILURE OF THE 'C' SMOKE DETECTOR HAS NOT YET BEEN DETERMINED. THE FAILURE TO POST A TIMELY FIRE WATCH WAS DUE TO AN ADMINISTRATIVE OVERSIGHT. THE 'A' AND 'B' SMOKE DETECTORS WERE REPAIRED AND RETURNED TO SERVICE AT 0015 HOURS ON APRIL 26, 1988. THE 'C' SMOKE DETECTOR WILL BE REPAIRED PRIOR TO RESTART FROM THE CURRENT REFUELING OUTAGE. A SHIFT ORDER HAS BEEN ISSUED FOR ALL LICENSED OPERATORS TO REVIEW THE REQUIREMENTS OF T. S. 3.21.
Surry 1	09/18/1988	10/18/1988	Fire Watch Not Posted at Improperly Sealed Penetration within One Hour Due to Personnel Error Abstract: POWER LEVEL - 000%. ON SEPTEMBER 18, 1988 AT 1000 HOURS, WITH UNIT 1 AT COLD SHUTDOWN (CSD), A QUALITY ASSURANCE (QA) INSPECTOR DISCOVERED THAT AN ELECTRICAL PENETRATION WAS NOT COMPLETELY FILLED WITH FIRE RETARDANT FOAM, SURROUNDING THE CABLES AS REQUIRED. PRIOR TO THIS DISCOVERY, THE ELECTRICAL PENETRATION WAS VERIFIED INTACT BY A PERIODIC TEST PERFORMED ON SEPTEMBER 2, 1988. THE CONTROL ROOM SHIFT SUPERVISOR WAS NOT PROMPTLY NOTIFIED OF THE CONDITION, AND A FIRE WATCH WAS NOT POSTED AT THE PENETRATION WITHIN AN HOUR AS REQUIRED BY TECHNICAL SPECIFICATION 3.21.B.7. THE FAILURE TO ESTABLISH A FIRE WATCH WITHIN AN HOUR OF DISCOVERY OF THE UNSEALED PENETRATION WAS DUE TO PERSONNEL ERROR. A FIRE WATCH WAS POSTED AT THE PENETRATION APPROXIMATELY THREE AND ONE HALF HOURS AFTER THE INITIAL DISCOVERY AND REMAINED THERE UNTIL THE CABLES WERE REMOVED AND THE PENETRATION WAS SEALED. THE EVENT HAS BEEN DISCUSSED WITH THE PERSONNEL INVOLVED, AND THEY WERE REMINDED OF THE NEED TO TAKE PROMPT CORRECTIVE ACTIONS WHEN DISCOVERING OR RECEIVING REPORTS OF ANY ABNORMAL PLANT CONDITIONS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Surry 1	11/02/1988	12/02/1988	Main Control Room Envelope AC System Inadequate Abstract: POWER LEVEL - 000%. ON NOVEMBER 2, 1988 WITH BOTH UNITS IN REFUELING SHUTDOWN (RSD) CONDITION, INITIAL EVALUATION OF A TEST CONDUCTED ON THE MAIN CONTROL ROOM (MCR) ENVELOPE AIR-CONDITIONING (AC) SYSTEM, DETERMINED THAT THE PRESENT SYSTEM CAPACITY IS INADEQUATE. OTHER DEFICIENCIES WERE DISCOVERED TO EXIST WITH THE MCR ENVELOPE AC SYSTEM WITH REGARDS TO MEETING 10CFR50.49 AND 10CFR50 APPENDIX R REQUIREMENTS. THE CAUSE HAS BEEN ATTRIBUTED TO 1) AN INADEQUATE DESIGN CONTROL PROGRAM, 2) INADEQUATE PREVENTATIVE MAINTENANCE, AND 3) NO SURVEILLANCE TEST PROCEDURE FOR THIS EQUIPMENT. THE LONG TERM CORRECTIVE ACTION WILL INVOLVE THE INSTALLATION OF NEW, HIGHER CAPACITY EQUIPMENT TO RESTORE THE SYSTEM TO ITS ORIGINAL DESIGN CONFIGURATION. IN THE INTERIM, MODIFICATIONS WILL BE IMPLEMENTED WHICH WILL ENSURE THAT DESIGN ROOM TEMPERATURES WILL BE MAINTAINED UNDER CREDIBLE SCENARIOS. INTERIM COMPENSATORY MEASURES WILL ALSO BE IMPLEMENTED TO SATISFY THE REQUIREMENTS OF 10CFR50.49 AND 10CRF50 APPENDIX R UNTIL PERMANENT MODIFICATIONS CAN BE INSTALLED. IN ADDITION TO PERMANENT MODIFICATIONS, THE CURRENT DESIGN CONTROL PROGRAM WILL BE ENHANCED, AND ADEQUATE MAINTENANCE AND SURVEILLANCE TEST PROCEDURES WILL BE IMPLEMENTED.
Surry 1	03/30/1989	04/27/1989	T. S. Required Fire Watch Patrol Not Maintained While Containment Smoke Detectors Were Inoperable Abstract: POWER LEVEL - 000%. ON MARCH 30, 1989 AT 2040 HOURS, WITH UNIT 1 IN COLD SHUTDOWN, IT WAS DISCOVERED THAT AN HOURLY FIRE WATCH PATROL REQUIRED IN CONTAINMENT WAS NOT PRESENT. THE FIRE WATCH WAS ESTABLISHED AT 0901 HOURS ON MARCH 30, 1989 WHEN THE CONTAINMENT AIR RECIRCULATION FANS WERE SECURED. WITH THESE FANS SECURED, THE SMOKE DETECTORS (EIIS-IC) IN THE AIR RECIRCULATION DUCT ARE CONSIDERED INOPERABLE. TECHNICAL SPECIFICATION (T.S.) 3.21.B.1 REQUIRES THAT AN HOURLY FIRE WATCH PATROL BE ESTABLISHED WITHIN ONE HOUR TO INSPECT THE ZONES WITH INOPERABLE FIRE DETECTION INSTRUMENTS. HOWEVER, THE INDIVIDUAL ASSIGNED AS THE FIRE WATCH EXITED CONTAINMENT AT 0958 HOURS. THE FAILURE TO MAINTAIN A FIRE WATCH PATROL IN THE UNIT 1 CONTAINMENT WAS DUE TO POOR COMMUNICATION BETWEEN THE PERSONNEL GIVING AND RECEIVING INSTRUCTIONS FOR THE FIRE WATCH. AT 2040 HOURS ON MARCH 30, 1989, A CONTAINMENT AIR RECIRCULATION FAN WAS STARTED, MAKING THE SMOKE DETECTORS IN THE AIR RECIRCULATION DUCT OPERABLE. THE PERSONNEL INVOLVED WERE REINSTRUCTED IN THE IMPORTANCE OF GIVING, RECEIVING AND ACKNOWLEDGING INSTRUCTIONS. ADMINISTRATIVE PROCEDURES WILL BE ENHANCED TO PROVIDE ADDITIONAL GUIDANCE REGARDING ASSIGNMENT OF FIRE WATCH PATROLS.
Surry 1	03/23/1990	10/29/1990	Unit 1 LP Heater Drain System Pipe Leak Due to Excessive Pipe Wall Thinning Abstract: POWER LEVEL - 090%. ON 3/23/90 AT APPROXIMATELY 2300 HOURS WITH UNIT 1 AT 90% POWER AND UNIT 2 AT 100% POWER, A LEAK DEVELOPED DOWNSTREAM OF A LOW PRESSURE HEATER DRAIN PUMP RELEASING STEAM AND WATER INTO THE UNIT 1 TURBINE BUILDING. FOLLOWING THIS EVENT, THE HALON SYSTEM FOR THE UNIT 1 AND UNIT 2 EMERGENCY SWITCHGEAR ROOM (ESGR) SPURIOUSLY ACTUATED, RELEASING HALON. PERSONNEL IN THE UNIT 2 ESGR, WHICH INCLUDED AN INSTRUMENT TECHNICIAN PERFORMING A SURVEILLANCE TEST AND A FIRE WATCH ASSIGNED TO AN OPEN FIRE DOOR BETWEEN THE UNIT 2 ESGR AND #3 MECHANICAL EQUIPMENT ROOM, EVACUATED THE AREA. THE FIRE WATCH, REQUIRED BY TECH SPECS, WAS INSTRUCTED BY THE SHIFT SUPERVISOR TO LEAVE THE AREA WITH THE DOOR OPEN FOR PERSONNEL SAFETY REASONS. APPROXIMATELY ONE HOUR FOLLOWING THE EVENT, NUMEROUS SECURITY ALARMS ACTUATED WHICH REQUIRED DISPATCHING SECURITY PERSONNEL TO CONTROL ACCESS TO AREAS AFFECTED BY THE ALARMS. THE LEAK WAS A RESULT OF A PIPE FAILURE DUE TO EXCESSIVE THINNING OF THE PIPE WALL. THE SPURIOUS HALON DISCHARGE IN THE ESGRS WAS A RESULT OF WATER AND STEAM IN THE UNIT 1 TURBINE BUILDING. THE FAILED SECTION OF PIPE WAS REMOVED AND REPLACED WITH A NEW SECTION. ALSO, A SIMILAR SECTION ON THE 'A' TRAIN OF THE LP HEATER DRAIN SYSTEM WAS REPLACED. THE AFFECTED
Surry 1	07/23/1991	08/22/1991	MCC Room Fire Suppression System Inoperable Due To Personnel Error In Administratively Controlling The MCC Room Exit Door Abstract: POWER LEVEL - 100%. ON JULY 23, 1991, AT APPROXIMATELY 1030 HOURS, WITH UNIT 1 AT 100% POWER AND UNIT 2 AT 100% POWER, THE UNIT 1 CABLE VAULT UPPER LEVEL MOTOR CONTROL CENTER (MCC) ROOM EXIT DOOR WAS FOUND BLOCKED OPEN. THIS CONDITION, WHICH LIMITED THE ABILITY OF THE CARBON DIOXIDE FIRE SUPPRESSION SYSTEM TO PERFORM ITS INTENDED FUNCTION, HAD EXISTED FOR A PERIOD IN EXCESS OF THAT ALLOWED BY TECHNICAL SPECIFICATIONS (TS) 3.21.B.4. ON JULY 23, 1991, AT APPROXIMATELY 1430 HOURS, A CONTINUOUS FIRE WATCH WAS POSTED AT THE UNIT 1 MCC ROOM AND AT APPROXIMATELY 1630 HOURS, A DOOR BLOCKING DEVICE, DESIGNED TO RELEASE UPON ACTUATION OF THE FIRE PROTECTION SYSTEM, WAS INSTALLED AND TESTED. THE CAUSE OF THIS EVENT IS ATTRIBUTED TO A COGNITIVE ERROR ON THE PART OF UTILITY PERSONNEL IN ADMINISTRATIVELY CONTROLLING THE MCC ROOM EXIT DOOR. TO PREVENT RECURRENCE, SIGNS HAVE BEEN INSTALLED ON BOTH SIDES OF THE UNIT 1 AND UNIT 2 MCC ROOM EXIT DOORS CAUTIONING THAT THE DOOR IS A CARBON DIOXIDE FIRE PROTECTION SYSTEM BOUNDARY. IN ADDITION, STATION DOORS WILL BE EVALUATED AND LABELED OR COLOR CODED, AS APPROPRIATE, TO INDICATE THEIR SAFETY SIGNIFICANCE TO STATION OPERATION. THE EVENT IS BEING REPORTED, PURSUANT TO 1OCFR 50.73(A)(2)(I)(B), SINCE THIS CONDITION IS
Surry 1	10/28/1991	11/18/1991	Emergency Diesel Generator No. 1 Room Fire Suppression System Inoperable Due to Personnel Error in Administratively Controlling the Exit Door Abstract: POWER LEVEL - 100%. ON OCTOBER 28, 1991, AT APPROXIMATELY 0900 HOURS, WITH UNIT 1 AT 100% POWER AND UNIT 2 AT INTERMEDIATE SHUTDOWN, UTILITY QA PERSONNEL FOUND THE EMERGENCY DIESEL GENERATOR (EDG) NUMBER 1 ROOM REAR EXIT DOOR TIED OPEN. THIS CONDITION, WHICH LIMITED THE ABILITY OF THE CARBON DIOXIDE FIRE SUPPRESSION SYSTEM TO PERFORM ITS INTENDED FUNCTION, HAD EXISTED FOR A PERIOD IN EXCESS OF THAT ALLOWED BY TECHNICAL SPECIFICATIONS (TS) 3.21.B.4. ON OCTOBER 28, 1991, AT APPROXIMATELY 0920 HOURS, THE AUTOMATIC DOOR RELEASE DEVICE WAS REPAIRED AND ENGAGED. THE CAUSE OF THIS EVENT IS ATTRIBUTED TO A COGNITIVE ERROR ON THE PART OF CONTRACTOR PERSONNEL IN FAILING TO PROVIDE EXPLICIT INSTRUCTIONS ON HOW TO PROPERLY SECURE OPEN THE EDG NUMBER 1 ROOM REAR EXIT DOOR. TO PREVENT RECURRENCE, THE GENERAL EMPLOYEE TRAINING PROGRAM WILL BE REVISED TO INCLUDE A DISCUSSION OF THE SIGNIFICANCE OF FIRE SUPPRESSION SYSTEM BOUNDARY DOORS AND HOW TO USE THE AUTOMATIC DOOR RELEASE DEVICE. SIGNS ARE ALSO BEING INSTALLED ON BOTH SIDES OF DOORS EQUIPPED WITH AN AUTOMATIC RELEASE DEVICE, CAUTIONING THAT THE DOOR IS A FIRE PROTECTION SYSTEM BOUNDARY. IN ADDITION, STATION DOORS ARE BEING EVALUATED AND LABELED OR COLOR CODED, AS APPROPRIATE, TO
Surry 1	09/21/1992	10/07/1992	Incomplete Low Pressure Carbon Dioxide Fire Protection System Nozzle Testing Due to Procedure Deficiency and Lack of Continuous Fire Watch Abstract: POWER LEVEL - 100%. On September 21, 1992, with Unit 1 and Unit 2 at 100% power, a review of procedures as part of the Fire Protection Quality Assurance audit revealed that certain Technical Specifications (TS) surveillance requirements for the Unit 1 and Unit 2 Low Pressure Carbon Dioxide (CO sub 2) Fire Protection System nozzles were not being correctly performed. The Low Pressure CO sub 2 Fire Protection System was declared inoperable, and a TS Limiting Condition of Operation (LCO) was entered. The required fire watches were established, and the LCO was exited. On September 25, 1992, at 1340 hours, it was determined that the required fire watch in Unit 1 and Unit 2 cable tunnels had shifted from continuous to hourly between 0800 and 1350. A continuous fire watch was immediately reestablished. Each Unit 1 and Unit 2 Low Pressure CO sub 2 Fire Protection System nozzle was satisfactorily tested and declared fully operable on September 26, 1992. Since the nozzles were verified operable, no safety implications were posed by this event. These events are being reported pursuant to 10CFR50.73(a)(2)(i)(B).
Surry 1	02/06/1998	03/06/1998	Fire Watch Released Prematurely Resulting in Violation of TS 3.21.B.7 Abstract: On February 6, 1998, a fire watch, which was established as a technical specification required action for a non-functional fire barrier, was released prematurely. This event occurred with Units 1 and 2 operating at 100% power. On February 5, 1998, a crack was discovered between the frame of a fire door and the wall. The fire door between the Unit 1 Cable Vault and Auxiliary Building was declared inoperable, and a continuous fire watch was posted. Following repair of the crack, the fire watch was released. The fire watch was re-established on February 9, 1998, when it was identified that the cure time for the caulking used for the repair had not elapsed. The cause of this event was that the planning of this repair activity failed to identify that an approved procedure, which provided the manufacturer's cure time, existed and should have been used. Model work orders, which will include reference to applicable procedures, will be developed to assist in the planning of fire barrier repairs. This event resulted in no safety consequences or implications and is being reported pursuant to 10CFR50.73(a)(2)(i)(B).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Surry 1	11/03/2003	12/17/2003	Unanalyzed Condition Related To Loss of RCP Seal Cooling During an Appendix R Fire Event Abstract: On November 3, 2003, it was determined that assumption of the RCP seal leakage model from WCAP-15603, Rev. 1-A would result in the inability to maintain pressurizer level during plant shutdown, thus not satisfying 10CFR50 Appendix R. This condition could result from a loss of RCP seal cooling due to postulated fire damage in certain Unit 1 emergency switchgear room fire scenarios. The charging pump cross-connect was considered inoperable with respect to Appendix R due to these circumstances, and the appropriate actions required by the Technical Requirements Manual (TRM) were entered. An eight-hour non-emergency report to the NRC was made in accordance with 10CFR50.72(b)(3)(ii)(B). Along with establishing the TRM-required fire watch, additional interim measures were implemented on November 4, 2003. A justification for continued operation, which reestablishes compliance with Appendix R, was implemented on November 10, 2003 and will remain in place until permanent resolution is implemented. This condition occurred because WCAP-15603, Rev. 1-A was recognized as being appropriate to consider for probabilistic risk assessment modeling, but was not viewed as applicable to Appendix R analyses. There were no significant safety consequences or implications associated with this condition. This report is being submitted pursuant to 10CFR50.73(a)(2)(ii)(B).
Surry 1, Surry 2	05/13/1993	06/08/1993	Service Water Flow Path to Main Control Room Chillers Inoperable Due to Pipe Leak Abstract: POWER LEVEL - 100%. On May 13, 1993, at 1418 hours, a fire watch reported a Service Water (SW) leak in Mechanical Equipment Room (MER) four. The leak was identified to be from a two inch backwash supply line [EIIS-BI-PSP] to a Self Cleaning Continuous Backwash Strainer [EIIS-BI-STR], (1-VS-S-1A) in one of two SW flow paths to the Main Control Room (MCR) Chillers. Technical Specification (TS) 3.14.C. requires two operable SW flow paths to one operating and one operable MCR Chiller. The line and strainer associated with the leak were declared inoperable. At the time of this event, TS 3.14.C had no action statement for an inoperable SW flow path, therefore a six hour LCO to Hot Shutdown was entered for Units 1 and 2 at 1418 hours per TS 3.0.1. An alternate flow path was placed into service and the action statement was exited at 1733 hours. The backwash supply line was repaired following issuance of a change to TS 3.14.C. The TS change provided a 24 hour LCO allowing one flow path to be out of service for maintenance. At the time of the event the leakage was evaluated to be manageable with regard to design basis requirements. It is therefore concluded that no safety consequences resulted from the event.
Surry 1, Surry 2	05/20/1993	06/15/1993	Fire Watch Inadvertently Discontinued as a Result of Inadequate Fire Barrier Repair Review Process Abstract: POWER LEVEL - 100%. On May 20, 1993, a fire watch, established as a compensatory measure for a non-functional fire barrier penetration seal, was inadvertently discontinued for a short period of time. This event occurred with Units 1 & 2 at 100% and 91.5% power. On May 12, 1993, 11 penetrations in the wall that separates the Auxiliary Building and the Unit 2 Cable Vault were found to have less than the required thickness of firestop material. The penetrations were declared non-functional, and a continuous fire watch was established at 1415 hours. Repairs on the penetrations were believed to be complete, and the fire watch was discontinued on May 20, 1993, at 0913 hours. The continuous fire watch was reestablished at 1408 hours when it was discovered, during a review of the repair documentation, that one of the nonfunctional penetrations had not been repaired. This event resulted in no safety consequences or implications since the Auxiliary Building and the Unit 2 Cable Vault are equipped with fire detection and suppression systems. This event was caused by a programmatic deficiency in the fire watch process. administrative process is being changed to require independent reviews to ensure that fire barriers are returned to a functional status prior to
Surry 1, Surry 2	08/11/1993	09/07/1993	Mechanical Equipment Room #4 Fire Door Left Blocked Open Due to Personnel Error Abstract: POWER LEVEL - 100%. Unit 1 was operating at 100% power and Unit 2 was at cold shutdown on August 11, 1993, when the Mechanical Equipment Room (MER) No. 4 door, 2-BS-DR-10, was found blocked open at 2015 hours. This condition (i.e., a nonfunctional fire barrier) had existed for a period of time in excess of that allowed by Technical Specification 3.21.B.7. 2-BS-DR-10 was blocked open by a fire watch posted at MER No. 4, as directed by the foreman, to permit observation of the room from the outside while painting activities were being performed inside. The fire watch was released by the general foreman at approximately 1730 hours and 2-BS-DR-10 was left blocked open. An operator discovered that 2-BS-DR-10 was blocked open at 2015 hours. The operator verified that the door was not being monitored by a fire watch and closed it. This event was caused by a cognitive error on the pad of contractor personnel. This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B).
Surry 1, Surry 2	08/21/1996	09/19/1996	Fire Watch Patrol Inspection Frequency Exceeds One Hour Abstract: On August 21, 1996, with Unit 1 and Unit 2 both at 100% power, fire watch patrols failed to complete fire detection zone inspections within the Technical Specifications required time period. With a fire detection panel inoperable, fire watch patrols were required to perform inspections of the affected fire detection zones 'at least once per hour' in accordance with Technical Specification 3.21.B.1. The required fire detection zone inspections were performed however, the inspection period between some individual fire detection zones exceeded the allowed time period when a fire watch patrol was detained by Security after a security alarm was inadvertently activated. Required fire suppression equipment remained operable. A fire has not occurred. The health and safety of the public were not affected by this event. This event was caused by inadvertent activation of a security alarm. To prevent recurrence, fire watch training is being changed to emphasize compliance with Security requirements and Technical Specifications fire watch requirements. This report is being made pursuant to 10CFR50.73(a)(2)(i)(B), for any operation prohibited by Technical Specifications.
Surry 1, Surry 2	02/12/1998	04/22/1998	Fire Watch Inspection Frequency Exceeds One Hour Abstract: On February 12, 1998, during Fire Protection Audit 98-02 being conducted by the Nuclear Oversight Department, a situation that occurred on June 6, 1997 was identified where a Technical Specification fire watch exceeded the required inspection frequency. On June 6, 1997, with Units 1 and 2 operating at 100% power, a fire detection alarm panel became inoperable. As required by Technical Specification 3.21.13.1, a fire watch patrol was established within one hour. TS 3.21.13.1 also requires a fire watch inspection frequency of the affected fire areas "at least once per hour." The required fire area inspections were performed, however the at-least-once-per-hour frequency was exceeded by one to seven minutes for some fire area patrols. The tardy fire watch patrols were performed by one individual. A fire did not occur, and there were no safety implications or consequences as a result of this event. A Category 2 Root Cause Evaluation (RCE) was conducted to determine the cause of this event and recommend corrective actions. The cause was lack of attention to detail by the individual involved. This report is being made pursuant to 10CFR50.73(a)(2)(i)(B).
Surry 1, Surry 2	03/01/1999	03/29/1999	Prematurely Released Fire Watches Resulted in Violation of TS 3.21.B.7 Abstract: During a recent 10CFR50 Appendix B audit of the Surry Fire Protection Program conducted by the Nuclear Oversight Department, it was observed that the procedure for opening and sealing fire stops allowed the fire watch to be released after an initial inspection, but prior to final inspection and prior to the recommended 24-hour cure time of the silicone foam used. Upon further review, it was recognized that allowing the fire watch to be released prior to completion of the final inspection also constituted a past violation of Technical Specifications. The cause of this situation was an inadequate procedure. The procedure for opening and sealing fire stops has been revised to change the sequence of activities to require the final inspection after the 24-hour cure time and to release the fire watch following satisfactory completion of the final inspection. This situation resulted in no safety consequences or implications and is being reported pursuant to 10CFR50.73(a)(2)(i)(B) as a past occurrence of a condition prohibited by Technical Specifications.
Surry 1, Surry 2	03/31/1999	04/28/1999	Potential Loss of Charging Pumps Due to Main Control Room Fire Abstract: As part of the ongoing Configuration Management Project's integrated review of fire protection and in conjunction with review of recent industry operating experience events, it was determined that the potential to lose the charging/high head safety injection pumps in the event of an Appendix R main control room fire existed at Surry Power Station. The Surry procedure for the main control room fire, as written at the time of the reviews, was inadequate. The procedure did not include specific direction to ensure that charging/high head safety injection suction alignment and control was established and maintained in a time frame to minimize the possibility of volume control tank depletion and potential loss of the charging pumps. These circumstances placed the station outside its Appendix R design basis for both units in that the potential loss of charging/high head safety injection pumps could result in the inability to achieve and maintain a safe shutdown condition in the event of an Appendix R MCR fire. This situation resulted in no safety consequences or implications and is being reported pursuant to 10CFR50.73(a)(2)(ii)(B) and 10CFR50.73(a)(2)(ii)(C).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Surry 1, Surry 2	08/02/1999	08/27/1999	Outside Appendix R Design Basis Due to Fire Barrier Deficiencies Abstract: During performance of the 18-month periodic test for fire barrier inspections, two separate, not easily accessible design deficiencies were identified. The first was a gap at the top of a wall between the Turbine Building fire area and the Auxiliary Building fire area; the second was a through-wall mechanical blockout between the Emergency Switchgear Room fire area and the Main Control Room fire area. The configuration of these fire barriers did not provide the required fire rating and may not have fulfilled the Appendix R design basis requirements in the event of a fire. These deficiencies are part of the original plant design and construction, and neither resulted in any significant safety consequences or implications. Design modifications have been completed to repair both deficiencies. This report is being submitted pursuant to 10CFR50.73(a)(2)(ii)(B) for two design deficiencies that each constitute a condition outside the Appendix R design basis of the plant.
Surry 2	12/31/1980	01/29/1981	Machine Room #3 Fire Barrier Penetration Abstract: Electrical penetration E-4 through the fire wall between #3 equipment room and #2 turbine basement had been found opened and there was no fire watch on either side of the wall. A fire stop was removed to accomodate a welding lead. After detection, a fire watch was posted and the fire marshall notified. Maintenance order was submitted to repair the fire stop.
Surry 2	01/19/1981	02/13/1981	Fire Watch not Maintained Abstract: A fire watch had been established when the Fuel Oil Pump House CO(sub 2) system was made inoperable for Design Change modifications. At 0700 it was discovered that a fire watch was not being maintained. Operations personnel had made periodic inspections of the area. The position was unmanned for only 1 1/2 hours. The assigned fire watch had left their post without being properly relieved. A fire watch was immediately re-established, and appropriate disciplinary action was taken against the missing fire watch.
Surry 2	01/19/1981	02/13/1981	Fire Barrier Penetration Improperly Sealed Abstract: An improperly sealed fire barrier penetration was discovered during a Q.C. department walkdown of the plant. The fire barrier penetration had been packed with improper material. A fire watch was established until the penetration could be properly sealed.
Surry 2	09/17/1981	10/16/1981	Open Fire Barrier Abstract: A fire barrier was found open without the presence of a fire watch as required by Tech. Spec. Construction personnel failed to restore the fire barrier after completion of cable installation, and did not post a fire watch. A fire watch was posted and the barrier was subsequently sealed. In the future, prior to breaching a fire boundary, notification will be made to the station fire marshall of the penetration location and person responsible for the activity.
Surry 2	11/02/1981	11/20/1981	Unsealed Penetrations Abstract: On 11-2-81 and 11-6-81 with the unit at full power, and again on 11-13-81 with the unit at cold shutdown, electrical penetrations through fire barriers were found open and unattended contrary to Tech. Spec. Construction personnel failed to restore the fire barrier after completion of cable installation, and did not post a fire watch. The penetrations were temporarily sealed. Construction management has been reminded of the requirements for breaching fire barriers.
Surry 2	06/18/1982	07/09/1982	Improperly Sealed Electrical Penetration Abstract: An electrical penetration (fire barrier) was found to be improperly sealed. This event is contrary to Tech Spec 3.21.g.2. Personnel installing a telephone cable failed to restore the penetration to its original state. The penetration was sealed.
Surry 2	11/09/1982	12/09/1982	Improperly Sealed Electrical Penetration Abstract: An electrical fire barrier penetration was found to be improperly sealed. This event is contrary to Tech Spec 3.21.g and is reportable per Tech Spec 6.6.2.b(2). The exact cause has not been determined. A fire watch was established and the penetration temporarily sealed. Permanent sealing will be completed Jan. 1, 1983.
Surry 2	11/19/1982	12/13/1982	Open Fire Barrier Penetration Abstract: A routine walkdown of the service building revealed an open fire barrier penetration with no fire watch posted. This event is contrary to Tech Spec 3.21.g. The penetration was temporarily sealed at the time of installation. How the temporary seal was removed cannot be determined. A fire watch was posted until the penetration was re-sealed.
Surry 2	05/14/1985	06/13/1985	CO2 System Lockout Abstract: POWER LEVEL - 000%. ON 5-14-85 AT 1522 HOURS, QA PERSONNEL DISCOVERED THAT THE AUTOMATIC INITIATION OF CARBON DIOXIDE FIRE PROTECTION SYSTEM, FOR HAZARD ZONE 8 (UNIT 2 CABLE VAULT) WAS LOCKED OUT AND THAT THE ASSIGNED FIRE WATCH WAS NOT PATROLLING THE AREA. ON 5-15-85 AT 1700 HOURS, OPERATIONS PERSONNEL DISCOVERED THAT THE AUTOMATIC INITIATION OF CARBON DIOXIDE FIRE PROTECTION SYSTEM FOR HAZARD ZONE 4 (UNIT 2 CABLE TRAY ROOM) WAS LOCKED OUT AND THAT NO FIRE WATCH WAS PRESENT. CONTRIBUTING FACTORS TO THESE EVENTS WERE: 1) THE LACK OF A SPECIFIC PROCEDURE FOR LOCKING OUT THE AUTOMATIC INITIATION OF THE CARBON DIOXIDE SYSTEM, AND 2) A FIRE WATCH TRAINING PROGRAM DID NOT ADDRESS HAZARD ZONE BOUNDARIES OR DEFINE FIRE WATCH RESPONSIBILITIES. UPON DISCOVERY OF THESE EVENTS, FIRE WATCHES WERE IMMEDIATELY POSTED IN THE AFFECTED ZONES. A SPECIFIC PROCEDURE FOR CARBON DIOXIDE SYSTEM LOCKOUTS WILL BE IMPLEMENTED AND IMPROVEMENTS WILL BE MADE IN THE FIRE WATCH TRAINING PROGRAM.
Surry 2	03/10/1988	04/08/1988	Failure To Comply With Technical Specification Due to Personnel Safety Considerations Abstract: POWER LEVEL - 100%. ON MARCH 10, 1988 AT 0945 HOURS, WITH UNIT 2 AT 100% POWER, THE ROBERT SHAW FIRE DETECTION SYSTEM REMOTE CONTROL MONITORING PANEL RMP-02 (EIIS-IC MON) WAS REMOVED FROM SERVICE FOR INSTALLATION OF AN AUXILIARY POWER SUPPLY. THIS RENDERED INOPERABLE THE FIRE DETECTION CIRCUITS FOR THE UNIT 2 CONTAINMENT AND EMERGENCY SWITCHGEAR INSTRUMENT RACK ROOM. TECHNICAL SPECIFICATION 3.21.B.1 REQUIRES THAT A FIRE WATCH BE ESTABLISHED FOR THE AFFECTED AREAS WITHIN ONE HOUR. RMP-02 WAS RE-ENERGIZED AT 1027 HOURS, AND POST MAINTENANCE TESTING WAS PERFORMED. DURING THE TESTING, RMP-02 TROUBLE ALARMS WERE RECEIVED IN THE MAIN CONTROL ROOM AND COULD NOT BE CLEARED, AND TROUBLESHOOTING EFFORTS WERE INITIATED. PRIOR TO 1045 HOURS, A FIRE WATCH WAS ESTABLISHED IN THE INSTRUMENT RACK ROOM, HOWEVER, CONTRARY TO TECHNICAL SPECIFICATIONS, A FIRE WATCH WAS NOT POSTED IN THE CONTAINMENT. ENTRY INTO SURRY'S SUB-ATMOSPHERIC CONTAINMENT DURING POWER OPERATION REQUIRES EXTENSIVE PREPARATIONS AS WELL AS THE USE OF SELF-CONTAINED BREATHING APPARATUS. SINCE IT WAS EXPECTED THAT RMP-02 WOULD BE RETURNED TO SERVICE WITHIN A SHORT PERIOD OF TIME, A FIRE WATCH WAS NOT ESTABLISHED IN THE CONTAINMENT. THE FAILURE OF RMP-02 WAS DUE TO A FAILED REMOTE CONTROL MODULE
Surry 2	08/23/1993	09/20/1993	Unit 2 Turbine-Generator Trip Via the Loss of Field Relay Abstract: POWER LEVEL - 098%. At 0519 hours on August 23, 1993, with Unit 1 at 100% power and Unit 2 at 97.5% power, the Unit 2 reactor tripped due to a turbine - generator trip. Control room operators promptly initiated the appropriate emergency operating procedures. The reactor was placed in a stable, Hot Shutdown condition. The turbine-generator trip was caused by a loss of excitation field for the main generator due to a component failure in the voltage regulator (VR). During troubleshooting of the VR, a failed phase shifter card was discovered and replaced. As an additional precaution, two other cards were replaced along with the fuses between the field breaker and the firing circuit drawer. Following the trip, a fire watch notified the Shift Supervisor that sliding Fire Door 18 had shut. As a result, he could not complete his fire watch rounds of the Unit 1 Emergency Switchgear Room (ESGR) at 0523 hours, in accordance with Technical Specification 3.21. This fire door separates Unit 1 and 2 ESGRs. Following stabilization of Unit 2, an operator was dispatched and the sliding fire door was opened and relatched. During this event the health and safety of the pubic were not affected. This event is being reported pursuant to 10 CFR 50.73(a)(2)(iv) and 10 CFR 50.73(a)(2)(i)(b).
Surry 2	04/08/1996	05/07/1996	Inoperable EDG Fire Suppression System Due to Personnel Error Abstract: On April 8, 1996, at approximately 1317 hours, with Unit 1 and Unit 2 operating at 100%, the rear exit door to Emergency Diesel Generator (EDG) room number 2 was found open. The door was verified to be closed at approximately 1130 hours. Personnel exit through this door after approximately 1135 hours allowed a welding lead to become caught between the door and its doorjamb. This condition, which limited the ability of the EDG number 2 carbon dioxide fire suppression system to perform its intended function, had existed for a period in excess of that allowed by Technical Specification (TS) 3.21.B.4. At 1322 hours, Operations personnel entered EDG room number 2 to remove the welding lead from the doorjamb and close the door. The cause of the event was cognitive personnel error in failing to ensure that the door was closed upon exit. To prevent recurrence, construction management reviewed the event with craft involved in the construction work and the construction foreman. The doors were posted to restrict egress. consequences since no fire had occurred, the condition existed for a short duration, and the swing EDG (number 3) was fully operable. Therefore, the health and safety of the public was not affected. This event is being reported pursuant to 10CFR50.73(a)(2)(i)(B), since the condition was

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Susquehanna 1	08/11/1982	11/12/1982	A Sprinkler System did not Exist in an Area where Both Tech. Specs. and Fire Protection Review Report Listed a System Abstract: During initial fuel loading, it was determined that a sprinkler system did not exist in an area where both the Tech Specs and the Fire Protection Review Report (FPRR) listed a system. This event is determined reportable per Operating Licensing Condition 2.G (a). Revision 1 to this LER stated a review between "as-built" conditions and the Tech Spec and the FPRR would be performed to check for further discrepancies. This review was completed and several additional inconsistencies have been found. The necessary plant modification and/or Tech Spec and FPRR change requests have been initiated.
Susquehanna 1	03/23/1984	04/20/1984	Raceway Fire Barriers not Installed Abstract: POWER LEVEL - 020%. DURING THE INSTALLATION OF A MODIFICATION TO THE EMERGENCY SERVICE WATER SYSTEM, THE FIRE BARRIER WRAPPING OF SEVERAL CABLE RACEWAYS WAS OVERLOOKED. A FIRE WATCH WAS ESTABLISHED IN THE AFFECTED AREA AND WILL REMAIN UNTIL THE FIRE BARRIER WRAPPING IS COMPLETED.
Susquehanna 1	04/04/1985	05/24/1985	Four (4) Fire Dampers Not Included in Surveillance Procedures Abstract: POWER LEVEL - 000%. ON 4-4-85 IT WAS DETERMINED BY THE FIRE PROTECTION SYSTEM ENGINEER AND ONE OF THE STATION'S RESIDENT NRC INSPECTORS THAT 4 FIRE DAMPERS IN THE SGTS DUCTWORK WERE NOT INCLUDED IN THE APPROPRIATE 18 MONTH SURVEILLANCE PROCEDURES. THESE DAMPERS SHOULD HAVE BEEN INCLUDED IN THE SURVEILLANCE BECAUSE THEY CLOSE ON HIGH TEMPERATURE (ACTUATOR: FUSIBLE LINKS) TO ISOLATE SGTS DUCTWORK TO PREVENT SPREAD OF FIRE FROM 1 FIRE ZONE TO ANOTHER VIA THE DUCTWORK AS IT PASSES THROUGH THE REACTOR BLDG AND CONTROL STRUCTURE. THE DAMPERS WERE ADDED TO THE PROCEDURES. THE INSPECTION CONSISTS OF A VISUAL EXAMINATION OF EACH DAMPER AND ITS ASSOCIATED HARDWARE TO ENSURE THAT IT IS OPEN, UNOBSTRUCTED AND FREE FROM VISIBLE DAMAGE. ALTHOUGH THE PROPER NOTIFICATION OF THE NEED TO ESTABLISH AN HOURLY FIRE WATCH IN THE AFFECTED AREAS WAS GIVEN TO OPERATIONS PERSONNEL AND THE APPROPRIATE LCO'S WERE NOTED, IT COULD NOT BE VERIFIED THAT THE WATCHES WERE ACTUALLY IMPLEMENTED ON 4-4-85. THE FIRE WATCH LOG (CONTROLLED BY ADMINISTRATIVE PROCEDURE AD-QA-143) FOR THAT DATE DOES NOT REFLECT THE PLANT AREAS AFFECTED. SUBSEQUENTLY, 1 OF THE DAMPERS WAS INSPECTED AND A FIRE WATCH WAS ESTABLISHED AND WILL REMAIN IN EFFECT UNTIL THE REMAINING DAMPERS ARE INSPECTED. THE METHODS/PROCESSES USED TO ASSURE
Susquehanna 1	04/09/1985	05/10/1985	Fire Wrap Not Installed Abstract: POWER LEVEL - 000%. ON 12-13-84, PORTIONS OF STRUCTURAL STEEL IN THE UPPER CABLE SPREADING ROOM WERE FOUND TO BE WITHOUT THE REQUISITE 3 HR FIREPROOFING. THE AREAS VOID OF FIRE WRAP WERE INTENTIONAL CUTOUTS MADE TO FACILITATE THE INSTALLATION OF HANGERS, BRACKETS, ETC. REQUIRED WHILE SEVERAL MODIFICATIONS WERE BEING MADE IN THE AREA. AN INITIAL DETERMINATION WAS MADE ON 1-31-85, THAT THE ITEMS LACKING FIREPROOFING COULD BE CONSIDERED INSIGNIFICANT WITH RESPECT TO THE TOTAL PROTECTION AFFORDED BY THE REMAINING FIREPROOFING IN THE AREA. SUBSEQUENTLY, REVIEW BY HOME OFFICE PERSONNEL ESTABLISHED THAT THE EXISTING CONDITION WAS INADEQUATE ON 3-8-85. AFTER SOME ADDITIONAL DISCUSSIONS BETWEEN SITE AND HOME OFFICE PERSONNEL, THE FIRE WATCH SPECIFIED BY TECH SPEC 3.7.7 WAS ESTABLISHED ON 4-9-85. THE FIRE WATCH WILL BE MAINTAINED UNTIL THE FIREPROOFING IS RESTORED. ADDITIONAL INSPECTION WILL BE PERFORMED TO IDENTIFY OTHER AREAS WHICH MAY REQUIRE RE-WORKING.
Susquehanna 1	02/01/1994	03/02/1994	Fire Barrier Penetration Not Sealed; Fire Watch Not Performed Abstract: POWER LEVEL - 100%. On February 1, 1994, with Unit 1 in Condition 1 at 100% power, an electrical penetration through a fire rated barrier was discovered which was not sealed as required. A Nonconformance Report was then generated. The Technical Specification LCO action statement was entered and the required fire watch was established. Investigation of the problem revealed that this same condition was identified during Appendix R walkdowns performed in 1988. The investigation further revealed that at that time the LCO action statement requiring establishment of a fire watch was not entered. The cause of this condition was an oversight by the responsible work group after this non-sealed penetration was initially discovered. This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specification in that the required LCO action statement was not entered and the required fire watch was not performed. Upon discovery of the inoperable penetration on February 1, 1994, the required LCO action of establishing an hourly fire watch was taken. The penetration will be properly sealed per the applicable specification.
Susquehanna 1	03/08/1994	04/07/1994	Fire Protection Halon for Panel Inoperable with Panel Door Open Abstract: POWER LEVEL - 100%. On March 8, 1994, with Unit 1 operating at 100% power, a panel door for a panel protected by Halon fire suppression equipment was found open, thus rendering the Halon protection for the panel inoperable. The door was open to facilitate installation of temporary test equipment. The Technical Specification LCO action statement was entered until the temporary equipment was removed and the door was then closed. The cause of this event was determined to be lack of sufficient direction in the work package used to install the temporary equipment. This condition was determined to be reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications in that the required LCO action statement was not entered during the time from which the door was open until the condition was discovered. There were no safety consequences and minimal safety compromises as a result of this event. The temporary equipment was removed and the door was closed. The actions to prevent recurrence include the following: adding signs to the panel doors to identify the effects of leaving a door open, revising applicable training courses with respect to this subject, and revising the procedure on fire protection equipment status as to requirements for enclosures of Halon protected equipment
Susquehanna 1	07/01/1998	07/31/1998	Continuous Fire Watch Not Established Within Technical Specification Time Limit Abstract: On July 1, 1998, at 1030 hours, with Unit 1 in Condition 1 (Power Operation) at 100 % power, a Fire Protection System Engineer (Utility; non-licensed) determined that a continuous fire watch should have been established on the previous day when a door on a panel protected by a halon system was removed (resulting in halon system inoperability) for more than one hour in order to cool components in the panel. Technical Specification 3.7.6.4 requires that within one hour of a halon system becoming inoperable, a continuous fire watch must be established. Therefore, this event has been determined to be reportable per 10CFR50.73(a)(2)(i)(B). Upon discovery that a continuous fire watch had not been established, it was confirmed that the panel door had been replaced and closed. The root cause of this event was determined to be human performance in that the System Engineer did not verify, via use of the governing procedure, that opening the panel door did not result in the halon system becoming inoperable. Corrective actions that were completed were (1) replacement and closure of panel door, (2) generation of a new Fire Protection System Status Change form to state that a continuous fire watch is needed when the panel door is open/removed, and (3) coaching and counseling of involved
Susquehanna 1, Susquehanna 2	03/04/1987	04/13/1987	Upper Relay Room Open Penetrations Abstract: POWER LEVEL - 100%. IT WAS REPORTED ON MARCH 13, 1987 WITH UNITS 1 AND 2 OPERATING AT 100% POWER, THAT AN OPEN PENETRATION EXISTED IN THE UNIT 1 UPPER RELAY RCCC. A SUBSEQUENT INVESTIGATION DISCOVERED A SIMILAR DESIGN DEFICIENCY IN UNIT 2. THE OPEN PENETRATIONS WERE FOUND BETWEEN THE CEILING SLAB AND THE ADJACENT WALL. FOR THESE AREAS AN EXISTING LIMITING CONDITION OF OPERATION (LCO) WAS IN EFFECT PER TECH SPEC 3.7.7. FURTHER REVIEW REVEALED THAT THESE OPENINGS ARE NOT IDENTIFIED ON THE APPROVED PENETRATION DRAWINGS. THE NATURE OF THE DEFICIENCY, SIZE, LOCATION, CONFIGURATION AND ERROR IMAGE OF BOTH UPPER RELAY ROOMS INDICATE A UNIQUE CONSTRUCTION-ERA DEFICIENCY. NCR'S 87-0079 AND 87-0078 HAVE BEEN WRITTEN AGAINST UNITS 1 AND 2 RESPECTIVELY. THE PENETRATIONS IN QUESTION WILL BE SEALED PENDING RESOLUTION OF THESE NCR'S.
