



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

March 19, 2009

Mr. Charles G. Pardee
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO), Exelon Nuclear
4300 Winfield Road
Warrenville IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2, TRIENNIAL FIRE
PROTECTION INSPECTION REPORT 05000456/2009006;
05000457/2009006

Dear Mr. Pardee:

On March 6, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Braidwood Station, Units 1 and 2. The enclosed report documents the inspection results, which were discussed on March 6, 2009, with Mr. D. Gullott and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, two NRC-identified findings of very low safety significance were identified. The findings involved a violation of NRC requirements. However, because of their very low safety significance, and because the issues were entered into your corrective action program, the NRC is treating the issues as Non-Cited Violations (NCVs) in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest the subject or severity of a NCV or a finding, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Braidwood Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any), will be available electronically for public

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Sincerely,

/RA/

Robert C. Daley, Chief
Engineering Branch 3
Division of Reactor Safety

Docket Nos. 50-456; 50-457
License Nos. NPF-72; NPF-77

Enclosure: Inspection Report 05000456/2009006; 05000457/2009006
w/Attachment: Supplemental Information

cc w/encl: Site Vice President - Braidwood Station
Plant Manager - Braidwood Station
Manager Regulatory Assurance - Braidwood Station
Chief Operating Officer and Senior Vice President
Senior Vice President - Midwest Operations
Senior Vice President - Operations Support
Vice President - Licensing and Regulatory Affairs
Director - Licensing and Regulatory Affairs
Manager Licensing - Braidwood, Byron and LaSalle
Associate General Counsel
Document Control Desk - Licensing
Assistant Attorney General
J. Klinger, State Liaison Officer,
Illinois Emergency Management Agency
Chairman, Illinois Commerce Commission

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Letter to Mr. Charles Pardee from Mr. Robert Daley dated March 19, 2009.

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2, TRIENNIAL FIRE PROTECTION
INSPECTION REPORT 05000456/2009006; 05000457/2009006

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-456; 50-457

License Nos: NPF-72; NPF-77

Report Nos: 05000456/2009006; 05000457/2009006

Licensee: Exelon Generation Company, LLC

Facility: Braidwood Station, Units 1 and 2

Location: Braceville, IL

Dates: January 26, 2009 through March 6, 2009

Inspectors: R. Langstaff, Lead Inspector, Senior Reactor Inspector
M. Munir, Reactor Inspector
R. Winter, Reactor Inspector

Observer L. Jones, Reactor Inspector

Approved by: R. Daley, Chief
Engineering Branch 3
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000456/2009006, 05000457/2009006; 01/26/2009 – 03/06/2009; Braidwood Station, Units 1 and 2; Routine Triennial Fire Protection Baseline Inspection.

This report covers an announced triennial fire protection baseline inspection. The inspection was conducted by Region III inspectors. Two Green findings were identified by the inspectors. One finding was considered a Non-Cited Violation (NCV) of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. A finding of very low safety significance and associated NCV of License Condition 2.E was identified by the inspectors for the licensee's failure to promptly correct an item adverse to quality. Specifically, although there was evidence of leakage from the diaphragm for the foam concentrate tank for the 2A and 2B diesel oil storage tank room fire suppression systems which could adversely affect suppression capability, the licensee failed to thoroughly evaluate the problem and promptly take corrective action. The licensee subsequently entered the issue into their corrective action program, declared the systems inoperable, and planned to replace the diaphragm.

The finding was determined to be more than minor because the evidence of leakage resulted in reasonable doubt with respect to the functionality of the foam suppression systems. The issue was of very low safety significance because a fire involving a diesel oil storage tank room would only affect the associated emergency diesel generator and no other equipment would be affected. (Section 1R05.4.b(1))

- Green. A finding of very low safety significance was identified by the inspectors for the failure to perform a validation of added safe shutdown manual actions. The failure to perform a validation resulted in less than adequate emergency lighting for the safe shutdown manual actions. The licensee subsequently entered the issue into their corrective action program and planned to relocate existing emergency lighting to provide adequate lighting at panel 1DC13J.

The finding was determined to be more than minor because the failure to validate the safe shutdown manual actions adversely resulted in less than adequate emergency lighting for the actions. The less than adequate emergency lighting affected the reliability associated with performance of the manual action. The issue was of very low safety significance because the finding represented a low degradation because portable lighting was available. (Section 1R05.8.b(1))

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Initiating Events and Mitigating Systems

1R05 Fire Protection (71111.05T)

The purpose of the fire protection triennial baseline inspection was to conduct a design-based, plant specific, risk-informed, onsite inspection of the licensee's fire protection program's defense-in-depth elements used to mitigate the consequences of a fire. The fire protection program shall extend the concept of defense-in-depth to fire protection in plant areas important to safety by:

- preventing fires from starting;
- rapidly detecting, controlling and extinguishing fires that do occur; and
- providing protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by fire suppression activities will not prevent the safe shutdown of the reactor plant.

The inspectors' evaluation focused on the design, operational status, and material condition of the reactor plant's fire protection program and post-fire safe shutdown systems. The objectives of the inspection were to assess whether the licensee had implemented a fire protection program that: (1) provided adequate controls for combustibles and ignition sources inside the plant; (2) provided adequate fire detection and suppression capability; (3) maintained passive fire protection features in good material condition; (4) established adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems or features; (5) ensured that procedures, equipment, fire barriers and systems exist so that the post-fire capability to safely shut down the plant was ensured; (6) included feasible and reliable operator manual actions when appropriate to achieve safe shutdown; and (7) identified fire protection issues at an appropriate threshold and ensured these issues were entered into the licensee's problem identification and resolution program.

