



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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October 27, 2011

Mr. Michael J. Pacilio
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO), Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION
TRIENNIAL FIRE PROTECTION INSPECTION REPORT
05000237/2011008(DRS); 05000249/2011008(DRS)

Dear Mr. Pacilio:

On October 17, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed a triennial fire protection inspection at your Dresden Nuclear Power Station. The enclosed inspection report documents the inspection results, which were discussed on October 17, 2011, with Mr. D. Legget 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, four 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 2.3.2 of the NRC Enforcement Policy. Additionally, a licensee identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of any NCVs, 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 Dresden Nuclear Power Station. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Dresden Nuclear Power Station.

M. Pacilio

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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 inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA by K. G. O'Brien For/

Steven A. Reynolds, Director
Division of Reactor Safety

Docket Nos. 50-237; 50-249
License Nos. DPR-19; DPR-25

Enclosure: Inspection Report 05000237/2011008(DRS); 05000249/2011008(DRS)
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-237; 50-249

License No: DPR-19; DPR-25

Report No: 05000237/2011008(DRS); 05000249/2011008(DRS)

Licensee: Exelon Generation Company, LLC

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL

Dates: July 27, 2011 – October 17, 2011

Inspectors: R. Langstaff, Senior Reactor Inspector, Lead
Z. Falevits, Senior Reactor Inspector
R. Winter, Reactor Inspector

Observers: S. Belding, Student Engineer
J. Bowen, Reactor Operations Engineer, NRR

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

Enclosure

SUMMARY OF FINDINGS

IR 05000237/2011008(DRS), 05000249/2011008(DRS); 07/27/2011-10/17/2011; Dresden Nuclear Power Station; Routine Triennial Fire Protection Baseline Inspection.

This report covers an announced triennial fire protection baseline inspection. The inspection was conducted by Region III inspectors. Four findings were identified by the inspectors. The findings were considered Non-Cited Violations (NCVs) 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). The cross-cutting aspects were determined using IMC 0310, "Components Within the Cross Cutting Areas." 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: Initiating Events

- Green. The inspectors identified a finding of very low safety significance and associated NCV of Technical Specifications Section 5.4.1.c for the failure to control transient combustible materials in accordance with fire protection program requirements. Specifically, the licensee failed to control the amount and location of transient combustibles in areas containing safety-related components. In addition, the licensee failed to identify the presence of transient combustibles through fire watches conducted as required by the fire protection program. The licensee removed the transient combustibles and planned on reviewing training related to the transient combustibles.

The inspectors determined that this finding was more than minor because the transient combustible materials were stored near safety-related cables and components and formed credible fire scenarios. This finding was of very low safety significance because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. This finding had a cross-cutting aspect in the area of Human Performance within the decision making component because the licensee did not properly communicate and reinforce expectations related to the fire protection program implementation concerning transient combustibles to personnel performing maintenance work and fire watches. [H.1(c)] (Section 1R05.1(b), Failure to Implement Transient Combustible Program)

- Severity Level IV. The inspectors identified a Severity Level IV, NCV of License Conditions 2.E and 3.G, for Units 2 and 3, and an associated finding of very low safety significance (Green) for the failure to obtain NRC approval prior to making a change, which was adverse to safe shutdown. Specifically, the licensee made a change to Administrative Technical Requirements, which permitted a suppression system to be inoperable without compensatory measures, thereby degrading the ability to suppress a fire and challenging the ability to achieve and maintain safe shutdown in the event of a fire. The licensee entered the issue into their corrective action program and issued an operations' standing order to require fire watches, regardless of whether there was operable detection when a suppression system was out of service.

The inspectors determined that this finding was more than minor because the change permitted suppression systems to be inoperable without any compensatory action. This finding was of very low safety significance because the majority of issues identified by fire watches would involve combustible materials, which would not result in ignition of a fire from existing sources of heat or electrical energy. The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance. (Section 1R05.10.b, Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown)

Cornerstone: Mitigating Systems

- Green. The inspectors identified a finding of very low safety significance (Green) and associated NCV of Technical Specifications for the licensee's failure to implement the diesel fire pump battery surveillance procedure. Specifically, the licensee failed to identify corrosion on the diesel fire pump battery terminals, which was contrary to the surveillance procedure that implemented the fire protection program. The licensee entered the issue into their corrective action program and surface cleaned the terminals.