Susquehanna 1, Susquehanna 2	03/31/1987	04/30/1987	Fire Barrier Not Properly Sealed Abstract: POWER LEVEL - 100%. ON MARCH 31, 1987, WITH UNITS 1 AND 2 OPERATING AT 100% POWER, IT WAS DETERMINED THAT A NON-FIRE RATED PENETRATION EXISTED BENEATH THE UNIT 2 CONTROL ROOM RAISED FLOOR. THIS OPENING REQUIRES A FIRE BARRIER AND IS NOT VISIBLE OR READILY ACCESSIBLE UNLESS THE RAISED FLOORING SECTIONS ARE REMOVED. DURING WORK IN THE AREA, WORK CREWS DISCOVERED THAT A NEARBY PENETRATION WAS UNSEALED. CORRECTIVE ACTION WAS INITIATED BY IDENTIFYING THE CONDITION TO SUPERVISORY PERSONNEL. SUBSEQUENTLY, WORK CREWS INSTALLED A NON-SPECIFICATION SEAL. FOLLOWUP PLANNING ACTIVITIES, INCLUDING A PENETRATION INSPECTION, DETERMINED THAT A NON-SPECIFICATION SEAL WAS INSTALLED AS AN INTERIM MEASURE. THIS CONDITION WAS IDENTIFIED AS A DEFICIENCY AND DOCUMENTED AS A NON-CONFORMATION TO SPECIFICATIONS. INITIAL REVIEWS REGARDED THE CONDITION AS NON-REPORTABLE BECAUSE OF THE NON-Q STATUS OF THE PANEL IT SERVES. A SUBSEQUENT REVIEW DETERMINED THAT TECHNICAL SPECIFICATION 3.7.7.A REQUIREMENTS WERE NOT MET AND THAT THE CONDITION WAS REPORTABLE IN ACCORDANCE WITH 10CFR 50.73(A)(2)(I)(B). A FIRE WATCH HAS BEEN ESTABLISHED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.7.A WHEREIN ALL FIRE SEALS AND PENETRATIONS SHALL BE OPERABLE OR A FIRE WATCH BE ESTABLISHED.

Susquehanna 1, Susquehanna 2	05/26/1989	06/28/1989	Identification of Damaged Penetration Seals Abstract: POWER LEVEL - 000%. ON MAY 26, 1989, IT WAS DETERMINED THAT AT LEAST SOME FIRE RATED PENETRATION SEALS PREVIOUSLY IDENTIFIED IN THE CONTROL STRUCTURE AS DAMAGED WERE INOPERABLE. BASED ON THIS, ALL OF THE IDENTIFIED DAMAGED SEALS WERE CONSERVATIVELY ASSUMED TO BE INOPERABLE. THE EXISTING FIREWATCHES DID NOT COVER ALL OF THE AREAS WHERE THESE SEALS ARE INSTALLED. THEREFORE, SEVERAL FIRE ZONES WERE ADDED TO THE EXISTING HOURLY FIREWATCH ROUND AND A CONTINUOUS FIREWATCH WAS ADDED TO ONE FIRE ZONE TO COMPLY WITH TECHNICAL SPECIFICATION 3.7.7. THE CAUSE OF THIS EVENT WAS THE FAILURE TO IDENTIFY THE SIGNIFICANCE OF PENETRATION SEAL DAMAGE ON THE FIRE RATING/OPERABILITY OF THE PENETRATIONS. CONSISTENT CRITERIA WILL BE DEVELOPED FOR FIRE RATED PENETRATION SEAL OPERABILITY DETERMINATIONS AND SURVEILLANCE INSPECTIONS. DUE TO NOT MEETING THE REQUIRED TECHNICAL SPECIFICATION ACTION STATEMENT THIS EVENT WAS DETERMINED REPORTABLE UNDER 10CFR50.73(A)(2)(I)(B) AS A CONDITION PROHIBITED BY THE PLANT TECHNICAL SPECIFICATIONS.
Susquehanna 1, Susquehanna 2	11/20/1991	03/24/1993	Postulated Appendix R Fire Could Place the Plant Outside Its Analyzed Design Basis Abstract: POWER LEVEL - 100%. On November 20, 1991 with both units operating at 100% power, it was determined that a postulated Appendix R fire in the Control Room could place the plant in a condition outside of its analyzed design basis. This condition has been determined to be reportable per 10CFR50.73(a)(2)(ii)(B). The fire could result in a hot short in the control circuit of one of a number of components required to shut down the unit from the Remote Shutdown Panel. Damage to the component could occur. The scenario is applicable to both units. Thirty-nine valves on Unit 1 and forty valves on Unit 2 are affected from the RHR, ESW, RHRSW and RCIC Systems. The postulated condition relates to an oversight in the Appendix R analysis in which the possibility of a malfunction of Path 2 safe shutdown components during a postulated Control Room Appendix R fire was not analyzed. The safety significance is considered minimal because of the low probability of occurrence as well as the fact that backup systems exist that are able to bring the plant to a successful safe shutdown, fire detection and suppression systems are operable in the Control Room, Operations Control Room personnel have been briefed on the scenario and are qualified fire watch/fire brigade personnel having access to portable fire fighting
Susquehanna 1, Susquehanna 2	02/11/1992	03/10/1992	Opening Found Through Fire Rated Barrier Abstract: POWER LEVEL - 095%. ON FEBRUARY 10, 1992 WITH UNIT 1 AT 95 POWER AND UNIT 2 AT 100% POWER, ROUTINE PERFORMANCE OF SM-G13-013, 18 MONTH INSPECTION OF THE COMMON BUILDING FIRE BARRIERS WAS INITIATED. ON THE FOLLOWING DAY, A ONE INCH DIAMETER HOLE WAS DISCOVERED THROUGH THE EAST WALL IN THE CABLE CHASE LOCATED IN FIRE ZONE 0-24M IN AREA 1Z, ELEVATION 698 OF THE CONTROL STRUCTURE. UPON VERIFICATION OF THE EXISTENCE OF THE OPENING, THE REQUIRED COMPENSATORY ACTIONS WERE IMPLEMENTED PER TECH SPEC 3.7.7. THE CAUSE OF THIS EVENT COULD NOT BE DETERMINED. HOWEVER, IT IS ASSUMED THAT THIS CONDITION HAS EXISTED FROM CONSTRUCTION. THE OPENING WILL BE SEALED TO PROVIDE A TWO HOUR FIRE RATED BARRIER IN ACCORDANCE WITH FIRE RATING REQUIREMENTS. AN HOURLY FIRE WATCH IN CONJUNCTION WITH OPERABLE FIRE DETECTORS HAS BEEN ESTABLISHED IN ACCORDANCE WITH TECH SPEC 3.7.7 REQUIREMENTS UNTIL THE OPENING IS SEALED. THE EVENT HAS BEEN DETERMINED TO BE REPORTABLE PER 10CFR50.73(A)(2)(I)(B) IN THAT THE HOLE IN THE CABLE CHASE PASSED THROUGH A FIRE RATED BARRIER WHICH IS REQUIRED TO SATISFY TECH SPEC 3.7.7 RESULTING IN A CONDITION PROHIBITED BY TECH SPECS.
Susquehanna 1, Susquehanna 2	08/16/1993	09/13/1993	LOSS OF FIRE DETECTION/SUPPRESSION - OPERATION PROHIBITED BY TECHNICAL SPECIFICATIONS Abstract: POWER LEVEL - 000%. On August 16, 1993, a severe lightning storm in the area of the site caused numerous spurious alarms in the Simplex Fire Protection System and disabled a transponder which locked in two alarms and rendered the fire suppression system in two areas inoperable. With fire barriers already inoperable due to Thermo-lag fire rating issue (LER 92-015-00), continuous fire watches were required. Sufficient manpower was not available for all affected areas within one hour; thus, all available firewatch personnel were assigned roving fire watch duties. The cause of the event was an apparent lightning strike disabling a transponder card in the Simplex system. This event was determined to be reportable per 10CFR50.73 (a)(2)(i)(B) as a condition prohibited by Technical Specifications in that the required action of establishing a continuous fire watch was not accomplished within one hour as required. The failed transponder card was replaced and system operability restored. Previous improvements to the system to minimize the effects of surges from lightning strikes have proven to be adequate since no similar events have occurred in the past several years.
Susquehanna 1, Susquehanna 2	01/28/1994	03/17/1994	Fire Protection Damper Not Installed in Fire Rated Barrier Abstract: POWER LEVEL - 100%. On January 28, 1994, with Units 1 & 2 in Condition 1 at 100% power, it was discovered during a surveillance inspection that a fire protection damper was not installed in a fire rated barrier. On February 16, 1994, it was determined that an Engineering Study which was in progress at the time of discovery indicated that the damper is not required. However, this study is not yet approved; therefore, the damper is required to be installed and operable by the existing Fire Protection Program. The required Technical Specification LCO action of establishing an hourly fire watch was taken. The cause of this condition was an initial construction deficiency. The cause of failing to previously identify this condition was mistaking a different fire damper in the same duct for the missing damper. This condition was determined to be reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specification in that the required LCO action had not been taken for the damper which was not installed. Once the final determination as to the requirement for this damper is made, the appropriate action will be taken.
Susquehanna 1, Susquehanna 2	03/28/1994	08/25/1994	Inoperable Fire Barrier - Condition Prohibited by Technical Specifications Abstract: POWER LEVEL - 100%. On March 28, 1994, with Unit 1 at 100% power, a fire rated wall was discovered to contain gaps where it meets the ceiling, rendering the barrier inoperable. The Technical Specification LCO action statement was entered and an hourly fire watch was established. This condition appears to have existed since initial construction. Failure to previously identify this condition was attributed to inadequate inspections. A causal factor was procedural weakness. This condition was determined to be reportable per 10CFR50.73(a)(2)(i)(B), as a condition prohibited by Technical Specification in that the LCO action statement had not been entered for inoperable fire barriers. There were no safety consequences as a result of this event. Work documents were generated to repair this condition and to inspect other areas with similar configuration. On July 26, 1994, the inspection was completed and three areas with similar conditions were noted. These additional areas will also be repaired. The surveillance procedure was revised to emphasize the requirement to inspect the wall to ceiling joint. This event will be reviewed with those personnel who perform these inspections with emphasis on this requirement.
Susquehanna 1, Susquehanna 2	05/13/1994	07/05/1994	Access Hatch Between Fire Zones Not Fire Rated As Required Abstract: POWER LEVEL - 100%. On May 13, 1994, with Unit 1 at 100% power and Unit 2 in Refueling, an inspection was being performed in preparation for repairing damaged penetration seals. During this inspection, it was noted that an access hatch in the ceiling of the upper relay rooms (Unit 1 & 2) was not a fire rated door/assembly. The ceilings are fire rated barriers separating different fire zones. An Engineering Deficiency Report was generated and the fire barrier was determined to be inoperable. An hourly fire watch was established and the system status file was updated. The cause of this condition was an initial construction deficiency. This condition was determined to be reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications in that the required Limiting Condition for Operation Action Statement had not been entered for an inoperable fire rated assembly. There were no safety consequences as a result of this condition and safety compromises were minimal. The subject hatches will be upgraded by addition of fire retardant material to achieve the required fire rating. Until this activity is complete, the fire watches will remain in effect.
Susquehanna 1, Susquehanna 2	08/18/1994	09/19/1994	Loss of Fire Detection / Suppression - Condition Prohibited by Technical Specifications Abstract: POWER LEVEL - 100%. On August 18, 1994 with Units 1 and 2 at 100% power, an apparent electrical surge from a lightning strike in the area of this site disabled the 'A' panel of the Fire Protection Simplex System. Operations personnel (utility, licensed) tried unsuccessfully to transfer panels. This was unsuccessful since the transfer switch was placed in the over-travel position. The Technical Specification action statements were entered. Instrument and Controls personnel (utility, non-licensed) discovered the problem with the transfer switch and returned the Simplex System to operation. Before the system was restored, most of the compensatory fire watches were in place. The cause of the inability to properly transfer panels was switch design and labeling. This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B), as a condition prohibited by Technical Specifications in that the required action of establishing a continuous fire watch within one hour was not accomplished for all affected areas. There were no safety consequences as a result of this event. The applicable procedures will be enhanced to include instruction of re-setting and re-start of the system. The transfer switch was re-labeled to clearly mark positions. The transfer switch will be evaluated for improvement via

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Susquehanna 1, Susquehanna 2	02/07/1995	03/09/1995	Fire Barrier Penetration Not Sealed; Fire Watch Not Performed Abstract: On February 7, 1995, with Unit 1 at 100% power, a conduit which penetrates a fire rated wall was found to be unsealed during a surveillance inspection. The Technical Specification action statement was entered and the required hourly fire watch was established. The cause of this condition was that the engineering organization responsible for implementing the modification which installed the conduit failed to recognize that the wall was fire rated. In addition, this condition was not documented during previous performance of the surveillance. This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications. There were minimal safety compromises as a result of this event. Upon discovery, the required action of establishing a fire watch was taken. The conduit will be sealed per the approved detail. The field inspection instruction will be revised to caution personnel concerning use of fire barrier drawings during cable routing. In addition, we are continuing our efforts to improve these surveillance activities with respect to content of the surveillance package and documentation of inspection activities. This event will be reviewed with those personnel involved with respect to the requirements related to breaching fire barriers.
Susquehanna 1, Susquehanna 2	03/10/1995	04/10/1995	Fire Watch Not Completed Within The Required One (1) Hour Time Frame Abstract: On March 10, 1995, at 1910 hours, with, Unit 1 and Unit 2 both in Condition 1 (Power Operation) at 100% power, a roving fire watch failed to complete an established round within the required one (1) hour time frame. The failure to complete the fire watch within the required time was due to: 1) The fire watch individual became stuck in an elevator which malfunctioned; and 2) Human performance errors occurred in the area of communications and failure to recognize the potential for Technical Specification non-compliance. The fire watch was completed, 15 minutes in excess of the required time. There were no safety consequences or compromise to public health and safety as a result of this incident. Actions to prevent recurrence include: o A program has been implemented by Operations to heighten operators' awareness of fire protection surveillance requirements, including the use of unannounced exercises. The Operations section will perform an assessment of the effectiveness of this program. o Specific communication practices with respect to responsibilities and expectations for operations and fire watch personnel are being reinforced or established, as applicable. Additional investigation into the cause of the elevator malfunction is also being performed.
Susquehanna 1, Susquehanna 2	01/08/1996	02/07/1996	Fire Watch Not Completed Within the Required One (1) Hour Time Frame Abstract: On January 8, 1996, at 0637 hours, with Unit 1 and Unit 2 both in Condition 1 (Power Operation) at 100% power, a roving fire watch failed to complete an established round within the required one (1) hour time frame. The failure to complete the fire watch within the required time was due to the inability to traverse the plant site in a timely manner as a result of a severe winter storm. Specifically, the individual performing the fire watch tour was driving a vehicle on site between two buildings outside of the power block (Low Level Radwaste Holding Facility and the Circulating Water Pump House) when the vehicle became stuck in a snow drift. The maximum time for which the one (1) hour time frame was exceeded for any Technical Specification inspection area upon completion of the established round was four (4) minutes. Additional fire watch personnel were subsequently stationed to compliment sequential tours until the weather conditions improved. There were no safety consequences or compromises to public health and safety as a result of this incident. Corrective actions included: providing written guidelines to all fire watch personnel detailing steps to be taken if a fire watch becomes disabled and conducting training to that effect; revising fire watch policies to closely monitor pending severe weather conditions and adjusting manpower coverage accordingly; and the providing of radios to fire watch personnel to enhance communications with the plant control room.
Susquehanna 1, Susquehanna 2	04/02/1997	05/01/1997	Fire Watch Rounds Not Completed Within Time Limits Abstract: POWER LEVEL - 100%. On April 2, 1997, with Unit 1 in Condition 1 (Power Operation) at 100% power and Unit 2 in Condition 5 (Refueling) at 0% power, it was discovered during line management review that, on two separate occasions, roving fire watch patrols did not survey fire areas as required by Technical Specification ACTION statement 3.7.7.a. These events are reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications. The causes of the events were determined to be that the subject individuals' on-the-job fire watch training and qualification was ineffective and the methods used to document fire watch rounds did not provide timely feedback if an error should occur. The corrective actions include the survey of the areas missed, refresher training for fire watch personnel, revision to the on-the-job training practices, additional training for supervisors with respect to instructing and coaching, and evaluation of methods to provide prompt feedback to the fire watch patrol. Plant operation was not affected, and no fire occurred nor went undetected during the time period involved. As such, there were no safety consequences or compromises to public health and safety.
Susquehanna 1, Susquehanna 2	10/07/1997	11/06/1997	Fire Protection Features Not Surveilled Abstract: On October 7, 1997, with both Unit 1 and Unit 2 in Condition 1 (power Operation) at 100% power, Engineering personnel (Utility; non-licensed) discovered that certain carbon dioxide (CO sub 2) fire protection suppression systems required to be included in the Technical Specifications had not been included nor surveilled in accordance with the Technical Specifications. This condition was discovered during a review of surveillances on fire protection features to ensure compliance with the Technical Specifications. The review of the surveillances versus Technical Specification requirements also determined that additional required fire protection features (detection, suppression and barriers) had not been included in the Technical Specifications, nor surveilled. Since these fire protection features had not been surveilled in accordance with the Technical Specification requirements, this constitutes a condition reportable per 10CFR50.73(a)(2)(i)(B). The cause of these events was attributed to less than adequate human performance on the part of engineering and licensing personnel and inadequate change management. Corrective actions include: declaring the fire protection features inoperable and taking the actions as required by the Technical Specifications; revising surveillance procedures; revising engineering calculations; and communicating
Susquehanna 1, Susquehanna 2	07/14/1998	08/12/1998	Continuous Fire Watch Not Established Per Requirement Of Technical Specification Abstract: On July 14, 1998, at 0830 hours, with Unit 1 in Condition 2 (Startup) at 0% power and Unit 2 in Condition 1 (Power Operation) at 100% power, it was determined that a one hour fire watch had been established instead of a continuous fire watch, as required by the ACTION of Technical Specification 3.7.7, when a fire wall penetration seal had been breached. The penetration seal had been released for work with the one hour fire watch established on June 29, 1998. A later review revealed that the wall containing the penetration seal was a Technical Specification fire barrier. Therefore, the penetration needs to be considered as Technical Specification related. An additional review identified two additional breached penetration seals, all in the same fire zone. When the Fire Protection System Status Change (FPSSC) Form was originally completed, the wall was not considered a Technical Specification fire barrier. During the work preparation process, the fire barrier's designation was changed. The FPSSC form was reviewed prior to release of the work. The reviewer failed to identify the discrepancy at that time due to a conflict on the reference drawing being used. This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B), in that the continuous fire watch requirement of the Technical Specification was not
Susquehanna 1, Susquehanna 2	03/15/2016	05/16/2016	Secondary Containment Declared Inoperable Due to Airlock Doors Open Due to Human Performance Error Abstract: On March 15, 2016 at approximately 1020 hours, a Susquehanna employee was entering the Unit 2 Reactor Building to complete fire watch rounds. Other individuals were following the fire watch employee through the airlock. The fire watch employee failed to wait until all individuals were in the airlock and the entry door closed before opening the exit door. The fire watch rounds are on a timeline and, with the outage traffic, the fire watch individual felt time pressure. With both airlock doors open simultaneously, Secondary Containment was briefly inoperable due to failure to meet Surveillance Requirement (SR) 3.6.4.1.3. The condition requires a Licensee Event Report (LER) in accordance with 10 CFR 50.73(a)(2)(v)(C). The cause of the event was determined to be a human performance error related to perceived time pressure. The individual was coached and general actions have been taken to improve human performance associated with airlock door use. There were no actual consequences to the health and safety of the public as a result of this event.
Susquehanna 2	10/26/1984	01/15/1985	Fire Barrier Wrap Missing Abstract: POWER LEVEL - 000%. DUE TO 2 INDEPENDENT ADMINISTRATIVE ERRORS IMPACTING THE SAME ACTIVITY, A FIRE WATCH WAS NOT PROVIDED FOR INOPERABLE FIRE BARRIERS IN ACCORDANCE WITH TECH SPEC 3.7.7. THE FIRST ERROR RESULTED FROM THE ELEVATION NUMBER BEING TRANSPOSED FROM 762' TO 672' AND THUS THERE WAS NO FIRE WATCH AT ELEVATION 762' FROM 11-1-84, WHEN THE FIRE BARRIER WAS DECLARED INOPERABLE UNTIL 11-30-84, WHEN THE ERROR WAS DISCOVERED AND CORRECTED. THE SECOND ERROR RESULTED FROM THE ORIGINAL LCO (ON ELEVATION 672') BEING MISTAKENLY CONCELLED BY THE UNIT SUPERVISOR. THE DISCOVERY OF THE SECOND ERROR LED TO THE DISCOVERY AND CORRECTION OF THE FIRST ERROR. THIS OCCURRENCE WILL BE REVIEWED WITH SHIFT SUPERVISION TO PREVENT RECURRENCE. THE AFFECTED FIRE BARRIERS WERE RESTORED TO OPERABLE STATUS AND THE FIRE WATCH CANCELLED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Susquehanna 2	10/29/1984	11/28/1984	Fire Barrier Penetration Not Sealed Abstract: POWER LEVEL - 000%. DURING THE INSTALLATION OF A PLANT MODIFICATION, AN OPEN PENETRATION WAS FOUND IN A RATED FIRE BARRIER. THE PENETRATION WAS LOCATED IN AN INACCESSIBLE AREA BENEATH A RAISED FLOOR. A NONCONFORMANCE REPORT WAS GENERATED AND A WORK AUTHORIZATION WAS INITIATED TO SEAL THE PENETRATION. A FIRE WATCH HAS BEEN ASSIGNED TO THE AREA IN ACCORDANCE WITH THE REQUIREMENTS OF ACTION STATEMENT 3.7.7.A OF THE TECH SPEC. A REVISION TO THE SURVEILLANCE PROCEDURE TO CLARIFY THE INSPECTION CRITERIA IS PLANNED.
Susquehanna 2	12/06/1984	04/04/1985	Fire Watch Not Performed as Required Abstract: POWER LEVEL - 000%. A FIRE WATCH WAS REQUIRED IN 1 AREA OF THE PLANT FOR 2 INDEPENDENT WORK ACTIVITIES. WHEN 1 WORK ACTIVITY WAS COMPLETED ON 12-6-84, THE FIRE WATCH FOR THE AREA WAS REMOVED FROM THE FIRE WATCH LOG. THE FIRE WATCH LOG DID NOT REFERENCE THE 2 WORK ACTIVITIES. WHEN THE ERROR WAS DISCOVERED ON 12-17-84, THE FIRE WATCH WAS REINSTATED. OPERATIONS SECTION HAS DEVELOPED ADDITIONAL GUIDELINES FOR TRACKING FIRE PROTECTION LCO ACTIVITIES. ADMINISTRATIVE PROCEDURE AD-QA-302, SYSTEM STATUS AND EQUIPMENT CONTROL HAS BEEN REVISED TO PROVIDE FOR AN INDIVIDUAL LCO LOG FOR FIRE PROTECTION RELATED ACTIVITIES. THE ADDITION OF THIS SEPARATE LOG IS EXPECTED TO REDUCE THE POSSIBILITY OF ADMINISTRATIVE ERRORS RELATED TO FIRE PROTECTION LCO'S.
Susquehanna 2	06/19/1988	08/10/1988	Late Firewatch Rounds Abstract: POWER LEVEL - 001%. ON JULY 8, 1988, THE FOLLOWING EVENT WAS DETERMINED TO BE REPORTABLE. WITH UNIT 2 IN CONDITION 2, HOT STANDBY, ON JUNE 19, 1988, FIREWATCH ROUNDS WERE LATE FOR SEVERAL FIRE ZONES IN THE REACTOR BUILDING. THE HOURLY FIREWATCH ROUNDS WERE REQUIRED AS COMPENSATORY MEASURES PER TECHNICAL SPECIFICATION 3.7.7, FIRE RATED ASSEMBLIES; THEREFORE, THIS IS CONSIDERED A REPORTABLE EVENT PER 50.73(A)(2)(I)(B). THE HOURLY FIREWATCH WAS REQUIRED DUE TO INOPERABLE FIRE BARRIERS IDENTIFIED DURING THE APPENDIX R REVIEW. THE CAUSE OF THIS EVENT WAS DETERMINED AS PERSONNEL ERROR. THE PROCEDURE AND FIREWATCH ROUNDS WERE REVIEWED WITH THE EMPLOYEE.
Susquehanna 2	02/23/1995	03/23/1995	Two Fire Zones Not Inspected During 18 Month Surveillance Inspection Abstract: On February 23, 1995, with Unit 2 at 100% power, it was discovered that a Technical Specification fire zone was not inspected during the last performance of the surveillance inspection. The Technical Specification action statement was entered and the required hourly fire watches were implemented. This zone is a high radiation area during power operation. On March 9, 1995, during review of this discrepancy, an additional zone which is also a high radiation area was discovered, which also was not inspected during the last surveillance. The cause of this condition was inadvertent omission of these zones from the procedure due to improper turnover when responsibility for the procedure was transferred. This condition was determined to be reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications in that required surveillances were not performed for two fire zones for one inspection interval. There were no safety consequences as a result of this event. The subject surveillance procedure was changed to include these zones and the inspections were completed. This omission is believed to be an isolated occurrence and no additional action is required.
Three Mile Island 1	02/10/1981	03/12/1981	Wall Penetration Seal Which Was Breached When Core Boring a New Penetration Abstract: A new penetration in the fire wall between the ESAS switchgear room (Fire area CB-3C) and the Relay Room (Fire area CB-3D) was required for the routing of new cable to support restart modifications on containment isolation (RM-5C). Reportability of this event was determined to be necessary in the planning stage of restart mods. On containment isolation RM-5C. An approved temporary fire barrier seal has been provided for installation at the end of each work day prior to securing the posted fire watch. Tech. Specs. Change request No. 97 was sent to allow operation in a degraded mode with a posted fire watch.
Three Mile Island 1	10/05/1982	11/04/1982	Fire Barrier Pentetration Seal Degradation Abstract: Plant personnel identified fire barrier penetration seal (No. 275) as being defective. Silicone foam seal material had separated from the edges of fire barrier penetration after curing. Reportable per Tech Spec 6.9.2.b(2), as a result of violating Tech Spec 4.18.7. A fire watch was posted and the fire barrier penetration seal was repaired on the 2nd shift October 5, 1982. No other corrective action is required. Silicone foam shrinkage has not been observed in tmi-1 because of the corrective action in 1978 when foam shrinkage was observed in TMI-2. Tech Spec required surveillances will continue.
Three Mile Island 1	11/03/1982	12/02/1982	Fire Penetration Seal Which Degraded During Plant Modifications Abstract: A 1.5 inch irregular diameter hole was found in a floor fire barrier penetration seal on the bottom of the "C" channel RPS cabinet. The depth and diameter of the opening exceeded acceptance criteria of surveillance procedure 1303-12.9 and maintenance procedure 1420-FB-1. This is reportable per Tech Spec 6.9.2.b.2 since Tech Spec 3.18.7 requires seals to be functional at all times. Numerous plant modifications were in progress which involved changes in fire barrier penetration seals. A cable had been installed temporarily through the seal and later removed without the seal opening being resealed. Immediate corrective action was to post a fire watch. Seal was repaired November 9, 1982. Personnel performing seal inspections will be further instructed.
Three Mile Island 1	12/22/1982	01/21/1983	Void Found in Fire Barrier Abstract: While in long term cold shutdown, plant personnel identified fire barrier penetration seal 489 as having an unacceptable void under a cable tray support angle. Reportable per Tech Spec 6.9.2.b(2), as a result of violating Tech Spec 4.18.7 which does not permit operation in a degraded mode, without filing an LER. A fire watch was posted within 1 hour. Repairs were completed 12/23/82. Only temporary damming material is now used to allow for inspections on both sides of seal. It is recommended that plants using silicone foam seals with permanent damming be made aware of the potential for voids.
Three Mile Island 1	04/19/1983	05/18/1983	Low CO2 Fire System Pressure for Relay Room Abstract: While in cold shutdown, after a recent recharge of the relay room CO(sub 2) fire protection system. The system pressure dropped below tech spec required 300 psig (Tech Spec 3.18.4.1). Pressure only dropped as low as 271 psig so the CO(sub 2) system could have still performed its intended function. Reportable per Tech Spec 6.9.2.b.2. The root cause is seat leakage through safety bleeder valve. Immediate corrective action was to post a firewatch. A new valve was installed and the system repressurized.
Three Mile Island 1	10/06/1983	11/08/1983	Fire Barriers Determined to be Inoperable Abstract: While shutdown, during performance of the fire barrier seal inspection (procedure 1303-12.9) 3 fire seals were determined to be inoperable. Reportable per Tech Spec 6.9.2.b.2, as a violation of Tech Spec 3.18.7 because fire seals are required to be functional "At all times". Fire watch was posted per tech specs. Root cause was failure of craft to install the seal properly. The narrative report provides details for each seal. Fire watch was posted until fire seals were repaired. Fire barrier seals installation procedure will be revised to require qc inspection prior to securing fire watch.
Three Mile Island 1	12/19/1983	01/23/1984	Fire Seals Missing Abstract: While in cold shutdown, during telephone circuit rerouting, 2 cable fire seals were identified with no seal material inside the conduits. A fire watch was posted within 1 hour of discovery per Tech Spec 3.18.7.2. This is considered reportable per Tech Spec 6.9.2.b.2. The conduits were installed with no fire barrier seals inside the conduits. Seal installation and repair procedure MP 1420-FB-1 used for sealing of these conduits provided inadequate guidance. Seal repairs have been completed. Revision 8 to MP 1420-FB-1 provides adequate guidance for conduit fire seals.
Three Mile Island 1	04/27/1984	06/29/1984	Inoperable Fire Barrier Penetration Seals Abstract: POWER LEVEL - 000%. AT 1420 HRS ON APR 27, 1984, RELAY ROOM FLOOR FIRE BARRIER PENETRATION SEAL 735 WAS IDENTIFIED TO BE IN DEFICIENT CONDITION. NO SEAL MATERIAL HAD BEEN INSTALLED IN THE CONDULET. A FIRE WATCH HAD NOT BEEN ESTABLISHED WITHIN 1 HR OF THE ONSET OF THE DEFICIENT CONDITION, THUS VIOLATING TECH SPEC 3.18.7.2. THIS EVENT IS REPORTABLE PURSUANT TO 10 CFR 50.73(A)(2)(I)(B). THE DEFICIENT CONDITION OF SEAL 735 IS POTENTIALLY APPLICABLE TO SIMILAR FIRE SEALS THAT WERE REQUIRED TO BE INSTALLED BETWEEN APR 1979 AND NOV 7, 1983. THIS IS EVIDENCED BY THE IDENTIFICATION OF THE SAME DEFICIENT CONDITION IN TWO SEALS SUBSEQUENT TO THE IDENTIFICATION OF SEAL 735. FIRE SEALS IN NEW CONDUITS INSTALLED BETWEEN APR 1979 AND NOV 7, 1983 WERE INSPECTED AND REPAIRED UPON DISCOVERY. THE SAFETY CONSEQUENCES AND IMPLICATION OF THE DEFICIENCY IN THE SEAL 735 AND OTHERS WHICH WERE IDENTIFIED DURING THE INSPECTION ARE SIMILAR.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Three Mile Island 1	11/26/1985	12/26/1985	Fire Penetration Breach Abstract: POWER LEVEL - 075%. DURING A TRANSIENT COMBUSTIBLE INSPECTION, AT 0815 ON 11-26-85, A FIRE PROTECTION ENGINEER NOTED UTILITY MAINTENANCE PERSONNEL PERFORMING A CORE BORING ON THE WEST WALL OF THE 'A' MAKEUP PUMP CUBICLE. HE DISCOVERED THAT CORE BORINGS HAD BEEN MADE TO THE WEST WALL OF THE 'B' MAKEUP PUMP CUBICAL ON 11-21-85 AND TO THE WEST WALL OF THE 'C' MAKEUP PUMP CUBICAL ON 11-23-85. THE JOB TICKET PACKAGE HAD IDENTIFIED THESE CORE BORES AS FIRE PENETRATIONS IN THE FIRE HAZARD ANALYSIS AND INCLUDED THE PROCEDURAL REQUIREMENTS FOR PERFORMING A FIRE PENETRATION SEAL BREACH. HOWEVER, FIRE PENETRATION SEALS WERE NOT INSTALLED NOR WAS A CONTINUOUS FIRE WATCH POSTED AS REQUIRED BY TECH SPEC 3.18.7. A CONTINUOUS FIRE WATCH WAS ESTABLISHED WITHIN 1 HR OF THE CONDITION BEING IDENTIFIED, AND ACCEPTABLE PENETRATION SEALS WERE INSTALLED THE AFTERNOON OF 11-26-85. THE FOLLOWING DAY THE THIRD CORE BORE WAS COMPLETED, AND A CONTINUOUS FIRE WATCH WAS POSTED UNTIL AN ACCEPTABLE PENETRATION SEAL WAS INSTALLED. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR CONTRARY TO AN APPROVED PROCEDURE. MAINTENANCE SUPERVISION WILL REVIEW THIS EVENT WITH ALL TMI-1 UTILITY MAINTENANCE PERSONNEL. THE FOLLOWING LER'S HAVE BEEN SUBMITTED ON INOPERABLE FIRE PENETRATION SEALS: 83-36, 83-47, 83-49, 84-01, AND 84-03.
Three Mile Island 1	03/11/1986	09/24/1986	Inoperable Fire Door Abstract: POWER LEVEL - 100%. ON MARCH 11, 1986, DURING THE PERFORMANCE OF THE BIENNIAL QUALITY ASSURANCE FIRE PROTECTION AUDIT, THE QA AUDITOR IDENTIFIED THAT THE EXISTING CLEARANCE FOR FIRE DOOR C310, LOCATED BETWEEN THE ESAS ROOM AND THE 1E-4160V SWITCHGEAR, VIOLATED THE CLEARANCE REQUIREMENTS OUTLINED IN NFPA CODE 80, SECTION 3-6.1. TECHNICAL SPECIFICATION 3.18.7 WAS NOT MET. FIRE DOOR C310 WAS NOT FUNCTIONAL NOR WAS A CONTINUOUS FIREWATCH POSTED WITHIN AN HOUR OF OCCURRENCE. A CONTINUOUS FIREWATCH WAS ESTABLISHED WITHIN ONE HOUR OF THE CONDITION BEING IDENTIFIED. A JOB TICKET WAS ISSUED TO INSTALL A SECTION OF ANGLE IRON TO ELIMINATE THE BOTTOM OF THE DOOR AND FLOOR CLEARANCE. THE FIRE DOOR WAS MODIFIED IN 1981 TO SUPPORT PLANT MODIFICATIONS IN THE AREA. FOR PERSONNEL SAFETY, AN ANGLE IRON WAS INSTALLED TO ENSURE THAT THE DOOR WOULD REMAIN CLOSED. THE DOOR WAS THEN NOT REQUIRED TO BE SURVEILLED. DURING THE FIRE PROTECTION TRIENNIAL AUDIT OF AUGUST, 1984, AN AUDIT FINDING WAS ISSUED ON DOOR CLEARANCE PROBLEMS. FIRE DOOR C310 WAS OVERLOOKED DURING THE INSPECTION OF ALL FIRE DOORS BECAUSE THE REQUIREMENT TO SURVEIL THE DOOR HAD PREVIOUSLY BEEN DELETED. THERE WAS NO DETRIMENTAL SAFETY CONSEQUENCES DURING THE TIME THE DOOR DID NOT MEET CLEARANCE REQUIREMENTS.
Three Mile Island 1	09/04/1986	10/06/1986	INOPERABLE FIRE DETECTOR Abstract: POWER LEVEL - 100%. DURING AN OFF-SHIFT MANAGEMENT TOUR ON SEPTEMBER 4, 1986, THE EXHAUST DUCT GRILL IN THE 1D ES SWITCHGEAR ROOM WAS FOUND TO BE BLANKED OFF, BLOCKING THE AIR FLOW FROM THE ROOM. FIRE DETECTION FOR THE ROOM IS PROVIDED BY A SINGLE EXHAUST DUCT MOUNTED FIRE DETECTOR IN THE EXHAUST DUCT THAT WAS BLOCKED OFF. TECHNICAL SPECIFICATION 3.18.1.2 REQUIRES ESTABLISHING A FIRE WATCH PATROL WITHIN 1 HOUR TO INSPECT THE ROOM AT LEAST ONCE PER HOUR. THE EXHAUST DUCT HAD BEEN BLOCKED INITIALLY ON AUGUST 14, 1986 AND REMAINED BLOCKED UNTIL SEPTEMBER 4, 1986. OTHER RELATED EVOLUTIONS IN PROCESS AT THE TIME WERE REVIEWED. FIRE DETECTION OPERABILITY REQUIREMENTS WERE ADDRESSED. IT WAS CONCLUDED THAT COVERING THE EXHAUST DUCT WAS BEYOND THE SCOPE OF THE ISSUED JOB TICKET AND WAS DONE WITHOUT CONSIDERING THE OPERABILITY REQUIREMENT. MITIGATING CONDITIONS EXISTED. FIRE WATCH INSPECTIONS WERE MADE DURING MOST OF THE PERIOD THE DETECTOR WAS INOPERABLE. THE ARRANGEMENT OF THE ROOM, THREE-HOUR FIRE RATED BOUNDARIES AND LOW FIRE LOADING WERE MITIGATING CONDITIONS.
Three Mile Island 1	04/02/1987	05/01/1987	Fire Barrier Penetration Seal Not Installed Due to Personnel Error Abstract: POWER LEVEL - 081%. TMI-1 WAS OPERATING AT 81% POWER. ON APRIL 2, 1987, TMI-1 OPERATIONS PERSONNEL WERE PERFORMING THE FIRE BARRIER PENETRATION SEAL SURVEILLANCE REQUIRED EACH REFUELING. IT WAS DISCOVERED THAT NO SEAL WAS INSTALLED IN A PENETRATION IN A FIRE ZONE BOUNDARY. A CONTINUOUS FIRE WATCH WAS POSTED WITHIN ONE HOUR OF DISCOVERY. THIS EVENT WAS DETERMINED REPORTABLE PER 10 CFR 50.73 (A)(2)(II)(B). PENETRATION SEAL 184 WAS TO HAVE BEEN INSTALLED DURING SEAL INSTALLATION WORK PERFORMED IN 1978 AND 1979 FOR COMPLIANCE WITH LICENSE AMENDMENT 44 AND APPENDIX A TO BTP 9.5-1. WORK WAS STOPPED ON THE WALL WHERE THE PENETRATION IS LOCATED AFTER ANALYSIS SUPPORTED NOT RATING A PORTION OF THE WALL. UNDER RE-ANALYSIS FOR APPENDIX R, THE WALL WAS TO BE UPGRADED TO A SEALED ZONE BOUNDARY. FIRE PENETRATION 184 WAS THEREFORE REQUIRED TO BE SEALED. A COGNITIVE ERROR ON THE PART OF ENGINEERING PERSONNEL WAS MADE WHEN IT WAS ASSUMED THE PENETRATION HAD BEEN SEALED IN 1978 OR 1979, THEREFORE, A SEAL INSPECTION WAS NOT PERFORMED PRIOR TO DECLARING THE FIRE BOUNDARY FUNCTIONAL TO SUPPORT COMPLIANCE WITH APPENDIX R. THE REQUIRED SEAL WAS INSTALLED ON THE DAY OF DISCOVERY.
Three Mile Island 1	02/18/1998	03/19/1998	Missing Thermo-Lag Fire Barrier Abstract: At approximately 0700 hours, on February 5, 1998 TMI-1 was operating at 100% power and while preparing to upgrade Thermo-Lag fire barriers installed to achieve compliance with 10 CFR 50 Appendix R Section III. G., personnel identified an inconsistency in the conduit arrangement in FH-FZ-6. This condition was determined to be reportable on February 18, 1998. It was determined that a violation of fire protection commitments regarding safe shutdown capability of the plant existed due to a failure to protect a conduit duct containing the cables for nuclear instrumentation detector 11, a required safe shutdown nuclear instrument (NI). The root cause of the failure to protect the NI-11 conduit duct was personnel error. The conduit layout that was provided in the engineering contractor's construction design package appears not to include the appropriate change document. This resulted in the installation of the Thermo-Lag fire barrier on the incorrect conduit duct. The event is being reported per 10CFR50.73(a)(2)(ii).
Three Mile Island 1	04/16/1998	07/14/1998	Inoperable Fire Dampers Abstract: On April 16, while the plant was operating at 100% power, the Plant Review Group evaluated a condition with regard to the operability of fire dampers AH-FD-64 and AH-FD-74 that resulted from information gathered during maintenance on the dampers and determined that the plant had been operating outside its design basis. The fire dampers were determined to be inoperable in that they were unable to close on either an actuation signal from their respective combustible gas detectors or from the heat of a fire as designed. The deficient condition was determined to exist from September 23, 1996 until both AH-FD-64 and AH-FD-74 were manually closed, placing them in their fail safe design basis position on March 25, 1998. The dampers were restored to their normal configuration and were in operable condition following satisfactory completion of post maintenance testing on April 8, 1998. The cause of the inoperability of the dampers was determined to be the improper re-installation of an "S" link (a component of the damper trip mechanism configuration) following a mechanical functional test of the dampers on September 23, 1996. Inadequate or incomplete procedural instruction was identified as the root cause of the improper installation of the "S" links. The event is being reported per 10 CFR 50.73(a)(2)(ii)(B).