In addition, the inspectors' review and assessment focused on the licensee's post-fire safe shutdown systems for selected risk-significant fire areas. Inspector emphasis was placed on determining that the post-fire safe shutdown capability and the fire protection features were maintained free of fire damage to ensure that at least one post-fire safe shutdown success path was available. The inspection was performed in accordance with U. S. Nuclear Regulatory Commission (NRC) Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)," dated April 21, 2006. The NRC regulatory oversight process IP used a risk-informed approach for selecting the fire areas and/or fire zones and attributes to be inspected. The inspectors with assistance from a senior reactor analyst used the licensee's Individual Plant Examination for External Events to select several risk-significant areas for detailed inspection and review. Documents reviewed are listed in the Attachment to this report.

The fire areas and/or fire zones selected for review during this inspection are listed below and constituted three inspection samples as defined in IP 71111.05T. Due to the extensive number of operator manual actions required for Fire Zone 3.2A-1 and Fire Zone 11.3-0, the inspectors considered the areas selected to satisfy the IP 71111.05T requirement to inspect alternative safe shutdown capability even though the licensee did not classify these fire zones as alternative shutdown areas.

<u>Fire Zone</u>	<u>Description</u>
3.2A-1	Unit 1 Non-Segregated Bus Duct Area
10.1-2	Diesel-Fuel Oil Storage Room 2B
11.3-0	Auxiliary Building, General Area, Elevation 364 feet - 0 inches

.1 Shutdown from Outside Main Control Room

a. Inspection Scope

The inspectors reviewed the functional requirements identified by the licensee as necessary for achieving and maintaining hot shutdown conditions to ensure that at least one post-fire safe shutdown success path was available in the event of fire in each of the selected fire areas. The inspectors reviewed the plant systems required to achieve and maintain post-fire safe shutdown to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for each fire area selected for review. Specifically, the review was performed to determine the adequacy of the systems selected for reactivity control, reactor coolant inventory makeup, reactor heat removal, process monitoring, and support system functions. The review also included the fire safe shutdown analysis to ensure that all required components in the selected systems were included in the licensee's safe shutdown analysis.

The inspectors reviewed the licensee's post-fire safe shutdown analysis, normal and abnormal operating procedures, piping and instrumentation drawings, electrical drawings, their updated final safety analysis report, and other supporting documents to verify that hot and cold shutdown could be achieved and maintained. This review included verification that shutdown could be performed both with and without the availability of offsite power.

The inspectors also examined the operators' ability to perform the necessary manual actions for achieving safe shutdown by reviewing post-fire shutdown procedures, the accessibility of safe shutdown equipment, and the available time for performing the actions.

The inspectors reviewed the updated final safety analysis report and the licensee's engineering and/or licensing justifications (e.g., NRC guidance documents, license amendments, Technical Specifications, safety evaluation reports (SERs), exemptions, and deviations) to determine the licensing basis.

b. Findings

No findings of significance were identified.

.2 Protection of Safe Shutdown Capabilities

a. Inspection Scope

For each of the selected fire areas, the inspectors reviewed the fire hazards analysis, safe shutdown analysis, and supporting drawings and documentation to verify that safe shutdown capabilities were properly protected.

The inspectors reviewed the licensee procedures and programs for the control of ignition sources and transient combustibles to assess their effectiveness in preventing fires and in controlling combustible loading within limits established in the fire hazards analysis. The inspectors performed plant walkdowns to verify that protective features were being properly maintained and administrative controls were being implemented.

The inspectors also reviewed the licensee's design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the fire protection program and/or post-fire safe shutdown analysis and procedures.

b. Findings

No findings of significance were identified.

.3 Passive Fire Protection

a. Inspection Scope

For the selected fire areas, the inspectors evaluated the adequacy of fire area barriers, penetration seals, fire doors, electrical raceway fire barriers, and fire rated electrical cables. The inspectors observed the material condition and configuration of the installed barriers, seals, doors, and cables. In addition, the inspectors reviewed license documentation, such as NRC safety evaluation reports, and deviations from NRC regulations and the National Fire Protection Association codes to verify that fire protection features met license commitments.

The inspectors walked down accessible portions of the selected fire areas to observe material condition and the adequacy of design of fire area boundaries (including walls, fire doors, and fire dampers) to ensure they were appropriate for the fire hazards in the area.

b. Findings

No findings of significance were identified.

.4 Active Fire Protection

a. Inspection Scope

For the selected fire areas, the inspectors evaluated the adequacy of fire suppression and detection systems. The inspectors observed the material condition and configuration of the installed fire detection and suppression systems. The inspectors reviewed design documents and supporting calculations. In addition, the inspectors reviewed license basis documentation, such as NRC safety evaluation reports, deviations from NRC regulations, and the National Fire Protection Association (NFPA) codes to verify that fire suppression and detection systems met license commitments.

b. Findings

(1) Failure to Take Effective Corrective Actions to Maintain Capability of Foam Suppression Systems

Introduction: A finding of very low safety significance and associated Non-Cited Violation (NCV) of the Unit 2 License Condition 2.E was identified by the inspectors for the licensee's failure to promptly correct an item adverse to quality. Specifically, although there was evidence of leakage from the diaphragm for the foam concentrate tank for the 2A and 2B diesel oil storage tank room fire suppression systems which could adversely affect suppression capability, the licensee failed to thoroughly evaluate the problem and promptly take corrective action.

Description: On January 28, 2009, the inspectors identified that dark colored foam concentrate was leaking from the waterside vent valve of the foam concentrate tank for the 2A and 2B diesel fuel oil storage tank room foam suppression systems. The presence of foam concentrate leakage from the vent valve indicated that there was a leak path through the diaphragm to the water portion of the tank. By design, the foam concentrate was to be physically separated from the water by the diaphragm. When initiated manually by opening a valve, fire protection water would enter the top of the tank and apply pressure against the diaphragm thereby forcing the foam concentrate out the bottom pipe. The foam concentrate would then be directed to a Tee-connection and through separate isolation valves toward either the 2A or 2B diesel oil storage tank rooms through a proportioning device where a controlled mixture of water would be injected to achieve a 3 percent concentration for suppression. Drawing M-603, Sheet 71, specified that a 3 percent foam concentrate be used for the system. A leak or a break in the diaphragm would allow water to enter the foam concentrate side of the tank thereby potentially diluting the foam concentrate and affecting the suppression capability.

Prior to the inspectors' identification of the foam concentrate leakage, the licensee had identified the leak on January 16, 2008. The licensee had entered the leak issue into their corrective action program under Action Request (AR) 722919, "U-2 D/G Foam Sys, Foam Tank Small Water Leak." At the time, licensee personnel characterized the leak as being less than one drop per minute and that the leak appeared to be water. However, AR 722919 also stated that the leak fell into a dark brown puddle less than 6 inches across which appeared to be leftover dried foam protein.

The licensee had placed the January 16, 2008, discovery of a leak into their corrective action program, but with a low priority. The recommended action at that time was to clean or replace the fitting with new pipe sealant. The leak had not been addressed at the time of this inspection. The inspectors considered the prior identification of a dark brown puddle to be indicative of foam concentrate leakage at the time of discovery in January 2008 albeit not as significant as the larger, liquid dark brown puddle identified during this inspection. The inspectors concluded that the licensee did not correctly evaluate the leakage condition in 2008 and, as a result, did not assign an appropriate corrective action and priority.

After the inspectors' discovery, the licensee initiated AR 00873203, "U2 DOST Foam Sys Conc Tank May Have a Ruptured Bladder," and declared the foam suppression systems for the 2A and 2B diesel oil storage tank rooms to be inoperable. The licensee determined that a leak in the diaphragm could dilute the foam concentrate thereby affecting suppression capability. As such, the inspectors concluded that there was a reasonable doubt with respect to the functionality of the foam suppression systems. The licensee planned to replace the diaphragm in the foam concentrate tank.

Analysis: The inspectors determined that the licensee's failure to promptly correct an item adverse to quality was contrary to the fire protection quality assurance commitments and was a performance deficiency. Specifically, although there was evidence of leakage from the diaphragm for the foam concentrate tank for the 2A and 2B diesel oil storage tank rooms which could adversely affect suppression capability, the licensee failed to thoroughly evaluate the problem and promptly take corrective action. The finding was determined to be more than minor because the failure to promptly correct an item adverse to quality was associated with the Mitigating System cornerstone attribute of Protection Against External Factors (Fire) and affected the cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the evidence of leakage resulted in a reasonable doubt with respect to the functionality of the foam suppression systems for the 2A and 2B diesel oil storage tank rooms.

The inspectors determined that the finding could be evaluated using the Significance Determination Process (SDP) in accordance with Inspection Manual Chapter (IMC) 0609, Appendix F, "Fire Protection Significance Determination Process." During the Phase 1 evaluation, the finding was assigned to finding category "Fixed Fire Protection Systems. Because there was reasonable doubt with respect to the functionality of the foam suppression systems, this finding was assigned a high degradation rating. However, the inspectors noted that a fire in either the 2A or 2B diesel oil storage tank rooms would only affect the associated emergency diesel generator. No other equipment would be affected. As such, the inspectors determined that a fire scenario involving a diesel oil storage tank room would be equivalent to a Fire Damage State (FDS) of FDS0 as described in Step 2.2, "Fire Damage State Determination," of IMC 0609, Appendix F. As discussed in Step 2.2, FDS0 scenarios are not analyzed in the fire protection SDP as a risk contributor. Consequently, this issue screened to Green. Therefore, the finding was determined to be of very low safety significance (Green).

The inspectors did not identify a cross-cutting aspect associated with this finding.

Enforcement: License Condition 2.E required the licensee to implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report, as supplemented and amended, and as approved in the SER dated November 1983 and its supplements. Section 9.5.1 of the Updated Final Safety Analysis Report (UFSAR) for Braidwood stated that the design bases, system descriptions, safety evaluation, inspection and testing requirements, personnel qualification, and training are described in the Fire Protection Report. The Fire Protection Report described the guidance for Branch Technical Position (BTP) CMEB 9.5-1, in part, under Section 3.4, Quality Assurance Program. In the Implementation or Justification for Noncompliance response column of Section 3.4, the licensee stated that the Quality Assurance Program applied to procurement, design, installation, modifications and maintenance activities involving fire protection systems. As such, each specific criteria listed as "a" through "j" under Section NRC Position are covered by the Quality Assurance Program and by Department and Station Procedures. Criteria "h" Corrective Action, in the Implementation or Justification for Noncompliance column stated that nonconforming equipment is identified and corrective action taken to rectify any deficiencies as provided by the Quality Assurance Program. The Quality Assurance Program was described in Topical Report NO-AA-10. Topical Report NO-AA-10, Chapter 16, "Corrective Action," Section 2.1 stated that the company implements a Corrective Action Program to promptly identify and correct items or occurrences that are adverse to quality or might adversely affect the safe operation of a nuclear generating station.

Contrary to the above, between January 16, 2008 and January 28, 2009, the foam suppression system for the 2A and 2B diesel oil storage tank rooms was potentially degraded and that the condition had not been promptly identified and corrected. Specifically, on January 16, 2008, there was evidence of leakage from the diaphragm for the foam concentrate tank that could adversely affect the suppression capability for the 2A and 2B diesel oil storage tank rooms. Because this violation was of very low safety significance and because it was entered into the licensee's corrective action program as AR 873203, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC enforcement policy. (NCV 05000456/2009006-01; 05000457/2009006-01)

(2) Diesel Oil Storage Tank Room Sprinkler Obstructions

Introduction: An Unresolved Item (URI) concerning obstructions for the foam-water sprinkler system installed in the 2B diesel oil storage tank room was identified.