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Three Mile Island 1	06/17/1998	07/17/1998	LER 98-006-00 Thermo-Lag Fire Barrier Found Installed Outside Approved Joint Design Arrangement Abstract: At approximately 1320 on June 17, 1998 TMI-1 was operating at 100% power and while preparing to upgrade Thermo-Lag fire barriers installed to achieve compliance with 10 CFR 50 Appendix R Section III. G., personnel identified two inconsistencies in the fire barrier arrangement for a Thermo-Lag protected conduit in Fire Area CB-FA-2d. The condition of the conduit's joint arrangement identified was not consistent with "rated" fire barrier configurations and was determined to be reportable on June 18, 1998. The conduit within the Thermo-Lag barrier contains control power cabling for Intermediate Closed Cooling Water Pump IC-P-1B which is required for Reactor Coolant Pump bearing and seal cooling. The cause of the failure to properly protect the conduit containing control power cabling for IC-P-1B was personnel error. The conduit-to-penetration seal and the conduit-to-barrier interface details were not constructed in accordance with acceptable fire barrier joint design arrangements. As a result, the as installed Thermo-Lag fire barrier configurations did not meet the "rated" configuration. The event is being reported per 10 CFR 50.73(a)(2)(ii).
Three Mile Island 1	04/27/2005	06/23/2005	Safe Shutdown Analysis For Control Building Fire Area 1 Was Discovered To Have Flaws In The Fire Mitigation Stategey Due To Insuffcient Technical Rigor Abstract: On April 27, 2005, a previously unidentified error associated with an Appendix R fire scenario involving multiple high impedance faults (MHIF), in the 306' elevation of the Control Building, was identified. An engineering evaluation has determined that the operations procedure for recovery of vital power for instrumentation and control, following a postulated fire/MHIF scenario in this area, would not be successful . The original evaluation of this fire/MHIF concern (in the 1987 time frame) considered this event to be very improbable and incorrectly assumed that the recovery of vital power following a bus trip would be successful. The historical procedure incorrectly assumed that DC power (which is assumed lost in the fire) was not required to restart the necessary electrical recovery equipment. The root cause is determined to be insufficient technical rigor applied in the technical analysis of the MHIF strategy and in the older procedure review process. The corrective action to address the root cause is addressed by IR213719, which included establishing Exelon technical human factors procedure, HU-AA-1212. This condition was determined to meet the following reporting criterion: the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety (10 CFR 50 .73 (a)(2)(ii)(B)).
Three Mile Island 1	04/23/2006	06/22/2006	Design Change Error for the Decay Heat Valves Connecting the BWST and RB Sump Negatively Impacted the Fire Mitigation Strategy for an Auxiliary Building Fire Area Abstract: On April 23, 2006, while performing reviews of fire abnormal operating procedures to assure compliance with the Fire Hazards Analysis Report (FHAR), a control logic error was identified in the circuit elementary drawing for the isolation valves (DH-V-6A and DH-V-6B) between the Borated Water Storage Tank (BWST) and the Reactor Building (RB) sump. The valve control circuit was verified to be wired as per the elementary drawing. The design was to prevent a hot short, due to a fire, from opening the valve, but the design change was made on the closing circuit. The identified control logic error could allow DH-V-6A or DH-V-6B to spuriously open due to a fire. The FHAR credits these valves as being protected from spuriously opening due to a fire in AB-FZ-5 (Auxiliary Building 281 general area). If this protection is not provided, then spurious opening could result in draining the BWST inventory to the RB sump. This hot short condition would result in the depletion of the BWST inventory and loss of the High Pressure Injection (HPI) makeup capability, resulting in an unanalyzed condition that significantly degrades plant safety. The Root Cause of the problem is identified as "accountability needs improvement" in that the reviewers did not validate the design requirements for DH-V-6A/B in the original 1985 Appendix R package. Upon discovery, an hourly fire-watch was established in the affected fire zone in the 281' elevation Auxiliary Building. The fire watch was continued until June 2, 2006, when the control circuitry was
Three Mile Island 2	07/31/1980	09/05/1980	Abstract: TOO HIGH. THE FLAME DETECTORS WITHIN THE WHITE BOP DIESEL GENERATOR (DG) ENCLOSURE FAILED. THE TEMPERATURE INSIDE THE WHITE BOP DG ENCLOSURE EXCEEDED THE SPECIFIED MAXIMUM AMBIENT TEMPERATURE OF 130F FOR THE FLAME DETECTORS. AN HOURLY FIRE WATCH WAS INITIATED AND MAINTAINED UNTIL THE REQUIRED DETECTOR WAS REPLACED. THE BOP DG'S HAVE SINCE BEEN REMOVED FROM THE TECH SPECS. A TECH SPEC CHANGE REQUEST WILL BE SUBMITTED BY NOV. 1, TO REMOVE THE REQUIREMENT OF FIRE DETECTION FROM THE BOP DG'S.
Three Mile Island 2	11/10/1980	03/03/1981	Abstract: DEFICIENT FIRE BARRIER SEAL WAS DISCOVERED. SEAL NO. 3-484-51, LOCATED IN THE SERVICE BUILDING WALL SEPARATING UNIT SUBSTATION 2-22E AND THE MECHANICAL EQUIPMENT ROOM, WAS OBSERVED TO HAVE AN 18' LONG CRACK WHICH PENETRATED THE SEAL. A CRACK DEVELOPED IN THE FIRE BARRIER PENETRATION SEAL, THEREBY MAKING THE SEAL NON-FUNCTIONAL. AN HOURLY FIRE WATCH WAS IMPLEMENTED AND MAINTAINED DURING THE SEAL REPAIR. THE SEAL WAS REPAIRED AND RETURNED TO SERVICE ON NOVEMBER 10.
Three Mile Island 2	02/02/1981	03/05/1981	Abstract: WHILE TESTING DELUGE VALVE FS-V-426A FAILED TO OPERATE PROPERLY. MANUAL ACTUATION CAPABILITY WAS CONFIRMED AND A ROVING FIRE WATCH IMPLEMENTED. THE SOLENOID WAS DISMANTLED BUT THERE WAS NO APPARENT CAUSE FOR THE MALFUNCTION. THE PARTS WERE CLEANED AND REASSEMBLED. SUBSEQUENT TESTING SHOWED THE OPERATOR TO BE FUNCTIONING PROPERLY. THE OPERATOR WAS REINSTALLED AND THE SYSTEM RETURNED TO AN OPERABLE STATUS.
Three Mile Island 2	09/14/1981	10/14/1981	Abstract: DURING PERFORMANCE OF FIRE BARRIER PENETRATION FIRE SEAL INSPECTION, THREE FIRE BARRIER PENETRATION SEALS WERE DECLARED INOPERABLE (PENETRATION 3-342-05, 5-016-80, AND 6-045-12). INADEQUATE CONTROLS TO ENSURE FIRE BARRIER PENETRATIONS ARE RESEALED FOLLOWING MAINTENANCE OR CONSTRUCTION IS THE CAUSE. SEALED THE INOPERABLE SEALS AND COMPLETED THE SURVEILLANCE. PROPER IMPLEMENTATION OF 1410-Y-43 IS BEING EXERCISED AT THE PRESENT TIME.
Three Mile Island 2	10/07/1981	11/06/1981	Abstract: DURING THE ANNUAL SURVEILLANCE OF FIREWALL-50 SEALS PER SURVEILLANCE PROCEDURE 4331-A1, FIRE BARRIER PENETRATION FIRE SEAL INSPECTION, THE FOLLOWING SEALS WERE DETERMINED TO BE DEFICIENT: 1-126-05, 3-105-93, 3-106-93, 3-358-05, 4-206-05, 4-229-28, 4-310-28. THIS EVENT IS NOT A VIOLATION OF ANY T.S. THIS EVENT WAS THE RESULT OF DISCOVERY OF DEFICIENCIES THAT DEVELOPED IN CERTAIN FIRE BARRIER PENETRATION SEALS THEREBY MAKING THEM NON-FUNCTIONAL. AN HOURLY FIRE WATCH WAS IMPLEMENTED AND MAINTAINED DURING THE SEAL REPAIRS. THE SEALS WERE REPAIRED.
Three Mile Island 2	02/11/1983	08/05/1983	Abstract: BETWEEN FEBRUARY 1 AND 7, 1983, WHILE REPLACING SELECTED FIRE BARRIER SEALS IN THE UNIT 2 RIVER WATER PUMP HOUSE, FIRE WATCH TOURS WERE PERFORMED ON A LESS THAN HOURLY BASIS DURING THE BACKSHIFTS (1500-2300 AND 2300-0700 HOURS) AND DURING WEEKEND SHIFTS. THIS IS CONTRARY TO THE REQUIREMENTS OF SECTION 3.7.11 AND IS, THEREFORE, REPORTABLE PURSUANT TO SECTION 6.9.1.8(B) OF THE RECOVERY TECH SPECS. PERSONNEL ERROR WAS THE PROXIMATE CAUSE. THE ROOT CAUSE INVOLVES THE ASSIGNMENT OF PRIORITIES SUCH THAT PROPER PERSONNEL RESOURCES WERE NOT APPLIED. THE SHIFT FOREMAN WAS MADE AWARE OF THE PROBLEM AND THE FIRE WATCH WAS IMPLEMENTED ON AN HOURLY BASIS. A NEW FIRE WATCH DOCUMENTATION SHEET HAS BEEN DEVELOPED TO DOCUMENT THE REQUIRED FIRE WATCHES.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Three Mile Island 2	08/19/1983	09/21/1983	Abstract: ON AUGUST 19, 1983, AT 1000 HOURS, IT WAS DETERMINED THAT AN HOURLY FIREWATCH WAS NOT IN EFFECT FOR PENETRATION FIRE SEAL 4-065-80 IN THE AUXILIARY BUILDING. THIS SEAL WAS NONFUNCTIONAL PENDING REPLACEMENT. THIS CONDITION EXISTED SINCE 1445 HOURS ON AUGUST 16, 1983, WHEN THE FIREWATCH WAS SECURED. THIS IS A VIOLATION OF TECH SPEC 3.7.11. INACCURATE COMMUNICATIONS BETWEEN FIRE PROTECTION AND QUALITY CONTROL INSPECTION PERSONNEL LED TO THE ERRONEOUS BELIEF THAT THE SEAL HAD BEEN SATISFACTORILY REPLACED. AT 1000 HOURS ON AUGUST 19, 1983, THE REQUIRED HOURLY FIRE WATCH WAS RE-ESTABLISHED. RECEIPT OF FINAL ACCEPTANCE DOCUMENTATION IS NOW REQUIRED PRIOR TO FIREWATCH TERMINATION.
Three Mile Island 2	08/01/1985	08/30/1985	Inoperable Status of the Emergency Diesel Generator Fire Suppression Systems Abstract: POWER LEVEL - NG %. ON 8-1-85, AT 1255 HRS, IT WAS DISCOVERED THAT THE TMI-2 FIRE SYSTEM VALVE FS-V-137 WAS CLOSED. THIS VALVE ISOLATES (AND RENDERS INOPERABLE) THE AREA FIRE SUPPRESSION DELUGE/SPRINKLER SYSTEMS FOR THE TMI-2 EMERGENCY DG-AIR INTAKE AREA, FUEL OIL TANK AREAS AND GENERATOR ROOMS. THE VALVE HAD BEEN CLOSED SINCE 7-17-85. THESE AREA FIRE SUPPRESSION DELUGE/SPRINKLER SYSTEMS ARE REQUIRED TO BE OPERABLE PURSUANT TO TECH SPEC LCO 3.7.10.2. DURING THE PERIOD THAT THIS VALVE WAS CLOSED, THE UNIT FAILED TO COMPLY WITH THE ACTION STATEMENT OF TECH SPEC LCO 3.7.10.2. THE CAUSE OF THIS EVENT HAS BEEN DETERMINED TO BE A PERSONNEL ERROR ON THE PART OF THE SHIFT FOREMAN WHO AUTHORIZED THE CLOSURE OF FS-V-137 WITHOUT RECOGNIZING THAT THIS WOULD ISOLATE THE AREA FIRE SUPPRESSION DELUGE/SPRINKLER SYSTEMS. THE FAILURE TO INITIATE A 1 HR FIREWATCH, PROVIDE BACKUP FIRE SUPPRESSION EQUIPMENT AND RETURN THE AREA FIRE SUPPRESSION DELUGE/SPRINKLER SYSTEM TO SERVICE WITHIN 14 DAYS RESULTED IN VIOLATION OF THE ACTION STATEMENT OF TECH SPEC LCO 3.7.10.2. FAILURE TO COMPLY WITH THE ACTION STATEMENT RESULTS IN THIS EVENT BEING REPORTABLE TO THE NRC PURSUANT TO 10 CFR 50.73(A)(2)(I)(B).
Trojan	07/06/1987	11/06/1987	Fire Watch Not Established Due to Personnel Error Abstract: POWER LEVEL - 000%. ON JULY 6, 1987, THE HALON SYSTEM FOR THE REMOTE SHUTDOWN PANEL ROOM AND DELUGE SYSTEMS 18 AND 19 FOR THE ELECTRICAL PENETRATION AREA WERE REMOVED FROM SERVICE DURING MAINTENANCE. CONTRARY TO TECH SPEC 3.7.8.2, 'SPRAY, SPRINKLER, AND/OR DELUGE SYSTEMS', A CONTINUOUS FIRE WATCH WAS NOT ESTABLISHED WITHIN 1 HOUR IN THE AREAS PROTECTED BY THESE SUPPRESSION SYSTEMS. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR. ALTHOUGH THE DATE FOR INITATING THE FIRE WATCH WAS CHANGED TO BE CONSISTENT WITH A SCHEDULE CHANGE FOR THE MAINTENANCE BEING PERFORMED, THE SPECIFIED TIME FOR BEGINNING THE FIRE WATCH WAS NOT CHANGED. THIS RESULTED IN THE MAINTENANCE THAT CAUSED THE SUPPRESSION SYSTEMS TO BE INOPERABLE OCCURRING PRIOR TO ESTABLISHING A FIRE WATCH. ADMINISTRATIVE ORDER 10-2, 'FIRE PROTECTION', WAS REVIEWED AND IT WAS CONFIRMED THAT SUFFICIENT PROCEDURAL GUIDANCE IS PROVIDED ON THE ADMINISTRATION OF FIRE PATROLS. THE FAILURE TO PROVIDE A FIRE WATCH WAS CONSIDERED AN ISOLATED EVENT. PERSONNEL WERE COUNSELED ON THE PROCEDURAL REQUIREMENTS OF AO-10-2. THIS EVENT HAD NO EFFECT ON PUBLIC HEALTH AND SAFETY.
Trojan	11/18/1987	12/18/1987	Fire Doors Made Inoperable Due to Personnel Error Abstract: POWER LEVEL - 100%. ON NOVEMBER 18, 1987, AT ABOUT 1300 HOURS, ELECTRICAL CABLES AND AIR HOSES WERE TEMPORARILY ROUTED BETWEEN THE COMPONENT COOLING WATER (CCW) HEAT EXCHANGER ROOM AND THE FUEL BUILDING CRANE BAY TO SUPPLY AUXILIARY EQUIPMENT REQUIRED TO SUPPORT RADIOACTIVE SPENT RESIN TRANSFERS. NORMALLY OPEN ROLLUP FIRE DOORS 430 AND 431 EQUIPPED WITH FUSIBLE LINKS ARE PROVIDED AS FIRE BARRIERS FOR THE CCW HEAT EXCHANGER ROOM SUCH THAT IN THE EVENT OF A FIRE, THE FUSIBLE LINKS WILL MELT AND THE ROLLUP DOORS WILL CLOSE. WITH THE CABLES AND HOSES ROUTED THROUGH THE OPENINGS TO THE CCW HEAT EXCHANGER ROOM, THE ROLLUP FIRE DOORS WOULD HAVE BEEN UNABLE TO COMPLETELY CLOSE IN THE EVENT OF A FIRE. THE CAUSE OF THIS EVENT WAS PROCEDURAL INADEQUACY IN THAT PROCEDURES DID NOT REQUIRE THESE DOORS TO BE POSTED AS FIRE DOORS. THE IMMEDIATE CORRECTIVE ACTION WAS TO VERIFY THE OPERABILITY OF FIRE DETECTORS IN THE AREA AND ESTABLISH AN HOURLY FIRE PATROL AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.9. FOLLOWING REMOVAL OF THE CABLES AND HOSES, THE ROLLUP DOORS WILL BE CLOSED AND LEFT CLOSED AS THEIR NORMAL POSITION. SIGNS WERE ADDED AT THESE DOORS IDENTIFYING THEM AS FIRE DOORS. PROCEDURES WILL BE REVISED TO REQUIRE PERIODIC CHECKS OF FIRE DOORS FOR ADEQUATE POSTING. THIS EVENT HAD NO EFFECT ON
Trojan	04/30/1988	05/31/1988	Fire Door Made Inoperable Due to Personnel Error Abstract: POWER LEVEL - 000%. ON APRIL 30, 1988, RIGGING EQUIPMENT WAS FOUND TO BE ROUTED THROUGH ROLLUP FIRE DOOR 430. THIS DOOR IS PROVIDED AS A FIRE BARRIER FOR THE AUXILIARY BUILDING AREA WHERE THE COMPONENT COOLING WATER (CCW) HEAT EXCHANGERS ARE LOCATED AND WAS OPEN AT THE TIME OF THE EVENT. IT IS EQUIPPED WITH FUSIBLE LINKS SUCH THAT IN THE EVENT OF A FIRE, THE FUSIBLE LINKS WILL MELT AND THE ROLLUP DOOR WILL CLOSE. WITH THE RIGGING EQUIPMENT ROUTED THROUGH THE OPENING, THE ROLLUP FIRE DOOR WOULD HAVE BEEN UNABLE TO COMPLETELY CLOSE IN THE EVENT OF A FIRE. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR. THE PERSON WHO ROUTED THE RIGGING GEAR DID NOT RECOGNIZE DOOR 430 AS A FIRE DOOR AND TREAT IT AS SUCH. THE IMMEDIATE CORRECTIVE ACTION WAS TO REMOVE THE RIGGING GEAR TO RESTORE THE BARRIER TO OPERABLE STATUS. THE DOOR HAS SINCE BEEN CLOSED AND WILL BE LEFT CLOSED AS ITS NORMAL POSITION. THIS EVENT HAD NO EFFECT ON PUBLIC HEALTH AND SAFETY. THERE WAS NO EVENT WHICH REQUIRED THAT THESE DOORS BE OPERABLE.
Trojan	10/04/1990	11/05/1990	Lack of Adequate Administrative Controls Results in Some Missed Continuous Fire Watches When Fire Detection Instrument System Fails Abstract: POWER LEVEL - 000%. ON 10/4/90 THE PLANT WAS IN MODE 3 (HOT STANDBY) WITH THE RCS AT AN AVERAGE TEMPERATURE OF 551F. AT 1721, A MAJOR FAILURE OCCURRED IN THE CONTROL PANEL (C-43) FOR THE TECH SPEC FIRE DETECTION INSTRUMENTATION. THE CAUSE WAS DETERMINED TO BE A FAILED RELAY SOLDER JOINT. THIS WAS REPAIRED AND THE CONTROL PANEL RESTORED TO OPERATION AT 1500 ON 10/5/90. DUE TO PENETRATION FIRE BARRIERS BEING INOPERABLE, THE PLANT HAD BEEN OPERATING IN THE ACTION STATEMENT OF TROJAN TECH SPEC (TTS) 3.7.9, 'PENETRATION FIRE BARRIERS', WHICH REQUIRED OPERABLE FIRE DETECTORS AND AN HOURLY FIRE PATROL. THE MORE RESTRICTIVE PORTION OF THIS ACTION STATEMENT, WHICH REQUIRES A CONTINUOUS FIRE WATCH ON AT LEAST ONE SIDE OF AN INOPERABLE BARRIER, WAS ENTERED WHEN THE DETECTORS BECAME INOPERABLE. WITHIN ONE HOUR, CONTINUOUS FIRE WATCHES WERE ESTABLISHED AS REQUIRED BY TTS 3.7.9, IN THOSE AREAS REQUIRED TO HAVE OPERABLE FIRE DETECTORS BY TTS 3.3.3.7, 'FIRE PROTECTION INSTRUMENTATION'. THE EXISTING HOURLY FIRE PATROL WAS CONTINUED AS A CONSERVATIVE MEASURE. SUBSEQUENTLY IT WAS DETERMINED THAT FIRE WATCHES WERE NOT ESTABLISHED IN ALL REQUIRED AREAS. THE CAUSE OF THE MISSED FIRE WATCHES IS THAT ADMINISTRATIVE CONTROLS DID NOT
Trojan	10/24/1990	11/26/1990	Required Compensatory Action Not Established for a Non-Functional Fire Barrier Due to Personnel Error in Identifying that the Barrier was Governed by Technical Specification Abstract: POWER LEVEL - 098%. ON OCTOBER 24, 1990 THE PLANT WAS IN MODE 1 (POWER OPERATION) AT APPROXIMATELY 98 PERCENT RATED THERMAL POWER, WITH A GENERATOR LOAD OF 1120 MW. WHILE INVESTIGATING THE FAILURE OF A FIRE DETECTION INSTRUMENT ALARM PANEL, IT WAS IDENTIFIED THAT A PERSONNEL ERROR HAD OCCURRED, ON PAST OCCASIONS, IN DESIGNATING THREE FIRE BARRIERS AS NOT BEING GOVERNED BY TROJAN TECHNICAL SPECIFICATION 3/4.7.9, 'PENETRATION FIRE BARRIERS'. AS A RESULT, THE TECHNICAL SPECIFICATION 3.7.9 REQUIRED COMPENSATORY ACTIONS OF A CONTINUOUS FIRE WATCH, OR VERIFICATION OF OPERABLE FIRE DETECTION INSTRUMENTS AND AN HOURLY FIRE PATROL WERE NOT ESTABLISHED WHEN THE FIRE BARRIERS WERE NON-FUNCTIONAL. HOWEVER, HOURLY FIRE PATROLS WERE ESTABLISHED AS A MATTER OF GOOD PRACTICE WHENEVER THESE BARRIERS WERE DEGRADED. FIRE PROTECTION PERSONNEL MADE AN ERROR WHEN APPLYING THE TECHNICAL SPECIFICATION CRITERIA ON WHAT CONSTITUTED A FIRE BARRIER TO THE DRAWINGS IDENTIFYING FIRE AREA BOUNDARIES AND FIRE RESISTANCE RATING. THE CRITERIA WERE NOT CORRECTLY APPLIED. CONTRIBUTING TO THE PERSONNEL THE NEED TO COMPARE SEVERAL DRAWINGS IN ORDER TO DETERMINE IF A FIRE GOVERNED BY TECHNICAL SPECIFICATION 3.7.9.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Trojan	11/16/1990	12/17/1990	Wiring Design Error and Inadequate Post Installation Testing Result in Emergency Diesel Generator Output Breaker Decouple Switch Inoperability Abstract: POWER LEVEL - 100%. ON 11/16/90 THE TROJAN NUCLEAR PLANT WAS OPERATING AT 100 PERCENT RATED THERMAL POWER. POST MAINTENANCE TESTING ON A RELAY THAT HAD BEEN REPLACED IN THE 'B' EMERGENCY DIESEL GENERATOR OUTPUT BREAKER DECOUPLE CIRCUIT WAS IN PROGRESS. THE POST MAINTENANCE TESTING COULD NOT BE COMPLETED BECAUSE OF A WIRING ERROR IN THE DECOUPLE CIRCUIT. THE WIRING ERROR WOULD HAVE PREVENTED SWITCHING TO A NORMALLY DISCONNECTED POWER SUPPLY FOR THE BREAKER CONTROLS IF THE NORMAL FUSES WERE BLOWN DURING A CONTROL ROOM OR CABLE SPREADING ROOM FIRE. THIS EVENT WAS DETERMINED TO BE CAUSED BY PERSONNEL ERROR IN DESIGN OF THE CIRCUIT. INADEQUATE TESTING FOLLOWING INSTALLATION OF THE DECOUPLE CIRCUIT AND INADEQUATE SURVEILLANCE PROCEDURES ALSO CONTRIBUTED TO THIS EVENT. THE WIRING ERROR WAS CORRECTED AND THE DECOUPLE SWITCH WAS RETURNED TO OPERABLE STATUS AT 0240 ON 11/22/90. THE POST INSTALLATION TESTING OF THE REMAINING DECOUPLE CIRCUITS WILL BE REVIEWED TO DETERMINE IF THE TESTING WAS ADEQUATE TO DEMONSTRATE CIRCUIT DESIGN FUNCTIONS. CIRCUITS WHICH WERE NOT ADEQUATELY TESTED WILL HAVE FULL FUNCTIONAL TESTING PERFORMED. SURVEILLANCE PROCEDURES WILL BE UPGRADED TO ASSURE THEY ADEQUATELY DEMONSTRATE
Trojan	12/18/1990	04/05/1991	Inadvertant Actuation of Cable Spreading Room Deluge System Results in Water Entering the Switchgear Room Containing Alternative Safe Shutdown Equipment Abstract: POWER LEVEL - 100%. ON DECEMBER 18, 1990, THE PLANT WAS IN MODE 1 (POWER OPERATION). AT 0809, INADVERTENT ACTUATION OF ONE OF THREE DELUGE SYSTEMS IN THE CABLE SPREADING ROOM (CSR) OCCURRED, APPARENTLY DUE TO THE HEAT FROM A DROP LIGHT TRIGGERING THE HEAT-SENSITIVE ACTUATION CIRCUIT (ONE-OUT-OF-TWO LOGIC) FOR THE DELUGE SYSTEM. OPERATIONS PERSONNEL RESPONDED TO CONTROL ROOM ALARMS FOR THE DELUGE ACTUATION. IT WAS DETERMINED THAT THERE WAS NO FIRE, AND THE ACTUATED DELUGE SYSTEM WAS ISOLATED BY SHUTTING A COMMON ISOLATION VALVE WHICH ALSO ISOLATED THE OTHER TWO DELUGE SYSTEMS. A PREEXISTING FIRE WATCH IS BEING CONTINUED WHILE THE DELUGE SYSTEMS ARE ISOLATED. THE DELUGE SYSTEMS WILL BE RESTORED TO SERVICE BY JUNE 1, 1991. INVESTIGATION OF THE EVENT IDENTIFIED THAT WATER LEAKED FROM THE CSR INTO THE 'A' TRAIN ELECTRICAL AUXILIARY ROOM, 'B' TRAIN ELECTRICAL SWITCHGEAR AND AUXILIARY ROOM, AND 'B' TRAIN BATTERY ROOM BELOW. ALTHOUGH NO LOSS OF FUNCTION OF EQUIPMENT DUE TO THE LEAKAGE WAS IDENTIFIED IN THIS EVENT, THE POTENTIAL FOR LOSS OF FUNCTION WAS OF CONCERN SINCE THE 'B' TRAIN ELECTRICAL SWITCHGEAR, AUXILIARY, AND BATTERY EQUIPMENT ARE CREDITED AS THE ALTERNATIVE SAFE SHUTDOWN PATH FOR A FIRE
Trojan	11/15/1991	06/24/1992	Technical Specification Surveillance for Fire Detectors was Missed and Found Not to Completely Implement Testing Requirements Due to Inadequate Procedures and a Personnel Abstract: POWER LEVEL - 000%. ON NOVEMBER 14, 1991 THE TROJAN NUCLEAR PLANT WAS IN MODE 5 (COLD SHUTDOWN) WHEN IT WAS DISCOVERED, DURING A QUALITY ASSURANCE AUDIT OF FIRE PROTECTION ACTIVITIES, THAT A CONTROL BUILDING SWITCHGEAR ROOM SMOKE EXHAUST AND SMOKE DETECTION SYSTEM SURVEILLANCE HAD NOT BEEN PERFORMED WITHIN ITS REQUIRED SURVEILLANCE INTERVAL. IN ADDITION, THE SURVEILLANCE TEST DID NOT FULLY IMPLEMENT TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENTS FOR FIRE DETECTOR INSTRUMENTATION. THE ROOT CAUSES WERE DETERMINED TO BE AN INADEQUATE ADMINISTRATIVE PROCEDURE, AN INADEQUATE TEST PROCEDURE, AND PERSONNEL ERROR. PROCEDURE CHANGES WILL BE IMPLEMENTED AS THE CORRECTIVE ACTIONS FOR THESE EVENTS. IN ADDITION, THE SURVEILLANCE TEST WAS REVISED TO INCORPORATE FULLY THE MISSING SURVEILLANCE REQUIREMENTS. SUBSEQUENT COMPLETION OF THE SURVEILLANCE TEST INDICATED THAT THE CONTROL BUILDING SWITCHGEAR ROOM'S SMOKE DETECTORS WOULD HAVE BEEN ABLE TO PERFORM THEIR DESIGN FUNCTION. IN ADDITION, AN HOURLY FIRE PATROL WAS IN EFFECT FOR THE AREA DURING THE PERIOD OF THE EXCEEDED SURVEILLANCE INTERVAL. FOR THESE REASONS THESE EVENTS WERE CONCLUDED TO NOT BE SAFETY SIGNIFICANT.
Trojan	01/16/1992	02/17/1992	Failure to Recognize a Fire Suppression System Deluge Nozzle led to Errection of Scaffold Which Obstructed the Nozzle Spray Pattern Abstract: POWER LEVEL - 000%. ON JANUARY 16, 1992, THE TROJAN NUCLEAR PLANT WAS IN MODE 5 (COLD SHUTDOWN) DURING AN EXTENDED OUTAGE. THE 'A' EMERGENCY DIESEL GENERATOR (EDG) WAS OUT OF SERVICE. BOTH 'A' AND 'B' SERVICE WATER SYSTEMS WERE OPERATING. AT APPROXIMATELY 0100, SCAFFOLD WAS ERECTED BETWEEN FIRE DELUGE SYSTEM NOZZLES AND THE 'B' SERVICE WATER BOOSTER PUMPS. THE SCAFFOLD OBSTRUCTED THE NOZZLE SPRAY PATTERN. CONTRARY TO TECHNICAL SPECIFICATION 3.7.8.2, 'SPRAY, SPRINKLER, AND/OR DELUGE SYSTEMS', A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT WAS NOT ESTABLISHED WITHIN ONE HOUR OF OBSTRUCTING THE SPRAY PATTERN. TECHNICAL SPECIFICATION 3.7.8.2 REQUIRES THIS DELUGE SYSTEM TO BE OPERABLE WHENEVER THE SERVICE WATER BOOSTER PUMPS ARE REQUIRED TO BE OPERABLE. THE 'B' TRAIN SERVICE WATER BOOSTER PUMPS WERE REQUIRED TO BE OPERABLE TO SUPPORT OPERATION OF THE 'B' EDG. THE CAUSE WAS FAILURE TO RECOGNIZE THAT THESE DELUGE SYSTEM NOZZLES WERE PART OF A FIRE PROTECTION SYSTEM. PIPING ADJACENT TO THESE NOZZLES WAS NOT PAINTED RED. A CONTINUOUS FIRE WATCH WAS ESTABLISHED AND BACKUP FIRE SUPPRESSION EQUIPMENT WAS VERIFIED AVAILABLE WHEN THE CONDITION WAS DISCOVERED. A WALKDOWN OF FIRE PROTECTION PIPING HAS BEEN COMPLETED TO
Trojan	01/30/1992	05/06/1992	Improper Fire Penetration Seal Installation Led to Non- functional Fire Penetration Seals Abstract: POWER LEVEL - 000%. ON JANUARY 30, 1992, THE TROJAN NUCLEAR PLANT WAS IN COLD SHUTDOWN. DURING INSTALLATION OF INSTRUMENT TUBING THROUGH A FIRE PENETRATION SEAL IN THE 'A' EMERGENCY DIESEL GENERATOR ROOM, IT WAS NOTED THAT TWO FIRE PENETRATION SEALS DID NOT HAVE THE REQUIRED ONE-INCH DAMMING MATERIAL INSTALLED AND DID NOT MEET THE MINIMUM SEAL THICKNESS REQUIREMENT FOR A 3-HOUR RATED FIRE BARRIER. TECHNICAL SPECIFICATION 3.7.9 REQUIRES ALL 3-HOUR PENETRATION FIRE BARRIERS PROTECTING SAFETY RELATED AREAS TO BE FUNCTIONAL AT ALL TIMES. THE AFFECTED FIRE PENETRATION SEALS HAVE NOT BEEN FUNCTIONAL SINCE THEY WERE INSTALLED. THE DEGRADED FIRE PENETRATION SEALS WERE CAUSED BY IMPROPER DESIGN, IMPROPER INSTALLATION, AND INADEQUATE DOCUMENTATION OF ORIGINAL INSTALLATION. BOTH DEGRADED SEALS WERE INSTALLED BY BRAND INDUSTRIAL SERVICES (BISCO) IN 1979. AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED AND THE OPERABILITY OF FIRE DETECTORS ON ONE SIDE OF THE NONFUNCTIONAL FIRE PENETRATION SEAL WAS VERIFIED. THE FIRE PENETRATION SEALS HAVE BEEN REPLACED. INSPECTION OF SIMILAR FLOOR/CEILING BLOCKOUT FIRE PENETRATIONS WAS COMPLETED ON APRIL 6, 1992. THE INSPECTION IDENTIFIED ONE ADDITIONAL FIRE PENETRATION SEAL THAT WAS DEGRADED DUE TO LACK OF PROPER DAMMING. AN HOURLY
Trojan	04/30/1992	08/13/1992	Degraded Fire Barriers Due to Personnel Errors in Barrier Design and A Deficient Seal Repair Procedure Abstract: POWER LEVEL - 000%. On April 30, 1992, the Trojan Nuclear Plant was in Cold Shutdown. Inspection of 3-hour penetration fire barriers was being done to satisfy the Requirements of Technical Specification 3/4.7.9, Penetration Fire Barriers'. barriers that were degraded. The degraded barriers were a ventilation duct without a 3-hour fire damper, an unsealed four inch diameter sleeve in the ceiling of a Waste Gas Decay Tank room and a foam filled penetration seal in the Cable Spreading Room ceiling that had not been properly repaired. On July 14, 1992 a review of HVAC systems was being done as a corrective action identified in Revision 0 of this report. During the review, it was discovered that a ventilation duct, which penetrates a 3-hour fire barrier, was not equipped with a required fire damper. The cause of this event was cognitive personnel error in that the engineer did not identify that a fire damper was required. Contributing causes were an inadequate conceptual design review process and inadequate coordination and integration of resources to support a dedicated fire protection group. The fire damper was not identified during the 1983 (approximate) design process to upgrade the plant to meet the requirements of 10 CFR 50, Appendix R. The fire damper will be installed by
Trojan	05/09/1992	10/18/1993	Fire Barrier Deficiencies Identified As Result of Ongoing Fire Barrier Surveillance Program Abstract: POWER LEVEL - 100%. Visual inspections conducted between September 30, 1991 and December 3, 1992, for the 1992 eighteen month fire barrier surveillance required by Trojan Technical Specification (TTS) 3/4.7.9, 'Fire Barrier Penetrations,' identified eleven fire barrier penetrations and eight fire barriers tha did not provide the required three hour fire barrier rating. The subject penetrations and fire barriers were declared inoperable and appropriate compensatory measures taken in accordance with TTS 3/4.7.9. The penetrations and barriers were either repaired or determined to be acceptable in the defueled condition. Nine of the degraded penetration seals resulted from personnel errors and two resulted from inadequate procedural controls. Inconsistent fire barrier information contained on engineering drawings was the cause of deficiencies in one fire wall. Five barrier deficiencies resulted from inadequate installation instructions or procedural controls, and the cause of two barrier deficiencies could not be determined. Corrective actions include retraining of inspection and Plant personnel and programmatic improvements in fire barrier inspection procedures. There were no safety consequences resulting from these events. This report is being submitted to fulfill the requirements of 10 CFR

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Trojan	06/17/1992	07/17/1992	Failure to Follow Procedures for Implementing a Design Change Resulted in a Technical Specification Violation Concerning Fire Detection Instrumentation Abstract: POWER LEVEL - 100%. On March 17, 1992, the Trojan Nuclear Plant was operating at 100 percent power. Prior to that date, a review was being conducted of plant documentation for upgrading fire detection instrumentation surveillance procedures. Technical Specifications (TTS) require smoke detectors to be operable in the Auxiliary Feedwater Pump rooms and Emergency Diesel Generator rooms. However, the fire detectors installed in these rooms are heat (thermal) detectors. It was determined on June 17, 1992, during subsequent investigation, that a design change had been implemented without prior NRC approval or the required license change. This condition was caused by a failure to follow established procedural requirements for control of design changes that affect the Technical Specifications. The thermal detectors were declared inoperable and a fire watch established per TTS requirements. Corrective actions for this event will include: revising appropriate plant procedures to strengthen controls for processing design changes, submitting a request for a license amendment to revise the TTS, and reviewing past design change packages that involved license amendments to provide assurance that similar problems have not occurred. This event had no safety consequences and did not affect plant or personnel safety.
Trojan	09/23/1992	10/23/1992	Inadequate Construction of Turbine Building Wall Caused Inoperability of The Wall as a Three-Hour Fire Barrier Abstract: POWER LEVEL - 052%. On September 23, 1992, the Trojan Nuclear Plant was operating in Operational Mode 1 at 52 percent power. Engineering personnel inspecting the Turbine Building wall adjacent to the yard transformer area identified several deficiencies involving the construction of the wall and two penetrations. The deficiencies render the wall incapable of providing the three-hour fire barrier rating required to protect safety-related areas inside the Turbine Building from a transformer fire. The wall was declared inoperable and appropriate compensatory measures, per Trojan Technical specification (TTS) 3/4.7.9, 'Penetration Fire Barriers,' were taken. The cause of the barrier degradation and one of the degraded penetrations is inadequate construction of the wall during original construction. The cause of the other degraded penetration is inadequate installation of a roll-up fire door by the fire door vendor. Corrective actions will include repairing the wall and penetrations to provide the three-hour fire rated barrier. There were no safety consequences resulting from this event. This report is being submitted to fulfill the reporting requirements of 10 CFR 50.73 (a) (2) (i) and the Special Report required by TTS 3/4.7.9.
Trojan	11/09/1992	12/09/1992	Failure to Properly Stress Relieve a Steam Generator Tube Sleeve Causes Primary to Secondary Leakage to Exceed Limits Abstract: POWER LEVEL - 095%. On November 9, 1992, while the Trojan Nuclear Plant was in Operational Mode 1 (Power Operation) at 95 percent power, a tube leak in the 'B' Steam Generator was detected. The Plant was shut down due to the leak exceeding the primary-to-secondary leakage limits of Trojan Technical Specification (TTS) 3.4.6.2c, 'Operational Leakage.' A defect in tube Row 25-Column 17 of 'B' Steam Generator was the cause of the leak. The defect was the result of the failure to stress relieve a sleeve installed in 1991 due to a personal error on the part of a contract technician to follow the installation procedure and an inadequate procedure for detecting sleeves not properly heat treated. It was determined that this event was an isolated occurrence and that other sleeves installed in the steam generators were properly heat treated. The stress relieving process and procedures implementing the process will be evaluated prior to installing additional sleeves. Several fire watches were also temporarily suspended during this event to limit the exposure of individuals to any potential radiological releases. Because this action was of limited duration, it did not present any significant safety consequences or implications. The radioactive release for this event
Trojan	12/17/1992	01/18/1993	Deficient Fire Barrier Penetration Seals Result in Technical Specification Violations Abstract: POWER LEVEL - 000%. On December 17 and on December 22, 1992, while performing/evaluating ongoing work in adjacent areas, several deficiencies were identified in fire barrier penetration seals. The deficiencies included cracks in the penetration sealant surface in two penetrations between the Turbine Building area between the Auxiliary Feedwater Pump rooms and the Control Building; inadequate grout depth in a penetration seal in a wall separating the Control Building Mechanical Room and a Stairwell; a lack of an internal seal in an abandoned conduit in the wall separating the 'A' Emergency Diesel Generator Room and the Turbine Building Iso-phase Bus Duct area; and an inadequately sealed penetration in the ceiling of the 'A' Emergency Diesel Generator Room. Following these discoveries the required fire watches were established or verified to exist. The root cause of the grout seal deficiencies is being evaluated separately and the root cause of the other two deficiencies is related to personnel error. Each penetration seal has been restored to functional status. This report satisfies the Technical Specification requirement to submit a Special Report if a barrier is nonfunctional for more than 7 days.
Turkey Point 3	04/24/1980	05/26/1980	Fire Stop Surveillance Abstract: Six electrical penetration fire barriers were found to be non-functional. A fire watch patrol was established in accordance with the requirements of TS while repairs were completed. The cause was incomplete installation work. All electrical penetration fire barriers defined by TS are now functional. Both plant and contract maintenance personnel have been instructed in the necessity for compliance to Fire Stop and Cable tTay Fireproofing procedures.
Turkey Point 3	05/06/1981	06/05/1981	Two Electrical Penetration Fire Barriers were Found to be Non-Functional Abstract: Two electrical penetration fire barriers were found to be non-functional. A fire watch patrol was established in accordance with the requirements of tech. Specs. While repairs were completed. A similar occurrence was reported as LER No. 250-80-007. The cause of the non-intact electrical penetration fire barriers was incomplete installation work. All electrical penetration fire barriers defined by Tech. Specs. Are now functional. Both plant and contract maintenance personnel will be re-instructed in the necessity for compliance with the fire stop and cable tray fireproofing maintenance procedure.
Turkey Point 3	10/16/1981	11/16/1981	The Non-Intact Electrical Penetration Fire Barrier was Incomplete Installation Work Abstract: During a routine visual inspection, an electrical penetration fire barrier on the west wall of the 3A 4160V Switchgear room was found to be non-functional. A fire watch patrol was established. Similar lers were reported as LER 250-81-011 and LER 250-80-007. The cause of the non-intact electrical penetration fire barrier was incomplete installation work. All electrical penetration fire barriers are now functional. Both plant and contract maintenance personnel will be re-instructed in the necessity for compliance with Maintenance Procedure 0725, Fire Stop and Cable Tray Fireproofing.
Turkey Point 3	01/03/1982	01/26/1982	Break In Sureveillance of The Inoperable Barrier Abstract: While repairs were being made to a penetration fire barrier, a fire watch patrol failed to inspect the inoperable zone for three consecutive hours (7am to 10am) as required by Tech. Spec. 3.14.4.a. Prior to this time and immediately following, the inspections were performed properly. A similar occurrence was reported as LER No. 250-81-014. The break in surveillance of the inoperable barrier was caused by a misunderstanding by contractor personnel that an agreement had been made for plant security personnel to maintain the inspections during the holidays. Contractor personnel were instructed on the importance of complying with Tech. Spec. 3.14.4.a.