Description: The inspectors identified significant obstructions to sprinkler discharge in the 2B diesel oil storage tank room. Two of the sprinklers were each located between two parallel ventilation ducts in the west portion of the room. The ventilation ducts were located approximately 39 inches apart where one of the sprinklers was located and 21 inches apart where the second sprinkler was located. The inspectors noted that the discharge from both sprinklers would be significantly obstructed by the ventilation ducts in two directions. In addition, one sprinkler, located in the northeast corner of the room, was located within a few inches of a ventilation duct thereby resulting in significantly obstructed discharge in one direction. All three sprinklers discussed above were less than one foot away from a ventilation duct with the deflectors located several inches above the bottom of the ventilation ducts. Also, a 60 × 75 inch platform was located in the northwest corner of the room which substantially obstructed discharge from sprinklers. No sprinkler was located underneath the platform.

The sprinkler system installed in the 2B diesel oil storage tank room was a foam-sprinkler system, which was required to meet the specifications of NFPA 16-1980, "Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Foam-Water Spray Systems." Section 4.2.1 of NFPA 16-1980 specified that foam-water sprinkler systems and foam-water spray systems conform to all applicable requirements listed NFPA standards except where otherwise specified. Section 4.2.1 of NFPA 16-1980 listed NFPA 13, "Sprinkler Systems," as one of the listed standards. Chapter 4 of the Fire Protection Report indicated that the licensee was committed to NFPA 13-1985 and NFPA 16-1980 for Braidwood. Section 4-2.4.6 of NFPA 13-1985 specified that deflectors of sprinklers in bays shall be at sufficient distances from the beams, as shown in NFPA 13-1985 Table 4-2.4.6 and NFPA 13-1985 Figure 4-2.4.6, to avoid obstruction to the sprinkler discharge pattern. NFPA 13-1985 Table 4-2.4.6 specified a maximum allowable distance of zero inches for deflectors for sprinklers having a distance of less than one foot from beams. The configuration of the three sprinklers discussed above was similar to that of the beams discussed in Section 4-2.4.6 of NFPA 13-1985, in that the ventilation ducts provided obstructions similar to structural beams. In addition, Section 4-4.11 of NFPA 13-1985 specified that to provide sprinklers underneath decks and galleries over four feet wide.

The inspectors and the licensee mutually agreed that it would be beneficial to seek a formal code interpretation from NFPA to resolve the issue. The licensee agreed to seek a formal NFPA interpretation of the following questions:

Question 1: Is it the intent of Section 7.3.1 of NFPA 16-2007 that applicable requirements from referenced standards be specifically identified as mandatory text within NFPA 16-2007?

Question 2: If the response to Question 1 is "No," then is it the intent of Section 7.3.1 of NFPA 16-2007 to invoke as a mandatory requirement all of the obstruction criteria described in NFPA 13-2007 specifically, NFPA 13-2007 Sections 8.5.5 and 8.6.5?

The inspectors noted that it was necessary to pose the question to NFPA based on current code requirements instead of the licensee's code of record as NFPA normally does not provide interpretations on historical codes. In addition, it was necessary to pose the questions in a form which could be answered "yes" or "no." The issue will be tracked as an Unresolved Item pending a formal interpretation from NFPA. (URI 05000256/2009006-02; 05000257/2009006-02)

.5 Protection from Damage from Fire Suppression Activities

a. Inspection Scope

For the selected fire areas, the inspectors verified that redundant trains of systems required for hot shutdown would not be subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems including the effects of flooding. The inspectors conducted walkdowns of each of the selected fire areas to assess conditions, such as, the adequacy and condition of floor drains, equipment Elevations, and spray protection.

b. Findings

No findings of significance were identified.

.6 Alternative Shutdown Capability

a. Inspection Scope

The inspectors reviewed the licensee's systems required to achieve alternative safe shutdown to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions. The inspectors also focused on the adequacy of the systems to perform reactor pressure control, reactivity control, reactor coolant makeup, decay heat removal, process monitoring, and support system functions.

The team conducted selected area walkdowns to determine if operators could reasonably be expected to perform the alternate safe shutdown procedure actions and that equipment labeling was consistent with the alternate safe shutdown procedure. The review also looked at operator training as well as consistency between the operations shutdown procedures and any associated administrative controls.

b. Findings

No findings of significance were identified.

.7 Circuit Analyses

a. Inspection Scope

The inspectors reviewed the licensee's post-fire safe shutdown analysis to verify that the licensee had identified both required and associated circuits that may impact safe shutdown. On a sample basis, the inspectors verified that the cables of equipment required for achieving and maintaining hot shutdown conditions, in the event of fire in the selected fire zones, had been properly identified. In addition, the inspectors verified that these cables had either been adequately protected from the potentially adverse effects of fire damage, mitigated with approved manual operator actions, or analyzed to show that fire-induced faults (e.g., hot shorts, open circuits, and shorts to ground) would not prevent safe shutdown. In order to accomplish this, the inspectors reviewed electrical schematics and cable routing data for power and control cables associated with each of the selected components.

In addition, on a sample basis, the adequacy of circuit protective coordination for the safe shutdown systems' electrical power and instrumentation busses were evaluated. Also, on a sample basis, a cable tray that contain both safe shutdown and non-safe shutdown cables was evaluated for proper circuit protection to ensure that cables are protected by a proper protective device in order to preclude common enclosure concerns.

b. Findings

No findings of significance were identified. See Section 4OA5.1 for further discussion.

.8 Communications

a. Inspection Scope

The inspectors reviewed, on a sample basis, the adequacy of the communication system to support plant personnel in the performance of alternative safe shutdown functions and fire brigade duties. The inspectors verified that plant telephones, page systems, sound powered phones, and radios were available for use and maintained in working order. The inspectors reviewed the electrical power supplies and cable routing for these systems to verify that either the telephones or the radios would remain functional following a fire.

b. Findings

No findings of significance were identified.