Turkey Point 3	03/17/1984	04/17/1984	Breach of Fire Barriers Abstract: POWER LEVEL - 000%. AS WE REPORTED ON JUNE 16, 1983 (L-83-364) AND OCT 13, 1983 (L-83-519), MANY MODIFICATIONS HAVE NECESSITATED A NUMBER OF FIRE BARRIERS TO BE BREACHED. IN COMPLIANCE WITH TECH SPECS, AN HOURLY FIRE WATCH HAS BEEN ESTABLISHED. APPENDIX R MODIFICATIONS ARE CURRENTLY UNDERWAY WHICH INCLUDE ESTABLISHING SPECIFIC FIRE AREA BOUNDARIES SEPARATED BY RATED FIRE BARRIERS. ALL PENETRATIONS IN A FIRE AREA BOUNDARY WILL BE SEALED IN ACCORDANCE WITH OUR APPENDIX R COMMITMENTS, AND WILL BE INCLUDED AS PART OF THE APPENDIX R BACKFIT SCHEDULES. THE HOURLY FIRE WATCH WILL CONTINUE TO MONITOR THESE AREAS IN ACCORDANCE WITH TECH SPECS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Turkey Point 3	08/30/1985	09/30/1985	Appendix "R" Safe Shutdown Review Abstract: POWER LEVEL - 100%. ON 8-27 AND 8-30-85 FPL MADE ADVANCED NOTIFICATION TO THE NRC-NRR AND IE REGION II ON THE PRELIMINARY RESULTS OF A REVIEW OF THE COMPLETED TURKEY POINT 3 APPENDIX 'R' SAFE SHUTDOWN ANALYSIS, WHICH WAS ORIGINALLY COMPLETED IN 1983. A REVIEW WAS INITIATED IN SEPT 1984 TO ENHANCE THE DOCUMENTATION PACKAGES DEVELOPED FOR THE ORIGINAL APPENDIX 'R' FIRE PROTECTION ANALYSIS, AND ON 9-20-85, FPL COMPLETED THE REVIEW OF THE ORIGINAL APPENDIX 'R' SAFE SHUTDOWN ANALYSIS. THE RESULTS OF THIS REVIEW IDENTIFIED ADDITIONAL CIRCUITS THAT MAY REQUIRE PROTECTION, REROUTING, OR CIRCUIT MODIFICATIONS. ADDITIONAL NRC GUIDANCE, PREPARATION FOR THE FPL ST. LUCIE APPENDIX 'R' AUDIT, APPENDIX 'R' DESIGN EVOLUTION, AND ADDED ENGINEERING PERSONNEL EXPERIENCE, INDICATED THE NEED TO UPGRADE THE ORIGINAL DOCUMENTATION PACKAGES FOR THE SAFE SHUTDOWN ANALYSIS. ALTHOUGH THE REVIEW WAS INITIATED TO ENHANCE THE DOCUMENTATION OF THE ORIGINAL APPENDIX 'R' ANALYSES, IT RESULTED IN THE IDENTIFICATION OF ADDITIONAL CIRCUITS WHICH MAY NEED TO BE PROTECTED. THE FOLLOWING CORRECTIVE ACTIONS HAVE BEEN COMPLETED OR WILL BE INITIATED: 1) THE AFFECTED CIRCUITS WERE LOCATED WITHIN FIRE ZONES THAT WERE INCLUDED IN ROVING FIRE WATCH PATROLS, INITIATED AS A COMPENSATORY MEASURE IN SUPPORT OF APPENDIX 'R' SCHEDULAR EXEMPTIONS. 2) THE
Turkey Point 3	07/20/1990	08/14/1990	ROVING FIRE WATCH FAILED TO COMPLETE TECHNICAL SPECIFICATION REQUIRED ROUNDS DUE TO A COGNITIVE PERSONNEL ERROR Abstract: POWER LEVEL - 100%. ON JULY 20, 1990, AT 2400 EDT, THE LIMITING CONDITION FOR OPERATION OF TECHNICAL SPECIFICATION (TS) 3.14.1 WAS NOT MET WHEN THE ROVING FIRE WATCH, ESTABLISHED IN ACCORDANCE WITH THIS TS DID NOT PERFORM THE WATCH DURING THE 2300 TO 2400 ROTATION. A DIFFERENT PERSON, WHO HAD THE ROUTE FOR THE FOLLOWING HOUR, DID COMPLETE THE ROUTE AND FOUND NO INDICATION OF ANY FIRE PROTECTION RELATED PROBLEMS. THE CAUSE OF THE EVENT WAS COGNITIVE PERSONNEL ERROR BY A CONTRACT NON-LICENSED WORKER. THE CONTRACT WORKER CLAIMED TO HAVE MADE THE ROTATION WHEN PRESENTED WITH CONCLUSIVE EVIDENCE THAT THE REQUIRED CONTROLLED ACCESS PART OF THE ROUTE HAD NOT BEEN ENTERED DURING THE REQUIRED TIME FRAME, THE INDIVIDUAL CONFESSED THAT THE WATCH ROTATION WAS NOT PERFORMED. THE INDIVIDUAL WAS THEN ESCORTED FROM THE SITE AND ACCESS AUTHORIZATION TO THE SITE WAS TERMINATED.
Turkey Point 3	03/24/1993	04/14/1993	FAILURE TO MAINTAIN AN HOURLY FIRE WATCH PATROL; TECHNICAL SPECIFICATION VIOLATION Abstract: POWER LEVEL - 100%. Turkey Point Unit 3 was in Mode 1 at 100% power. An hourly Fire Watch patrol had been established (required by Technical Specification 3.7.9) whose rounds included the Unit 3 west penetration room. The Fire Watch had entered the room at 1630. Entries required at 1730, 1830, and 1930 were not made because the door could not be opened. The Nuclear Plant Supervisor was notified of the missed entries at 1920; at about 2000 the door was forced open, and the hourly Fire Watch patrol was resumed. The root cause was inadequate control of painting of the door. The door was allowed to close before the paint was sufficiently cured; the uncured paint created seals which required substantial effort to break. A contributing cause was inadequate training of Fire Watch personnel to ensure timely notification of conditions preventing completion of assigned duties. All Fire Watch personnel have been briefed on the event, and the need for timely notification of problems. All Fire Watch personnel will be retrained using a newly completed Fire Watch Training Manual. Utility Fire Protection staff personnel have been assigned to specific shifts for three months, to oversee the operations of Fire Watch personnel. Directions have been given to ensure that adequate steps
Turkey Point 3, Turkey Point 4	05/22/1987	06/19/1987	Design Basis Reconstitution Discovers Potential Loss of HVAC in the Inverter and Battery Rooms Abstract: POWER LEVEL - 000%. ON MAY 22, 1987, WITH UNIT 3 IN MODE 6 AND UNIT 4 IN MODE 5, IT WAS DETERMINED THAT SUBSEQUENT TO A LOSS OF OFFSITE POWER (LOOP), A SINGLE FAILURE COULD RESULT IN A LOSS OF HVAC TO THE DC EQUIPMENT/INVERTER ROOMS. OTHER SCENARIOS WHICH COULD RESULT IN THE LOSS OF HVAC TO CERTAIN ROOMS WERE ALSO IDENTIFIED. THE LOSS OF HVAC COULD RESULT IN ELEVATED TEMPERATURES OF THE AFFECTED ROOMS. SHORT TERM OPERATION OF THE SAFETY RELATED ELECTRICAL EQUIPMENT IN THESE AREAS AT TEMPERATURES UP TO 135 DEGREES F WOULD NOT RESULT IN A LOSS OF SAFETY FUNCTION. THE INITIAL DESIGN WAS EXACERBATED IN THE CURRENT DESIGN DUE TO MODIFICATIONS WHICH ADDED TO THE ROOM HEAT LOADS, AND THE ADDITION OF WALLS AND DOORS LIMITING AIR FLOW, TO SATISFY APPENDIX R REQUIREMENTS. PERIODIC INSPECTIONS FOR THE A/C UNITS WILL BE IMPLEMENTED. DISTRIBUTION, TWO DOORS WILL BE BLOCKED OPEN. ROOM TEMPERATURES WILL BE CHECKED HOURLY. IF TEMPERATURES IN THE AFFECTED AREAS REACH 100 DEGREES F, SUPPLEMENTAL COOLING WILL BE INITIATED. PORTABLE FANS UNTIL NORMAL COOLING CAN BE RESTORED. A PLANT CHANGE/MODIFICATION (PC/M) INSTALLING ADDITIONAL VITAL ELECTRICAL OUTLETS AND SEISMIC STORAGE RACKS FOR THE PORTABLE FANS HAS BEEN IMPLEMENTED.
Turkey Point 3, Turkey Point 4	06/14/1988	07/18/1988	Verification of Fire Detection Operability Not Performed as Required by T. S. 3.14 Due to Weaknesses in Administrative Controls of Penetration Seal Surveillance Test Abstract: POWER LEVEL - 100%. ON JUNE 14, 1988 TURKEY POINT UNITS 3 AND 4 WERE OPERATING IN MODE 1 AT APPROXIMATELY 100% POWER WHEN AN INVESTIGATION IDENTIFIED A WEAKNESS IN THE CONTROLS FOR A SPECIFIC SURVEILLANCE PERFORMANCE WHICH RESULTED IN INCOMPLETE COMPLIANCE WITH TECHNICAL SPECIFICATION (TS) 3.14.5.B. THE TS DESCRIBES FIRE BARRIER AVAILABILITY AND REQUIRES WITHIN ONE HOUR OF IDENTIFICATION OF AN INOPERABLE PENETRATION SEAL, INITIATION OF AN HOURLY FIRE WATCH AND VERIFICATION OF OPERABLE DETECTORS ON ONE SIDE OF THE AFFECTED BARRIER. FOR PENETRATIONS IDENTIFIED AS DEFICIENT, ACTIONS TO VERIFY THE OPERABILITY OF DETECTOR SYSTEMS WERE NOT SPECIFICALLY PERFORMED. AREAS OF THE PLANT SUBJECT TO THIS TS HAVE HAD FIRE WATCHES PERFORMED. THIS EVENT DID NOT AFFECT THE HEALTH AND SAFETY OF THE PUBLIC DUE TO THE EXISTING FIRE WATCHES AND AVAILABILITY OF DETECTORS. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR BY MANAGEMENT, FOR NOT ASSURING THE APPROPRIATE CONTROLS WERE USED DURING THE CONDUCT OF THE FIRE BARRIER PENETRATION SEAL SURVEILLANCE. CORRECTIVE ACTIONS INCLUDE A NEW SURVEILLANCE PROCEDURE FOR EXAMINATION OF BARRIERS, MANAGEMENT EMPHASIS OF ACCOUNTABILITY FOR ASSIGNED DUTIES, AND AN ASSESSMENT OF THE CONTROL OF
Turkey Point 3, Turkey Point 4	04/21/1989	05/19/1989	10 CFR 50 Appendix R Safe Shutdown Analysis Design Inadequacy Abstract: POWER LEVEL - 000%. ON 4/21/89, AT 1730, WITH UNITS 3 AND 4 IN MODE 5 (COLD SHUTDOWN), FP&L ENGINEERING IDENTIFIED AN APPENDIX R SAFE SHUTDOWN ANALYSIS DESIGN INADEQUACY AT TURKEY POINT. THE CHEMICAL AND VOLUME CONTROL SYSTEM CHARGING PUMPS TAKE SUCTION FROM EITHER THE VOLUME CONTROL TANK THROUGH VALVE LCV-115C OR THE REFUELING WATER STORAGE TANK THROUGH VALVE LCV-115B. AN INTERLOCK IS PROVIDED SUCH THAT LCV-115B WILL OPEN IF LCV-115C CLOSES. HAD A FIRE OCCURRED IN EITHER THE CHARGING PUMP ROOM OR ROD CONTROL EQUIPMENT ROOM, LCV-115B MAY NOT HAVE OPENED, LCV-115C MAY HAVE CLOSED SPURIOUSLY AND THE OPERATING CHARGING PUMP MAY HAVE BEEN DAMAGED DUE TO FLOW STARVATION. THE INITIAL APPENDIX R DESIGN REVIEW FAILED TO RECOGNIZE THE CRITICALITY OF TIMING WITH REGARD TO ALIGNMENT OF AN ALTERNATE WATER SOURCE TO PRECLUDE POTENTIAL CHARGING PUMP DAMAGE. FIRE WATCHES HAVE BEEN ESTABLISHED IN THE UNIT 4 CHARGING PUMP ROOM AND ROD CONTROL EQUIPMENT ROOM. PROCEDURE 4-ONOP-016.9 HAS BEEN ISSUED PROVIDING FOR OPERATOR ACTIONS UPON NOTIFICATION OF A FIRE IN THESE AREAS. SIMILAR ACTIONS WILL BE TAKEN ON UNIT 3 PRIOR TO MODE 4 ENTRY FROM MODE 5. LONG-TERM CORRECTIVE ACTION ALTERNATIVES ARE UNDER INVESTIGATION BY FP&L ENGINEERING.
Turkey Point 3, Turkey Point 4	12/18/1989	01/12/1990	Failure to Re-establish A Roving Fire Watch In The Auxiliary Building Per Technical Specification 3.14.5 Due to Personnel Error Abstract: POWER LEVEL - 100%. AT 1640, ON DECEMBER 18, 1989, WITH UNITS 3 AND 4 IN MODE 1 AT 100 PERCENT POWER, IT WAS DETERMINED THAT TECHNICAL SPECIFICATION (TS) 3.14.5 LIMITING CONDITION FOR OPERATION (LCO) ACTION STATEMENT REQUIREMENTS WERE NOT MET ON DECEMBER 1, 1989. A PRECAUTIONARY EVACUATION OF THE COMMON AUXILIARY BUILDING (AUX. BLDG.) REQUIRED SUSPENSION OF A ROVING FIRE WATCH AND AN EXISTING CONTINUOUS FIRE WATCH. TO MEET THE REQUIREMENTS OF TS 3.14.5, THESE FIRE WATCHES HAD TO BE RE-ESTABLISHED WITHIN ONE HOUR OF SUSPENSION. THE EVACUATION OF THE AUX. BLDG., EXCEPT FOR THE CHEMISTRY LAB, LASTED FIFTEEN MINUTES. DUE TO A COGNITIVE ERROR BY LICENSED AND NON-LICENSED UTILITY PERSONNEL, THE ROVING FIRE WATCH WAS NOT RE-ESTABLISHED IN THE AUX. BLDG. UNTIL TWO HOURS AFTER THE EVACUATION. THE REGULATORY IMPACT OF THE CONDITION WAS NOT DETERMINED UNTIL DECEMBER 18, 1989. THE PLANT SUPERVISOR-NUCLEAR (PSN)/ASSISTANT PLANT SUPERVISOR-NUCLEAR (APSN) DID NOT VERIFY THAT THE AUX. BLDG. FIRE WATCHES HAD BEEN RE-ESTABLISHED WITHIN ONE HOUR OF THE EVACUATION. THE FIRE PROTECTION SHIFT SUPERVISOR DID NOT RE-ESTABLISH THE AUX. BLDG. FIRE WATCHES WITHIN ONE HOUR OF THE EVACUATION. THE FIRES OCCURRED IN THE AUX. BLDG. DURING THE TIME FIRE WATCHES WERE

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Turkey Point 3, Turkey Point 4	08/17/1990	03/21/1991	Missed Fire Protection Surveillance Due to Personnel Error. Abstract: POWER LEVEL - 100%. ON 3/10/90 WITH UNITS 3 & 4 IN MODE 1 (POWER OPERATION) AT 100% POWER, THE 18 MONTH PERIODICITY OF TECH SPEC (TS) 4.15.5.A.1, INCLUDING THE 25% EXTENSION PERMITTED BY TS 4.0.1, WAS EXCEEDED FOR THE INSPECTION OF 14 DAMPERS COVERED BY 10 CFR 50, APPENDIX A AND APPENDIX R. THEREFORE THE DAMPERS AND THEIR ASSOCIATED FIRE BARRIERS WERE TECHNICALLY INOPERABLE FROM 3/10/90, UNTIL THE DAMPERS WERE INSPECTED USING PROCEDURE 0-SME-016.4, 'FIRE DAMPER INSPECTION.' THE MISSED SURVEILLANCE OF 10 OF THE DAMPERS WAS DISCOVERED DURING A QUALITY ASSURANCE (QA) INSPECTION ON 8/17/90. THE OTHER FOUR DAMPERS WERE DISCOVERED ON 9/12/90, DURING A HVAC REVIEW TO HAVE ALSO MISSED THE DUE DATE. TS 3.14.5.B.2 REQUIRES THAT A SPECIAL REPORT BE SUBMITTED IF NON-FUNCTIONAL FIRE BARRIERS ARE NOT RESTORED TO OPERABLE STATUS WITHIN 7 DAYS. THIS EVENT WAS CAUSED BY INADEQUATE PROCEDURAL GUIDANCE AND COGNITIVE PERSONNEL ERROR. PROCEDURE 0-SME-016.4 HAS BEEN REVISED TO INCLUDE THE 14 APPENDIX A DAMPERS. THE FIRST 10 DAMPERS WERE INSPECTED AND DETERMINED TO BE FUNCTIONAL ON 8/20/90. THE OTHER FOUR DAMPERS WERE INSPECTED AND DETERMINED TO BE FUNCTIONAL ON 9/14/90. TWO ADDITIONAL APPENDIX R FIRE DAMPERS WERE IDENTIFIED WHICH HAD NOT BEEN INSPECTED DURING A REVIEW OF THE HVAC DRAWINGS. THESE
Turkey Point 4	08/01/1980	09/02/1980	Six Ionization Detectors found Inoperable Abstract: During surveillance six ionization detectors in the 4W electrical penetration room were found to be inoperable. The cause was improper installation of an upgrade to the fire detection system. Revised procedural controls and post installation testing upon completion of each phase of work should preclude recurrence.
Turkey Point 4, Turkey Point 3	09/02/1992	10/02/1992	Fire Watch not Maintained in Accordance with Technical Specifications Abstract: POWER LEVEL - 000%. On September 2, 1992, at approximately 2330 while recovering from hurricane Andrew, a continuous fire watch was not maintained in accordance with Technical Specification 3.7.8.2 ACTION a. The fire watch was in place to compensate for an inoperable fire suppression system caused by hurricane Andrew. The person providing the fire watch did not fully understand the requirements of a continuous fire watch and left the watch area as if conducting a short duration roving fire watch. During one of the passages outside the watch area, the fire watch requested a person passing by to inquire about a relief. Personnel responding to the request of the fire watch realized the Technical Specification implications and took actions to restore the continuous watch as soon as possible. The continuous watch was restored at 0031 on September 3, 1992. The responsible fire watch supervisor was disciplined.
Turkey Point 4, Turkey Point 3	02/22/1993	03/18/1993	FAILURE TO POST CONTINUOUS FIRE WATCH; TECHNICAL SPECIFICATION VIOLATION Abstract: POWER LEVEL - 100%. Turkey Point Unit 4 was in Mode 1 at 100 % power. The fire suppression system deluge valve for the Unit 4 charging pump room was isolated, making the deluge system inoperable. The fire detectors in the room were also taken out of service. A continuous fire watch was not established within one hour as required by Technical Specifications. The condition was discovered several hours later by management on an off-hours tour, and corrected immediately. The immediate cause of the event was personnel error in that the Fire Watch Shift Supervisor (FWSS) did not ensure that the continuous fire watch was posted within the hour. The root cause was inadequate training of the FWSS in that he was not aware that he was responsible for ensuring the fire watch was posted. A contributing cause was inadequate communication between the FWSS, the operators, and the maintenance planners and workers. A night order to operators and a letter to FWSS's now require that planned fire protection impairments have compensatory measures in place before the impairment is approved,. The administrative procedure governing fire protection impairments will be revised to incorporate this requirement. A formal qualification has been developed for FWSS's. The FWSS involved was removed from duty until he completes the formal qualification.
Vermont Yankee	08/02/1988	09/01/1988	Failure to Identify Fire Protection System Inoperable and Establish Required Fire Watch Abstract: POWER LEVEL - 100%. ON JULY 28, 1988, DURING ANNUAL SURVEILLANCE TESTING, THE CABLE PENETRATION AREA SPRINKLER SYSTEM CONTROL VALVE (EIIS IDENTIFIER = XCV) FAILED TO AUTOMATICALLY OPEN UPON RECEIPT OF A DETECTOR TRIP SIGNAL. A PLANT MAINTENANCE REQUEST (MR) WAS IMMEDIATELY INITIATED TO CORRECT THE PROBLEM. THE SHIFT SUPERVISOR AND OPERATIONS SUPERVISOR REVIEW OF THIS MR FAILED TO RECOGNIZE THAT THE SPRINKLER SYSTEM WAS OUT OF SERVICE. CONSEQUENTLY, THE TECH SPEC LIMITING CONDITION FOR OPERATION ASSOCIATED WITH THIS OUT OF SERVICE COMPONENT WAS NOT RECOGNIZED AND THEREFORE NO FIRE WATCH WAS ESTABLISHED. THIS DISCREPANCY WAS IDENTIFIED ON AUGUST 2, 1988 DURING MANAGEMENTS REVIEW OF THESE SURVEILLANCE RESULTS. UPON DISCOVERY, A FIRE WATCH WAS IMMEDIATELY ESTABLISHED. TWO INDEPENDENT PERSONNEL ERRORS (ASSESSMENTS) ALLOWED TECH SPEC EQUIPMENT TO BE OUT OF SERVICE WITHOUT ESTABLISHING THE NECESSARY TECH SPEC FIRE WATCH. THIS EVENT WAS REVIEWED WITH ALL OPERATING SHIFTS WITH EMPHASIS ON RESPONSIBILITIES FOR DETERMINING EQUIPMENT OPERABILITY AND EQUIPMENT CONTROL. THIS EVENT OCCURRED WHILE THE PLANT WAS OPERATING UNDER NORMAL CONDITIONS AT 100% POWER.
Vermont Yankee	09/21/1988	10/17/1988	FAILURE TO ESTABLISH FIRE WATCH FOR INOPERABLE SUPPRESSION SYSTEM Abstract: POWER LEVEL - 100%. ON SEPTEMBER 21, 1988 SHIFT PERSONNEL IDENTIFIED THAT THE RECIRCULATION MOTOR GENERATION FOAM SUPPRESSION SYSTEM (EIIS IDENTIFIER = KP) HAD BEEN MADE INOPERABLE WITHOUT ESTABLISHING THE REQUIRED ONCE PER HOUR FIRE WATCH FOR THE AFFECTED AREA. UPON DISCOVERY, THE FOAM SUPPRESSION SYSTEM WAS IMMEDIATELY MADE OPERABLE AND RETURNED TO SERVICE. IT WAS DETERMINED THAT SHIFT PERSONNEL FAILED TO IDENTIFY THAT THE SYSTEM WAS INOPERABLE WHEN THE SYSTEM CONTROL SWITCH WAS PLACED IN THE 'ABORT' POSITION. PLACING THE SYSTEM IN 'ABORT' DEFEATS THE SYSTEM AUTOMATIC INITIATION FUNCTION. A REVIEW OF PREVIOUS RECORDS REVEALED THAT THIS IDENTICAL ERROR WAS MADE NUMEROUS TIMES OVER THE LAST FOUR YEARS. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE INSUFFICIENT TRAINING OF SHIFT PERSONNEL IN FIRE PROTECTION TECH SPECS. THE OPERATOR TRAINING PROGRAMS WILL BE MODIFIED TO PROVIDE ENHANCED TECH SPEC TRAINING AND WILL BE SUPPORTED BY INCLUDING DESIGN BASES AND SYSTEM DETAILS. THIS EVENT OCCURRED WHILE THE PLANT WAS OPERATING UNDER NORMAL CONDITIONS AT 100% POWER.
Vermont Yankee	09/28/1988	10/28/1988	Overloaded Power Supply in Vital Fire Protection Control Panels Abstract: POWER LEVEL - 100%. ON SEPT. 28, 1988 AT 1647 HRS WITH THE PLANT AT 100% POWER DURING ROUTINE TESTING OF THE EAST SWITCHGEAR FIRE CONTROL PANEL (EIIS=IC) THE (F4), 2 AMP FUSE BLEW IN THE CP-30 CONTROL MODULE. INVESTIGATIONS REVEALED THAT DURING INITIATION APPROXIMATELY 6 TO 8 AMPERES COULD BE DRAWN THROUGH THE 24 VDC 2 AMP FUSE. THIS FUSE POWERED THE ELECTRO THERMAL LINKS (ETL'S) THAT CLOSE THE HVAC FIRE DAMPERS (EIIS=VI) AND POWER THE CO2 DISCHARGE VALVE (EIIS-LW). IF THE CURRENT DRAW OF THE ETL'S WERE TO BLOW THE FUSE, THE SUBSEQUENT CO2 DISCHARGE WOULD NOT OCCUR RESULTING IN AN UNANALYZED CONDITION FOR THE FIRE SUPPRESSION SYSTEM. FURTHER INVESTIGATIONS REVEALED IDENTICAL CONDITIONS IN THE CONTROL ROOM, CABLE VAULT AND WEST SWITCHGEAR ROOM FIRE CONTROL PANELS (EIIS-IC). LIFTED LEAD AND JUMPER REQUEST 88-37, 38, 39 AND 40 WERE ISSUED TO REMOVE ALL ETL'S AND CO2 DISCHARGE CONTROL VALVES FROM THE 24 VDC 2 AMP SUPPLEMENTAL POWER SUPPLIES AND TIE THEM DIRECTLY TO THE BACKUP BATTERIES. THE ROOT CAUSE OF THIS EVENT HAS BEEN DETERMINED TO BE PERSONNEL ERROR DURING THE PREPARATION OF SEVERAL PLANT DESIGN CHANGES. CORRECTIVE ACTIONS INVOLVE A FUTURE PERMANENT MODIFICATION AND REVISIONS TO THE FIRE CONTROL DRAWINGS. THE CURRENT REVIEW PROCESS IMPROVEMENTS ARE CONSIDERED ADEQUATE TO UNCOVER THIS TYPE OF
Vermont Yankee	12/14/1988	03/01/1989	Unidentified/Unqualified Reactor Building Vital Fire Barrier Abstract: POWER LEVEL - 096%. ON DECEMBER 14, 1988 IT WAS DISCOVERED THAT A PENETRATION OF THE REACTOR BUILDING WEST WALL VITAL FIRE BARRIER, WAS NOT A FIRE RATED ASSEMBLY. THIS PENETRATION PROVIDES PASSAGE FOR THE FOUR (4) MAIN STEAM LINES AND THE TWO (2) FEEDWATER LINES FROM THE REACTOR BUILDING TO THE TURBINE BUILDING. THE DEFICIENCY WAS DISCOVERED BY VERMONT YANKEE PERSONNEL EVALUATING THE APPLICABILITY NRC INFORMATION NOTICE 88-04, SUPPLEMENT 1. THIS INFORMATION NOTICE DEALS WITH THE PROPER APPLICATION OF SILICONE FOAM FIRE BARRIER PENETRATION SEALING MATERIAL. INADEQUATE ANALYSIS OF THE REACTOR BUILDING WEST WALL VITAL FIRE BARRIER HAS BEEN DETERMINED TO BE THE CAUSE OF THIS EVENT. SUBSEQUENT REVIEWS AND SURVEILLANCE INSPECTIONS ALSO FAILED TO IDENTIFY THIS PROBLEM. AS REQUIRED BY TECHNICAL SPECIFICATIONS, A CONTINUOUS FIRE WATCH WAS IMMEDIATELY ESTABLISHED UPON DISCOVERY OF THIS DEFICIENCY. A REVIEW OF ALL OTHER FIRE BARRIER PENETRATIONS DID NOT REVEAL ANY FURTHER DEFICIENCIES. AT THE TIME OF DISCOVERY, THE PLANT WAS OPERATING NORMALLY AT 96% POWER.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Vermont Yankee	03/03/1989	04/01/1989	Defeat of 1 Hour Fire Barrier By Defective Door Latches Abstract: POWER LEVEL - 000%. ON 3/3/89, WITH THE PLANT SHUTDOWN FOR REFUELING, THE WEST SWITCHGEAR ROOM CO(2) SUPPRESSION SYSTEM (EIIS=KQ) INITIATED. THE CO(2) INITIATION RESULTED IN AN INITIATION OF THE CONTROL ROOM TOXIC GAS MONITORING SYSTEM (EIIS-VI). THE CO(2) CORRECTLY INITIATED DUE TO IONIZED DUST PARTICLES RESULTING FROM A GROUND FAULT ON THE 'B' SERVICE WATER PUMP MOTOR CIRCUITRY. THE TOXIC GAS CORRECTLY INITIATED AND RESULTED FROM DEFECTIVE LATCHES ON THE TWO INTERCONNECTING DOORS BETWEEN THE EAST AND WEST SWITCHGEAR ROOMS. THE OPEN DOORS ALLOWED THE CO(2) TO VENT FROM THE WEST TO EAST ROOMS AND SUBSEQENTLY THE CONTROL ROOM VENTILATION INLET WHICH INITIATED THE TOXIC GAS MONITOR TO THE OUTSIDE ENVIRONMENT. THE CO(2) THEN ENTERED THE CONTROL ROOM VENTILATION INLET. THE FIRE BRIGADE RESPONDED, INVESTIGATED, AND SUBSEQUENTLY RESTORED THE WEST SWITCHGEAR. OPERATING PERSONNEL DONNED SELF CONTAINED BREATHING APPARATUS UNTIL THE CONTROL ROOM ATMOSPHERE WAS SAMPLED AND APPROVED. THE ROOT CAUSE OF THIS EVENT IS THAT THE LATCHES IN THE FIRE BARRIER DOORS WERE NOT PERIODICALLY INSPECTED TO ENSURE THAT THEY WILL PERFORM THEIR FUNCTION. NO SIMILAR OCCURRENCES HAVE BEEN REPORTED TO THE COMMISSION IN THE LAST 5 YEARS.
Vermont Yankee	03/13/1992	04/01/1992	Failure to Maintain an Hourly Fire Watch as Required by Plant Technical Specifications Due to Inadequate Shift Turnover Abstract: POWER LEVEL - 000%. AT 0914 HOURS ON 03-13-92, WITH THE PLANT SHUTDOWN FOR THE 1992 REFUELING OUTAGE, THE DUTY SHIFT ENGINEER DISCOVERED THAT THE HOURLY FIRE WATCH, ESTABLISHED BECAUSE THE TURBINE LOADING FIRE DETECTION SYSTEM (EIIS=IC) WAS TAKEN OUT OF SERVICE, WAS NOT MAINTAINED AS BY REQUIRED TECHNICAL SPECIFICATION SECTION 3.13.A.2. THIS EVENT WAS DISCOVERED DURING THE CLOSED VIEW OF A FIRE PROTECTION CONTROL PERMIT. THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE INADEQUATE COMMUNICATIONS DURING SHIFT TURNOVER. THE HOURLY FIRE WATCH WAS NOT MAINTAINED FOLLOWING A SHIFT CHANGE. ON 03-14-92 A MEMO WAS DISTRIBUTED TO ALL FIRE WATCH PERSONNEL STRESSING THE IMPORTANCE OF EFFECTIVE COMMUNICATION WHEN THE FIRE WATCH DUTIES ARE TURNED OVER TO ANOTHER APPROVED FIRE WATCH. ADDITIONALLY, FUTURE FIRE WATCH TRAINING WILL STRESS THE IMPORTANCE OF EFFECTIVE COMMUNICATION WHEN FIRE WATCH DUTIES ARE TURNED OVER. NO SIMILAR EVENTS HAVE BEEN REPORTED TO THE COMMISSION IN THE LAST FIVE YEARS.
Vermont Yankee	12/17/1992	07/07/1993	Degraded Vital Fire Barriers due to inadequate documentation of assumptions and inadequate procedures Abstract: POWER LEVEL - 100%. On 12/17/92, with the plant at 100% power, when the insulation was removed from a piping penetration (RA-515-SF), an indeterminate fire penetration seal configuration was identified. The piping penetration was only partially filled with the expected fire barrier material. This configuration was determined to be different than expected and potentially not in compliance with design requirements. The penetration was repaired to conform with the sealing requirements for penetrations specified in the original design change. During subsequent investigations additional insulated lines were also determined to be indeterminate. Additionally, concerns were raised with the qualification of some non-insulated penetrations (piping, conduit, and cable trays), the failure to consider pipe displacement in the selection of appropriate seal type, and with issues surrounding the Quality Control practices of the contractor. The root cause of issues identified during this effort were attributed to (1) inadequate documentation of assumptions, (2) inadequate procedures, (3) human error, and (4) failure to follow procedures. Corrective actions included repairing all identified discrepancies and performing an enhanced surveillance on all fire barrier penetration seals.
Vermont Yankee	10/30/1994	11/29/1994	Fire Suppression System Sprinkler Head Obstructed Due to Inadequate Evaluation of Scaffold Installation. Abstract: On 10/30/94, with the plant operating at 100% power, the sprinkler system protecting the diesel fire pump engine was declared inoperable due to a scaffold installation that obstructed a sprinkler head spray pattern. Technical Specification 3.13.F.2 requires that a fire watch be established within one hour to inspect the diesel fire pump engine room on an hourly basis when this sprinkler system is inoperable. Contrary to this requirement, an hourly fire watch was not established within one hour from the time the scaffold was erected on 10/21/94. Therefore, this event is considered reportable. The root cause of this event was determined to be human error in the failure to adequately evaluate the scaffold installation in accordance with the procedure governing review and evaluation of temporary structures and materials in the plant. Immediate corrective actions included establishing an hourly fire watch in accordance with Technical Specification 3.13.F.2. The scaffolding was removed Less than three hours later and the sprinkler system was declared operable. No similar events involving the obstruction of sprinkler heads by scaffolding have been reported to the Commission with the last five years. Appendix A, AP 0010 Rev. 25, page 1 of 3
Vermont Yankee	03/29/1995	04/27/1995	Incomplete Repair Of Inoperable Vital Fire Barrier Penetration Fire Seal Abstract: On 03/29/95, with the plant shutdown for refueling, personnel performing the operating cycle surveillance of vital fire barriers and penetration fire seals identified a fire seal that did not satisfy the acceptance criteria for operability. The seal is required to be operable at all times in accordance with Technical Specification 3.13.E.1. The seal was declared inoperable and a continuous fire watch was established within one hour. Subsequently, the seal was repaired and the barrier was declared operable. On 03/30/95, with the plant remaining shutdown, it was determined that the seal had not been completely repaired and was still inoperable. fire watch was established, and repair efforts were initiated. The seal was reinspected following the second repair and determined to be fully operable. A root cause for the initial inoperable condition could not be determined; the apparent cause is a work control process failure in that an unidentified work activity left the seal in an inoperable condition. The root cause for the incomplete seal repair is human error in the failure to adequately implement the requirements of the fire barrier and penetration fire seal repair procedure. Similar events regarding inoperable fire barriers and penetration fire seals were reported within the past five years as LER 93-001 and LER 94-018.
Vermont Yankee	04/20/1995	05/19/1995	Continuous Fire Watch Not Maintained Continuously For Degraded Fire Barrier Penetration Seals Due to Inadequate Administrative Controls Abstract: On 4/20/95, with the plant shutdown for refueling, personnel performing an operating cycle source calibration of the Main Steam Line radiation detectors removed an outer enclosure box covering Vital Fire Barrier penetrations #72-T10934 through 72-T10937 to perform the calibration. The box is a component of a fire barrier penetration seal and removal of the box degraded the seals for these penetrations. The seals are required to be operable at all times by Technical Specification Section 3.13.E.1. A required continuous fire watch was not maintained at all times during the period the fire seal was degraded. Following discovery that the box was not in place and that a continuous fire watch was not established, the box was reinstalled within one hour to restore full operability. The root cause for this event was determined to be a failure to implement adequate administrative controls, subsequent to an engineering evaluation, to ensure the required compensatory measures were established and maintained for the time required. A similar event involving inoperable vital fire barriers and penetration seals due to the removal of an enclosure box or cover was submitted within the last five years as LER# 94-018. A similar event involving the failure to
Vermont Yankee	04/04/1996	05/03/1996	Combustion Material in Building Joints between Turbine, Radwaste, Reactor and Control Buildings which Degrades the Three Hour Fire Barrier Requirement for the Cable Vault due to Personnel Error Abstract: On 4/4/96 with the plant at 100% power, during a review of the building construction drawings, Vermont Yankee (VY) determined that a combustible polystyrene material is present in the joints between the Turbine, Radwaste, Reactor and Control Buildings. A more detailed assessment of this area was prompted by an earlier report regarding the discovery of this material between the Reactor Building and Cable Vault Penetration Blockouts in the Control Building. The Control Building Cable Vault contains unsealed cable penetration blackouts, the cables being sealed at the Reactor and Turbine Building walls, which, with the presence of the combustible material could provide a path for a fire to spread to or from the Cable Vault. This degrades the south and west walls of the Cable Vault which are required to be three-hour-rated fire barriers in accordance with the Fire Hazards Analysis. Therefore this event is reportable under 10CFR50.73(a)(2)(ii)(B) as a condition outside the design basis. The apparent cause of this event is personnel error. Personnel involved in the initial Fire Hazards Survey failed to recognize that the polystyrene material exists between these buildings and is directly accessible
Vermont Yankee	08/15/1996	09/14/1996	Inadequate Installation and Inspection of Fire Protection Wrap Results in Plant Operation Outside of Its Design Basis, A Single Fire Would Impact Multiple Trains of Safety Related Systems. Abstract: On 08/15/96, during a scheduled surveillance inspection, Vermont Yankee (VY) identified a flaw in a one-hour cable tray fire wrap installed to protect 4160 and 480 Volt power cables supplying Division I Emergency Core Cooling Systems from a postulated fire affecting cables which provide power to the Division II Emergency Core Cooling Systems. Both sets of cables are located within the same enclosure and are required to be protected in accordance with 10CFR50 Appendix R, Section III.G.2.c. The flaw, although quite small, was different from the tested configuration for Vermont Yankee electrical cable support tray fire wrap. Due to the nature and location of the flaw VY Fire Protection Engineers made the conservative determination that the fire wrap was non-functional. The non-functional wrap in the location cited introduces the possibility of a single fire impacting redundant trains of equipment needed to achieve cold shutdown. This potential damage, when assessed against the plant's on site repair/restoration capabilities was deemed to place the plant outside of it design basis for systems configuration compliance with Appendix R of 10CFR50, in that, restoration of systems capability within

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Vermont Yankee	01/24/1998	05/14/1998	A Technical Specification Fire Barrier Penetration Seal Was Determined To Be In A Condition Which Lowered The Rating Of The Affected Fire Barrier...Cause Unknown Abstract: On 01/24/98, while performing a post work inspection of a fire barrier penetration seal subject to Vermont Yankee plant Technical Specifications (TS) following work potentially affecting the seal, it was discovered that the penetration seal did not conform to the tested configuration for a 3-hour rated seal. A compensatory fire watch was established as required by plant TS, and the seal was repaired. The cause investigation could not determine the root cause for the failure to construct the seal per the specifications. The non-conforming aspect of the seal had not been disturbed since initial plant construction. The current VY Fire Protection Program and configuration management processes would not allow the installation of a nonconforming seal. Long term corrective actions to identify and correct similar conditions include: 1) inspections of similar seals, 2) intrusive examination of a sample of seals, 3) expanding the intrusive inspection sample if needed, and 4) repairing any inadequate seals. Although the seal did not meet the requirements for a 3 hour rating it would have challenged propagation of a fire. The combination of automatic fire suppression and detection, an on-site fire brigade and the as-built condition of the
Vermont Yankee	03/18/1998	01/20/1999	An Inadequate Maintenance Procedure for Safety Class Breakers Establishes Conditions Which Could Have Led to the Failure of Multiple Safety Class Breakers. Abstract: On 3/18/98 Vermont Yankee (VY), determined that a single Core Spray (CS) pump supply breaker had failed to return to its normal standby condition following routine surveillance. The breaker had been cycled by running the "B" CS pump for quarterly testing. The pump had started and performed as designed during the conduct of the surveillance. After closing, the supply breaker should automatically charge its closing springs through the use of an internal electric motor and a gear/pawl latching mechanism. Following the scheduled test, the CS pump is normally shut down and the system placed in its normal standby configuration. The securing of the CS pump is accomplished by opening its supply breaker. After the pump was secured, the sound of the continuously running charging motor prompted watchstanders to investigate and thereby discover that the supply breaker was inoperable. The breaker closing springs had failed to charge. Follow up investigation showed that an inadequate maintenance procedure had allowed three undesirable conditions to exist simultaneously on the single CS pump breaker. Although all three conditions were required to be present to cause the failure, and no other breakers could be found where
Vermont Yankee	04/02/1998	08/17/1998	Technical Specification Fire Barrier Penetration Seal Material Depth did not meet the Requirements for a Three Hour Fire Barrier due to Improper Installation during Original Construction Abstract: On 4/2/98, during fire barrier inspections that were being performed under the Penetration Seal Improvement Program, it was discovered that the Control Building Cable Vault West wall fire penetration 78-T11542 contained less than three inches of seal material. This penetration is a Technical Specifications (TS) Vital Fire Barrier and as such must retain the same fire rating as the wall which it penetrates. The wall is a three hour fire barrier and the penetration must use six inches of seal material to achieve the three hour rating. Contrary to this, with a seal depth of less than three inches in the wall, the seal would function to retard a fire, but would not perform its function for the required number of hours. This is contrary to TS 3.13 and is therefore reportable to the Commission under 10CFR50.73(a)(2)(i). Discussions with personnel familiar with the fire barriers indicate that this non-conforming fire penetration, sealed with an elastomer, was an original installation and had been in place since 9/29/79. The root cause of this event is an improper installation during original construction. A contributing cause was inadequate QA/QC during the original installation. Immediate corrective action was taken to
Vogtle 1	06/03/1988	11/22/1988	WATER LEAKAGE INTO CONTROL ROOM/POTENTIAL EXISTS FOR A SAFETY SYSTEM FAILURE Abstract: POWER LEVEL - 100%. ON 6/3/88, SMOKE FROM AN ELECTRIC DUCT HEATER ACTUATED SMOKE DETECTION ALARMS. ALTHOUGH SPRINKLER HEADS DID NOT ACTUATE, WATER FROM THE REACTION VALVE LEAKOFF LINES RAN INTO THE UPPER CABLE SPREADING ROOM AND SEEPED INTO THE CONTROL ROOM FROM THE CEILING. WATER ENTERED SOME PROCESS PANELS AND LED TO SPURIOUS EQUIPMENT ACTUATIONS IN THE REACTOR COOLANT SYSTEM WHICH WERE PROMPTLY ADDRESSED AND CORRECTED BY CONTROL ROOM PERSONNEL. ON 6/5/88, IT WAS CONCLUDED THAT A CONDITION EXISTED WHICH ALONE COULD HAVE PREVENTED THE FULFILLMENT OF THE SAFETY FUNCTION OF A SYSTEM NEEDED TO MITIGATE THE CONSEQUENCES OF AN ACCIDENT. THE CAUSE OF THIS EVENT IS AN INADEQUATE DESIGN OF THE CONTROL ROOM CEILING PENETRATIONS WHICH ARE SUPPOSED TO BE WATERTIGHT. SILICONE SEALANT WAS PLACED TO BLOCK THE SEEPAGE PATH, SEVERAL SPRINKLER SYSTEMS WERE ISOLATED, A CONTINUOUS FIRE WATCH WAS ESTABLISHED AND A STUDY PERFORMED TO EVALUATE FURTHER MODIFICATIONS TO ENSURE THAT THE PENETRATIONS REMAIN WATERTIGHT UNDER ALL DESIGN CIRCUMSTANCES.