.9 Emergency Lighting

a. Inspection Scope

The inspectors performed a plant walkdown of selected areas in which a sample of operator actions would be performed in the performance of alternative safe shutdown functions. As part of the walkdowns, the inspectors focused on the existence of sufficient emergency lighting for access and egress to areas and for performing necessary equipment operations. The locations and positioning of the emergency lights were observed during the walkdown and during review of manual actions implemented for the selected fire areas.

b. Findings

(1) Failure to Perform Validation for Safe Shutdown Manual Actions

Introduction: A finding of very low safety significance was identified by the inspectors for the failure to perform a validation of added safe shutdown manual actions. The failure to perform a validation resulted in less than adequate emergency lighting for the safe shutdown manual actions.

Description: Procedure BwOP FP-100T27, "Fire Zones 3.2A-1 and -2, Unit 1/Unit 2, Nonsegregated Bus Duct Area, (Lower Cable Spreading Rooms), 1D-49, 1D-50, 1S-43, 2D-49, 2D-50, 2S-43," Revision 5, directed operators to remove fuses from panel 1DC13J to allow a pressurizer auxiliary spray valve to fail to the desired closed position. During a walkdown of the procedure, the inspectors noted that although an emergency lighting unit was placed on top of the panel facing away from it, there was no emergency lighting directed towards the panel. At the inspectors' request, the licensee conducted a lights out test so that emergency lighting for panel 1DC13J could be assessed. The inspectors noted that existing emergency lighting within the room was sufficient to allow locating panel 1DC13J. However, during the lights out test, individuals had to hold their faces within approximately one foot of the panel in order to read the labeling for individual fuses.

The inspectors noted that the level of illumination would be expected to degrade due to depletion of the batteries for the lights. As such, the inspectors determined that the lighting for manual actions to remove fuses from the panel was inadequate. The licensee initiated AR 873776, "FP Inspection-Adequacy of Illumination by ELB At 1DC13J," to take corrective actions. The licensee planned to relocate one of the existing lighting units to provide better illumination at panel 1DC13J.

As discussed in the licensee's Fire Protection Report, Section 3.5.g (1), the licensee committed to provide fixed self-contained lighting in all areas where manual operation was assumed by the safe shutdown analysis. Additionally, in the licensee's Fire Protection Report, Section A5.7.III.J, the licensee committed to provide eight-hour, battery powered emergency lights for plant areas that need to be manned for safe shutdown.

The licensee had performed walkdowns of manual actions for supporting safe shutdown activities in 2001 to verify feasibility, including adequacy of emergency lighting. However, the manual actions at panel 1DC13J were not in place at that time. Consequently, panel 1DC13J was not part of the walkdowns conducted by the licensee. Procedure BwOP FP-100T27 was revised December 15, 2003, (with an implementation date of January 16, 2004), to include steps to remove fuses at panel 1DC13J. Section 4.3.3 of Procedure AD-AA-101, "Processing of Procedures and TR&Ms," Revision 13, required that procedure changes be validated if the change significantly altered the methodology to perform a task that could affect regulatory requirements. The inspectors considered the addition of a manual action for safe shutdown purposes to be a significant alteration to methodology that affected the regulatory requirement to achieve safe shutdown. However, the added procedure step was not validated.

The inspectors noted that many plant operators carried flashlights with them. However, there was no procedural requirement for flashlights to be carried. Additionally, hard-hat mounted flashlights were available in the control room and other locations in the plant for safe shutdown activities.

Analysis: The inspectors determined that the failure to perform a validation of added safe shutdown manual actions was a performance deficiency and contrary to Procedure AD-AA-101. The failure to perform a validation resulted in less than adequate emergency lighting for the safe shutdown manual actions. The finding was determined to be more than minor because the failure to ensure adequate emergency lighting for the safe shutdown manual actions was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (Fire) and affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to validate and ensure that adequate emergency lighting existed for performance of the safe shutdown manual actions adversely affected the reliability of the manual actions. Failure to correctly perform the actions could result in the loss of necessary equipment or the pressurizer auxiliary spray valve remaining open thereby complicating plant safe shutdown. The inspectors noted that the finding was similar to IMC 0612, Appendix E, Example 4.d, in that lighting was discussed as part of the example. However, the example referred to general plant lighting, not emergency lighting, and the example assumed operators were procedurally required to carry flashlights. As such, the inspectors determined that Example 4.d was not applicable.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1-Initial Screening and Characterization of Findings," Table 3b, the inspectors determined the finding degraded the fire protection defense-in-depth strategies. Therefore, screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," was required. Based on the inspectors' judgment, the failure to provide adequate emergency lighting represented a low degradation of an observed safe shutdown finding because portable lighting was available to supplement existing emergency lighting for performance of the manual action. As such, the finding screened to Green under Task 1.3.1 of IMC 0609, Appendix F.

The inspectors did not identify a cross-cutting aspect associated with this finding.