Waterford 3	12/18/1984	09/03/1991	Fire Barrier Discrepancies Dating from Initial Construction Abstract: POWER LEVEL - 000%. SINCE 11/10/88, A NUMBER OF DISCREPANCIES HAVE BEEN IDENTIFIED IN FIRE- RATED ASSEMBLIES AT WATERFORD STEAM ELECTRIC STATION UNIT 3. THE DISCREPANCIES WERE IDENTIFIED DURING INSPECTION OF FIRE WALLS, FLOORS, AND CEILINGS PER LICENSEE EVENT REPORT (LER) 88-025 AND FIRE SEALS PER LER 88-030-00. THE DISCREPANCIES INVOLVE FIRE SEALS, FIRE BARRIERS AND FIRE DAMPERS. THEY ALSO INVOLVE FIRE RATED ASSEMBLIES WHICH HAD NOT BEEN PREVIOUSLY INCLUDED IN THE INSPECTION PROCEDURES. FIRE SEAL DISCREPANCIES INCLUDE VOIDING, MISSING SEALS, MISSING DAMMING, AND SEALS WITH LESS THAN THE REQUIRED DEPTH. SEVERAL GAPS OR HOLES WERE FOUND IN FIRE BARRIERS. IT WAS FOUND THAT THE ANNULAR SPACE AROUND SOME VENTILATION DUCT PENETRATIONS MAY NOT BE ADEQUATELY SIZED TO PERMIT FIRE DAMPER OPERATION DURING FIRES. THESE EVENTS WERE PREVIOUSLY REPORTABLE AS CONDITIONS PROHIBITED BY TECHNICAL SPECIFICATION (TS) 3.7.11 FOR FIRE RATED ASSEMBLIES. HOWEVER TS 3.7.11 WAS DELETED FROM THE TSS ON MARCH 31, 1989 . THE ROOT CAUSE OF THESE EVENTS IS ATTRIBUTED TO AN INADEQUATE FIRE ASSEMBLY DESIGN, INSTALLATION AND INSPECTION PROGRAM DURING INITIAL PLANT CONSTRUCTION. MOST OF THESE DISCREPANCIES EITHER HAVE BEEN CORRECTED OR WILL BE CORRECTED BY A PROCEDURAL OR DESIGN CHANGE. COMPENSATORY ACTIONS FOR IMPAIRED FIRE RATED
Waterford 3	12/26/1984	01/17/1985	Fire Door Technical Specification Surveillances Abstract: POWER LEVEL - 000%. ON 12-26-84 WATERFORD 3 STEAM ELECTRIC STATION WAS IN MODE 6 FOR THE PREVIOUS 7 DAYS WHEN OPERATIONS PERSONNEL DISCOVERED THE FIRE DOOR SURVEILLANCE, AS DEFINED IN TECH SPEC 4.7.11.2C,D, FOR 11 FIRE DOORS HAD NOT BEEN PERFORMED SINCE THE ISSUANCE OF A LOW POWER LICENSE ON 12-18-84. UPON FURTHER INVESTIGATION IT WAS DISCOVERED THAT 4 ADDITIONAL FIRE DOORS WERE NOT VERIFIED TO BE OPERABLE AS REQUIRED BY THE ABOVE REFERENCED TECH SPEC. SINCE OPERATIONS PERSONNEL WERE UNAWARE THAT THE OPERABILITY REQUIREMENTS FOR THE 15 FIRE DOORS WERE NOT MET, A FIRE WATCH WAS NOT ESTABLISHED WITHIN THE PROPER TIME INTERVAL AS REQUIRED BY TECH SPEC 3.7.11A. AN IMMEDIATE NOTIFICATION, VIA THE EMERGENCY NOTIFICATION SYSTEM, WAS MADE TO THE COMMISSION PURSUANT TO 10CFR50.36(C)(2).
Waterford 3	01/15/1985	02/14/1985	Failure To Post A Fire Watch Abstract: POWER LEVEL - 000%. AT 2356 HRS WATERFORD 3 STEAM ELECTRIC STATION WAS IN MODE 5 WHEN FIRE PROTECTION SPRINKLER FPM-26 IN THE REACTOR AUX BLDG (ELEVATION +46) VENTILATION EQUIPMENT ROOM WAS ISOLATED TO FACILITATE TROUBLESHOOTING OF ALARMING FIRE DETECTION ELEMENTS AS DEFINED IN CONDITION IDENTIFICATION WORK AUTHORIZATION NUMBER 14293. A FIRE APPLIANCE IMPAIRMENT (NUMBER 85-013) WAS DECLARED; HOWEVER, A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT WAS NOT ESTABLISHED WITHIN 1 HR AS REQUIRED BY TECH SPEC 3.7.10.2. AN IMMEDIATE NOTIFICATION WAS MADE TO THE COMMISSION PURSUANT TO 10CFR50.36(C)(2).
Waterford 3	04/01/1985	04/30/1985	Fire Protection Configuration in Fire Zone 27C Abstract: POWER LEVEL - 000%. ON 4-1-85 WATERFORD 3 STEAM ELECTRIC STATION WAS IN MODE 4 WHEN PLANT PERSONNEL COMPLETED AN EVALUATION OF THAT PORTION OF THE FIRE PROTECTION SYSTEM LOCATED IN FIRE ZONE 27C OF THE REACTOR AUX BLDG. THE EVALUATION REVEALED THAT THE CURRENT CONFIGURATION DOES NOT AGREE WITH THE CONFIGURATION DESCRIBED IN AMENDMENT 36 OF THE FSAR. THE CABLE RISER SHAFT AREA OF THE REACTOR AUX BLDG +7 ELEVATION DID NOT HAVE THE PROPER DETECTION EQUIPMENT CAPABLE OF AUTOMATICALLY ACTUATING THE SPRINKLERS. THE CONDITION WAS REPORTED TO THE COMMISSION PURSUANT TO SECTION 2, ITEM F OF THE FACILITY OPERATING LICENSE NO. NPF-38.
Waterford 3	06/26/1985	07/26/1985	Inoperable Fire Wall Abstract: POWER LEVEL - 085%. ON 6-26 WATERFORD 3 PERSONNEL DISCOVERED A SMALL OPENING IN A PENETRATION OF THE B EMERGENCY DG ROOM FIRE WALL. BECAUSE THE OPENING WAS NOT SEALED, THE FIRE WALL WAS RENDERED INOPERABLE AS REQUIRED BY TECH SPEC 3.7.11A. UPON DISCOVERY THE SHIFT SUPERVISOR POSTED A FIRE WATCH IN ACCORDANCE WITH THE ABOVE TECH SPEC. AN INVESTIGATION INTO THE CAUSE WAS INCONCLUSIVE. BECAUSE OF THE NATURE OF THE OPENING, IT IS BELIEVED THAT THIS CONDITION HAS EXISTED SINCE THE FIRE WALL WAS CONSTRUCTED. THE OPENING HAS SINCE BEEN CLOSED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Waterford 3	09/05/1985	10/04/1985	Fire Seal Impairments Abstract: POWER LEVEL - 000%. ON SEPTEMBER 5, 1985 WATERFORD 3 STEAM ELECTRIC STATION WAS IN MODE 5 (COLD SHUTDOWN) WHEN PLANT PERSONNEL DISCOVERED TWO (2) FIRE SEAL IMPAIRMENTS. OPERATIONS PERSONNEL IMMEDIATELY ESTABLISHED AN HOURLY FIRE WATCH IN ACCORDANCE WITH TECH SPEC 3.7.11A. BECAUSE OF THESE IMPAIRMENTS, AN ADDITIONAL 10% SAMPLE WAS INSPECTED AS REQUIRED BY TECH SPEC 4.7.11.1C. AS OF THIS WRITING, AN ADDITIONAL THIRTEEN (13) FIRE SEAL IMPAIRMENTS WERE DISCOVERED. THESE IMPAIRMENTS WERE ADDED TO THE ABOVE DESCRIBED FIRE TOUR. PLANT PERSONNEL HAVE REPLACED ALL OF THE ABOVE SEALS, AND WILL CONTINUE TO INSPECT FIRE SEALS UNTIL ALL OF THE SURVEILLANCE REQUIREMENTS ARE MET.
Waterford 3	09/10/1985	10/10/1985	Fire Wrap Installation Deficiency Abstract: POWER LEVEL - 000%. AT 0958 HOURS ON SEPTEMBER 10, 1985 WATERFORD 3 STEAM ELECTRIC STATION WAS IN MODE 5 (COLD SHUTDOWN) WHEN PLANT PERSONNEL DISCOVERED THAT THE FIRE WRAP FOR CONDUITS 31509C-2A AND 31551B-SA DID NOT COMPLETELY COVER SEVERAL OF THE CONDUIT SUPPORT POINTS. UPON NOTIFICATION, OPERATIONS PERSONNEL ESTABLISHED AN HOURLY FIRE WATCH IN ACCORDANCE WITH TECH SPEC 3.7.11. SINCE BOTH FIRE DETECTION AND AUTOMATIC SUPPRESSION EQUIPMENT IS LOCATED IN THE AREA, IT IS FELT THAT THE ABOVE DEFICIENCIES DO NOT POSE UNDUE SAFETY CONCERN. THE SUPPORT POINTS HAVE SINCE BEEN WRAPPED, AND PLANT PERSONNEL HAVE INITIATED STEPS TO VERIFY FIRE WRAP OPERABILITY AS DEFINED IN TECH SPEC 4.7.11.1A.
Waterford 3	10/17/1985	11/15/1985	Fire Watch Irregularities Abstract: POWER LEVEL - 100%. AT 0500 HRS ON 10-17-85, PLANT PERSONNEL, WHILE PERFORMING A REVIEW OF THE FIRE WATCH LOGS, DISCOVERED AN IRREGULARITY WITH A FIRE WATCH LOG WHEN THE LOG WAS COMPARED TO THE SECURITY CARDREADER COMPUTER ACCESS HISTORY PRINTOUT. AN IMMEDIATE INVESTIGATION WAS CONDUCTED BY PLANT PERSONNEL IN AN EFFORT TO DETERMINE THE EXTENT OF THE IRREGULARITIES. THE INVESTIGATION REVEALED THAT THE INDIVIDUAL, ALONG WITH ANOTHER CONTRACT FIRE WATCH, DID NOT PERFORM HIS ASSIGNED FIRE WATCH TOUR IN A MANNER CONSISTENT WITH TECH SPECS, PLANT PROCEDURES, AND THE SUBJECT FIRE WATCH LOGS. THE INVESTIGATION ALSO IDENTIFIED 2 ROOMS LOCATED IN THE REACTOR AUX BLDG WHICH WERE INADVERTENTLY OMITTED FROM THE FIRE WATCH TOUR. IN ORDER TO PREVENT RECURRENCE, THE ADMINISTRATION OF THE FIRE WATCH PROGRAM HAS BEEN TOTALLY REVAMPED. AS PART OF THIS EFFORT, CHANGES IN PERSONNEL, SUPERVISION, ADMINISTRATION, AND TRAINING PRACTICES HAVE BEEN PUT INTO EFFECT.
Waterford 3	12/02/1985	01/02/1986	Deficient Fire Watch Tours Abstract: POWER LEVEL - 100%. AT 2100 HOURS ON DECEMBER 2, 1985, THE FIRST OF THREE DEFICIENCIES WERE DISCOVERED DURING ROUTINE REVIEWS OF THE FIRE WATCH LOGS. THE OTHER EVENTS WERE DISCOVERED AT 0130 HOURS ON DECEMBER 4, 1985 AND 2315 HOURS ON DECEMBER 9, 1985. IN EACH CASE A PERSONNEL ERROR RESULTED IN THE FAILURE TO SATISFACTORILY COMPLETE THE ASSIGNED HOURLY FIRE WATCH PATROL DUE TO (1) NEW EMPLOYEES WHICH ARE NOT FAMILIAR WITH THE PLANT LAYOUT, AND TO HEALTH PHYSICS CONTROLS ON THE AREAS IN QUESTION. FIRE WATCH PERSONNEL HAVE BEEN INSTRUCTED TO NOTIFY THE SHIFT SUPERVISOR OR CONTROL ROOM SUPERVISOR BEFORE DEVIATING FROM THE ASSIGNED TOUR.
Waterford 3	04/06/1986	05/05/1986	Personnel Error Resulted in a Missed Fire Watch Inspection Abstract: POWER LEVEL - 100%. AT 0657 HOURS ON APRIL 6, 1986, SECURITY PERSONNEL DISCOVERED THAT THE 2300-0700 HOUR SHIFT ON APRIL 5-6, 1986 DID NOT SATISFACTORILY PERFORM THE FIRE WATCH TOUR FOR FIRE IMPAIRMENT 85-232 AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.11. UPON DISCOVERING THE DEFICIENT TOUR, SECURITY PERSONNEL ESTABLISHED THE REQUIRED FIRE TOUR. A PRELIMINARY INVESTIGATION REVEALED THAT, ALTHOUGH THE ASSIGNED FIRE WATCH PATROL OFFICER DID NOT PERFORM THE REQUIRED INSPECTION, MEMBERS OF THE PLANT STAFF WERE IN THE AREA ON AN HOURLY BASIS FOR THE ENTIRE SHIFT WITH THE EXCEPTION OF 0100, 0500 AND 0600 HOURS. A DETAILED INVESTIGATION REVEALED THAT THE ERROR WAS DUE TO THE PAGES IN THE FIRE WATCH LOG BEING MISNUMBERED. THIS ERROR RESULTED IN THE REMOVAL OF THE LAST PAGE OF THE SPARE LOG. THIS PAGE CONTAINED THE SUBJECT IMPAIRMENT. HOWEVER, THIS ERROR WOULD NOT HAVE CAUSED THE ABOVE DEFICIENCY HAD THE CONTROL ALARM STATION/SECONDARY ALARM STATION SUPERVISOR CONDUCTED THE PROPER COMPUTER CHECK. TO PREVENT THIS EVENT FROM RECURRING THE SECURITY SUPERINTENDENT HAS ISSUED FIRE WATCH POST ORDER STATING THE RESPONSIBILITIES FOR HANDLING THE FIRE WATCH LOGS, POSTING OF FIRE WATCH PATROLS, AND HOURLY COMPUTER CHECKS.
Waterford 3	06/05/1986	01/19/1987	Walkdown as a result of Part 21 Report Identified Two Missing Internal Penetration Seals in Addition to Several Deficient Seal Arrangements Abstract: POWER LEVEL - 100%. ON JUNE 5, 1986 WATERFORD STEAM ELECTRIC STATION UNIT 3 WAS OPERATING AT 100% REACTOR POWER WHEN MAINTENANCE PERSONNEL, WHILE CONDUCTING A WALKDOWN TO OBTAIN ENGINEERING DATA TO BE USED IN DETERMINING FIRE SEAL CONFIGURATIONS, DISCOVERED TWO INTERNAL PENETRATION SEALS MISSING. UPON NOTIFICATION OF THE SHIFT SUPERVISOR (1055 HOURS), A FIRE WATCH WAS ESTABLISHED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.11. THE DURATION OF THIS DEFICIENCY IS DIFFICULT TO ASCERTAIN, HOWEVER, ENGINEERING PERSONNEL SUSPECT THIS CONDITION EXISTED PRIOR TO THE IMPLEMENTATION OF LOUISIANA POWER & LIGHT'S SEAL REPAIR AND REPLACEMENT PROCEDURES. SEALING MATERIAL WAS INSTALLED IN ONE OF THE PENETRATIONS WITH THE MISSING SEAL. PIPE CAPS WERE INSTALLED ON BOTH ENDS OF THE SECOND PENETRATION. THE WALKDOWN WAS INITIATED AS A RESULT OF A NONCOMPLIANCE REPORTED BY PROMATEC PURSUANT TO 10CFR PART 21, 'REPORTING OF DEFECTS AND NONCOMPLIANCE'. IN THE REPORT PROMATEC IDENTIFIED A SEAL CONFIGURATION WHICH DID NOT MEET THE THREE HOUR HEAT TRANSMISSION REQUIREMENT WHEN THE CONFIGURATION WAS TESTED IN FEBRUARY, 1986. IN ADDITION TO THAT DESCRIBED ABOVE, 228 SEALS WERE IDENTIFIED TO HAVE A CONFIGURATION SIMILAR TO THAT TESTED BY
Waterford 3	04/15/1987	05/15/1987	Fire Wrap Not Installed Due to Inadequate Modification Implementation Abstract: POWER LEVEL - 000%. AT 1206 ON APRIL 15, 1987, WATERFORD STEAM ELECTRIC STATION UNIT 3 WAS SHUTDOWN IN HOT STANDBY. DURING A WALKDOWN TO UPDATE FIRE WRAP DRAWINGS, ENGINEERING PERSONNEL DISCOVERED THAT THE FIRE WRAP FOR CONDUIT 31079F-SB WAS MISSING. A FIRE WATCH WAS ESTABLISHED WITHIN ONE HOUR AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.11. THE MODIFICATION WHICH INSTALLED THIS PARTICULAR FIREWRAP WAS IMPLEMENTED SEVERAL YEARS AGO. IT WAS THEREFORE DIFFICULT TO ASCERTAIN THE PRECISE FAILURE WHICH RESULTED IN THIS WRAP NOT BEING INSTALLED. THIS WAS APPARENTLY DUE TO AN OVERSIGHT ON TRANSFER OF DOCUMENTS BETWEEN INSTALLATION CONTRACTORS. STATION MODIFICATION 1901 HAS BEEN INITIATED TO REROUTE CABLE 31079F-SB TO A LOCATION WHERE APPENDIX 'R' SEPARATION, DETECTION, AND SUPPRESSION REQUIREMENIS CAN BE MET, THEREFORE NOT REQUIRING THE CABLE TO BE FIRE WRAPPED. THE WALKDOWN OF WRAP DRAWINGS WAS COMPLETED AND NO FURTHER DISCREPANCIES WERE FOUND.
Waterford 3	08/07/1987	09/08/1987	Fire Seal Missing Due to Error In Construction Documentation Abstract: POWER LEVEL - 100%. AT 1141 HOURS ON AUGUST 7, 1987, WATERFORD STEAM ELECTRIC STATION UNIT 3 WAS OPERATING AT 100% POWER WHEN OPERATIONS PERSONNEL, PERFORMING A ROUTINE PLANT INSPECTION, DISCOVERED THAT THE FIRE SEAL FOR PENETRATION VI A0126 WAS MISSING. THE MISSING FIRE SEAL IS LOCATED ON THE +46 FOOT ELEVATION OF THE REACTOR AUXILIARY BUILDING WHERE A 4 INCH VENT LINE FOR THE B EMERGENCY DIESEL GENERATOR PENETRATES THE FLOOR THROUGH AN 8 INCH SLEEVE. A FIRE WATCH WAS PROMPTLY ESTABLISHED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.11. IT IS PROBABLE THAT THIS CONDITION EXISTED SINCE PLANT STARTUP, THEREFORE THE PLANT WAS IN A CONDITION PROHIBITED BY TECHNICAL SPECIFICATION 3.7.11 BETWEEN DECEMBER 18, 1984 AND AUGUST 7, 1987. FURTHER INVESTIGATION REVEALED THAT PENETRATION SEAL VI A0126 WAS INADVERTENTLY DELETED FROM THE PENETRATION SEAL LIST IN THE SPRING OF 1984, PRIOR TO THE SYSTEM TURNOVER WALKDOWNS AND DEVELOPMENT OF SURVEILLANCE PROCEDURES. THE SEAL THEREFORE WAS NEVER INDICATED AS BEING REQUIRED FOR INSPECTION IN THE CURRENT 'PENETRATION TABLE' NOR CONTAINED IN PROCEDURE ME-3-006, 'FIRE BARRIER PENETRATION SEALS'. THE SEAL IS EXPECTED TO BE REPAIRED BY SEPTEMBER 30, 1987 AND STATION MODIFICATION 2001 HAS BEEN ISSUED TO REVISE THE APPROPRIATE DOCUMENTS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Waterford 3	04/05/1988	05/19/1989	Fire Barrier Degraded Due to Inadequate Administrative Control Abstract: POWER LEVEL - 000%. AT 1429 HOURS ON APRIL 5, 1988, WATERFORD STEAM ELECTRIC STATION UNIT 3 WAS IN COLD SHUTDOWN WHEN A VITAL AREA FIRE DOOR (VAFD) WAS DISCOVERED TO BE IMPAIRED. THE VAFD WAS POSTED BY SECURITY SINCE APRIL 1, 1988 DUE TO A MALFUNCTIONING LOCK. ON APRIL 5, 1988 A UTILITY MECHANIC REMOVED THE LOCK BUT COULD NOT REPAIR IT AND SECURED FROM THE JOB AT 0146. AT 1015 HOURS THE AREA WAS DEVITALIZED AND A POSTED SECURITY OFFICER WAS NO LONGER REQUIRED. AT 1429 HOURS A SECURITY OFFICER, TRAINED IN FIRE DOOR INTEGRITY, WAS PERFORMING THE DAILY FIRE DOOR SURVEILLANCE WHEN HE DISCOVERED THE LOCKING MECHANISM WAS MISSING FROM THE VAFD. SINCE REMOVAL OF THE LOCK IS A FIRE BARRIER DESIGN DEVIATION A FIRE IMPAIRMENT WAS ISSUED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.7.11. THE ROOT CAUSE OF THIS EVENT WAS INADEQUATE ADMINISTRATIVE CONTROL. THERE WAS NO POSITIVE MEANS TO ENSURE A FIRE IMPAIRMENT WAS ISSUED. TO PREVENT RECURRENCE A NOTE HAS BEEN ADDED TO THE WORK AUTHORIZATION INSTRUCTIONS. PROCEDURES HAVE BEEN REVISED TO REQUIRE THAT A FIRE PROTECTION IMPAIRMENT BE ISSUED WHEN A PROBLEM IS IDENTIFIED WITH A FIRE PROTECTION APPLIANCE. QUALIFIED FIRE WATCHES TRANSITED THE AREA AT LEAST ONCE PER HOUR WHILE THE VAFD WAS IMPAIRED. THE PLANT WAS IN A MODE IN WHICH A FIRE IN THIS AREA
Waterford 3	05/25/1988	06/24/1988	Penetration Fire Seal Impaired Due to Error in Initial Construction Abstract: POWER LEVEL - 000%. AT 1700 HOURS ON MAY 25, 1988, WATERFORD STEAM ELECTRIC STATION UNIT 3 WAS IN HOT SHUTDOWN WHEN IT WAS DETERMINED THAT THE FIRE SEAL FOR PENETRATION VIA0179 DID NOT CONFORM WITH A STANDARD DESIGN AND WAS THEREFORE IMPAIRED. THE IRREGULAR SEAL WAS DISCOVERED ON DECEMBER 3, 1987 BY UTILITY ELECTRICIANS PERFORMING FIRE SEAL INSPECTIONS BUT WAS DETERMINED NOT TO BE AN IMPAIRMENT. SINCE IT WAS NOT AN IMPAIRMENT, THE JOB PLANNER DID NOT WALKDOWN THE FIRE SEAL UNTIL MAY 25, 1988. HE IMMEDIATELY NOTIFIED A FIRE PROTECTION ENGINEER WHO DETERMINED THE SEAL WAS IMPAIRED. A FIRE WATCH WAS PROMPTLY ESTABLISHED IN ACCORDANCE WITH TECHNICAL SPECIFICATION (TS) 3.7.11. THIS CONDITION HAS EXISTED SINCE INITIAL STARTUP, THEREFORE THE PLANT WAS IN A CONDITION PROHIBITED BY TS 3.7.11 BETWEEN DECEMBER 18, 1984 AND MAY 25, 1988. THE ROOT CAUSE OF THIS EVENT WAS AN INITIAL DESIGN AND CONSTRUCTION ERROR. THE SEAL SPECIFIED BY THE PENETRATION LIST WAS NOT PROPER FOR THE APPLICATION AND THE INSTALLATION DID NOT CORRELATE WITH A STANDARD DESIGN. A STATION MODIFICATION HAS BEEN INITIATED TO CORRECT THE SEAL. SINCE THE EXTERNAL PORTION OF THE SEAL IS EXPOSED TO THE OUTSIDE ATMOSPHERE AND THE INTERNAL PORTION IS IN AN AREA WITH FIRE DETECTION AND SUPPRESSION EQUIPMENT THE EFFECT ON THE FIRE
Waterford 3	10/10/1988	11/09/1988	Fire Barrier Discrepancies Due to Procedural Inadequacy Abstract: POWER LEVEL - 090%. BETWEEN 10/10/88, AND 10/31/88, SEVERAL DISCREPANCIES ASSOCIATED WITH FIRE RATED ASSEMBLIES WERE DISCOVERED. NUCLEAR OPERATIONS ENGINEERING (NOE) PERSONNEL DISCOVERED 12 FIRE RATED ASSEMBLIES WHICH WERE NOT INCLUDED IN SURVEILLANCE PROCEDURE ME-3-009, 'FIRE WALLS, FLOORS, CEILINGS.' ALSO, DURING PERFORMANCE OF ME-3-009 IN THE WASTE CONDENSATE TANK (WCT) ROOM, MAINTENANCE PERSONNEL DISCOVERED A 1 SQUARE FOOT HOLE IN THE CEILING. THIS CEILING IS A 3 HOUR FIRE RATED ASSEMBLY. THESE EVENTS ARE REPORTABLE AS CONDITIONS PROHIBITED 1 BY TECH SPEC 3.7.11. THE ROOT CAUSE FOR NOT INSPECTING THE FIRE RATED ASSEMBLIES IS PROCEDURAL INADEQUACY. ME-3-009 WILL BE REVISED TO INCLUDE THESE ASSEMBLIES. ALTHOUGH THE EXACT ROOT CAUSE FOR THE HOLE IS UNKNOWN, APPARENTLY, THE HOLE WAS INADVERTENTLY MISSED WHEN OTHER TEMPORARY SPARE PENETRATIONS WERE FILLED DURING CONSTRUCTION. FIRE IMPAIRMENTS WERE IMMEDIATELY ISSUED FOR THE AFFECTED AREAS. TEN OF THE ASSEMBLIES WOULD PERFORM THEIR INTENDED FUNCTION AND ONE OF THE REMAINING ASSEMBLIES IS PROVIDED WITH FIRE DETECTION AND SUPPRESSION. THE OTHER DOES NOT REQUIRE THIS DUE TO THE LOW CONCENTRATION OF COMBUSTIBLE MATERIAL IN THE SPACE. FIRE DETECTION AND SUPPRESSION IS ALSO PROVIDED IN SPACES ADJACENT TO THE WCT ROOM. THUS, THIS EVENT DID NOT SIGNIFICANTLY
Waterford 3	06/10/1995	01/13/1998	Reactor Trip and Non-Safety Related Switchgear Fire. Watch 933 - Generic Letter 88-20. Abstract: On June 10, 1995, a fault recorder at the Waterford Switchyard recorded a single phase fault. Subsequent inspection identified a failed C phase lightning arrestor on a Substation Transformer. At approximately the same time, with the plant in mode 1 at 100% power, a reactor trip occurred, and one of the two independent offsite power sources was lost. Shortly thereafter, a report was received from the Turbine Generator Building (TGB) operator of smoke in the TGB switchgear. The 4.16 KV non-safety related A2 bus in the TGB switchgear caught fire causing damage to the bus and surrounding cables and components. The fire damage was limited mainly to the Unit Auxiliary Transformer Feeder Breaker supplying the A2 bus and the adjoining meter cabinet. The root cause of the fire in the A2 switchgear was the improper automatic bus transfer from the Unit Auxiliary Transformer to the Startup Transformer and the root cause of the reactor trip was low Departure from Nucleate Boiling Ratio. During the recently completed Refueling Outage, a new automatic bus transfer scheme was installed at Waterford 3. This event did not compromise the health and safety of the public.
Waterford 3	06/04/1997	03/16/1998	Potential Safety Related Static Uninterruptible Power Supply (SUPS) Common Mode Failure Abstract: On June 4, 1997, during Refueling Outage eight (shutdown), while evaluating a plant condition, it was determined that a fire in the switchgear room could potentially result in the momentary loss of both trains of safety related Static Uninterruptible Power Supplies (SUPS). The plant established hourly fire watches in that area in accordance with Fire Protection Program requirements. The apparent cause of the condition was determined to be a combination of 1) the inherent design of the SUPS units and 2) unprotected SUPS associated circuits that are not separated per Appendix R criteria. Other plant areas are affected by the condition. In addition to fire, low probability vulnerability to tornado missile damage exists in one plant area. Corrective measures during Refuel Outage 9 (RF09) include.replacement of a SUPS and Operator response procedure enhancement. Post RF09 changes include cable reroutes and color coded breaker panel markings (human factors enhancement). Compensatory measures will continue in the interim. No actual loss of both trains of SUPS units occurred. This condition did not compromise the health and safety of the general public.
Waterford 3	07/27/1999	08/26/1999	An Appendix R Non-Compliance Condition Involving Inadequate Separation of Safe Shutdown Cables Abstract: On July 27, 1999, with the plant in Mode 1 at 100% Reactor Power, it was determined that electric cables serving redundant trains of equipment required for safe shutdown (Fire Area RAB-30) were not routed in full compliance with 10CFR50 Appendix R requirements. However, existing suppression, detection and spacial separation would have ensured one train available for safe shutdown. The separation of the cables ranged from 8 feet to 120 feet. Appendix R requires a three hour barrier or a one hour barrier + detection + sprinklers or 20 feet free space between trains with no intervening combustibles +detection + sprinklers. The existing condition does not fully meet one of these options. Equipment affected includes Charging Pumps "A", "B" and "A/B"; Emergency Feedwater Pumps "A" and "B"; Low Pressure Safety Injection Pumps "A" and "B"; Shutdown Cooling Heat Exchanger "A" and "B" Component Cooling Water Flow Control Valves; and High Pressure Safety Injection Pumps "A" and "B". Compensatory measures (continuous fire watches) were implemented immediately. There was no actual fire event associated with this condition. Corrective measures are being determined under the plant Corrective Action Program. The condition did not compromise the health and safety of the general public.
Waterford 3	10/06/1999	11/08/1999	An Appendix R Non-Compliance Outside Design Basis Condition Involving An Inoperable Sprinkler System Abstract: On October 6, 1999, with the plant in Mode 1 at 100% reactor power, it was determined, during reviews of sprinkler system hydraulic calculations, that a fire protection sprinkler system (FPM-4B) was inoperable due to being unable to meet design dinsity (gal/sq ft) as required by the code of record (NFPA-13-1976) for a small section of the area. A three hour rated fire barrier wall between the 'A' and 'B' diesel generator rooms provides adequate Appendix R separation between the diesel generators. However a fire barrier with less than a three hour fire rating, located between the corridor ant the 'B' diesel generator room has 'A' train diesel generator cables in close proximity. Therefore, the sprinkler deficiency resulted in the potential for a fire in the 'B' diesel generator room to affect both trains of diesel generators. This constituted a condition outside the design basis of the plant with respect to Appendix R. Compensatory measures (continuous fire watches) were established immediately. The EDGs were determined to be operable in light of the compensatory measures. No actual fire event had occurred. The condition was determined to be due to an inadequate original design configuration. Corrective measures are being implemented under the plant corrective action program. The

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Waterford 3	01/05/2000	02/04/2000	An Appendix R Non-Compliance Outside Design Basis Condition Involving An Inoperable Sprinkler System Abstract: On January 5, 2000, with the plant operating in Mode 1 at 100% reactor power, it was determined, during reviews of sprinkler system hydraulic calculations, that a fire protection sprinkler system (FPM-1 8) was inoperable due to system demand exceeding fire pump capability in Fire Area RAB 6. Compensatory measures (continuous fire watches) were established in the Fire Area. Electrical cables for both trains of reactor safe shutdown equipment are routed through the fire area. It was determined that the sprinkler system did not meet original design requirements. Initially, it was believed that actual fire loading in the affected fire area was less than the one hour protection provided by the cable raceway fire enclosures installed on essential Train `B' raceways in that area. However, during subsequent reviews, it was determined on January 6, 2000 that fire loading in that area actually exceeded one hour. At that point, it was recognized that the condition was outside the design bases and a one-hour notification was made to the NRC. No actual fire event occurred. The condition was determined to be due to an inadequate original design configuration. Corrective measures are being addressed under the plant corrective action program. The condition did not compromise the health and
Waterford 3	06/12/2006	08/11/2006	Potential for Loss of Both Trains of Safe Shutdown Equipment from Damage due to Fire Abstract: On June 12, 2006, at approximately 13:00, with the plant operating in Mode 1 at 100% Reactor Power, it was determined that a fire in Fire Area Reactor Auxiliary Building (RAB) 7 could potentially challenge the ability of the plant to achieve safe shutdown due to apparent non-feasible manual actions and potential equipment damage from a hot gas layer in the area. It has subsequently been determined that operators had other available feasible manual actions prescribed in an Emergency Operating Procedure that would have facilitated achievement of safe shutdown. However, preliminary engineering evaluations indicate that damage to redundant safe shutdown trains could have occurred from a hot gas layer in the fire area during a postulated fire. Fire Area RAB 7 has part height walls that separate the fire area into fire zones. The part height wall arrangement is part of the Waterford 3 license basis via an approved deviation. Adequate compensatory measures are in place to support current operability. The condition did not involve an actual fire event. This event did not compromise the health and safety of the general public. This event is not considered a Safety System Functional Failure since there was no actual loss of safety function.
Watts Bar 1	02/11/2014	04/11/2014	Non-conservative Operator Manual Actions Identified in Appendix R Analysis Abstract: On February 11, 2014, Watts Bar Nuclear Plant (WBN) engineering and operations personnel discovered that nonconservative operator manual action times were credited in Appendix R analyses. Preliminary Westinghouse transient analysis calculations of WBN Unit 1 fire protection features revealed that there was less time than previously credited to perform certain operator manual actions to prevent pressurizer overfill during certain Appendix R fire scenarios. The Westinghouse analysis assumes the time required to isolate the normal charging path, secure the second charging pump and isolate the emergency charging path is approximately 12.5 minutes. Watts Bar Unit 1 procedures are nonconservative in that they allow these actions to be completed in 18 minutes. The Tennessee Valley Authority (TVA) has verified that potentially impacted Appendix R equipment remains functional; however, a compensatory fire watch has been established for the affected areas until plant modifications are completed. This event was caused by an error in a fire protection program design calculation prior to commercial operation of Unit 1. Modifications to address this issue will be completed during the Fall 2015 refueling outage.
Wolf Creek	03/11/1985	05/24/1985	Technical Specification Violation Ruskin Fire Dampers Abstract: POWER LEVEL - 000%. ON 4-24-85, IT WAS DETERMINED THAT OBSERVED CONDITIONS ON SOME FIRE DAMPERS SUPPLIED BY RUSKIN MANUFACTURING COMPANY WERE NOT IN ACCORDANCE WITH THE AS-DESIGNED CONDITIONS AND THAT THE FIRE RATING OF THESE DAMPERS WAS POTENTIALLY DEGRADED FROM THE ORIGINAL 3-HR FIRE RATING APPROVED BY UNDERWRITERS LABS. THESE CONDITIONS HAD EXISTED SINCE INSTALLATION OF THE FIRE DAMPERS AND ARE A VIOLATION OF TECH SPEC 3.7.11 'FIRE BARRIER PENETRATIONS'. THE VIOLATION IS CONSIDERED TO HAVE EXISTED FROM THE DATE OF LICENSE ISSUE (3-11-85) UNTIL FIRE WATCHES WERE ESTABLISHED FOR ALL AFFECTED FIRE DAMPERS ON 4-24-85. PRIOR TO 4-24, PRECAUTIONARY FIRE WATCHES HAD BEEN ESTABLISHED WHEN INDIVIDUAL DAMPER CONDITIONS INDICATED THE POSSIBILITY OF A DEGRADED FIRE RATING.
Wolf Creek	03/19/1985	04/17/1985	Technical Specification Violation - Missed Hourly Fire Watch Abstract: POWER LEVEL - 000%. FROM 2300 CST ON 3-19-85 TO 0100 ON 3-20-85, FOLLOWING INITIAL FUEL LOADING, HOURLY FIRE WATCH PATROLS FOR 1 ROOM IN THE AUX BLDG AND 1 ROOM IN THE CONTROL BLDG WERE MISSED. THIS IS A VIOLATION OF TECH SPEC ACTION STATEMENT 3.7.11.A. THIS RESULTED IN FIRE BARRIERS WITH INOP PENETRATION SEALS NOT BEING PATROLLED DURING THE 2300 HR PATROL AND DURING THE 2400 HR PATROL. PATROL OF ONE ROOM WAS REESTABLISHED DURING THE 2400 HR PATROL, AND PATROL OF THE SECOND ROOM WAS REESTABLISHED DURING THE 0100 PATROL. THE REQUIRED ROOM FIRE DETECTION AND SUPPRESSION SYSTEMS WERE OPERABLE DURING THIS TIME.
Wolf Creek	04/11/1985	05/30/1985	Technical Specifications Violation - Pre-Action Sprinkler System Out of Service Abstract: POWER LEVEL - 000%. AT 0830 CST ON 4-13-85 WHILE THE PLANT WAS IN MODE 5, COLD SHUTDOWN, IT WAS DISCOVERED THAT A PRE-ACTION SPRINKLER SYSTEM PROTECTING CABLE TRAYS ON ELEVATION 2000 OF THE AUX BLDG CONTAINING REDUNDANT SYSTEMS OR COMPONENTS HAD BEEN TAKEN OUT OF SERVICE AT 1125 CST ON 4-11-85 WITHOUT ESTABLISHING THE REQUIRED CONTINUOUS FIRE WATCH. THIS IS IN VIOLATION OF A TECH SPEC - LCO. UPON DISCOVERY, THE AFFECTED PLANT AREA WAS IMMEDIATELY PLACED UNDER CONTINUOUS FIRE WATCH. DURING THE TIME THE PRE-ACTION SPRINKLER SYSTEM WAS OUT OF SERVICE THE AFFECTED AREAS WERE PROTECTED BY THE INSTALLED FIRE DETECTION SYSTEM AND AN HOURLY FIRE WATCH PATROL WITH BACKUP FIRE SUPPRESSION EQUIPMENT LOCATED IN THE AREA.
Wolf Creek	06/22/1985	07/23/1985	Technical Specification Violation - Missed Hourly Fire Watch Patrol Abstract: POWER LEVEL - 030%. ON JUNE 22, 1985, A TECH SPEC VIOLATION OCCURRED WHEN AN HOURLY FIRE WATCH PATROL WAS NOT PERFORMED IN SEVERAL AREAS OF THE AUXILIARY BUILDING AS REQUIRED BY TECH SPEC 3.7.11, ACTION STATEMENT A. THIS ACTION STATEMENT REQUIRES, IN PART, THAT AN HOURLY FIRE WATCH PATROL BE ESTABLISHED FOR AREAS IN WHICH THERE IS AN INOPERABLE FIRE BARRIER PENETRATION. THIS EVENT WAS DUE TO THE FAILURE OF AN INDIVIDUAL FIRE WATCH CONTRACTOR TO PERFORM HIS ASSIGNED RESPONSIBILITIES. THE INDIVIDUAL HAS BEEN DISMISSED, AND HOURLY FIREWATCH PATROLS ARE NOW PERFORMED BY PERMANENT PERSONNEL. THE FIRE DETECTION AND SUPPRESSION SYSTEMS FOR THE INVOLVED ROOMS/AREAS WERE OPERABLE DURING THE TIME PERIOD OF THE MISSED PATROLS, AND NO DAMAGE TO PLANT EQUIPMENT OCCURRED DUE TO THIS EVENT. A PREVIOUS SIMILAR OCCURRENCE IS DISCUSSED IN LER 85-004-00.
Wolf Creek	08/02/1985	08/29/1985	Technical Specification Violation - Missed Hour Fire Watch Patrol Abstract: POWER LEVEL - 030%. ON AUGUST 2, 1985, A TECH SPEC VIOLATION OCCURRED WHEN TWO ROOMS IN THE AUXILIARY BUILDING, WHICH HAD INOPERABLE FIRE DETECTION INSTRUMENTS, WERE NOT INSPECTED FOR EVIDENCE OF FIRE AS REQUIRED BY TECH SPEC 3.3.3.8 ACTION STATEMENT B, WHICH REQUIRES, IN PART, THE ESTABLISHMENT OF AN HOURLY FIRE WATCH PATROL INSPECTION OF ALL ZONES CONTAINING INOPERABLE FIRE DETECTION INSTRUMENTS. THE ENTRANCE DOOR TO THE TWO ROOMS WAS FOUND JAMMED SHUT AT APPROXIMATELY 1100 CDT, AND, ALTHOUGH A REQUEST TO REPAIR THE DOOR WAS PROMPTLY ISSUED, FIRE WATCH PERSONNEL FAILED TO NOTIFY THE CONTROL ROOM OF THE SITUATION UNTIL 1400 CDT. THE REQUIRED HOURLY PATROLS WERE RE-ESTABLISHED AT APPROXIMATELY 1445 CDT. A SIMILAR PERSONNEL ERROR IS DISCUSSED IN LICENSEE EVENT REPORT 85-004-00. ALL FIRE WATCH PERSONNEL HAVE BEEN INSTRUCTED TO NOTIFY THE CONTROL ROOM IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES ENCOUNTERED WHILE PERFORMING FIRE WATCH PATROLS.

Wolf Creek	08/13/1985	11/19/1985	Technical Specification Violation - Containment Air Temperature Readings Abstract: POWER LEVEL - 049%. ON 8-13-85, A TECH SPEC VIOLATION OCCURRED WHEN HOURLY CONTAINMENT TEMPERATURE READINGS WERE NOT RECORDED FOR APPROX 8 HRS. THE HOURLY READINGS WERE REQUIRED BY TECH SPEC 3.3.3.8 ACTION STATEMENT (B) DUE TO THE FAILURE OF A CONTAINMENT ZONE FIRE DETECTOR. HOURLY CONTAINMENT TEMPERATURE READINGS WERE RESUMED IMMEDIATELY UPON DISCOVERY OF THE ERROR. THE CAUSE OF THIS EVENT WAS A PROCEDURAL PERSONNEL ERROR. AN ONCOMING SHIFT OPERATOR FAILED TO ADEQUATELY REVIEW REQUIRED CONTROL ROOM LOGS, RESULTING IN OVERLOOKING THE REQUIREMENT FOR HOURLY CONTAINMENT AIR TEMPERATURE READINGS. THE INDIVIDUAL HAS BEEN COUNSELED CONCERNING THIS ERROR AND A REVIEW OF THE REQUIREMENTS FOR SHIFT-TURNOVERS HAS BEEN ASSIGNED TO ALL OPERATING PERSONNEL. OTHER FIRE DETECTION EQUIPMENT WITHIN THE CONTAINMENT WAS OPERABLE AND A CONTAINMENT ENTRY AND SHIFT CONTAINMENT AIR TEMPERATURE READNIGS CONFIRMED THAT NO FIRE EXISTED IN THE CONTAINMENT. THE FAILED CONTAINMENT ZONE FIRE DETECTOR WAS SUBSEQUENTLY REPAIRED AND RETURNED TO SERVICE.
Wolf Creek	09/13/1985	10/28/1985	Technical Specification Violation - Missed Hourly Firewatch Patrol Abstract: POWER LEVEL - 100%. ON 9-28-85 AT APPROX 1230 CDT, IT WAS DISCOVERED THAT A VIOLATION OF TECH SPEC 3.7.11, ACTION STATEMENT A, HAD OCCURRED WHEN HOURLY FIRE WATCH PATROLS MISSED ONE AREA OF THE AUX BLDG WHICH CONTAINED AN INOPERABLE FIRE BARRIER PENETRATION. SUBSEQUENT INVESTIGATIONS REVEALED THAT THIS OCCURRENCE WAS DUE TO A SERIES OF CHANGES TO THE FIRE WATCH PATROL LOG SHEET DESCRIPTION OF THE AREA TO BE INSPECTED. THIS SERIES OF CHANGES BEGAN ON 9-13-85, AND CULMINATED IN THE DELETION OF THE AREA ENTIRELY ON 9-21-85. UPON DISCOVERY, HOURLY PATROLS OF THIS AREA WERE IMMEDIATELY RE-ESTABLISHED AND NO EVIDENCE OF FIRE OR TRANSIENT COMBUSTIBLES WAS DETECTED. THE CAUSE OF THIS EVENT WAS DETERMINED TO BE COGNITIVE PERSONNEL ERRORS BY THE FIRE WATCH PERSONNEL. AS A RESULT OF THIS EVENT, FIRE WATCH PERSONNEL HAVE BEEN INSTRUCTED TO ASSURE THAT THEIR LOG SHEETS ARE ACCURATE AND COMPLETE. DURING THE TIME THE HOURLY FIRE WATCH PATROLS WERE MISSED, PLANT CONDITIONS VARIED FROM MODE 3, HOT STANDBY, TO MODE 1, POWER OPERATION, AT A REACTOR POWER OF 100%. LERS 85-004, 85-047, AND 85-059 DISCUSS SIMILAR PREVIOUS OCCURRENCES OF MISSED HOURLY PATROLS DUE TO PERSONNEL ERRORS.
Wolf Creek	10/31/1985	11/27/1985	Technical Specification Violation - Missed Hourly Fire Watch Patrol Abstract: POWER LEVEL - 100%. ON 11-1-85 AT APPROX 0600 CST, A VIOLATION OF TECH SPEC 3.7.11 ACTION STATEMENT 'A', WAS DISCOVERED. WHILE REVIEWING THE FIRE WATCH LOGS, THE SHIFT SUPERVISOR DISCOVERED THAT HOURLY FIRE WATCHES HAD NOT BEEN INITIATED AS REQUIRED WHEN THE FIRE BARRIER ENCLOSURE AROUND AN AUX FEEDWATER ALTERNATE SUPPLY VALVE HAD BEEN REMOVED FOR SURVEILLANCE TESTING OF THE VALVE AT APPROX 1400 CST ON 10-31-85. UPON DISCOVERY, THE AREA WAS CHECKED AND HOURLY FIRE WATCHES WERE INITIATED. DURING THIS PERIOD, THE PLANT OPERATED IN MODE 1, POWER OPERATION, AT 100% POWER. THE CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR BY A SHIFT SUPERVISOR WHO APPROVED REMOVAL OF THE VALVE ENCLOSURE BUT FAILED TO RECOGNIZE THAT THE VALVE ENCLOSURE WAS A FIRE BARRIER. THERE HAVE BEEN NO PREVIOUS SIMILAR OCCURRENCES. THE INVOLVED PERSONNEL HAVE BEEN COUNSELED AND THIS LER WILL BE ASSIGNED AS REQUIRED READING FOR OPERATIONS PERSONNEL TO EMPHASIZE RECOGNITION OF FIRE BARRIERS WHEN APPROVING WORK ACTIVITIES. A REQUEST TO CHANGE THE DESIGN OF THE VALVE ENCLOSURE HAS BEEN ISSUED AND A NOTE IDENTIFYING THE VALVE ENCLOSURE AS A FIRE BARRIER IS BEING ADDED TO THE SURVEILLANCE TEST PROCEDURE. THIS EVENT CAUSED NO DAMAGE TO EQUIPMENT OR RELEASE OF RADIATION.
Wolf Creek	12/20/1985	01/16/1986	Technical Specification Violation - Fire Dampers Not Installed Abstract: POWER LEVEL - 100%. ON 12-20-85 AT 1430 CST, IT WAS DISCOVERED THAT A VIOLATION OF TECH SPEC 3.7.11 EXISTED AS A RESULT OF THE REQUIRED FIRE DAMPERS NOT BEING INSTALLED IN 2 VENTILATION PENETRATIONS THROUGH 3 HR FIRE WALLS IN THE AUX BLDG. TECH SPEC 3.7.11 REQUIRES IN PART THAT ALL SEALING DEVICES (FIRE DAMPERS) IN FIRE RATED ASSEMBLIES BE OPERABLE AT ALL TIMES. THROUGH A DESIGN OVERSIGHT, THE INSTALLATION OF THESE FIRE DAMPERS WAS NOT REQUIRED BY THE DESIGN DRAWINGS. THIS SITUATION HAS BEEN INEXISTENCE SINCE RECEIPT OF THE FACILITY LICENSE. DURING THIS TIME, PLANT CONDITIONS HAVE VARIED FROM MODE 6, REFUELING, THROUGH MODE 1, POWER OPERATION, AT REACTOR POWER LEVELS OF UP TO 100%. UPON DISCOVERY OF THIS CONDITION, AN HOURLY FIRE WATCH PATROL OF THE AFFECTED AREA WAS ESTABLISHED IN ACCORDANCE WITH ACTION STATEMENT 'A' OF SPEC 3.7.11. A DESIGN CHANGE TO INSTALL THE REQUIRED FIRE DAMPERS IS BEING PREPARED. LER'S 85-78-01 AND 85-083 DISCUSS SIMILAR PREVIOUS OCCURRENCES.
Wolf Creek	02/11/1986	03/11/1986	MISSED HOURLY FIREWATCH PATROL MISSED Abstract: POWER LEVEL - 100%. ON 2-13-86, AT APPROXIMATELY 1410 CST, A VIOLATION OF TECH SPEC 3.7.11 WAS DISCOVERED DUE TO A FAILURE TO INITIATE AN HOURLY FIRE WATCH PATROL OF THREE AREAS CONTAINING INOPERABLE FIRE BARRIERS. TECH SPEC 3.7.11 REQUIRES, IN PART, THE ESTABLISHMENT OF AN HOURLY FIRE WATCH PATROL FOR AREAS CONTAINING INOPERABLE FIRE BARRIERS. ON 2-11-86, CRAFT PERSONNEL HAD REMOVED FIREPROOFING MATERIAL FROM STRUCTURAL STEEL IN THE AUXILIARY BUILDING, BUT THROUGH A COGNITIVE PERSONNEL ERROR, FAILED TO RECOGNIZE THAT SUFFICIENT QUANTITIES OF FIREPROOFING MATERIAL HAD BEEN REMOVED TO NECESSITATE THE INITIATION OF A FIRE PROTECTION IMPAIRMENT CONTROL PERMIT (WHICH IS UTILIZED TO ESTABLISH FIRE WATCH PATROLS). UPON DISCOVERY, AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED IN ACCORDANCE WITH TECH SPEC 3.7.11. TO PREVENT RECURRENCE, A KNOWLEDGEABLE INDIVIDUAL HAS BEEN ASSIGNED THE REPONSIBILITY OF OVERSEEING THE REMOVAL AND REINSTALLATION OF FIREPROOFING MATERIAL.
Wolf Creek	02/14/1986	03/12/1986	TECHNICAL SPECIFICATION VIOLATION - FAILURE TO ESTABLISH CONTINUOUS FIREWATCH Abstract: POWER LEVEL - 098%. ON 2-14-86, A VIOLATION OF TECH SPEC 3.7.10.2 OCCURRED WHEN AN HOURLY RATHER THAN A CONTINUOUS FIRE WATCH WAS ESTABLISHED FOR AN INOPERABLE SPRAY/SPRINKLER SYSTEM. TECH SPEC 3.7.10.2 REQUIRES, IN PART, THAT A CONTINUOUS FIRE WATCH BE ESTABLISHED FOR AREAS ASSOCIATED WITH AN INOPERABLE SPRAY/SPRINKLER SYSTEM IN WHICH REDUNDANT SYSTEMS OR COMPONENTS COULD BE DAMAGED. FROM APPROXIMATELY 1630 CST UNTIL 1800 CST, ON 2-14-86, A FIRE PROTECTION DELUGE VALVE CONTROL PANEL WAS INOPERABLE. AN HOURLY FIRE WATCH WAS ESTABLISHED IN ACCORDANCE PER TECH SPEC 3.3.3.8, WHICH IS APPLICABLE TO FIRE DETECTION INSTRUMENTATION. SUBSEQUENTLY IT WAS DETERMINED THAT TECH SPEC 3.7.10.2 WAS APPLICABLE BECAUSE THE AUTOMATIC ACTUATION OF THE ASSOCIATED SPRAY/SPRINKLER SYSTEM HAD BEEN INOPERABLE DURING THIS TIME PERIOD, AND THAT A CONTINUOUS FIRE WATCH OF THE AFFECTED AREA HAD BEEN REQUIRED. THE CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR BY A LICENSED OPERATOR WHO FAILED TO RECOGNIZE ALL CONSEQUENCES OF THE INOPERABLE PANEL. A PREVIOUS SIMILAR OCCURRENCE IS DISCUSSED IN LICENSEE EVENT REPORT 482/85-010.
Wolf Creek	02/18/1986	03/12/1986	HOURLY FIREWATCH PATROL MISSED Abstract: POWER LEVEL - 100%. ON 2-18-86, A VIOLATION OF TECH SPEC 3.7.11 OCCURRED DUE TO A FAILURE TO PERFORM A REQUIRED HOURLY FIRE WATCH PATROL OF ONE AREA. TECH SPEC 3.7.11 REQUIRES, IN PART, THAT AN HOURLY FIRE WATCH PATROL BE ESTABLISHED FOR AREAS CONTAINING INOPERABLE FIRE BARRIERS. AT APPROXIMATELY 1603 CST ON 2-18, AN ERROR IN THE DESCRIPTION OF ONE IMPAIRMENT WAS DISCOVERED IN THE FIRE WATCH IMPAIRMENT LOG SHEET. THIS SHEET IS UTILIZED BY FIRE WATCH PATROL PERSONNEL AND CONTAINS A LISTING OF ALL AREAS REQUIRING HOURLY FIRE WATCH PATROLS. BECAUSE OF THIS ERROR, ONE AREA WAS NOT INSPECTED FOR EVIDENCE OF FIRE DURING THE 1500-1600 CST FIRE WATCH PATROL. DURING THIS TIME PERIOD, THE UNIT WAS IN MODE 1, POWER OPERATION, AT 100 PERCENT REACTOR POWER. UPON DISCOVERY, THE APPROPRIATE FIRE WATCH PATROLS WERE RESUMED. THE CAUSE OF THIS EVENT (ERROR DURING LOG SHEET PREPARATION) WAS A COGNITIVE PERSONNEL ERROR BY FIRE WATCH PERSONNEL. THE METHOD OF PREPARING LOG SHEETS IS BEING REVISED TO REDUCE THE PROBABILITY OF FUTURE OCCURRENCES OF THIS NATURE. THERE WAS NO DAMAGE TO PLANT EQUIPMENT OR RELEASE OF RADIOACTIVITY AS A RESULT OF THIS EVENT. LICENSEE EVENT REPORTS 85-004-00, 85-047-00, 85-059-00, AND 85-068-00 DISCUSS SIMILAR PREVIOUS OCCURRENCES OF FIRE WATCH PERSONNEL ERRORS WHICH RESULTED IN MISSED HOURLY FIRE WATCH PATROLS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Wolf Creek	03/13/1986	04/10/1986	ERRONEO S CANCELLATION OF HOURLY FIRE WATCH PATROLS Abstract: POWER LEVEL - 100%. BETWEEN JULY 31, 1985, AND MARCH 18, 1986, A VIOLATION OF TECH SPEC 3.7.11 IS CONSIDERED TO HAVE EXISTED BECAUSE OF A FAILURE TO PERFORM HOURLY FIRE WATCH PATROLS ON SEVERAL FIRE DAMPERS WHICH HAD BEEN IDENTIFIED AS POTENTIALLY HAVING A DEGRADED 3 HOUR FIRE RATING. AS DISCUSSED IN LICENSEE EVENT REPORT 482/85-017, FIRE WATCH PATROLS WERE ESTABLISHED FOR THE AFFECTED DAMPERS UNTIL IT COULD BE ESTABLISHED THAT THE DAMPERS WERE IN AN ACCEPTABLE CONFIGURATION VIA EVALUATIONS OF FIELD INSPECTION RESULTS AND/OR REWORK/REPLACEMENT. ON JULY 31, 1985, THE HOURLY PATROLS OF EIGHT DAMPERS WHICH HAD NOT YET BEEN INSPECTED AND FOUR DAMPERS WHICH REQUIRED REWORK WERE INADVERTENTLY CANCELLED DUE TO A COGNITIVE PERSONNEL ERROR. THIS WAS DISCOVERED ON MARCH 18, 1986, AND THE APPROPRIATE HOURLY PATROLS WERE RE-ESTABLISHED AT THAT TIME. THE DISCOVERY WAS PROMPTED BY FIELD INSPECTIONS OF THE EIGHT UNINSPECTED DAMPERS WHICH BEGAN ON MARCH 13, 1986. THIS REPORT WILL BE ADDED TO THE REQUIRED READING LIST FOR LICENSED PERSONNEL TO EMPHASIZE THE IMPORTANCE OF VERIFYING A FIRE PROTECTION IMPAIRMENT HAS BEEN FULLY RESTORED PRIOR TO CANCELLATION OF FIRE WATCH PATROLS.
Wolf Creek	04/07/1986	05/07/1986	Fire Barrier Inoperability Due to Design Oversight Abstract: POWER LEVEL - 000%. ON APRIL 7, 1986, IN RESPONSE TO A QUESTION FROM THE RESIDENT INSPECTOR, IT WAS DETERMINED THAT FOUR COVERED FLOOR OPENINGS IN THE AUXILIARY BUILDING DO NOT SATISFY THE THREE-HOUR FIRE RATING REQUIREMENT AS SPECIFIED IN THE FIRE HAZARDS ANALYSIS OF THE FINAL SAFETY ANALYSIS REPORT. THIS CONDITION IS CONSIDERED TO BE OUTSIDE THE DESIGN BASIS AND ALSO A VIOLATION OF TECHNICAL SPECIFICATION 3.7.11 SINCE HOURLY FIRE WATCH PATROLS OF THE AREA WERE NOT PERFORMED BETWEEN RECEIPT OF THE FACILITY LICENSE (MARCH 11, 1985) AND IDENTIFICATION OF THIS CONDITION (APRIL 7, 1986). DURING THIS TIME PERIOD, PLANT CONDITIONS HAVE VARIED FROM MODE 6, DURING INITIAL FUEL LOADING, THROUGH MODE 1, POWER OPERATION, AT 100 PERCENT REACTOR POWER. SUBSEQUENTLY IT WAS DETERMINED THAT THE COVERS OF THE OPENINGS WERE INSTALLED IN ACCORDANCE WITH THE ORIGINAL DESIGN, BUT THIS DESIGN WAS INADEQUATE TO MAINTAIN THE THREE-HOUR FIRE RATING. KANSAS GAS AND ELECTRIC COMPANY WAS NOTIFIED OF THE NECESSITY TO INSTALL ADDITIONAL FIREPROOFING TO THE EXISTING COVERS IN JUNE OF 1985. THROUGH A COGNITIVE PERSONNEL ERROR, THE IMPORTANCE OF THIS DESIGN CHANGE WAS NOT RECOGNIZED AT THE TIME AND, CONSEQUENTLY, THE DESIGN CHANGE WAS NOT IMPLEMENTED. HOURLY FIRE WATCH PATROLS OF THE AFFECTED PENETRATIONS WERE ESTABLISHED ON APRIL 7, 1986,
Wolf Creek	05/24/1986	06/18/1986	TECHNICAL SPECIFICATION VIOLATION - MISSED HOURLY FIRE WATCH PATROL Abstract: POWER LEVEL - 094%. ON MAY 24, 1986, AT APPROXIMATELY 0330 CDT, DURING A ROUTINE REVIEW OF DOOR TRANSACTION DATA, IT WAS DISCOVERED THAT A VIOLATION OF TECHNICAL SPECIFICATION 3.7.11, ACTION STATEMENT 'A', HAD OCCURRED BETWEEN 0200- 0300 CDT WHEN AN HOURLY FIRE WATCH PATROL WAS MISSED IN ONE AREA OF THE AUXILIARY BUILDING WHICH CONTAINED AN INOPERABLE FIRE BARRIER PENETRATION. SUBSEQUENT INVESTIGATION REVEALED THAT THIS OCCURRENCE WAS THE RESULT OF A FIRE WATCH INDIVIDUAL PERFORMING THE FIRE WATCH ROUND WITHOUT THE FIRE WATCH LOG IN HIS POSSESSION AND INITIALING ALL OF THE IMPAIRMENT ENTRIES AS A GROUP AFTER THE ROUND, RELYING ON HIS MEMORY. THE CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR BY A FIRE WATCH INDIVIDUAL. AS A RESULT OF THIS EVENT, FIRE WATCH PERSONNEL HAVE BEEN INSTRUCTED AND REMINDED THAT FIRE WATCH LOG SHEETS WILL BE CARRIED WHILE PERFORMING FIRE WATCH PATROLS AND INITIALLED IMMEDIATELY AFTER CHECKING EACH IMPAIRMENT. ADDITIONALLY, THE LOG SHEETS HAVE BEEN REVISED TO CLEARLY SPECIFY THIS REQUIREMENT. DURING THE TIME PERIOD OF THE MISSED FIRE WATCH PATROL, THE PLANT WAS IN MODE 1, POWER OPERATION, AT APPROXIMATELY 94 PERCENT REACTOR POWER. DURING SUBSEQUENT PATROLS OF THIS AREA, NO EVIDENCE OF FIRE OR TRANSIENT COMBUSTIBLES WAS DETECTED. THERE
Wolf Creek	08/01/1986	08/29/1986	Technical Specification Violation - Delay in Establishing Fire Watch Patrol Abstract: POWER LEVEL - 100%. DURING THE PERIOD OF JULY 28 - 30, 1986, FIRE DOOR 32282 LOCATED IN THE CHEMISTRY HOT LABORATORY (CONTROL BUILDING) WAS PROPPED OPEN TO PERMIT PASSAGE BECAUSE THE UPPER LATCH FAILED CLOSED DUE TO PREVIOUS IMPROPER REASSEMBLY. ON JULY 31, 1986, THE CONTROL ROOM WAS NOTIFIED OF THE DOOR BEING OPEN AND ERRONEOUSLY DETERMINED THAT A FIRE WATCH PATROL WAS NOT REQUIRED. ON AUGUST 1, 1986, FOLLOWING A SUBSEQUENT NOTIFICATION TO CONTROL ROOM PERSONNEL, AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED AND MAINTAINED UNTIL THE DOOR WAS RESTORED TO NORMAL USEAGE ON AUGUST 13, AT 2000 CDT. THIS DELAY IN ESTABLISHING AN HOURLY FIRE WATCH PATROL, DISCOVERED ON AUGUST 1, IS CONTRARY TO THE REQUIREMENTS OF TECH SPEC 3.7.11. CORRECTIVE ACTIONS BEING IMPLEMENTED TO MINIMIZE THE POTENTIAL FOR FUTURE SIMILAR COGNITIVE PERSONNEL ERRORS INCLUDE THE POSTING OF TECH SPEC FIRE DOORS AS SUCH AND EMPHASIZING TO MAINTENANCE AND OPERATIONS PERSONNEL THE APPROPRIATE NOTIFICATIONS CONCERNING AND MEANS OF IDENTIFYING INOPERABLE FIRE BARRIER PENETRATIONS. THE AUTOMATIC FIRE DETECTION AND FIRE SUPPRESSION SYSTEMS IN THE AFFECTED AREA WERE OPERABLE THROUGHOUT THE PERIODS IN WHICH THE DOOR WAS OPEN. PREVIOUS DELAYS IN ESTABLISHING A REQUIRED FIRE WATCH PATROL ARE DISCUSSED IN LICENSEE
Wolf Creek	09/12/1986	10/10/1986	Technical Specification Violation Abstract: POWER LEVEL - 100%. ON SEPTEMBER 12, 1986, AT APPROXIMATELY 1330 CDT, IT WAS DISCOVERED THAT A VIOLATION OF TECHNICAL SPECIFICATION (T/S) 3.7.10.3. HALON SYSTEMS, HAD OCCURRED. ON JULY 10, 1986, HALON STORAGE TANK TKC03B HAD BEEN REMOVED FROM ITS BANK FOR RECHARGING AND TANK WEIGHT DATA WAS OBTAINED AT THAT TIME TO VERIFY ADEQUATE HALON CONTENT PER T/S 3.7.10.3. BECAUSE OF A FAILURE TO COMPLETE THE WORK INSTRUCTIONS ASSOCIATED WITH THIS ACTIVITY, THE TANK WAS RE-INSTALLED AND DECLARED OPERABLE PRIOR TO EVALUATING THE WEIGHT DATA. DURING THE NORMAL WORK INSTRUCTION CLOSEOUT/REVIEW CYCLE, IT WAS DISCOVERED THAT THE DATA EVALUATION HAD BEEN OMITTED. ON SEPTEMBER 12, THIS EVALUATION WAS PERFORMED AND IT WAS DETERMINED THAT THE TANK CONTAINED LESS THAN THE MINIMUM AMOUNT OF HALON, THUS RENDERING THIS HALON SYSTEM INOPERABLE PER T/S 3.7.10.3. THE RESERVE HALON BANK WAS PLACED ON LINE FOLLOWING THIS DISCOVERY, THEREBY ESTABLISHING AN EQUIVALENT LEVEL OF FIRE SUPPRESSION CAPABILITY FOR THE AFFECTED AREA. TKC03B HAS BEEN SENT TO THE VENDOR FOR HALON REFILL. THIS EVENT WAS THE RESULT OF COGNITIVE PERSONNEL ERROR BY NONLICENSED UTILITY PERSONNEL. THE STANDARD WORK INSTRUCTIONS APPLICABLE TO HALON STORAGE TANKS HAVE BEEN REVISED TO ENSURE THE WEIGHT DATA IS EVALUATED PRIOR TO SYSTEM RESTORATION. IN ADDITION, THIS
Wolf Creek	09/25/1986	10/24/1986	Technical Specification Violation Caused by Incomplete Closure of Fire Door Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 0740 CDT, ON SEPTEMBER 25, 1986, A NUCLEAR REGULATORY COMMISSION RESIDENT INSPECTOR DISCOVERED THAT FIRE DOOR 15031 HAD BEEN DEFEATED BY A PIECE OF FOREIGN MATERIAL. THE MATERIAL WAS SUBSEQUENTLY REMOVED AND THE DOOR SHUT. THIS OCCURRENCE IS CONSIDERED TO BE A VIOLATION OF TECHNICAL SPECIFICATION 3.7.11, WHICH REQUIRES THAT CERTAIN FIRE BARRIER PENETRATIONS BE OPERABLE, OR THAT A FIRE WATCH BE ESTABLISHED. IT WAS SUBSEQUENTLY DETERMINED THAT CONTRACTOR PERSONNEL HAD BEEN HOLDING THE DOOR OPEN FOR VENTILATION WHILE CLEANING A CHARCOAL SPILL. THE PERSONNEL, WHEN VACATING THE AREA BETWEEN 0700 AND 0730 CDT FOR A SHIFT TURNOVER, HAD APPARENTLY NEGLECTED TO ENSURE PROPER CLOSURE OF THE DOOR. THESE PERSONNEL HAVE BEEN REMINDED OF THE IMPORTANCE OF MAINTAINING FIRE BARRIERS AND OF THE NECESSITY FOR PROMPT CONTROL ROOM NOTIFICATION WHEN THE FUNCTION OF A FIRE BARRIER IS DEGRADED. IN ADDITION, IT IS PLANNED TO CLEARLY POST TECHNICAL SPECIFICATION FIRE DOORS AS SUCH PRIOR TO NOVEMBER 28, 1986. THERE WAS NO DAMAGE TO PLANT EQUIPMENT OR RELEASE OF RADIOACTIVITY AS A RESULT OF THIS EVENT. AT NO TIME DID CONDITIONS DEVELOP THAT MAY HAVE POSED A THREAT TO THE PUBLIC HEALTH OR SAFETY. THERE HAVE BEEN NO PREVIOUS SIMILAR
Wolf Creek	09/30/1986	10/29/1986	Delay in Establishing Required Fire Watch for Fire Protection Impairment Abstract: POWER LEVEL - 100%. ON SEPTEMBER 30, 1986, AT APPROXIMATELY 1500 CDT, DURING A ROUTINE COMPARISON BETWEEN THE LOG UTILIZED BY FIRE WATCH PERSONNEL IN PERFORMING PATROLS AND THE REPAIRMENT CONTROL LOG BOOK KEPT IN THE CONTROL ROOM, IT WAS DISCOVERED HOURLY PATROLS OF ONE REPAIRMENT HAD NOT BEEN PERFORMED AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.11. AT APPROXIMATELY 1259 CDT, THE SHIFT SUPERVISOR ISSUED A REPAIRMENT CONTROL PERMIT TO ESTABLISH AN HOURLY FIRE WATCH PATROL OF AN AUXILIARY FEEDWATER ALTERNATE SUPPLY VALVE TO COMPENSATE FOR REMOVAL OF THE FIRE BARRIER ENCLOSURE AROUND THE VALVE. SHORTLY THEREAFTER, THE SHIFT SUPERVISOR'S ATTENTION WAS REQUIRED ON AN UNRELATED MATTER, AND THE PERMIT WAS FILED IN THE REPAIRMENT CONTROL LOG BOOK. CONSEQUENTLY, THE INDIVIDUAL PERFORMING THE FIRE WATCH PATROL WAS NOT NOTIFIED OF THE NECESSITY TO CHECK THE AREA OF THIS IMPAIRMENT. UPON DISCOVERY OF THIS ERROR, THE AREA WAS CHECKED, AND NO EVIDENCE OF FIRE OR TRANSIENT COMBUSTIBLES WAS DETECTED. THE REQUIRED HOURLY FIRE WATCH PATROLS OF THIS AREA WERE MAINTAINED FROM TIME OF DISCOVERY UNTIL REPLACEMENT OF THE FIRE BARRIER ENCLOSURE ON OCTOBER 14. THIS EVENT WAS THE RESULT OF COGNITIVE PERSONNEL ERROR BY LICENSED PERSONNEL. THIS REPORT WILL BE INCORPORATED INTO REQUIRED

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Wolf Creek	10/15/1986	11/13/1986	Technical Specification Violation Caused by Missed Hourly Fire Watch Abstract: POWER LEVEL - 100%. ON OCTOBER 15, 1986, AT APPROXIMATELY 2245 CDT, IT WAS DISCOVERED THAT AN HOURLY FIRE WATCH OF ONE AREA CONTAINING AN INOPERABLE FIRE BARRIER PENETRATION HAD BEEN MISSED BETWEEN 2000 CDT AND 2100 CDT. THIS OCCURRENCE IS CONTRARY TO THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.11. AT APPROXIMATELY 1900 CDT, AN INDIVIDUAL, WHO HAD RECEIVED THE APPROPRIATE TRAINING BUT WHO HAD NOT PREVIOUSLY PERFORMED HOURLY FIRE WATCH PATROLS, WAS ASSIGNED THE DUTY OF PERFORMING THE REQUIRED PATROLS. THE INDIVIDUAL WAS ACCOMPANIED ON THE FIRST ROUND. SUBSEQUENTLY, THE INDIVIDUAL EXPERIENCED DIFFICULTY IN CHECKING EACH IMPAIRMENT WITHIN THE REQUIRED TIME FRAME AND REQUESTED ASSISTANCE SHORTLY AFTER 2100 CDT. EXTRA PERSONNEL WERE ASSIGNED TO COMPLETE THE REQUIRED ROUNDS. DURING A SUBSEQUENT CHECK OF THE FIRE WATCH LOG, IT WAS DISCOVERED THAT THE REQUIRED CHECK OF ONE AREA HAD BEEN MISSED DURING THE 2000 - 2100 CDT ROUND. THIS EVENT WAS THE RESULT OF PERSONNEL ERROR BY NONLICENSED UTILITY PERSONNEL WHO FAILED TO PROMPTLY REQUEST ASSISTANCE WHEN A PROBLEM WAS ENCOUNTERED IN COMPLETING THE FIRE WATCH PATROL. THIS EVENT HAS BEEN DISCUSSED IN TRAINING SESSIONS FOR FIRE WATCH PERSONNEL. THERE WAS NO DAMAGE TO PLANT EQUIPMENT OR RELEASE OF RADIOACTIVITY AS A RESULT OF
Wolf Creek	01/07/1987	03/24/1987	Discovery Of Breached Fire Barrier Seal Abstract: POWER LEVEL - 100%. AT APPROXIMATELY 1145 CST, ON JANUARY 7, 1987, A FIRE BARRIER PENETRATION WAS FOUND TO BE BREACHED. THE FIRE PROTECTION COORDINATOR AND THE CONTROL ROOM WERE NOTIFIED, A FIRE IMPAIRMENT PERMIT WAS ISSUED, AND A FIRE WATCH WAS PUT INTO EFFECT UNTIL THE PENETRATION WAS SEALED ON JANUARY 13, 1987. THIS OCCURRENCE IS CONSIDERED TO BE A VIOLATION OF TECHNICAL SPECIFICATION 3.7.11, WHICH REQUIRES THAT CERTAIN FIRE BARRIER PENETRATIONS BE OPERABLE, OR THAT A FIRE WATCH BE ESTABLISHED. THE UNIT WAS IN MODE 1, AT 100 PERCENT POWER WHEN THE EVENT WAS DISCOVERED. THE CAUSE OF THE EVENT IS CONSIDERED TO BE PERSONNEL ERROR IN REMOVING AND NOT REPLACING A FIRE BARRIER, ALTHOUGH SPECIFIC DETAILS COULD NOT BE RECONSTRUCTED. TWENTY PERCENT OF ALL SEALED PENETRATIONS HAVE BEEN INSPECTED PER TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENTS. SUBSEQUENTLY, IN FEBRUARY AND MARCH, 1987, DISCREPANCIES WERE DISCOVERED IN THE SURVEILLANCE PACKAGE, AND ARE FURTHER DISCUSSED IN LICENSEE EVENT REPORT 87-010-00. THERE WAS NO DAMAGE TO PLANT EQUIPMENT OR RELEASE OF RADIOACTIVITY AS A RESULT OF THIS EVENT. AT NO TIME DID CONDITIONS DEVELOP THAT MAY HAVE POSED A THREAT TO THE HEALTH OR SAFETY OF THE PUBLIC. THERE HAVE BEEN NO PREVIOUS SIMILAR OCCURRENCES.
Wolf Creek	02/03/1987	03/05/1987	Fire Damper Inoperability Caused By Improper Testing Reconfiguration Abstract: POWER LEVEL - 095%. ON 1-29-87 THE POTENTIAL FOR FLEXIBLE CONDUIT INTERFERENCE WITH CLOSURE OF FIRE DAMPER GKD050 WAS IDENTIFIED BY A RESIDENT REACTOR INSPECTOR. PRELIMINARY EVALUATIONS CONCLUDED THAT THE DAMPER WAS OPERABLE. UPON FURTHER REVIEW, THE DECISION WAS MADE TO CYCLE THE DAMPER TO VERIFY OPERABILITY. ON 2-3-87, AT ABOUT 1830 HRS, THE DAMPER FAILED TO CLOSE PROPERLY DURING TESTING. FOUR SIMILAR DEFICIENCIES WERE IDENTIFIED DURING A SUBSEQUENT INSPECTION OF THE OTHER SIMILAR DAMPERS, 3 OF WHICH ARE TECH SPEC (T/S) REQUIRED DAMPERS. THIS SITUATION IS CONTRARY TO THE REQUIREMENTS OF T/S 3.7.11 WHICH REQUIRES THAT ALL FIRE BARRIERS BE OPERABLE. THE DAMPERS WERE DECLARED INOPERABLE, CLOSED AND MAINTAINED CLOSED (SAFE POSITION) PENDING REWORK. IT IS BELIEVED THAT THE 4 T/S REQUIRED DAMPERS WERE PLACED IN THIS CONFIGURATION DURING RESTORATION FROM TESTING ON 12-4-86, THROUGH PERSONNEL ERROR BY NUCLEAR ELECTRICIANS. A CONTRIBUTING FACTOR WAS DESIGN. A DESIGN CHANGE HAS BEEN DEVELOPED FOR THE DAMPERS CONTROLLED BY ELECTRO THERMAL LINKS TO CORRECT POTENTIAL INTERFERENCES WITH DAMPER BLADE CLOSURE.
Wolf Creek	02/16/1987	03/30/1988	POSITION, THE FIRE DETECTION SYSTEM IN THE AFFECTED AREAS WAS OPERABLE AND CAPABLE OF GENERATING AN ALARM HAD A FIRE OCCURRED, ALERTING PLANT OPERATORS OF THE NECESSITY FOR Technical Specification Violation - Inoperable Fire Barriers Caused By Personnel Errors Abstract: POWER LEVEL - 100%. ON SEVERAL OCCASIONS DURING FEBRUARY AND MARCH, 1987, SITUATIONS INVOLVING BREACHED FIRE BATTERIES WERE DISCOVERED. THESE SITUATIONS INVOLVED FIRE PENETRATION SEALS, HOLES IN FLOORS, WALLS OF BUILDINGS, ABANDONED CONDUIT, AND A FIRE DOOR BLOCKED OPEN. IN EACH INSTANCE, THE APPROPRIATE CORRECTIVE MEASURES DELINEATED BY TECH SPEC 3.7.11 WERE PROMPTLY INITIATED. THESE SITUATIONS ARE CONSIDERED TO BE CONDITIONS PROHIBITED BY THE PLANT'S TECH SPECS AND ARE BEING REPORTED PURSUANT TO 10CFR 50.73(A)(2)(I)(B). THIS REVISED LICENSEE EVENT REPORT IS BEING SUBMITTED TO PROVIDE A FINAL UPDATE OF THE STATUS OF CORRECTIVE ACTIONS TAKE AS A RESULT OF THESE EVENTS. THESE EVENTS OCCURRED DUE TO PERSONNEL ERRORS IN FAILING TO COMPLY WITH VARIOUS ASPECTS OF THE FIRE PROTECTION PROGRAM. IN MARCH, 1987, INTERNAL OPERATIONS PROGRAM DEFICIENCY 87-01 WAS DEVELOPED TO PROVIDE A SYSTEMATIC REVIEW AND UPGRADE OF KEY ELEMENTS OF THE FIRE PROTECTION PROGRAM. DURING THE COURSE OF THIS REVIEW, THE EXISTENCE OF NONCONFORMING SILICONE RTV FOAM SEALS WAS IDENTIFIED. A CORRECTIVE ACTION PLAN, INCLUDING INSPECTION AND REPAIR OF NON-CONFORMING SEALS, WAS IMPLEMENTED WITH VENDOR ASSISTANCE.
Wolf Creek	03/11/1987	04/10/1987	Technical Specification Violation - Four Fire Dampers Not Actuated Due To Drawing Error Abstract: POWER LEVEL - 100%. ON MARCH 11 1987 AT APPROXIMATELY 1000 CST. DURING AN INTERNAL EVALUATION, IT WAS DETERMINED THAT FOUR FIRE DAMPERS HAD NEVER BEEN CYCLED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 4.7.10.3.B, WHICH REQUIRES THEM TO BE ACTUATED AT LEAST ONCE PER 18 MONTHS. DURING THIS EVENT, THE PLANT HAS OPERATED IN ALL MODES, FROM REFUELING TO 100 PERCENT POWER. DURING THE PREOPERATIONAL TESTING PROGRAM, THESE FOUR DAMPERS WERE PROVIDED ELECTRO THERMAL LINKS (ETL) SO THEY WOULD CLOSE UPON HALON RELEASE IN SWITCHGEAR ROOM 1 OR 4. THROUGH COGNITIVE PERSONNEL ERROR, THE ELECTRICAL DRAWINGS WERE REVISED BUT THE ETL'S WERE NOT REFLECTED ON THE PIPING AND INSTRUMENT DRAWINGS (P&ID). THESE FOUR DAMPERS WERE DECLARED INOPERABLE AND A FIRE WATCH ESTABLISHED AT 1010 CST ON MARCH 11. 1987, AND THE DAMPERS WERE SATISFACTORILY CYCLED ON MARCH 12. A WALKDOWN OF HALON SYSTEMS VERIFIED NO OTHER INSTANCES WHERE ETL'S WERE NOT REFLECTED IN THE P&ID'S. OTHER DESIGN CHANGES TO THE FIRE PROTECTION SYSTEM THAT OCCURRED AS A RESULT OF PREOPERATIONAL TESTING HAVE BEEN REVIEWED TO ENSURE THAT ELECTRICAL CHANGES ARE REFLECTED IN P&ID'S, WHERE APPROPRIATE. THE P&ID'S WERE CORRECTED TO REFLECT THE ETL'S ON APRIL 6, 1987. THROUGHOUT THIS EVENT, THE FIRE PROTECTION
Wolf Creek	04/09/1987	05/11/1987	Personnel Error Causes Failure To Maintain Fire Watch As Required By Technical Specification Abstract: POWER LEVEL - 100%. ON APRIL 9 1987, DURING A ROUTINE CHECK AT APPROXIMATELY 2023 CDT, FIRE WATCH SUPERVISORY PERSONNEL DETERMINED THAT A CONTINUOUS FIRE WATCH HAD NOT BEEN MAINTAINED IN ROOM 3302, ENGINEERED SAFETY FEATURES (ESF) SWITCHGEAR ROOM 2, AS REQUIRED BY TECHNICAL SPECIFICATION 3.7.10.3.A. UPON DISCOVERY, A FIRE WATCH CHECK OF ESF SWITCHGEAR ROOM 2 WAS IMMEDIATELY PERFORMED AND COMPLETED AT 2030 CDT. NO PROBLEMS WERE IDENTIFIED. THE MISSED FIRE WATCH OCCURRED FROM 1433 TO 1500, FRCM 1550 TO 1700, FROM 1800 TO 1900 AND FROM 2000 TO 2030 CDT ON APRIL 9, 1987. DURING THIS TIME, THE PLANT OPERATED IN MODE 1, POWER OPERATION AT 100 PERCENT LOWER. THE FIRE WATCH WAS MISSED BECAUSE THE CONTRACT EMPLOYEE PERFORMING THE FIRE WATCH WAS NOT PROPERLY INSTRUCTED TO CHECK BOTH ESF SWITCHGEAR ROOMS AND SO FAILED TO CHECK ESF SWITCHGEAR ROOM 2. THE FIRE WATCH EXCHANGED DUTIES HOURLY WITH ANOTHER FIRE WATCH PERSON. AS CORRECTIVE ACTION TO PREVENT RECURRENCE, THE FIRE WATCH SUPERVISOR WAS REPRIMANDED FOR HIS FAILURE TO PROPERLY INSTRUCT THE FIRE WATCH. THE EVENT WAS DISCUSSED WITH THE INDIVIDUAL WHO MISSED THE FIRE WATCH, WITH THE OTHER FIRE WATCH PERSONNEL AND WITH THE OTHER FIRE WATCH SUPERVISORY PERSONNEL.
Wolf Creek	05/16/1987	06/12/1987	Technical Specification 3.7.11 Violation - Hourly Fire Watch Performed Late Due to Personnel Error - Individual Overlooked One Impairment On Fire Watch Log Abstract: POWER LEVEL - 100%. ON MAY 16, 1987, AT APPROXIMATELY 0501 CDT, IT WAS DETERMINED THAT AN HOURLY FIRE WATCH, REQUIRED PER TECHNICAL SPECIFICATION (T/S) 3.7.11, HAD BEEN PERFORMED LATE. UPON DISCOVERY, THE INSPECTION WAS PROMPTLY PERFORMED. THE IMPAIRMENT WAS LAST INSPECTED AT APPROXIMATELY 0325 CDT. DURING THIS EVENT, THE UNIT OPERATED IN MODE 1, POWER OPERATION, AT 100 PERCENT POWER. THIS VIOLATION OF T/S 3.7.11 IS BEING REPORTED PURSUANT TO 10CFR 50.73(A)(2)(I)(B). THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE COGNITIVE PERSONNEL ERROR BY A SECURITY GUARD IN PERFORMING A REQUIRED HOURLY FIRE WATCH LATE. THE GUARD DISCOVERED THAT ONE IMPAIRMENT LISTED ON THE FIRE WATCH IMPAIRMENT LOG HAD NOT BEEN CHECKED, BUT WAS UNABLE TO PERFORM THE INSPECTION WITHIN THE REQUIRED ONE HOUR TIME PERIOD. A SIGNOFF WILL BE ADDED AT THE END OF EACH FIRE WATCH IMPAIRMENT LOG TO ENSURE THAT FIRE WATCH PERSONNEL VERIFY THAT ALL IMPAIRMENTS HAVE BEEN CHECKED IMMEDIATELY UPON COMPLETION OF EACH ROUND.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Wolf Creek	08/11/1987	09/10/1987	Technical Specification Violation - Spent Fuel Heat Exchanger Room Doors not Three-Hour Fire Rated Due To Installation Not In Accordance With Design Requirements Abstract: POWER LEVEL - 100%. ON AUGUST 11, 1987, IT WAS DETERMINED THAT A VIOLATION OF TECHNICAL SPECIFICATION 3.7.11, WHICH REQUIRES THAT ALL FIRE BARRIER PENETRATIONS SEPARATING SAFETY RELATED FIRE AREAS BE OPERABLE, HAD OCCURRED BECAUSE THE FUEL POOL COOLING HEAT EXCHANGER ROOM SHIELDING DOORS COULD NOT BE CERTIFIED AS THREE-HOUR FIRE RATED BARRIERS. THIS CONDITION WAS DISCOVERED BY ENGINEERING PERSONNEL DURING EVALUATION OF A PROBLEM WITH THE LATCH BOLT AND KEEPER OF ONE OF THE DOORS. AN HOURLY FIRE WATCH PATROL OF THE DOORS HAD BEEN IN EFFECT SINCE APRIL, 1987, TO FACILITATE OTHER INSPECTION ACTIVITIES. THESE TWO DOORS ARE THE ONLY SHIELDING DOORS IN THE PLANT INSTALLED IN THREE-HOUR FIRE RATED WALLS. THE ROOT CAUSE OF THIS DISCREPANCY COULD NOT BE DETERMINED. A DESIGN CHANGE WILL BE IMPLEMENTED TO PROVIDE FIRE RATED DOORS TO BE INSTALLED IN SERIES WITH THE EXISTING DOORS AND ALSO TO ENHANCE THE DOOR CLOSURE MECHANISM.