Enforcement: Section 4.3.3 of Procedure AD-AA-101 required that procedure changes be validated if the change significantly altered the methodology to perform a task and the task could affect regulatory requirements. Contrary to the above, as of January 29, 2009, the licensee failed to perform a validation, as required by Procedure AD-AA-101, of added safe shutdown manual actions, which was a change that significantly altered the methodology to perform a task which could affect regulatory requirements. Specifically, although Procedure BwOP FP-100T27 was revised to include steps to remove fuses at panel 1DC13J for safe shutdown no procedure validation was performed. As a result, the licensee failed to identify that emergency lighting for removing fuses at panel 1DC13J was inadequate. Although there were procedural requirements to perform a validation, the fire protection program is not addressed by 10 CFR Part 50, Appendix B, Criterion 5, "Procedures." Although emergency lighting was required to be in areas having manual actions, there was not a specific requirement to have lighting focused on where manual actions were performed such as at panel 1DC13J. The Fire Protection Report requirement to have fixed emergency lighting in areas where manual actions were credited was satisfied because fixed emergency lights were in the area. Consequently, no violation of NRC requirements occurred. This issue was considered a finding of very low safety significance. The licensee entered this issue into their corrective action program as AR 873776 and planned to relocate existing emergency lighting to provide adequate lighting at panel 1DC13J. (FIN 05000256/2009006-03; 05000257/2009006-03)

.10 Cold Shutdown Repairs

a. Inspection Scope

The inspectors reviewed the licensee's procedures to determine whether repairs were required to achieve cold shutdown and to verify that dedicated repair procedures, equipment, and material to accomplish those repairs were available onsite. The inspectors also evaluated whether cold shutdown could be achieved within the required time using the licensee's procedures and repair methods. The inspectors also verified that equipment necessary to perform cold shutdown repairs was available onsite and properly staged.

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

The inspectors conducted a review to verify that compensatory measures were in place for out-of-service, degraded or inoperable fire protection and post-fire safe shutdown equipment, systems, or features (e.g., detection and suppression systems, and equipment, passive fire barriers, pumps, valves or electrical devices providing safe shutdown functions or capabilities). The inspectors also conducted a review on the adequacy of short term compensatory measures to compensate for a degraded function or feature until appropriate corrective actions were taken.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

40A5 Other Activities

.1 (Open) Unresolved Item 05000456/2000006-03; 05000457/2000006-03, Effects of Associated Circuits Not Isolated from Safe Shutdown Equipment

This unresolved item discussed the potential effects of fire damage on associated circuits related to safe shutdown components in the Unit 1 auxiliary electric equipment room (AEER) and the potential spurious actuation of such components. During the 2000 inspection, the inspectors had a concern that fire damage to solid state protection system cabinets located in the Unit 1 AEER could produce a containment Phase B actuation signal resulting in isolation of component cooling water supply to the reactor coolant pump (RCP) thermal barriers. In conjunction with this, if a subsequent loss of suction sources to the centrifugal charging pumps were to occur, then RCP seal failure could fail resulting in a small loss of coolant accident. The concern was that the fire induced actuation of the solid state protection system would prevent licensee from achieving and maintaining safe shutdown conditions for a postulated fire in the Unit 1 AEER.

During this inspection, the inspectors reviewed a portion of the updated safe shutdown analysis and the applicable fire response procedure, FP-100T35, "Fire Zones 5.5-1 and 5.5-2, Unit 1/Unit 2 Auxiliary Electrical Equipment Rooms, 1D-69, 2D-69," for the Unit 1 AEER. The inspectors verified that fire induced containment Phase B actuation and loss of suction sources to the centrifugal charging pumps have been addressed in the safe shutdown analysis and steps have been provided in the procedure to monitor the RCP seal leak off temperature, component cooling water flow to the RCPs, and suction flow to the centrifugal charging pumps. In addition, the set of fire response procedures and attachments reviewed during this inspection provided specific guidance for manual actions to be taken for a fire in the Unit 1 AEER affecting the components identified.

Although the licensee had taken actions to address the specific concerns identified during the 2000 inspection, the inspectors noted that the overall safe shutdown methodology for Braidwood continued to significantly deviate from NRC accepted practice (as outlined in Regulatory Issue Summary 2005-30, "Clarification of Post-Fire Safe-Shutdown Circuit Regulatory Requirements"). Specifically:

- The licensee took credit for local (i.e., manual) actions for addressing fire damage to safe shutdown equipment circuits in non-alternative fire areas in addition to alternative fire areas.
- The licensee took credit for local (i.e., manual) actions for addressing hot shorts for both safe shutdown equipment circuits and associated circuits in non-alternative fire areas in addition to alternative fire areas.
- The licensee took credit for only one hot short occurring during a fire. Multiple hot short failures were not considered.

The inspectors noted that NUREG-0876, "Safety Evaluation Report related to the operation of Byron Station, Units 1 and 2," formed part of the licensing basis for the Braidwood Station. NRC approval of the licensee's safe shutdown methodology included the following language from Supplement 5, dated October 1984, to NUREG -0876:

The applicant also performed a detailed analysis of circuits whose fire-induced spurious operation could adversely impact safe shutdown. This analysis included a review of high-low pressure interfaces. For each fire zone, the applicant's analysis assumed all equipment and circuits located in the fire zone were unavailable and one spurious actuation resulted from the fire. The applicant's analysis demonstrated that through the fail-safe design of air-operated valves or with manual operation of components, post-fire safe shutdown would not be adversely impacted.

The preceding paragraphs in the NUREG-0876, Supplement 5, SER applied to alternative shutdown methodology. However, the inspectors were not able to determine whether the above language applied to non-alternative fire areas in addition to alternative fire areas. The licensee has interpreted the above language to apply to non-alternative fire areas in addition to alternative fire areas.

In various documents reviewed during the inspection and in correspondence to the NRC, the licensee has pointed out that NUREG-1002, "Safety Evaluation Report related to the operation of Braidwood Station, Units 1 and 2," Supplement 2, dated October 1986, also acknowledged the use of manual actions. The SER stated, "The applicant's method of achieving safe shutdown during a fire depends upon certain manual actions, such as operating valves." However, the inspectors concluded that this statement only applied to alternative shutdown as it was contained within the SER section titled "Alternative Shutdown." The inspectors did not identify language within NUREG-1002, which addressed manual actions for non-alternative shutdown areas.