Wolf Creek	12/21/1987	01/15/1988	Failure To Fully Understand Requirements Causes Technical Specification Violations - Hourly Rather Than Continuous Fire Watches Established Abstract: POWER LEVEL - 000%. ON DECEMBER 21, 1987, AT APPROXIMATELY 1500 CST, IT WAS DISCOVERED BY THE FIRE PROTECTION COORDINATOR THAT A CONTINUOUS RATHER THAN AN HOURLY FIRE WATCH SHOULD HAVE BEEN ESTABLISHED FOR R00M 1403, LOAD CENTER AND MOTOR GENERATOR SETS ROOM. ON JANUARY 8, 1988, AT APPROXIMATELY 1700 CST, IT WAS DETERMINED BY THE FIRE PROTECTION COORDINATOR THROUGH REVIEW OF FIRE IMPAIRMENT CONTROL PERMITS THAT A CONTINUOUS RATHER THAN AN HOURLY FIRE WATCH SHOULD HAVE BEEN ESTABLISHED IN AREA 1301/1320 OF THE AUXILIARY BUILDING WHERE SAFE SHUTDOWN CIRCUITS AND REDUNDANT EQUIPMENT IS LOCATED. THE ROOT CAUSE OF THESE EVENTS WAS DETERMINED TO BE COGNITIVE PERSONNEL ERROR IN DETERMINING THE TYPE OF FIRE WATCH REQUIRED. SHORT TERM ACTIONS TAKEN TO PREVENT RECURRENCE WERE RETRAINING OF THE FIRE PROTECTION EMPLOYEE, DISSEMINATION OF PROCEDURE REVISIONS, AND DISTRIBUTION OF LETTERS FROM THE FIRE PROTECTION COORDINATOR EMPHASIZING THE DISTINCTION BETWEEN TECHNICAL SPECIFICATIONS 3.7.10.2, 3.7.10.3 AND 3.7.11 IN ESTABLISHING THE APPROPRIATE FIRE WATCH. LONG TERM ACTIONS ARE THE ADDITION OF THIS LICENSEE EVENT REPORT TO REQUIRED READING AND THE IMPROVEMENT OF CONTINUING TRAINING FOR FIRE PROTECTION PERSONNEL AND
Wolf Creek	12/23/1987	01/22/1988	Technical Specification Violation - Wired Glass Insert Discovered In Fire Door Causes Loss Of Three-Hour Fire Rating Abstract: POWER LEVEL - 000%. ON DECEMBER 23, 1987, IT WAS DETERMINED THAT A VIOLATION OF TECH SPECS HAD OCCURRED BECAUSE DOOR 14051, THE AUXILIARY BUILDING FILTRATION UNIT ROOM NUMBER B DOOR, WAS NOT AN ACCEPTABLE THREE-HOUR FIRE RATED BARRIER. THE CAUSE OF THIS EVENT IS THAT DOOR 14051 IS IMPROPERLY UNDERWRITER LABORATORY LABELLED AS A THREE-HOUR FIRE PROTECTION RATED DOOR EVEN THOUGH A WIRED GLASS INSERT IS INTALLED IN THE DOOR. INVESTIGATIONS CONCERNING THE DESIGN, PROCUREMENT, INSTALLATION, AND WORK HISTORY OF DOOR 14051 WERE UNSUCCESSFUL IN DETERMINING THE ROOT CAUSE OF HOW OR WHEN THE WIRED GLASS INSERT WAS INSTALLED. THE UNACCEPTABLE FIRE PROTECTION RATING OF DOOR 14051 WAS NOT PREVIOUSLY IDENTIFIED BECAUSE WHETHER THE DOOR CONTAINED GLASS OR NOT WAS NOT AN INSPECTED ATTRIBUTE. A FIRE IMPAIRMENT CONTROL PERMIT WAS ISSUED AGAINST DOOR 14051 ON DECEMBER 23, 1987. FIRE WATCHES HAVE BEEN ESTABLISHED AND ARE BEING MAINTAINED. DOOR 14051 WILL BE REPLACED WITH A DOOR WHICH CONFORMS TO DESIGN REQUIREMENTS. AN INSPECTION OF REQUIRED FIRE DOORS WILL BE CONDUCTED TO ENSURE THAT THE DOOR TYPE CONFORMS WITH THE DESIGN DRAWING.
Wolf Creek	01/31/1989	03/01/1989	Significant Fire Protection System Degradation Caused By Improper Crimping Of Vendor Supplied Wiring In Fire Protection System Panels Abstract: POWER LEVEL - 100%. WHILE IMPLEMENTING A PLANT MODIFICATION ON FIRE PROTECTION SYSTEM LOCAL HALON CONTROL PANEL KC-230, ON 1/21/89, IT WAS DISCOVERED THAT SEVERAL LUGS WERE IMPROPERLY CRIMPED PER CURRENT STANDARDS. ACTION WAS INITIATED TO INSPECT THE OTHER SIX SIMILAR PANELS. DISCREPANCIES. EVALUATION OF THIS CONDITION CONCLUDED THAT THE PANELS WERE STILL CAPABLE OF PERFORMING THEIR INTENDED FUNCTIONS BASED ON SUCCESSFUL COMPLETION OF PERIODIC SURVEILLANCE TESTING, MAINTAINED CONTINUITY IN THE WIRING AND THE LOW VOLTAGE APPLICATION. ON 1/31/89, IT WAS DETERMINED THAT THIS EVENT WAS A SIGNIFICANT DEGRADATION OF THE FIRE PROTECTION SYSTEM. THIS CONDITION IS REPORTABLE PURSUANT TO AN NRC COMMITMENT ASSOCIATED WITH THE REMOVAL OF CERTAIN FIRE PROTECTION RELATED TECH SPECS. THE WIRING WAS ORIGINALLY INSTALLED BY A SUBSUPPLIER TO AN ORIGINAL EQUIPMENT VENDOR. NO UNIQUE WIRING STANDARDS WERE SPECIFIED FOR THIS WORK. SINCE THAT TIME, SPECIFICATIONS FOR FIRE PROTECTION SYSTEM COMPONENTS HAVE BEEN REVISED AND MADE MORE STRINGENT. VENDOR SUPPLIED LUGS ON THE INTERNAL WIRING OF THE LOCAL HALON CONTROL PANELS HAVE BEEN REPLACED. INSPECTION AND REWORK AS NECESSARY OF OTHER POTENTIALLY AFFECTED SIMILAR FIRE PROTECTION SYSTEM
Wolf Creek	03/14/1990	04/13/1990	Lack Of Design Criteria Leads To Logic In Which Actuation Of A Fire Suppression System Affects Both Trains Of Safety Related Equipment Abstract: POWER LEVEL - 000%. ON MARCH 14, 1990, FOLLOWING A DISCUSSION WITH PERSONNEL FROM ANOTHER UTILITY, IT WAS DETERMINED THAT A HALON RELEASE IN EITHER ENGINEERED SAFETY FEATURES (ESF) SWITCHGEAR ROOM WOULD TRIP BOTH CLASS 1E ELECTRICAL EQUIPMENT AIR CONDITIONING UNITS. AS AN INITIAL CORRECTIVE ACTION, THE AFFECTED HALON RELEASE CIRCUITS WERE DISABLED AND A FIRE WATCH WAS ESTABLISHED FOR BOTH ESF SWITCHGEAR ROOMS. A PERMANENT DESIGN CHANGE HAS BEEN DEVELOPED TO ALTER THE CIRCUITRY SUCH THAT ONLY THE ASSOCIATED AIR CONDITIONING UNIT WILL BE SECURED IN THE EVENT OF A HALON RELEASE. THE ROOT CAUSE OF THIS EVENT WAS THE LACK OF DESIGN CRITERIA TO CLARIFY THE TRAIN SEPARATION REQUIREMENTS OF NONSAFETY RELATED/SPECIAL SCOPE LOGIC SIGNALS WHICH ACTUATE MULTIPLE TRAINS OF SAFETY RELATED EQUIPMENT. THE DESIGN CRITERIA HAVE BEEN REVISED TO INCLUDE THESE REQUIREMENTS. A REVIEW HAS BEEN CONDUCTED OF ALL CIRCUITRY POTENTIALLY AFFECTED BY THIS LACK OF DESIGN CRITERIA. NO ADDITIONAL DESIGN DEFICIENCIES WERE IDENTIFIED DURING THE REVIEW.
Wolf Creek	04/10/1990	05/10/1990	Improper Control Of Pressure Boundary Doors Caused By Inadequate Procedures Adversely Effects Control Room Emergency Ventilation System Operability Abstract: POWER LEVEL - 000%. ON 4/10/90, AT APPROXIMATELY 1100 CDT, A CONTROL BUILDING/AUXILIARY BUILDING PRESSURE BOUNDARY DOOR WAS FOUND BY CONTROL ROOM OPERATORS TO BE OPEN WITHOUT A CONTINUOUS WATCH HAVING BEEN ESTABLISHED. SUBSEQUENT EVALUATION ON 4/13/90, CONCLUDED THAT THE APRIL 10 EVENT AS WELL AS A SIMILAR EVENT DISCOVERED ON 3/28/90, POTENTIALLY ADVERSELY AFFECTED CONTROL ROOM EMERGENCY VENTILATION SYSTEM OPERABILITY. THIS EVALUATION ALSO CONCLUDED THAT ADDITIONAL EVENTS OF THIS NATURE MAY HAVE OCCURRED PREVIOUSLY DURING REFUELING OUTAGES. SUBSEQUENT REVIEW HAS DETERMINED THAT THE ROOT CAUSE OF THESE EVENTS IS INADEQUATE PROCEDURES WHICH RESULTED IN IMPROPER CONTROL OF PRESSURE BOUNDARY DOORS DURING REFUELING OUTAGES. TO PREVENT RECURRENCE, THE FIRE PROTECTION IMPAIRMENT CONTROL PROCEDURES HAS BEEN REVISED TO ENSURE THAT CONTROL ROOM OPERATORS ARE NOTIFIED PRIOR TO ESTABLISHING A FIRE IMPAIRMENT CONTROL PERMIT FOR ANY PRESSURE BOUNDARY DOORS.

Wolf Creek	08/11/1999	11/22/1999	Inadequate Fire Separation Could Result in Loss of Charging Water Capability Abstract: On August 11, 1999, while reviewing a Licensee Event Report from another plant, WCNOC personnel determined that volume control tank (VCT) outlet isolation valves EGLCV112B and C, and VCT level transmitters BGLT112 and BGLT185, do not meet 10 CFR 50 Appendix R Section III.G minimum separation criteria for redundant components required for safe shutdown following a fire. Due to the inadequate separation, in the event of a fire, a potential exists for gas intrusion into the suction of the centrifugal charging pump (COP). The preliminary root cause is that the Electrical Fire Hazards Analysis (EFHA), performed in 1984, contained several un-validated engineering judgments regarding safe shutdown equipment. Those judgments were apparently used as the bases for not providing adequate protection for the VCT outlet valves and level transmitters from a fire. Immediate actions taken include establishing a continuous fire watch and implementing procedure revisions to address operator actions to take in the event of a fire in the affected area. Long-term actions are being evaluated. This issue is of low safety significance since the plant could have been placed in a safe shutdown condition even if all the assumed failures occurred. The reported condition is outside Wolf Creek's licensing basis for protection of components required for safe shutdown. However, the plant was not challenged by a fire in the affected fire area. Since compensatory measures have been established, the condition no longer poses a potential threat to the safety of the public, plant personnel, or the plant.
Wolf Creek	06/07/2002	10/17/2002	Cable Separation Issue That Could Potentially Affect Post-Fire Safe Shutdown Equipment Availability Abstract: At 0815 on June 7, 2002, the Wolf Creek Generating Station (WCGS) Shift Manager was notified of a postulated fire event that could cause a cable-to-cable hot short. If cable-to-cable hot shorts are assumed to occur, this event has the potential to cause water in the refueling water storage tank (RWST) to drain to the containment recirculation sump. It was discovered that the control cables for two redundant motor operated valves are routed in the same electrical raceway. The two valves are in the same electrical separation group, but are redundant in their function of conserving water inventory in the RWST. Further investigation determined that the control cables for motor operated valves in the opposite electrical separation group have the same configuration. The cause of this condition is that cable-to-cable interactions were not considered in the initial design of the plant. At 0945 on July 19, 2002, the Shift Manager was notified of conditions where a postulated fire event could lead to the loss of motor control centers that power post-fire safe shutdown equipment in both trains due to inadequate horizontal separation in conjunction with improper breaker coordination. At 1030 on August 20, 2002, conditions were discovered where a postulated fire could cause the loss of both centrifugal charging pump's (CCP) capability to successfully inject borated water into the reactor. The safety significance of these events is low.
Wolf Creek	01/07/2005	03/08/2005	Corrective Action to Fire Wrap Raceway for Valve EMHV8803A Not Included in Design Change Package Abstract: On January 7, 2005, conditions were discovered where a postulated fire could cause the loss of a fire safe shut down success path. During reviews associated with post-fire safe shutdown reanalysis work, Wolf Creek Nuclear Operating Corporation (WCNOC) personnel discovered that power and control cables for Boron Injection Tank (BIT) inlet valve, EMHV8803A, could be damaged by a fire in Fire Area A-1. This could cause the loss of the centrifugal charging pump's (CCP's) capability to successfully inject borated water, through the BIT, into the reactor. This does not meet WCNOC's commitments to 10 CFR 50 Appendix R.III.G as reflected in the approved Fire Protection Plan. A 1-hour fire watch was implemented in the fire area. The safety significance for this event is low.
Wolf Creek	09/29/2005	11/28/2005	Validation of Post Fire Safe Shutdown (PFSSD) Capabilities of Fire Area A-8 Abstract: On September 29, 2005, conditions were discovered where a postulated design basis fire could cause the loss of a safe shut down success path. During reviews associated with post fire safe shutdown reanalysis work, Wolf Creek personnel discovered that the ability to perform diverse means (operator manual actions) required to mitigate spurious actuations came into question for Fire Area A-8. This could cause the loss of the centrifugal charging pump's (CCP's) capability to successfully inject borated water into the reactor, due to a potential for gas intrusion into the suction of the pumps. This does not meet Wolf Creek's commitments to 10 CFR 50 Appendix R.III.G as reflected in the approved Fire Protection Plan. A 1-hour fire watch was implemented in the fire area. The safety significance for this event is low.
Wolf Creek	11/16/2005	01/13/2006	Unanalyzed Condition Related to Loss of RCP Seal Cooling during a Postulated Appendix R Fire Event Abstract: On November 16, 2005, conditions were discovered where a postulated fire could cause the loss of a safe shut down success path. During a timed walk down of an Off Normal Operations procedure for shut down outside the Control Room, the demonstrated response time for restoring Reactor Coolant Pump (RCP) seal cooling did not meet the required time. Failure to restore the RCP seal cooling in an appropriate time could result in damage to the RCP seals. Failure of the RCP seals could result in an inability to maintain pressurizer level during plant shutdown, thus not satisfying the 10CFR50 Appendix R, Section 111.L.2.b requirement. A 1-hour fire watch was implemented in the Control Room.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Wolf Creek	02/10/2006	04/11/2006	Potential for Fire-Induced Damage to Motor Operated Valves during an Appendix R Fire Event Abstract: As a result of Wolf Creek Nuclear Operating Corporations 2005 Triennial Fire Protection Inspection, a re-evaluation of concerns described in NRC Information Notice 92-18, "Potential For Loss Of Remote Shutdown Capability During A Control Room Fire" was performed. During that re-evaluation, on February 10, 2006, it was identified that in the event of a fire in the control room, 40 motor operated valves (MOVs) credited for post-fire safe shutdown could potentially fail in an unanalyzed condition. In the 40 MOV circuits, an intra-cable hot short between one conductor on the hot side of the indication circuit and another conductor on the load side of the control room hand switch could bypass the torque switch and energize either the open or close coil. The loss of protection from the torque switch could result in damage to the valve such that it could not be manually operated. Of those 40 MOVs, failure of 8 of the MOVs could potentially prevent achieving and maintaining safe shutdown conditions. An hourly fire watch was established in the Control Room due to a previous condition identified on November 16, 2005. This condition was included on the hourly fire watch.
Wolf Creek	05/24/2006	07/21/2006	Potential for Fire-Induced Damage to Class 1E Electrical Equipment Air Conditioning Units during an Appendix R Fire Event Abstract: On May 24,2006, while performing the Post Fire Safe Shutdown (PFSSD) review for fire area C-35, an unanalyzed condition was discovered. A design basis fire in fire area C-35, located in the Control building, could prevent operation of both Class 1E electrical equipment air conditioning units. The postulated fire could damage cables associated with the automatic fire isolation circuit on the fan units. If the cables are damaged in a manner that causes an open circuit, the air conditioning units will shut down or fail to start. Loss of the Class 1E air conditioning units does not directly result in loss of capability to safely shut down. Rather, room heating beyond design limits could reduce the life of electrical components within the switchgear. A continuous fire watch was established for fire area C-35. The continuous fire watch was reduced to an hourly fire watch after a temporary procedure change was completed to allow the use of a jumper to restore the Train "A" Class 1E air conditioning unit to service.
Wolf Creek	10/21/2008	12/19/2008	Inadequate Compensatory Actions for a Fire Area Abstract: Wolf Creek Nuclear Operating Corporation (WCNOC) did not establish compensatory measures as required by its' License and by procedure, when it was discovered that post-fire safe shutdown capability could be adversely affected if a fire occurs in the Control Rod Drive/Motor-Generator Set Room located in the Auxiliary Building (fire area A-27). A fire in area A-27 could cause a pressurizer power operated relief valve to spuriously open. The manual actions established to mitigate this condition would cause a loss of Class 1E 125 VDC power to a number of Train B components that are required for safe shutdown if a fire occurs in area A-27. The compensatory measure that should have been taken was the establishment of an hourly fire watch. This condition was self identified by WCNOC but no compensatory measures were established at that time due to the misapplication of RIS 2004-03.
Wolf Creek	04/20/2010	07/09/2012	Post-Fire Safe Shutdown Fire-Induced Multiple Spurious Operation Issues Abstract: While performing a post-fire safe shutdown review per Enforcement Guidance Memorandum (EGM) 09-002, "Enforcement Discretion for Fire Induced Circuit Faults," and Regulatory Guide 1.189, Revision 2, five fire-induced multiple spurious operation (MSO) issues were determined to be reportable pursuant to 10 CFR 50.73(a)(2)(ii)(B). EGM 09-002 provides enforcement discretion for noncompliances related to multiple fire-induced circuit faults. The five fire-induced MSO issues that were identified are: - Three issues which could potentially prevent operation of the Residual Heat Removal Pump(s), - An issue where pressurizer spray may spuriously actuate, and - An issue where a Centrifugal Charging Pump could spuriously start and fill the pressurizer solid.
Wolf Creek	11/18/2010	01/17/2011	Potential Safe Shutdown Unanalyzed Condition Identified during Post-Fire Safe Shutdown Circuit Analysis Abstract: During performance of a post-fire safe shutdown (PFSSD) circuit analysis, a commitment from Wolf Creek Generating Station LER 2010-003, the following issues were identified for a potential fire in the control room: (1) Certain fuses associated with the Train B emergency diesel generator (EDG) exciter/voltage regulator could fail, that would result in no power being available to supply credited PFSSD equipment. (2) The pressurizer power operated relief valves could fail open and not be closed within 3 minutes as required by the thermal hydraulic analysis. (3) Dampers in the Train B essential service water and Train B EDG rooms could fail and cause the room temperature to exceed the maximum design temperature for the rooms or drop below the minimum design temperature. The cause was determined to be an inadequate review of control room circuitry for impact on PFSSD. A number of opportunities should have identified the issues including a root cause evaluation conducted in 2007. An hourly fire watch is in place in the control room and procedure OFN RP-017, "Control Room Evacuation," has been revised to address these issues. These issues have low safety significance.
Wolf Creek	07/20/2011	09/19/2011	Post-Fire Safe Shutdown Latent Desiqn Issue May Cause Essential Service Water System Flow Imbalance Abstract: On July 20, 2011 at 1313 CDT, during a review of the post-fire safe shutdown analysis for valve EFHV0060, "ESW Return from CCW Heat Exchanger," a condition was discovered where a fire in the Control Room could cause valve EFHV0060 to open. Valve EFHV0060 is required to be closed for post-fire safe shutdown when operating Train "B" essential service water (ESW). The opening of EFHV0060 would cause a flow imbalance in the ESW system and could reduce the ESW flow to other essential components. The direct cause is a latent design deficiency that did not ensure that valve EFHV0060 was isolated/protected from the potential effects of a Control Room fire. An hourly fire watch was in place in the Control Room and will remain in place until this issue is resolved. Procedure OFN RP-017, "Control Room Evacuation," was revised to include interim compensatory actions to deenergize, and verify closed, valve EFHV0060. A plant modification will be implemented to resolve the PFSSD issue with EFHV0060.
Wolf Creek	06/17/2013	11/14/2013	Nonfunctional Class 1E Electrical Equipment Air Conditioning Unit Results in Longer than Technical Specification Completion Time Abstract: On June 17, 2013 at 1111 Central Daylight Time (CDT), the Class 1E electrical equipment air conditioning unit, SGK05A, was declared nonfunctional due to an analysis of an oil sample that showed elevated levels of aluminum. As a result, Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.3 was entered and a plant shutdown was commenced. On June 17, 2013, enforcement discretion was sought to permit noncompliance with TS 3.8.4, TS 3.8.7, TS 3.8.9, as well as LCO 3.0.3, to permit additional time to complete repairs and restoration of SGK05A before a plant shutdown would be required. An additional 168 hours was requested to restore SGK05A to a functional status such that the Completion Time of LCO 3.0.3 would expire at 1111 CDT on June 24, 2013. The Nuclear Regulatory Commission granted approval of the requested enforcement discretion on June 17, 2013. The replacement of the SGK05A compressor and testing to restore functionality was completed at 2220 CDT on June 21, 2013.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Wolf Creek	10/09/2013	12/05/2013	Post-Fire Safe Shutdown Design Issue May Impact Ability to Achieve Safe Shutdown Abstract: On October 9, 2013 during a review of external operating experience, Wolf Creek Nuclear Operating Corporation (WCNOC) determined that a fire in some areas containing direct current (DC) ammeter circuits could result in secondary fires outside the primary fire area. This condition could impact the ability to achieve safe shutdown. The cause of this deficiency is that the original plant design did not specify fuse protection of these DC shunt ammeter circuits. The postulated scenario is a fire that causes a short to ground on cables associated with the DC ammeters, concurrent with a short to ground on a safety related 125 VDC circuit on the negative side of the same battery source. Since the ammeter circuits are not overcurrent protected, they could overheat and ignite anywhere along their route. The negative side of the 125 VDC circuit is fuse protected, but the fuse may not clear prior to ammeter cable ignition if a high resistance short to ground exists. The safety significance of this event is considered low. An hourly fire watch was established in the affected areas. A modification will be implemented to correct this deficiency
Yankee-Rowe	05/21/1981	06/19/1981	Abstract: DURING THE PERFORMANCE OF 'EMERGENCY FEEDWATER SYSTEM UPGRADE' THE FIRE PROTECTION CO(SUB 2) SYSTEM IN MANHOLE NO. 3 WAS TAKEN OUT OF SERVICE FIVE TIMES FOR PERSONNEL SAFETY REASONS. THE CAUSE IS THE NEED TO ENTER MANHOLE 3 TO PERFORM THE UPGRADING OF THE FEEDWATER SYSTEM COMBINED WITH THE TOXICITY OG CO(SUB 2). NO CORRECTIVE ACTION IS DEEMED NECESSARY NOW OR IN THE FUTURE DUE TO THE NATURE AND THE ACTIONS TAKEN FOR THIS OCCURRENCE. A SUPPLEMENTAL REPORT WILL BE SUBMITTED UPON COMPLETION OF THE FEEDWATER SYSTEM UPGRADE.
Yankee-Rowe	05/14/1982	06/11/1982	Abstract: ZONE 2 FLOW ALARM WAS RECEIVED IN THE CONTROL ROOM. INVESTIGATION REVEALED CONTINUOUS FLOW THROUGH THE ALARM CHECK'S AUXILIARY VALVE. DURING THE REPAIR ACTIVITIES THE SPRINKLER SYSTEM WAS ISOLATED FOR A TOTAL OF LESS THAN 3 HOURS (TECH SPEC 3.7.10.2.B.2). THE CAUSE OF THIS OCCURRENCE WAS INSUFFICIENT SEATING BETWEEN THE AUXILIARY VALVE SEAT AND DISC. THE VALVE IS A MODEL F1, 6 INCH, UL LISTED 958A, ALARM CHECK VALVE MANUFACTURED BY THE VIKING CORP. THE AUXILIARY VALVE DISC SEAL PIECE WAS TURNED OVER, AND THE VALVE WAS SATISFACTORILY TESTED.
Yankee-Rowe	07/12/1982	08/11/1982	Abstract: THE FIRE DETECTION SYSTEM ZONES FOR THE CHARGING PUMP CUBICLES AND CHARCOAL FILTERS FAILED. THESE ZONES ARE REQUIRED TO BE OPERABLE BY TECH SPEC 3.3.3.4 (TABLE 3.3.6). THIS IS THE FIRST OCCURRENCE OF THIS NATURE ASSOCIATED WITH THIS SYSTEM. DURING THE FOUR HOURS AND FIFTEEN MINUTES THE ZONES WERE OUT OF SERVICE A FIRE WATCH WAS STATIONED. THIS OCCURRENCE RESULTED WHEN RAIN WATER ENTERED A JUNCTION BOX USED FOR THE AFFECTED ZONES. THE RAIN ENTERED THE AREA THROUGH OPENINGS IN THE ROOF AND WALL MADE TO FACILITATE CONSTRUCTION ACTIVITY. THE ZONES USE HIGH VOLTAGE EQUIPMENT SUPPLIED BY PYROTRONICS CORP. THE OPENINGS HAVE BEEN PERMANENTLY SEALED.
Yankee-Rowe	08/02/1982	09/01/1982	Abstract: DURING THE INSTALLATION OF EDCR 81-33 POST INCIDENT COOLING SYSTEM, THE FIRE PROTECTION CO(SUB 2) SYSTEM IN MANHOLE NO. 3 WAS TAKEN OUT OF SERVICE TWICE FOR PERSONNEL SAFETY REASONS. THE SYSTEM IS REQUIRED TO BE OPERABLE BY TECH SPEC 3.7.10.3. A SIMILAR OCCURRENCE WAS REPORTED AS LER 81-7. A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT WAS STATIONED DURING THE TIME THE SYSTEM WAS OUT OF SERVICE (10 HRS 48 MIN). THE CAUSE OF THIS OCCURRENCE WAS THE NEED TO ENTER MANHOLE 3 TO PERFORM THE INSTALLATION COMBINED WITH THE HEALTH HAZARD OF CO(SUB 2) AT SYSTEM DESIGN CONCENTRATION. NO CORRECTIVE ACTION IS DEEMED NECESSARY NOW OR IN THE FUTURE DUE TO THE NATURE OF THIS OCCURRENCE AND THE ACTIONS TAKEN DURING THE TIME THE SYSTEM WAS OUT OF SERVICE.
Yankee-Rowe	09/02/1982	10/01/1982	Abstract: THE AUXILIARY BOILER ROOM SPRINKLER SYSTEM WAS ISOLATED TO STOP AND REPAIR A GASKET LEAK. THE SYSTEM IS REQUIRED TO BE OPERABLE BY TECH SPEC 3.7.10.2.D. THIS IS THE FIRST FAILURE OF THIS NATURE. THE CAUSE OF THIS OCCURRENCE WAS A GASKET LEAK BETWEEN THE UPPER FLANGE AND BODY OF VALVE FS-V-739. THE VALVE IS A 3 INCH, CARBON STEEL, MODEL C, WAFER CHECK VALVE MANUFACTURED BY THE RELIABLE AUTOMATIC SPRINKLER CO., INC. THE LEAK WAS CAUSED BY INSUFFICIENT GASKET CONTACT WITH THE VALVE. THE GASKET WAS REPLACED IN KIND.
Yankee-Rowe	09/24/1982	10/22/1982	Abstract: WHILE PERFORMING EDCR 81-29, NO. 1 & NO. 2 BATTERY AND CHARGER REPLACEMENT, THE BATTERY ROOMS' HALON SYSTEM WAS REMOVED FROM SERVICE TO FACILITATE INSTALLATION OF A NEW BATTERY CHARGER FOR NO. 2 BATTERY. THE SYSTEM IS REQUIRED TO BE OPERABLE BY TECH SPEC 3.7.10.5. AN HOURLY FIRE WATCH PATROL WITH BACKUP SUPPRESSION EQUIPMENT WAS MAINTAINED DURING THE 28.5 HOUR OUTAGE PERIOD. THE CAUSE OF THIS OCCURRENCE WAS THE NEED TO RELOCATE SOME OF THE HALON SYSTEM EQUIPMENT IN ORDER TO INSTALL A NEW BATTERY CHARGER FOR NO. 2 STATION BATTERY. THE HALON SYSTME EQUIPMENT WAS MANUFACTURED BY THE PYROTRONICS COMPANY. THE NECESSARY EQUIPMENT WAS RELOCATED AND SYSTEM RETURNED TO SERVICE.
Yankee-Rowe	12/08/1982	01/07/1983	Abstract: WHILE IN MODE 6, THE SPECIAL HAZARDS HEADER FLOW ALARM WAS RECEIVED IN THE CONTROL ROOM. INVESTIGATION REVEALED CONTINUOUS FLOW THROUGH THE ALARM CHECK'S AUXILIARY VALVE. DURING THE REPAIR ACTIVITIES THE HEADER WAS ISOLATED FOR APPROXIMATELY 5 HOURS (TECH SPEC 3.7.10.2.B.4 & .5). A SIMILAR EVENT WAS REPORTED AS LER 82-10. A CONTINUOUS FIRE WATCH AND BACKUP SUPPRESSION EQUIPMENT WERE AVAILABLE DURING THE OUTAGE. THERE WAS NO ADVERSE EFFECT ON THE PUBLIC HEALTH OR SAFETY AS A RESULT OF THIS OCCURRENCE. THE CAUSE OF THIS OCCURRENCE WAS INSUFFICIENT SEATING BETWEEN THE AUXILIARY VALVE SEAT AND DISC. THE VALVE IS A MODEL F1, 4 INCH, UL LISTED 958A, ALARM CHECK VALVE MANUFACTURED BY THE VIKING CORP. THE AUXILIARY VALVE DISC WAS REPLACED AND THE VALVE WAS SATISFACTORILY TESTED. NO FURTHER CORRECTION ACTION IS DEEMED NECESSARY AT THIS TIME.
Yankee-Rowe	01/28/1983	02/25/1983	Abstract: WHILE IN MODE 1, DURING CORRECTIVE MAINTENANCE ON THE MANHOLE SUMP PUMP, THE FIRE PROTECTION CO(SUB 2) SYSTEM IN MANHOLE NO. 3 WAS TAKEN OUT OF SERVICE FOR PERSONNEL SAFETY REASONS. THE SYSTEM IS REQUIRED TO BE OPERABLE BY TECH SPEC 3.7.10.3. SIMILAR OCCURRENCES WERE REPORTED AS LERS 81-7 AND 82-23. A CONTINUOUS FIRE WATCH WITH BACKUP FIRE SUPPRESSION EQUIPMENT WAS STATIONED DURING THE TIME THE SYSTEM WAS OUT OF SERVICE (35 MINUTES). THE CAUSE OF THIS OCCURRENCE WAS THE NEED TO ENTER MANHOLE 3 TO PERFORM THE CORRECTIVE MAINTENANCE COMBINED WITH THE HEALTH HAZARD OF CO(SUB 2) AT THE SYSTEM DESIGN CONCENTRATION. NO CORRECTIVE ACTION IS DEEMED NECESSARY NOW OR IN THE FUTURE DUE TO THE NATURE OF THIS OCCURRENCE AND THE ACTIONS TAKEN DURING THE TIME THE SYSTEM WAS OUT OF SERVICE.
Yankee-Rowe	02/04/1983	03/04/1983	Abstract: WHILE IN MODE 1, THE ZONE 1 AND SPECIAL HAZARDS HEADER ALARM CHECK VALVES WERE ISOLATED ALTERNATELY TO REPAIR THE ALARM PORT AUXILIARY VALVE. DURING THE REPAIR ACTIVITY EACH HEADER WAS ISOLATED FOR APPROXIMATELY 30 MINUTES EACH (TECH SPEC 3.10.2.B.1, .4 & .5). SIMILAR EVENTS WERE REPORTED AS LERS 82-10 AND 82-44. A CONTINUOUS FIRE WATCH AND BACKUP SUPPRESSION EQUIPMENT WERE AVAILABLE DURING THE OUTAGES. THE CAUSE OF THIS OCCURRENCE WAS IMPROPER ALARM PORT VALVE OPERATION. THE VALVES ARE MODEL F1, UL LISTED 958A, ALARM CHECK VALVES MANUFACTURED BY THE VIKING CORPORATION. THE AUXILIARY VALVE DISC WAS REPLACED AND THE VALVE SATISFACTORILY TESTED. NO FURTHER CORRECTIVE ACTION IS DEEMED NECESSARY AT THIS TIME.
Yankee-Rowe	03/25/1983	04/22/1983	Abstract: DURING NORMAL OPERATIONS WHILE PERFORMING FIRE PROTECTION SYSTEM MODIFICATIONS, THE SPECIAL HAZARDS HEADER WAS TAKEN OUT OF SERVICE FOR ONE HOUR AND FIVE MINUTES. THE SYSTEMS SUPPLIED ARE REQUIRED TO BE OPERABLE BY TECH SPEC 3.7.10.2.B.4 AND .5. THIS IS THE FIRST OCCURRENCE ASSOCIATED WITH THIS SYSTEM. A CONTINUOUS FIRE WATCH WITH BACKUP SUPPRESSION EQUIPMENT WAS PROVIDED THROUGHOUT THE OUTAGE. THE CAUSE OF THIS OCCURRENCE WAS THE REMOVAL OF THE HEADER FROM SERVICE TO ALLOW THE INSTALLATION OF THE CONTROL ROOM POST ACCIDENT FILTER SYSTEM SPRINKLER PROTECTION. THE INSTALLATION OF THE SPRINKLER SYSTEM WILL IMPROVE THE FIRE PROTECTION SYSTEM'S EFFECTIVENESS, THEREFORE, NO CORRECTIVE ACTIONS WERE TAKEN OR WILL BE NECESSARY IN THE FUTURE.

Yankee-Rowe	08/02/1984	08/31/1984	480 Volt Bus 4-1 Failure Abstract: POWER LEVEL - 100%. DURING NORMAL OPERATION IN MODE 1 A FAULT OCCURRED IN THE 480 VOLT SUPPLY ACB TO BUS 4-1 THAT RESULTED IN 4-1 BUS ISOLATION, FIRE DETECTION INITIATION AND HALON DISCHARGE. THE FIRE BRIGADE RESPONDED AS REQUIRED, AND AN ALERT CONDITION WAS DECLARED AND TERMINATED APPROX 70 MINS LATER. A CONTROLLED PLANT SHUTDOWN IN ACCORDANCE WITH TECH SPECS WAS INITIATED TO AFFECT REPAIRS. THE CAUSE OF THE FAULT HAS BEEN ATTRIBUTED TO HIGH RESISTANCE IN THE MAIN DISCONNECTING CONTACTS OF THE CENTER PHASE OF THE ACB WHICH CAUSED AN ARC TO PROPAGATE TO THE OUTSIDE PHASES. THE HIGH RESISTANCE WAS PROBABLY CAUSED BY FAILURE OF THE CONTACT RETAINER RING ON THE FINGER CLUSTER OF THE WESTINGHOUSE DB-50 ACB. TWO DB-50 ACBS WERE REPLACED ALONG WITH ASSOCIATED CUBICLES, RELAYS, SWITCHES AND WIRING. FINGER CLUSTERS ON 3 MORE DB-50 ACBS WERE REPLACED WITH A NEW TYPE NOT SUBJECT TO THIS TYPE OF FAILURE. ALL OTHER DB-50 AND DB-25 ACBS WERE GIVEN A COMPLETE INSPECTION TO VERIFY THAT NO FAILURE PRONE TYPE FINGER CLUSTERS ARE NOW IN SERVICE.
Yankee-Rowe	11/15/1985	12/13/1985	Switchgear Room Fire Barrier Abstract: POWER LEVEL - 000%. DURING A FIRE HAZARD ANALYSIS REVIEW, WHILE IN MODE 6, A STEEL PLATE USED TO SEAL A VOID BETWEEN THE TURBINE BUILDING AND THE SWITCHGEAR ROOM WAS RE-EVALUATED. DURING THE ORIGINAL PLANT CONSTRUCTION A 1/4' STEEL PLATE WAS BUTTED AGAINST A CONCRETE PIER ON THE OUTSIDE, WEST WALL AND WELDED TO THE FACE OF A STEEL I BEAM ON THE NORTH WALL TO CLOSE A 9.5 INCH WIDE BY 15 FEET HIGH OPENING BETWEEN THE TWO WALLS. AS A RESULT OF THE RECENT REVIEW OF THIS AREA, IT WAS DECIDED THAT THIS DESIGN DID NOT PROVIDE FIRE PROTECTION CONSISTENT WITH THE PLANT'S FIRE PROTECTION PROGRAM FOR THIS AREA. A CONSERVATIVE APPROACH WAS TAKEN AND A CONTINUOUS FIRE WATCH WAS STATIONED AT 1000 HOURS ON 11/15/85. PDCR 85-013, 'SWITCHGEAR ROOM FIRE BARRIER - NORTHWEST CORNER' WAS PREPARED AND IMPLEMENTED WHICH INSTALLED A TWO-HOUR UNDERWRITERS LABORATORY (UL) RATED WALL ON THE SWITCHGEAR ROOM SIDE OF THE STEEL PLATE. THE WALL CONFORMS TO UL DESIGN NUMBER U301. THE CONSTRUCTION WAS COMPLETED AND THE FIRE WATCH REMOVED AT 1400 HOURS ON 11/27/85. THE FIRE BARRIER IN QUESTION IS REQUIRED BY TECH SPEC 3.7.11. THE ORIGINAL CONFIGURATION WAS NOT ADDRESSED AS AN AREA OF CONCERN DURING THE BRANCH TECHNICAL POSITION 9.5.1 APPENDIX A INSPECTION AND SUBSEQUENT SAFETY EVALUATION REPORT. NO COMBUSTIBLES WERE IN
Yankee-Rowe	04/01/1988	04/30/1988	Degraded Fire Doors Abstract: POWER LEVEL - 100%. ON 4/1/88, AT 1055 HOURS, DURING NORMAL STEADY STATE OPERATION, (MODE 1 - 100 PERCENT POWER) AN EVALUATION OF SIX FIRE DOORS RESULTED IN THE DOORS BEING DECLARED DEGRADED. THE FIRE RATING DEGRADATION RESULTED WHEN THE DOORS WERE MODIFIED FOR ACCESS CONTROL IN 1975. THE MODIFICATION ALLOWED THE DOORS TO UNLATCH ON A LOSS OF ELECTRICAL POWER TO THE DOOR. THIS CONDITION COMPROMISED THE UNDERWRITERS LABORATORY FIRE RATING. THIS IS CONTRARY TO TECH SPEC 3.7.11 WHICH REQUIRES THAT FIRE BARRIERS BE FUNCTIONAL AT ALL TIMES OR THAT A CONTINUOUS FIRE WATCH BE STATIONED WITHIN ONE HOUR. A CONTINUOUS FIRE WATCH WAS STATIONED IN THE AFFECTED AREAS AT 1120 HOURS. THE HARDWARE WAS CHANGED, THE DOORS TESTED IN A LOSS OF POWER CONDITION, AND THE FIRE WATCHES REMOVED AT 1315 HOURS ON 4/2/88. A PREVIOUS FIRE BARRIER DEGRADATION WAS REPORTED AS LER 85-05. THE ROOT CAUSE OF THIS EVENT IS ATTRIBUTED TO AN INADEQUATE REVIEW OF THE POSSIBLE DOOR FAILURE MODES WHILE PREPARING OUR FIRE HAZARDS ANALYSIS. TO CORRECT THE DEGRADATION THE DOORS WERE MODIFIED TO PROVIDE A POSITIVE LATCH DURING LOSS OF POWER CONDITIONS. THERE WAS NO ADVERSE EFFECT ON THE PUBLIC HEALTH OR SAFETY AS A RESULT OF THIS EVENT.
Yankee-Rowe	04/20/1988	05/20/1988	Switchgear Room Halon System Out Of Service For More Than 14 Days (T.S. 3.7.10.5) Abstract: POWER LEVEL - 100%. ON 4/6/88, AT 1115 HOURS, DURING NORMAL STEADY STATE OPERATION, (MODE 1 - 100 PERCENT POWER) THE SWITCHGEAR ROOM HALON SYSTEM WAS DECLARED INOPERABLE. THE DEGRADATION WAS DECLARED WHEN ONE OF THE SIX HALON BOTTLES WAS FOUND, BY SURVEILLANCE, TO WEIGH TWO POUNDS LESS THAN THE 95 PERCENT OF FULL CHARGE WEIGHT ALLOWED BY TECH SPECS 3.7.10.5. ARRANGEMENTS WERE MADE TO ESTABLISH AN HOURLY FIRE WATCH PATROL, WITH BACKUP FIRE SUPPRESSION EQUIPMENT IN THE AREA WHEN THE CONTINUOUS FIRE WATCH ESTABLISHED BY THE SURVEILLANCE PROCEDURE WAS NO LONGER REQUIRED. PYROTRONICS, THE HALON SYSTEM MANUFACTURER, WAS CONTACTED THE SAME DAY TO OBTAIN INFORMATION ABOUT RECHARGING THE LOW WEIGHT BOTTLE AND TWO OTHERS WHICH WEIGHED LESS THAN 100 PERCENT OF FULL CHARGE WEIGHT. THE PURCHASE ORDER PROCESS FOR RECHARGING THE THREE BOTTLES WAS COMPLETED ON 4/13/88. THE BOTTLES WERE PICKED UP ON 4/14/88. THE BOTTLES WERE RECHARGED ON 4/15/88 AND RETURNED TO THE PLANT ON TUESDAY 4/19/88. RECEIPT INSPECTION AND INSTALLATION OF THE HALON BOTTLES WAS COMPLETED ON 4/20/88, AT 1243 HOURS, WHEN THE SYSTEM WAS DECLARED OPERATIONAL. THE HALON SYSTEM WAS INOPERABLE FOR 1 HOUR AND 28 MINUTES LONGER THAN THE 14 DAYS ALLOWED IN THE TECH SPEC ACTION STATEMENT.