The licensee only considered three fire zones to be "Alternate" fire areas: the Control Room (Fire Zone 2.1-0), the Unit 1 AEER (Fire Zone 5.5-1), and the Unit 2 AEER (Fire Zone 5.5-2). In response to questions by the inspectors, the licensee responded:

It is Braidwood's position that local operation of "normal" redundant safe shutdown systems does not constitute "Dedicated" or "Alternative" shutdown capability as described in C.5.b.3 of BTP CMEB 9.5-1. Therefore, the presence of unprotected redundant control cables in a zone was not considered a deviation to Appendix R, Section III.G.2, [Section C.5.b.2 of BTP CMEB 9.5-1] provided that the ability to locally operate one of the redundant systems/equipment was available.

The inspectors noted that for many non-alternative fire areas, the licensee relied heavily upon manual actions performed locally. For example, for the Unit 1 Non-Segregated Bus Duct Room, Fire Zone 3.2A-1, a fire could result in damage to control power for the train of equipment relied upon for safe shutdown in addition to the affected train. As such, procedure FP-100T27 required operators to locally load Division 1 essential equipment by manually operating breakers in the Division 1 4kV switchgear room. In addition, procedure FP-100T27 required operators to take manual actions for locally closing a containment sump isolation valve to maintain refueling water storage tank inventory if the valve were to spuriously open due to a hot short in the control circuit for the valve. The inspectors verified that the actions were feasible. However, the use of manual actions was not one of the methods outlined in Section C.5.b.2 of BTP CMEB 9.5-1 as an acceptable method in lieu of protecting redundant circuits.

The inspectors noted that the NRC issued Enforcement Guidance Memorandum (EGM) 07-004, "Enforcement Discretion For Post-Fire Manual Actions Used As Compensatory Measures For Fire Induced Circuit Failures," on June 30, 2007. The EGM 07-004 specified September 6, 2007, as the end date for licensees to initiate corrective actions and to implement compensatory measures for noncompliances related to post-fire operator manual actions, except those operator manual actions that are relied upon as the mitigating mechanism for fire induced multiple-spurious actuations and emphasized that March 6, 2009, was the date for the completion of corrective actions associated with noncompliances involving operator manual actions. The licensee entered the issue into their corrective action program under AR 00464665, "NRC Terminates Fire Protection Manual Action Rulemaking," dated March 10, 2006. As part of their evaluation for this issue, the licensee concluded that the end of enforcement discretion did not apply to Braidwood. Specifically, the licensee stated, as part of their evaluation, that:

The Braidwood safe shutdown methodology of crediting manual actions (i.e., manual operation of devices such as valves, circuit breakers and hand switches, etc.) in normal (i.e., III.G.2) shutdown zones was approved in an SER and the manual actions credited for post fire safe shutdown are feasible (i.e., the operator can be reasonably expected to perform the required actions). Therefore, the credited manual actions are not at risk and do not need further analysis to determine if the manual actions were credited in lieu of satisfying the criteria of III.G.2.

The inspectors considered the overall issue of acceptability of manual actions for non-alternative fire areas and the acceptability of limiting consideration of hot shorts to a single hot short for a fire to remain an unresolved item pending further review by the Office of Nuclear Reactor Regulation.

4OA6 Management Meetings

.1 Exit Meeting Summary

On February 13, 2009, the inspectors presented the preliminary inspection results to Mr. B. Hanson, and other members of the licensee staff. On March 6, 2009, the inspectors presented the inspection results, by telephone, to Mr. D. Gullott, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

B. Hanson, Site Vice-President
D. Gustafson, Senior Manager, Design Engineering
D. Gullot, Manager, Regulatory Assurance
J. Knight, Manager, Nuclear Oversight
T. McCool, Director, Operations
C. Pragman, Manager, Corporate Fire Protection Program
D. Riedinger, E/I&C Engineering Manager, Design Engineering
M. Smith, Site Engineering Director

Nuclear Regulatory Commission

A. Garmoe, Resident Inspector
M. Perry, Illinois Emergency Management Agency

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000456/2009006-01 05000457/2009006-01	NCV	Failure to Take Effective Corrective Actions to Maintain Capability of Foam Suppression Systems
05000456/2009006-02 05000457/2009006-02	URI	Diesel Oil Storage Tank Room Sprinkler Obstructions
05000456/2009006-03 05000457/2009006-03	FIN	Failure to Perform Validation for Safe Shutdown Manual Actions

Closed

05000456/2009006-01 05000457/2009006-01	NCV	Failure to Take Effective Corrective Actions to Maintain Capability of Foam Suppression Systems
05000456/2009006-03 05000457/2009006-03	FIN	Failure to Perform Validation for Safe Shutdown Manual Actions

Discussed

05000456/2000006-03 05000457/2000006-03	URI	Effects of Associated Circuits Not Isolated From Safe Shutdown Equipment
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LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R05 Fire Protection (71111.05T)

Calculations and Analyses

ATD-0026; Combustible Fire Loads; Revision 9

BRW-96-032-SX; To Calculate the Projected Maximum SX Pump Room Temperature Based on Measured VA Exhaust Airflow of 864 CFM during Room Heat Up from One SX Pump Demand without the Availability of Room Cubicle Coolers; Revision 0

BRW-96-037; Thermal Endurance Evaluation of SX Pumps; Revision 0

BRW-97-1240-M; Hydraulic Calculations for Byron/Braidwood Gen. Stations, Stairwell and Hatch Protection 364-0 EL; Revision 1

BRW-E-2007-57/58; 50.59 Evaluation for Replacement of the Containment Recirculation Sump Screens; Revision 0

CT.5ENG.4; Appendix R Spurious Operation Analysis, Phase 1 Report (AT-144623 01); Revision 0

Braidwood - FPR; Braidwood Station Fire Protection Report - "Safe Shutdown Analysis" (Fire Zones 3.2A-1 and 11.3-0); dated December 2008

Braidwood – FPR; Braidwood Station Fire Protection Report – Safe Shutdown Equipment and Cable List (Fire Zones 3.2A-1 and 11.3-0); dated December 2008