Yankee-Rowe	06/15/1991	07/16/1991	Reactor Scram/Turbine Trip and Loss of Offsite Power Due to Lightning Strike Abstract: POWER LEVEL - 088%. ON 6/15/91, AT 2350 HOURS, WHILE IN MODE 1 AT 55% REACTOR POWER. A LIGHTNING STRIKE RESULTED IN DESTRUCTION OF A LIGHTNING ARRESTOR ON THE NO. 3 STATION SERVICE TRANSFORMER (SST) AND FLASHOVER OF AN INSULATOR ON THE Z-126 115 KV TRANSMISSION LINE DISCONNECT SWITCH. AS A RESULT, ALL OFFSITE C POWER WAS LOST, AN AUTOMATIC REACTOR SCRAM AND TURBINE TRIP OCCURRED, AND ALL THREE EDGS OPERATED AS DESIGNED. ON 6/16/91, AT 0010 HOURS, AN UNUSUAL EVENT (UE) WAS DECLARED BASED ON THE 1055 OF OFFSITE POWER AND A FIRE EMERGENCY (SMOLDERING ARRESTOR). AT 0014 HOURS, ONE SOURCE OF OFFSITE POWER WAS RESTORED. AT 0130 HOURS, AN ALERT WAS DECLARED AT THE DISCRETION OF THE SHIFT SUPERVISOR. WHILE ATTEMPTING TO NORMALIZE THE EMERGENCY BUSSES, AN INADVERTENT SI ACTUATION SIGNAL WAS INITIATED AT 0155 HOURS. FOLLOWING RESTORATION OF ESSENTIAL COMMUNICATION SYSTEMS AND PLANT EQUIPMENT, THE ALERT WAS DE-ESCALATED TO AN UE AT 0450 HOURS. ON 6/17/91, THE PLANT ATTAINED A COLD SHUTDOWN CONDITION AT 0755 HOURS AND THE UE WAS TERMINATED AT 0925 HOURS. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO LIGHTNING-INDUCED TRANSIENTS. IMMEDIATE CORRECTIVE ACTIONS INVOLVED REPAIRING AND TESTING OF AFFECTED ELECTRICAL AND MECHANICAL EQUIPMENT AND PLANT INSTRUMENTATION, AND
Yankee-Rowe	04/08/1992	05/08/1992	Late Compliance With A Technical Specification Action Statement Abstract: POWER LEVEL - 000%. ON APRIL 8, 1992. WITH THE REACTOR DEFUELED. A ROUTINE PLANT OPERATIONS AUDIT TEAM REPORTED THAT THE SLIDING FIRE DOOR (EIIS:DL) BETWEEN EMERGENCY DIESEL GENERATOR (EIIS:EK:DG) CUBICLES 1 AND 2 WOULD NOT COMPLETELY CLOSE BY ITSELF. THE CONDITION WAS REPORTED AND A MAINTENANCE REQUEST (MR) WAS GENERATED AT 1118 HOURS. ON APRIL 9, 1992, THE AUDIT TEAM ASKED THE FIRE PROTECTION COORDINATOR TO EVALUATE THE NEED FOR COMPENSATORY MEASURES. THE DOOR WAS THEN DECLARED INOPERABLE BECAUSE IT WOULD NOT CLOSE AS DESIGNED. A CONTINUOUS FIRE WATCH WAS STATIONED PER TECHNICAL SPECIFICATION 3.7.11, AT 1030 HOURS. THE DOOR WAS REPAIRED AND THE FIRE WATCH SECURED AT 1200 HOURS. THE ROOT CAUSE HAS BEEN ATTRIBUTED TO A TRAINING INADEQUACY. CONTROL ROOM PERSONNEL EVALUATING THE MR FELT THAT THE FIRE BARRIER WAS FUNCTIONAL BECAUSE THE DOOR COULD BE MANUALLY SHUT AND THAT NO COMPENSATORY ACTION WAS NECESSARY. CORRECTIVE ACTION WILL CONSIST OF PROVIDING TRAINING TO CONTROL ROOM PERSONNEL IN THE CRITERIA FOR PROMPT OPERABILITY DETERMINIATIONS FOR FIRE PENETRATION BARRIERS. DURING THE EVENT PERIOD THE FIRE DETECTORS ON EACH SIDE OF THE FIRE BARRIER WERE OPERATIONAL AND THE DOOR WAS NEVER FOUND OPEN DURING THE NORMAL INSPECTION OF THE AREA CONDUCTED EVERY TWO HOURS. THERE
Zion 1	02/24/1986	03/26/1986	OBSTRUCTION OF FIRE DAMPER IN CABLE PENETRATION VAULT Abstract: POWER LEVEL - 099%. AS PART OF THE PERIODIC FUNCTIONAL TEST OF THE HALON FIRE PROTECTION SYSTEM (PT-227) ON 2-24-86, THE INSPECTION OF THE UNIT 1 FIRE DAMPER BETWEEN THE UNIT 1 NORTH AND SOUTH CABLE PENETRATION VAULTS FOUND THE DAMPER INOPERABLE BECAUSE A CABLE WAS ROUTED THROUGH IT. THIS WAS CONTRARY TO TECH SPEC 3.21.6.A WHICH REQUIRES THAT ALL PENETRATION FIRE BARRIERS PROTECTING SAFETY-RELATED AREAS BE FUNCTIONAL AT ALL TIMES. THE CABLE, WHICH IS USED TO CONNECT THE SPARE SOURCE RANGE DETECTOR TO ONE OF THE PRE-AMPS, WAS NOT CONNECTED IN THE VAULT AND WAS PROMPTLY REMOVED. A SUBSEQUENT INSPECTION OF THE UNIT 2 DAMPERS FOUND THE SAME CONDITION WHERE THE SPARE SOURCE RANGE CABLE WAS ROUTED THROUGH THE FIRE DAMPER. THIS CABLE HAD BEEN CONNECTED TO THE PRE-AMP AND AN HOURLY FIRE WATCH WAS POSTED UNTIL THE CABLE COULD BE DISCONNECTED AND REMOVED FROM THE DAMPER PATHWAY. THE ROOT CAUSE OF THE FIRE DAMPERS BEING INOPERABLE IS THAT ALL PERSONNEL INVOLVED WITH THE CABLE ROUTING DID NOT KNOW, UNDERSTAND, OR ADHERE TO THE FUNCTIONAL REQUIREMENTS OF THE FIRE DAMPERS. THE CORRECTIVE ACTION IS TO INFORM AND ALERT PLANT PERSONNEL THAT THE FIRE DAMPERS ARE NOT TO BE USED FOR ANY PURPOSE THAT MAY RENDER THEM INOPERABLE UNLESS THE REQUIRED TECH SPEC SURVEILLANCE IS ESTABLISHED.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Zion 1	03/03/1986	08/14/1986	REMOVED AIR CRAFT FIRE DAMPER ON CRIBHOUSE VENTILATION FAN FOR SERVICE WATER SOUTH AREA Abstract: POWER LEVEL - 099%. ON 3-3-86 WHILE PERFORMING PT-210, AIRCRAFT FIRE DETECTION SYSTEM TEST, IT WAS OBSERVED THAT THE OUTLET DAMPER WAS REMOVED FOR THE OAS VENTILATION FAN FOR THE SERVICE WATER PUMP AREA (SOUTH) OF THE CRIBHOUSE. SINCE THIS OUTLET DAMPER IS DESIGNATED AS AN AIRCRAFT FIRE DAMPER AND MUST CLOSE UPON A FIRE DETECTION SIGNAL, A FIRE WATCH WAS IMMEDIATELY POSTED IN THE AREA AND A TEMPORARY FIRE SEAL INSTALLED OVER THE FAN OUTLET SINCE THE FAN WAS OUT OF SERVICE FOR MAINTENACE. THE FAN OUTLET DAMPER WAS REMOVED AS A RESULT OF THIS MAINTENANCE. UNIT 1 WAS AT 99.6% POWER AND UNIT 2 WAS AT 99.5% POWER AT THE TIME. THE FAN AND ITS OUTLET DAMPER WERE FIRST REMOVED IN NOVEMBER OF 1982 AND ARE STILL OUT TO THIS DAY. IN OBTAINING PARTS HAVE RESULTED IN THIS DELAY. TO PREVENT RECURRENCE, MECHANICAL MAINTENANCE JOB SCHEDULERS AND WORK ANALYSTS HAVE BEEN INFORMED OF WHICH FANS AND DAMPERS ARE PART OF THE AIR CRAFT CRASH DETECTION SYSTEM. MAINTENANCE WILL ATTACH A JOB SHEET TO ALL FUTURE AIR CRAFT CRASH DAMPER WORK REQUESTS RELATING SPECIFIC INSTRUCTIONS ON HOW TO TAKE THE FANS OUT OF SERVICE WHILE MAINTAINING THE DAMPERS CLOSED AND HOW TO SEAL UP ANY DUCT OPENING CREATED BY FAN OR DAMPER REMOVAL.
Zion 1	03/03/1986	04/01/1986	1B DIESEL GENERATOR AIRCRAFT FIRE DAMPER FAILED TO CLOSE Abstract: POWER LEVEL - 099%. ON 3-3-86 WHILE PERFORMING PT-210, AIRCRAFT FIRE DETECTION SYSTEM TEST, IT WAS OBSERVED THAT THE VENTILATION FAN OUTLET DAMPER FOR THE 1B DIESEL GENERATOR ROOM FAILED TO CLOSE UPON RECEIVING AN ACTUATION SIGNAL FROM THE FIRE DETECTION SYSTEM. THE ROOM FAN, HOWEVER, DID TRIP OFF AS REQUIRED. A FIRE WATCH WAS IMMEDIATELY POSTED IN THE 1B D/G ROOM AND AN INVESTIGATION STARTED. THE INVESTIGATION FOUND THAT THE DAMPER WAS MECHANICALLY BINDING DUE TO A DAMPER ARM-DAMPER ACTUATOR SHAFT COUPLING PIN THAT HAD BACKED OUT AND WAS JAMMING AGAINST A DAMPER ACTUATOR MOUNTING BRACKET BOLT THUS PREVENTING DAMPER STROKING. THE PIN WAS THEN LOCKED IN ITS PROPER POSITION AND PROPER DAMPER STROKING VERIFIED PER PT-210.
Zion 1	04/08/1986	05/08/1986	OB Auxiliary Building Supply Fan Aircraft Damper Failed Open. Abstract: POWER LEVEL - 099%. ON 4-8-86 AT 1530 WITH UNITS 1 AND 2 AT 99% POWER THE OB AUX BLDG SUPPLY FAN OUTLET DAMPER WAS FOUND FAILED OPEN WITH ITS FAN OFF. THIS OUTLET DAMPER IS 1 OF 3 SUPPLY FAN OUTLET DAMPERS WHICH ARE ALSO AIRCRAFT CRASH DAMPERS AND ARE REQUIRED BY TECH SPEC TO BE CLOSED WHEN THEIR RESPECTIVE FANS ARE NOT RUNNING. UPON DISCOVERY OF THE OPEN DAMPER, A FIRE WATCH WAS POSTED IN THE AREA UNTIL THE DAMPER WAS CLOSED THE MORNING OF THE NEXT DAY. ALL 3 SUPPLY FANS HAD BEEN TAKEN OUT OF SERVICE AS PART OF STANDARD PROCEDURE FOR THE WINTER MONTHS AND ALSO AS A SAFETY PRECAUTION DUE TO WORK ON COOLING COILS BEING DONE JUST DOWNSTREAM OF THE SUPPLY FANS. THE FAN DAMPER CIRCUITRY IS DESIGNED SUCH THAT THE FAN CAN BE TAKEN OUT OF SERVICE WITH THE FAN MAIN BREAKER OPENED BUT THE OUTLET DAMPER WILL REMAIN CLOSED AS LONG AS THE 120V AC SWITCH FOR THE DAMPER CONTROL LOOP REMAINS ON. THIS SWITCH WAS TURNED OFF ON 4-7-86 AT 1845 FOR THE OB SUPPLY FAN BECAUSE THE OC AUX BLDG EXHAUST FAN HAD BEEN TAKEN OUT OF SERVICE FOR UPSTREAM VORTEX DAMPER REPAIR WORK AND THE 2 FANS SHARE A COMMON SWITCH. THEREFORE, WHEN THE CONTROL LOOP WAS DE-ENERGIZED, BOTH THE OC EXHAUST FAN AND OB SUPPLY FAN OUTLET DAMPERS FAILED OPEN. THE EXHAUST FAN DAMPERS ARE NOT PART OF THE AIRCRAFT CRASH DAMPER
Zion 1	04/10/1986	05/09/1986	Two Cribhouse Aircraft Crash Dampers Positioned Open and Inoperable Abstract: POWER LEVEL - 099%. ON 4-10-86 AT 1045 IT WAS DISCOVERED THAT THE OUTLET DAMPERS FOR CRIBHOUSE SERVICE WATER AREA VENTILATION FANS OBS AND OCS WERE FAILED OPEN AND INOPERABLE SINCE THE FANS HAD JUST BEEN TAKEN OUT OF SERVICE AT 1030. THESE OUTLET DAMPERS ARE PART OF THE AIRCRAFT CRASH DAMPER NETWORK AND ARE REQUIRED TO BE CLOSED WHEN THEIR RESPECTIVE FANS ARE NOT RUNNING (UPON RECEIVING A SIGNAL FROM THE AIRCRAFT CRASH DETECTION SYSTEM, A RUNNING FAN TRIPS OFF AND ITS OUTLET DAMPER CLOSES). THE FANS HAD BEEN TAKEN OUT OF SERVICE AS A SAFETY PRECAUTION FOR DOING REPAIR WORK ON AN INTERNAL BROKEN LINKAGE OF A SUCTION SIDE DAMPER. UPON DISCOVERY OF THE OPEN DAMPERS AT 1045 A FIRE WATCH WAS POSTED IN THE AREA BUT BY 1330 OF THE SAME DAY IT WAS DECIDED THAT THIS WAS STILL NOT IN COMPLIANCE WITH THE TECH SPECS SO THE FANS WERE PUT BACK IN SERVICE AND THEIR OUTLET DAMPERS VERIFIED CLOSED. THE FAN/DAMPER CIRCUITRY IS DESIGNED SUCH THAT THE DAMPERS FAIL OPEN WHEN THE FANS ARE DE-ENERGIZED, I.E, TAKEN OUT OF SERVICE. UNITS 1 AND 2 WERE OPERATING NORMALLY AT 99% POWER AT THE TIME. PLACARDS WILL BE PLACED ON THE FAN BREAKERS REQUIRING THAT THE DAMPERS BE CLOSED PRIOR TO DE-ENERGIZATION.
Zion 1	05/29/1986	06/27/1986	INOPERABLE FIRE BARRIER Abstract: POWER LEVEL - 095%. WITH UNIT 1 AT 95% POWER AND UNIT 2 AT 100% POWER ON 5-29-86, DURING AN INSPECTION CONDUCTED BY THE QUALITY ASSURANCE DEPARTMENT REGARDING FIRE PROTECTION PENETRATION SEALS, AN OPEN HOLE WAS FOUND PENETRATING THE FLOOR OF THE SERVICE WATER PUMP ROOM ALONG THE WEST WALL LOCATED IN THE CRIB HOUSE. THE HOLE WAS ORIGINALLY MADE TO ACCOMMODATE A CABLE TRAY RISER. RECLOSED. THE HOLE WAS OVERLOOKED DURING PREVIOUS PERIODIC TEST (PT 207 'SURVEILLANCE OF PENETRATION FIRE BARRIERS'). UPON DISCOVERY OF THE HOLE, THE PROPER PERSONNEL WERE INFORMED AND A FIRE WATCH WAS INITIATED. ELECTRICAL MAINTENANCE FILLED THE HOLE WITH FIRE STOP MATERIAL, AND THE REPAIR WAS COMPLETED AT 1400 HOURS ON 5-30-86. NO FURTHER CORRECTIVE ACTION IS NECESSARY.
Zion 1	07/08/1986	08/07/1986	INOPERABLE FIRE BARRIER Abstract: POWER LEVEL - 095%. ON 7-8-86, DURING AN INSPECTION CONDUCTED BY THE QUALITY ASSURANCE DEPARTMENT REGARDING FIRE PROTECTION PENETRATION SEALS, 2 OPEN HOLES WERE FOUND IN THE SERVICE WATER PUMP ROOM LOCATED IN THE CRIB HOUSE. ONE HOLE SURROUNDED THE DIESEL OIL DAY TANK VENT PIPE ON THE CEILING AND ANOTHER WAS A HOLE SURROUNDING AIR LINE PIPING THROUGH THE EAST WALL. THE HOLES WERE OVERLOOKED DURING PREVIOUS PERIODIC TEST (PT-207 'SURVEILLANCE OF PENETRATION FIRE BARRIERS'). UPON DISCOVERY OF THE HOLES, THE PROPER PERSONNEL WERE INFORMED AND A FIRE WATCH WAS INITIATED. THE HOLES WERE FILLED WITH FIRE STOP MATERIAL, AND REPAIR COMPLETED. NO FURTHER CORRECTIVE ACTION IS NECESSARY.
Zion 1	08/25/1986	09/24/1986	NON-FIRE RETARDANT MATERIAL FOUND IN FIRE BARRIERS Abstract: POWER LEVEL - 056%. ON 8-25-86 WITH BOTH UNITS AT POWER SEVERAL FIRE BARRIERS WERE FOUND TO BE NONFUNCTIONAL DUE TO THE PRESENCE OF A NON-FIRE RETARDANT MATERIAL FILLING THE CONSTRUCTION GAPS AT THE TOP OF THE BARRIERS. ZION TECH SPEC 3.21.6.A STATES THAT ALL PENETRATION FIRE BARRIERS PROTECTING SAFETY RELATED AREAS SHALL BE FUNCTIONAL AT ALL TIMES. CONTINUOUS FIRE WATCHES WERE POSTED AS REQUIRED BY TECH SPEC 3.21.6.B, AND AN INSPECTION IS BEING CONDUCTED TO LOCATE OTHER AREAS WHERE THIS PROBLEM EXISTS. THE NON-FIRE RETARDANT MATERIAL IS BEING ENCAPSULATED WITH AN ACCEPTABLE SUBSTITUTE. THE CONSTRUCTION GAPS ARE THERE TO PREVENT NON-LOAD BEARING WALLS FROM EXPERIENCING STRUCTURAL STRESSES. THE FILLER MATERIAL WAS ADDED DURING ORIGINAL CONSTRUCTION TO SERVE AS AN AIR BARRIER FOR HVAC CONSIDERATIONS.
Zion 1	09/29/1986	10/29/1986	Technical Specification Fire Watch Not Posted Due to Personnel Error Abstract: POWER LEVEL - 000%. ON SEPTEMBER 29, 1986 UNIT 1 WAS IN COLD SHUTDOWN AND UNIT 2 WAS AT FULL POWER. TO INOPERABLE FIRE BARRIERS IN THE CABLE SPREADING ROOMS FOR BOTH UNITS. THE FIRE WATCH HAS BEEN IN EFFECT SINCE AUGUST 25, 1986. AT 0700 ON SEPTEMBER 29, THE STATIONMAN FOREMAN FAILED TO ASSIGN A WORKER TO THE FIRE WATCH FOR DAY SHIFT. AT 0900, THE LICENSED SHIFT CONTROL ROOM ENGINEER NOTICED THAT HE HAD NOT YET RECEIVED THE HOURLY PHONE CALL FROM THE WORKER ON FIRE WATCH, AS REQUIRED BY PROCEDURE. HE NOTIFIED THE STATIONMAN FOREMAN, WHO PROMPTLY ASSIGNED A WORKER TO THE FIRE WATCH. SAFETY SIGNIFICANCE WAS MINIMAL BECAUSE OF THE SHORT TIME PERIOD (2 HOURS) THAT THE WATCH WAS MISSED, AND BECAUSE THESE ROOMS HAVE FIRE DETECTION AND FIRE SUPPRESSION SYSTEMS. ROOT CAUSE WAS OVERSIGHT BY THE STATIONMAN FOREMAN, WHO WAS RESPONSIBLE FOR ASSIGNING A WORKER TO THIS WATCH. ALL STATIONMAN FOREMEN WERE SPOKEN TO REGARDING THIS EVENT. THERE ARE NO PREVIOUS OCCURRENCES.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Zion 1	01/12/1989	10/16/1989	OBN Service Water Area Vent Fan Aircraft Crash Damper Found Failed Open Due to Faulty Valve Abstract: POWER LEVEL - 060%. ON 12/19/88 AT 2100 HOURS WITH UNIT 1 AT 60% POWER, AN OPERATING DEPARTMENT B-MAN ON HIS SHIFTLY ROUNDS NOTICED THE OBN SERVICE WATER AREA VENT FAN (UA) AIRCRAFT CRASH DAMPER WAS OPEN WITH THE FAN OFF. A SHIFT FOREMAN WAS NOTIFIED AND, AFTER SEVERAL UNSUCCESSFUL ATTEMPTS TO CLOSE THE DAMPER, A WORK REQUEST (#Z-76749) WAS ISSUED TO THE MECHANICAL MAINTENANCE (MM) DEPARTMENT TO REPAIR AND CLOSE THE DAMPER. THE SHIFT CONTROL ROOM ENGINEER (SCRE) THEN STARTED AN HOURLY FIREWATCH FOR AN INOPERABLE FIRE BARRIER. THE TECH SPECS REQUIRE THE DAMPER TO BE OPERABLE OR TO BE IN ITS ACCIDENT POSITION. THE DAMPER WAS NOT CLOSED UNTIL TWO DAYS LATER. THERE WAS MINIMAL SAFETY SIGNIFICANCE DUE TO THIS INCIDENT DUE TO THE SHORT TIME THE DAMPER WAS OPEN. THE APPARENT CAUSE WAS A STICKING CONTROL AIR VALVE THAT DID NOT RECLOSE THE DAMPER FOLLOWING A PLANNED BRIEF BUS OUTAGE. THE VALVE WAS REPLACED AND THE DAMPER RETURNED TO NORMAL SERVICE.
Zion 1	03/17/1989	04/14/1989	Failure to Post a Fire Watch Within One Hour Abstract: POWER LEVEL - 098%. ON 3/17/89 AT 1345 HOURS, A FIRE DOOR WAS DECLARED INOPERABLE. A CONTINUOUS FIRE WATCH WAS REQUIRED TO BE ESTABLISHED WITHIN ONE HOUR BY TECH SPEC 3.21.6. THE FIRE WATCH WAS ESTABLISHED IN ONE HOUR AND TEN MINUTES AT 1455 HOURS. THE APPARENT CAUSE OF THE EVENT WAS THE FAILURE OF THE SHIFT ENGINEER TO OBTAIN PERSONNEL FOR A FIRE WATCH. THE SAFETY SIGNIFICANCE WAS MINIMAL BECAUSE THE FIRE WATCH WAS ESTABLISHED ONLY TEN MINUTES BEYOND TECH SPEC 3.21.6 REQUIREMENTS. A CONTINUOUS FIRE WATCH WAS POSTED AT 1455 HOURS UNTIL THE DOOR WAS REPAIRED. A STATION DIRECTIVE WILL BE ISSUED WHICH OUTLINES THE DIRECTIONS AND RESPONSIBILITIES REGARDING MANPOWER WHEN ESTABLISHING A FIRE WATCH.
Zion 1	09/12/1989	10/12/1989	Fire Doors to Cable Spreading Rooms Found Open Without a Firewatch Due to Personnel Error. Abstract: POWER LEVEL - 000%. ON 9/12/89 AT 1115 HOURS, AN OPERATOR FOUND THE UNIT 1 INNER CABLE SPREADING ROOM FIRE DOOR PROPPED OPEN AND THE U-1 OUTER CABLE SPREADING ROOM FIRE DOOR AJAR WITHOUT A FIRE WATCH PRESENT. THE DOORS WERE CLOSED AND LOCKED UPON DISCOVERY. IT WAS DETERMINED THAT CONTRACTORS WORKING IN THE AREA HAD OPENED THE DOORS TO FACILITATE INSTALLATION OF CABLES. THE UNIT WAS IN MODE 5, COLD SHUTDOWN, AT THE START OF A REFUELING OUTAGE. THE SAFETY SIGNIFICANCE WAS MINIMAL BECAUSE THE UNIT WAS IN COLD SHUTDOWN AND THE FIRE DETECTORS IN BOTH CABLE SPREADING ROOMS WERE OPERABLE. THE HALON AND CARDOX SYSTEMS WERE ALSO OPERABLE THROUGHOUT THE EVENT. CONTRACTOR PERSONNEL AT THE FOREMAN AND CRAFT LEVEL ARE INSTRUCTED ON THE REQUIREMENTS AND ACTIONS NECESSARY TO BLOCK OPEN A FIRE DOOR IN A NEW PROGRAM CALLED NON-STATION PERSONNEL ORIENTATION. ENGINEERING AND CONSTRUCTION DEPARTMENT PROVIDES THE TRAINING.
Zion 1	10/23/1989	11/22/1989	Missed Hourly Fire Watches on Unit 1 Volume Control Tank Room Fire Barrier Due to Personnel Error Abstract: POWER LEVEL - 000%. ON 7/21/89, PERFORMANCE TEST (PT)-207B, WHICH IS THE 18 MONTH SURVEILLANCE OF VARIOUS FIRE BARRIERS IN THE AUX. BLDG, WAS NOT ACCOMPLISHED IN THE UNIT 1 VOLUME CONTROL TANK (VCT) ROOM BECAUSE OF HIGH RADIATION LEVELS. PT-14 # 89-1-285 WAS INSTITUTED TO TRACK THIS FACT. THIS SURVEILLANCE (PT-207B) WAS PERFORMED ON 10/15/89, AND PT-14 #89-1-285 WAS CLOSED OUT ON 10/10/89. AN ENTRY WAS MADE TO THIS EFFECT AT 1300 IN THE SHIFT ENGINEERS' LOG BOOK. DURING THE PERFORMANCE OF PT-207B ON 10/16/89, A DEGRADED FIRE BARRIER WAS FOUND IN THE VCT ROOM. THIS DEGRADED CONDITION REQUIRES AN HOURLY FIRE WATCH, WHICH WAS INSTITUTED IMMEDIATELY. THIS FIREWATCH REQUIREMENT WAS DOCUMENTED IN PT-14 #89-1-415. ON 10/21/89, AT 0615, THE SHIFT CONTROL ROOM ENGINEER (SCRE) MISTAKENLY SECURED THE FIREWATCH FOR THE VCT ROOM, DUE TO THE FACT THAT PT-14 #89-1-285 HAD BEEN CLOSED, NOT REALIZING THAT PT-14 #89-1-415 WAS THE ACTUAL MECHANISM BEING USED TO TRACK THE FIREWATCH. THE SAME SCRE DISCOVERED THE MISTAKE ON 10/23/89 AT 0300. THE FIREWATCH WAS RESTARTED IMMEDIATELY. CAUSE OF THE EVENT IS PERSONNEL ERROR IN THAT THE SCRE DID NOT ADEQUATELY REVIEW THE PT-14 LOG PRIOR TO SECURING THE FIREWATCH. THE UNIT WAS DEFUELED, AND THUS THE CHARGING SYSTEM WAS NOT
Zion 1	02/21/1997	03/02/1998	Supplement to Unapproved Mode Change with Technical Specification Required Equipment Inoperable. Abstract: During a Technical Specification (TS) required plant shutdown, a reactor operator attempted to reduce power to the Point of Adding Heat (POAH) by continuously inserting the control rods until the power level specified in-the shutdown procedure was reached. When the operator stopped rod insertion, power continued to decrease below the POAH. This resulted in a mode change to Mode 3 -(Hot Shutdown TS Definition is K/K). The operator then withdrew rods approximately 80 steps over the next two minutes in an attempt to correct the subsequent power under shoot and resulted in an unapproved Mode change. The core remained subcritical by about -0.48-06 DELTA K/K as a result of the final rod moves prior to a manual scram being inserted. This supplement to LER 97-005 contains 1) The final root causes of this event supplied from an Independent Investigation. 2) Identification of all equipment inoperable at the time of the event. 3) A Safety Analysis for the inoperable equipment at the time of the event. 4) A detailed Reactivity Event Safety Analysis supplied from the Independent Investigation. 5) Long term corrective actions based on the results of the Corporate Investigation.
Zion 1, Zion 2	12/10/1987	01/08/1988	Degraded Fire Retardant Material in Penetration Fire Barrier due to Thermal Expansion Abstract: POWER LEVEL - 099%. DURING THE PERFORMANCE OF THE 18 MONTH PERIODIC TEST PT-207 ON PENETRATION FIRE BARRIERS, THE STATION FIRE MARSHALL DISCOVERED THAT LIGHT WAS VISIBLE THROUGH A ONE INCH EXPANSION GAP WHERE THE VERTICAL PIPE CHASE WALL ABUTS THE CONTAINMENT WALL. THIS GAP HAD BEEN FILLED WITH STYROFOAM AND COVERED WITH FLAMASTIC, WHICH IS AN ACCEPTABLE FIRE BARRIER ONLY IF NO LIGHT IS VISIBLE THROUGH THE PENETRATION. AN ENGINEERING ANALYSIS CONCLUDED THAT THE BARRIER WAS INOPERABLE PER THE PLANT'S TECH SPECS, BUT THAT THERE WAS NO ADVERSE IMPACT ON SAFE SHUTDOWN CAPABILITY. THIS CONCLUSION WAS BASED ON THE LACK OF SAFETY RELATED EQUIPMENT ON EITHER SIDE OF THE AFFECTED WALLS, AND ON THE LOW COMBUSTIBLE LOADING IN THE AREA. AN ENGINEERING INSPECTION HAD PREVIOUSLY IDENTIFIED THE USE OF STYROFOAM TO FILL THIS PENETRATION FIRE BARRIER, BUT THE BARRIER WAS CONSIDERED OPERABLE DUE TO THE GOOD CONDITION OF THE FLAMASTIC COVERING THE STYROFOAM. COLD TEMPERATURES DURING THE DECEMBER 1987 INSPECTION CAUSED THERMAL CONTRACTION OF THE ADJACENT WALLS, SUFFICIENT TO DEGRADE THE BARRIER SO THAT LIGHT WAS VISIBLE THROUGH THE PENETRATION. CORRECTIVE ACTIONS INCLUDE AN HOURLY FIRE WATCH AND SCHEDULED REPLACEMENT OF THE BARRIER WITH
Zion 1, Zion 2	12/14/1989	01/15/1990	Missed Firewatch in Crib House Service Water Pump Area Abstract: POWER LEVEL - 000%. ON 12/14/89, A SECURITY OFFICER FAILED TO PERFORM THE 2400 FIREWATCH SURVEILLANCE ON THE SERVICE WATER PUMP AREA OF THE CRIB HOUSE. ONE HOUR AND FIFTY MINUTES ELAPSED BETWEEN FIRE WATCHES. THE CAUSE OF THE EVENT WAS A MISUNDERSTANDING BETWEEN THE OFFGOING AND ONCOMING SECURITY OFFICERS. THE ONCOMING SECURITY OFFICER THOUGHT THAT THE OFFGOING SECURITY OFFICER HAD PERFORMED THE FIREWATCH, AND ALSO MISREAD THE LOG, THINKING THAT THE 2300 ENTRY WAS THE 2400 ENTRY. THERE WAS NO SAFETY SIGNIFICANCE BECAUSE THE AREA WAS MONITORED AT ALL TIMES BY FIRE DETECTORS THAT WOULD ALARM IN THE CONTROL ROOM. THE EMPLOYEE WAS COUNSELLED, AND DISCIPLINARY ACTION WAS TAKEN. THIS EVENT WILL BE REVIEWED WITH ALL PERSONNEL ASSIGNED TO FIREWATCHES. FOR LONGTERM CORRECTIVE ACTION, A FULL TIME FIREWATCH FORCE HAS BEEN ESTABLISHED.
Zion 1, Zion 2	04/23/1992	05/26/1992	Missed Fire Watch on the Residual Heat Removal Heat Exchanger Room Door that was Propped Open Abstract: POWER LEVEL - 000%. A TEMPORARY RADIOLOGICAL (R)-KEY DOOR AND ENCLOSURE WAS CONSTRUCTED BY THE ENGINEERING AND NUCLEAR CONSTRUCTION (ENC) DEPARTMENT FOR THE 1A RESIDUAL HEAT REMOVAL (RHR) (BP) HEAT EXCHANGER (HX) ROOM TO ALLOW AN OPENING FOR HOSES THAT WERE REQUIRED FOR MODIFICATION WORK. THE ENCLOSURE WAS CONSTRUCTED AT THE END OF 2/92 BUT IT WAS NOT REALIZED THAT AN HOURLY FIRE WATCH WAS REQUIRED ON THIS DOOR UNTIL 4/23/92. THIS EVENT WAS CAUSED BY A PERSONNEL ERROR ON THE PART OF THE ENC SUPERVISORS WHO DID NOT CONTACT THE FIRE MARSHALL OR COMPLETE A ZION ADMINISTRATIVE PROCEDURE (ZAP)-04, STATION FIRE PROTECTION, APPENDIX H, FIRE PROTECTION IMPAIRMENT PERMIT, FOR THE PROPPED OPEN RHR HX ROOM DOOR EVEN THOUGH A SIGN ON THE DOOR CLEARLY INDICATES THAT THE DOOR IS A FIRE BARRIER. THE SAFETY SIGNIFICANCE OF THE EVENT WAS MINIMIZED SINCE THE UNIT AT THE TIME OF THIS INCIDENT WAS IN A REFUELING OUTAGE AND THE CORE WAS UNLOADED. CORRECTIVE ACTIONS INCLUDED COUNSELING ALL OF THE ENC SUPERVISORS, REVIEWING THE EVENT WITH ALL ENC AND STATION PERSONNEL, AND REVIEWING MAINTENANCE PROCEDURES TO DETERMINE THE BEST METHOD FOR INCORPORATING INSTRUCTIONS FOR CONSTRUCTING TEMPORARY ENCLOSURES UNDER BLANKET WORK REQUESTS.

Attachment 1
Licensee Event Reports About Inadequate Fire Watches or Fire Protection Violations Resulting in Fire Watches as Compensatory Measures
1980-2016

Zion 1, Zion 2	07/02/1994	09/18/1997	Unit 1 Reactor Trip Due to a Generator/Bus Duct Fire Abstract: On July 2, 1994, at approximately 1144 hours, a firewatch contacted the control room and reported smoke on the Unit 1 turbine deck between the generator and the exciter. The Shift Engineer confirmed that all three bus duct phases were on fire and the Station fire alarm was initiated. A unit shutdown of 5% per minute was initiated. At approximately 1152 hours the fire brigade had completed discharging portable CO sub 2 units on the fire and was in the process of discharging the first dry chemical unit on the fire when the Unit 1 Reactor tripped. The control room entered Emergency Operating Procedure E-0, "Reactor Trip or Safety Injection". All systems functioned as designed and no abnormalities were noted in responding to the reactor trip other than control rod M-8 did not indicate fully inserted. The cause of the reactor trip most likely was due to ionization of the dry chemical from fire fighting efforts resulting in a main generator neutral ground trip. The cause of the bus duct fire was most likely inadequate design and vendor recommendations which did not ensure a sufficient connection during operation. The bus duct jumper cable connections, as designed, use threaded stainless steel inserts into the aluminum bus duct. Some of these connections loosened, apparently from the vibration and temperature changes of
Zion 1, Zion 2	07/14/1994	08/12/1994	Violation of the 10CFR50 Appendix R Analysis Separation Criteria in Fire Zone 18.6.A-1 Abstract: On July 14, 1994 while preparing Exempt Change (EC), No. E22-0-93-255 (Work Request Z32800) to replace Thermo-Lag fire wrap with an approved material for a conduit in Fire Zone 18.6.A-1, it was discovered that an adjacent conduit, which is not fire wrapped, or part of the EC scope, created a discrepancy in the 10CFR50, Appendix R analysis currently on record. This discovery indicates that a failure scenario exists that could render the 0 Emergency Diesel Generator (EDG) inoperable for both units, and disable both the 1A and 1B centrifugal charging pumps. This means that the necessary equipment for reaching hot shutdown would not be available in the event of a fire in Zone 18.6.A-1, concurrent with a loss of offsite power. The cause of this event is management deficiency. The engineering review that was performed for the original 10CFR50, Appendix R analysis did not realize that the 1B Cent. Charging Pump could be affected by a Unit 2 cable. The corrective actions include verifying that the existing continuous fire watch was still in place, and ensuring that no other 10CFR50, Appendix R discrepancies on common unit cables for the 0 EDG existed.
Zion 1, Zion 2	02/03/1995	03/03/1995	Inadequacy of the Emergency Diesel Generator (EDG) Room Ventilation Fan Control Circuits for 10CR50 Appendix R Compliance Abstract: On 02/03/95 based on the results of an Engineering Evaluation that was done on the lack of isolation switches for the Emergency Diesel Generator (EDG) [EK] ventilation fans, it was determined that the 10CFR50 Appendix R analysis does not consider inoperability of the EDG ventilation fans affecting the operability of the EDGs. The cause of this event is management deficiency. Zion Station failed to consider the EDG room ventilation fans as required equipment in the Safe Shutdown Analysis and subsequently did not analyze the associated cables for applicability for 10CFR50 Appendix R. Corrective actions include: 1) identifying the Unit 1 and Unit 2 fire zones where a fire could disable the EDG room ventilation fans associated with EDGs required for establishing and maintaining both hot and cold shutdown, 2) establishing appropriate fire watches in those zones. 3) determining a final solution to meet the hot and cold shutdown requirements of Appendix R, and 4) adding the EDG room ventilation fans and associated cables to the Safe Shutdown Analysis.
Zion 2	10/04/1986	11/03/1986	Non-Functional Fire Barrier Without Fire Watch Abstract: POWER LEVEL - 099%. WHILE PERFORMING A ROUTINE FIRE BARRIER INSPECTION ON 10/06/86 AT 08:40 A 1X2 FOOT HOLE WAS DISCOVERED IN THE WALL BETWEEN THE 2A AND 2B CHARGING PUMP ROOMS. NO FIRE WATCH HAD BEEN POSTED ON THIS FIRE BARRIER SINCE 19:00 ON 10/04/86, IN VIOLATION OF TECH SPEC 3.21.6.B. THE HOLE WAS PUT IN THE WALL FOR THE INSTALLATION OF A FIRE DAMPER BY STATION CONSTRUCTION DEPARTMENT AS PART OF MODIFICATION #M22-2-80-29. PRIOR TO 19:00 ON 10/04/86, A FIRE WATCH WAS ALREADY IN EFFECT DUE TO OTHER CONTRACTOR WORK IN THAT AREA, AND A REDUNDANT FIRE WATCH WAS JUDGED UNNECESSARY. THAT FIRE WATCH WAS CANCELLED ON COMPLETION OF THE WORK. THE SHIFT SUPERVISOR DID NOT VERIFY OPERABILITY OF THE FIRE BARRIER BEFORE CANCELLING THE FIRE WATCH, AND STATION CONSTRUCTION DEPARTMENT PERSONNEL FAILED TO FOLLOW STATION PROCEDURES WHICH REQUIRE POSTING A FIRE WATCH WHENEVER A SAFETY-RELATED FIRE BARRIER IS NON-FUNCTIONAL. TO PREVENT RECURRENCE OF THIS EVENT, STATION CONSTRUCTION PERSONNEL WERE RETRAINED ON THE STATION PROCEDURES PERTAINING TO SAFETY-RELATED FIRE BARRIERS. OPERATING AND QUALITY CONTROL PERSONNEL WILL RECEIVE TRAINING ON INSPECTION OF FIRE BARRIERS FOR OPERABILITY, AND THE STATION ADMINISTRATIVE PROCEDURE ON FIRE PROTECTION WILL BE REVISED.
Zion 2	10/17/1990	12/09/1990	Violation of Tech Spec Action Statement Due to Personnel Error Abstract: POWER LEVEL - 000%. ON 10/17/90, DURING TSSP-96-89 (DAMPER DROP TEST) A FIRE DAMPER WAS FOUND INOPERABLE AND REQUIRED COMPLIANCE WITH TECH SPEC SECTION 3.21.6.B. THE ACTION STATEMENT TO THIS TECH SPEC HAD TWO PARTS AND COMPLIANCE WITH EITHER DEPENDED ON THE EXISTENCE OR/NON-EXISTENCE OF FIRE DETECTION MEANS IN THE AREA THE DAMPER WAS TO ISOLATE. THE ENGINEER PERFORMING THE TEST WAS IN A DIFFERENT ROOM WHEN REPORTING THE EXISTENCE OF A DETECTION LOOP. CONSEQUENTLY, A ONE HOUR INSPECTION WAS INITIATED INSTEAD OF THE REQUIRED CONTINUOUS FIRE WATCH. THE SAFETY SIGNIFICANCE OF THE INOPERABLE DAMPER WAS MINIMAL BECAUSE SYSTEM DESIGN WOULD HAVE INHIBITED ANY SPREAD OF A FIRE STARTING IN THE ROOM. CORRECTIVE ACTIONS INCLUDE STRESSING THE IMPORTANCE OF VERIFICATION AND A CONFIRMATORY APPROACH TO BE TAKEN WHILE PERFORMING YOUR JOB.
Zion 2, Zion 1	07/10/1992	08/10/1992	Failure to Provide One-hour Fire Barrier per Appendix R Abstract: POWER LEVEL - 089%. NRC IE Information Bulletin 92-01, 'Failure of Thermo-Lag 330 Fire Barrier System to Maintain Cabling in Wide Cable Trays and Small Conduits Free from Fire Damage', required that a walkdown be performed to locate all installations of Thermo-Lag 330. This walkdown determined that the wide range T sub H cables for Reactor Coolant System [AB] loops A and D were not wrapped with the one-hour fire protective wrap. The cause of this event was management deficiency due to an inadequate modification process. This modification was installed prior to the modification process being changed. The safety significance of this event is minimal since there was other control room indication to monitor natural circulation flow. Corrective actions included determining the appropriate fire wrap and installing it, reviewing other Appendix R modification to identify any other discrepancies, and establishing a one-hour fire watch to the affected fire areas. ZDVRLER-507(2)