Corrective Actions

AR 00464665; NRC Terminates Fire Protection Manual Action Rulemaking; dated March 9, 2006

AR 00558805; 1XY-FP272 Detector Not Alarming when Smoked; dated November 16, 2006

AR 00559086; Smoke Detector Failed to Actuate during Surveillance; dated November 16; 2006

AR 00559170; 1XY-FP315 Loose in Base; dated November 17; 2006

AR 00696421; NOS IDs Maintenance Fire Protection Documentation Errors; dated November 8, 2007

AR 00704689; AR's Not Generated for Repairs Required on Fire Seals; dated November 28, 2007

AR 00722919; U-2 D/G Foam Sys, Foam Tank Small Water Leak; dated January 16, 2008

AR 00872103; Foam Sprinkler Head in 2B DOST Room Has Bent Deflector; dated January 26, 2009

Corrective Actions Initiated As A Result of Inspection

AR 00866824; Missing Screws on 6" X 6" Wireway; dated January 13, 2009

AR 00866858; NRC Question on Heat Detector Location In LCSR; dated January 14, 2009

AR 00873135; BWOP FP-100T27 Procedure Change Required; dated January 28, 2009

AR 00873203; U2 DOST Foam Sys Conc Tank May Have a Ruptured Bladder; dated January 28, 2009

AR 00873209; Extent of Condition for U1 DOST Rooms Foam Sys (IR No. 873203); dated January 28, 2009

AR 00873222; NRC Identified - U2 DOST Foam Sys Valves in Contact w/Pipe; dated January 28, 2009

AR 00873226; NRC Identified - Unsecured Carts in the Turbine Building; dated January 28, 2009

AR 00873408; NRC FP Triennial Issue with Rwst Level Indication; dated January 29, 2009

AR 00873593; Procedure Enhancement BWOP FP-100T27; dated January 29, 2009

AR 00873776; FP Inspection - Adequacy of Illumination By ELB AT 1DC13J; dated January 29, 2009

AR 00873800; NRC Identified Oil Leaking from Valve Operator 1CC9467C; dated January 29, 2009

AR 00873994; NRC FP Inspection - FPR Description for Heat Detector; dated January 30, 2009

AR 00875128; Relocate Heat Detector 1D-50-7; dated February 2, 2009

AR 00875131; Relocate Heat Detector 1D-50-12; dated February 2, 2009

AR 00876150; NRC FP Triennial Issue with BWOP FP-100T27 Revisions; dated February 4, 2009

AR 00878521; NRC Identified- Two Pipes Touching - U1 DOST Foam Sys; dated February 9, 2009

AR 00878750; NRC Identified - FPR Discrepancy - 2B Dost Room Floor Area; dated February 10, 2009

AR 00878760; NRC Identified - CEAS Missing from FP System Supports; dated February 10, 2009

AR 00880133; NRC Identified - U2 DOST Rms Foam Sys Tank Mounting; dated February 12, 2009

AR 00880135; U1 DOST Rms Foam Sys Tank Mounting - EOC IR No. 880133; dated February 12, 2009

AR 00880143; NRC FP Inspection - Question On Sprinkler Head Location; dated February 12, 2009

Drawings

M-573; Sheet 15; Low Pressure CO2 Fire Extinguishing System Braidwood Unit 1; Revision C

M-603; Sheet 71; Auxiliary Building Viking Sprinkler System Area 2T1 and 2T2 Floor EL. 401' -0"; Revision D

M-603; Sheet 71A; Auxiliary Building Viking Sprinkler System Area 2T1 and 2T2 Floor EL. 401' -0"; Revision B

M-603; Sheet 88; Turbine Building Viking Sprinkler System Area 1-JJ, FL. EL. 364' -0"; Revision A

20E-0-3912; Fire Detection Braidwood Station Units 1 and 2; Revision U

20E-0-3910B; Fire Detection Zones 124, 142 – 156, and 224, 242 – 256; Miscellaneous Plans; Revision B

20E-0-3910A; Fire Detection Zones 107, 141 – 155, and 207, 241 – 261 Miscellaneous Plans; Revision B

20E-0-3903; Fire Detection Basement Floor @ 364' 0" Braidwood Station Units 1 and 2; Revision K

Braidwood Station Pre-Fire Plan Map; Figure 2.3-5; Lower Cable Spreading Room; EL 439' 0"; Revision 0

Braidwood Station Pre-Fire Plan Map; Figure 2.3-13; EL 383' 0"; Revision 0

Braidwood Station Pre-Fire Plan Map; Figure 2.3-14; EL 364' 0"; Revision 0

Miscellaneous

EC 356733; Affected Document List; dated October 30, 2006

Procedures

AA-AD-101; Processing of Procedures and TR&Ms; Revision 13

FP-100T10; 11.3-0; 364' Auxiliary Building General Area; 1D-17; 1D-40; 1S-59; 2S-54; Revision 3

FP-100T27; Fire Zones 3.2A-1 and -2, Unit 1/Unit 2 Non-segregated Bus Duct Area (Lower Cable Spreading Rooms); 1D-49; 1D-50; 1S-43; 2D-49; 2D-50; 2S-43; Revision 5

FP-100T35; Fire Zones 5.5-1 and 5.5-2; Unit 1/Unit 2 Auxiliary Electrical Equipment Rooms; 1D-69; 2D-69; Revision 4

LIST OF ACRONYMS USED

AEER	Auxiliary Electric Equipment Room
AR	Action Request
BTP	Branch Technical Position
EGM	Enforcement Guidance Memorandum
FDS	Fire Damage State
IMC	Inspection Manual Chapter
IP	Inspection Procedure
LLC	Limited Liability Corporation
NFPA	National Fire Protection Association
NRC	U.S. Nuclear Regulatory Commission
RCP	Reactor Coolant Pump
SER	Safety Evaluation Report
SDP	Significance Determination Process
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item