The inspectors determined that the finding was more than minor because, if left uncorrected, the presence of corrosion in conjunction with identified voltage issues for two battery cells could affect the reliability of the diesel fire pump. This finding was of very low safety significance because the diesel fire pump had started as part of a recent routine surveillance. This finding has a cross-cutting aspect in the area of Human Performance because the maintenance personnel who performed the battery surveillance did not have sufficient training to recognize the presence of corrosion. [H.2(b)] (Section 1R05.3.b(1), Failure to Identify Diesel Fire Pump Battery Terminal Corrosion)

- Green. The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix R, Section III.L., for the licensee's failure to ensure that operators required for safe shutdown were on-site at all times. Specifically, operators required for safe shutdown in the event of a fire traveled off-site for performing routine operator rounds. The licensee entered the issue into their corrective action program and planned to evaluate their safe shutdown procedure actions and operations shift crew composition.

The inspectors determined that the finding was more than minor because the failure to ensure that operators required for safe shutdown were on-site at all times reduced the margin for time available to perform safe shutdown actions. The finding was of very low safety significance because it was feasible to perform the specified manual actions with available staff. This finding does not have a cross-cutting aspect because the finding is not representative of current performance. (Section 1R05.5(b)(1), Failure to Ensure Operators Required for Safe Shutdown Were On-Site)

B. Licensee-Identified Violations

Violations of very low safety significance or Severity Level IV that were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: 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, on-site 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;
- 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; and
- taking reasonable actions to mitigate postulated events that could potentially cause loss of large areas of power reactor facilities due to explosions or fires.

The inspectors' evaluation focused on the design, operational status, and material condition of the reactor plant's fire protection program, post-fire safe shutdown systems, and B.5.b mitigating strategies. 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 inspectors' review and assessment also focused on the licensee's B.5.b related license conditions and the requirements of 10 CFR 50.54(hh)(2). Inspector emphasis was to ensure that the licensee could maintain or restore core cooling, containment, and spent fuel pool cooling capabilities utilizing the B.5.b mitigating strategies following a loss of large areas of power reactor facilities due to explosions or fires. Documents reviewed are listed in the Attachment to this report.

The fire zones and B.5.b mitigating strategies selected for review during this inspection are listed below and in Section 1R05.11. The fire zones selected constituted six inspection samples and the B.5.b mitigating strategies selected constituted two inspection samples, respectively, as defined in Inspection Procedure 71111.05T.

Fire Area	Fire Zone	Description
TB-III	6.1	Direct Current (DC) Panel Room
TB-III	7.0.B	Station Battery Room
TB-III	8.2.4	Unit 3 Cable Tunnel
TB-III	8.2.5.E	Unit 3 Turbine Building Ground Floor
TB-III	8.2.6.E	Unit 3 Turbine Building Mezzanine Floor
TB-V	2.0	Main Control Room

.1 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’s 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. Findings - Failure to Implement Transient Combustible Program

Introduction: The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation (NCV) of Technical Specifications Section 5.4.1.c for the failure to control transient combustible materials in accordance with the fire protection program requirements. Specifically, the licensee failed to control the amount and location of transient combustibles in areas containing safety-related components. In addition, the licensee failed to identify the presence of transient combustibles through fire watches conducted as required by the fire protection program.

Description: During a walkdown on July 28, 2011, in the Unit 3 turbine building mezzanine, the inspectors identified a vertically stored wood pallet in a narrow passageway that did not have a transient combustible permit. This pallet was located within three feet of safety-related Essential Service System (ESS) Division II cables in

conduit running along a wall near the stairwell leading to the battery room and near the DC Motor Control Center (MCC) area.

Later, on August 29, 2011, the inspectors identified a plastic cart and a tool bag (each containing Class A combustibles) left unattended and not removed from the work area at the end of the shift in the same general area less than one foot from the safety-related ESS II cables and near the DC MCC area of the turbine building mezzanine. The material had been left previously after maintenance workers completed work on the Unit 3 battery chargers. The same day, the inspectors identified a large roll of oil absorbing material beneath a stack of horizontal cable trays containing safety-related ESS II cables in the cable tunnel. The inspectors were concerned that a fire involving the transient combustibles could affect safety-related components. The inspectors noted that the licensee had established fire watches for both of these areas at the time that the transient combustibles were identified by the inspectors. Specifically, on August 4, 2011, the licensee had implemented an hourly fire watch in Fire Zone 8.2.4, cable tunnel, and Fire Zone 8.2.6.E, Unit 3 turbine building mezzanine, because the detection circuits in those zones were de-energized in support of a modification. The licensee had implemented these fire watches under Fire Protection Impairment Permit No. 11-085. The inspectors noted that the identified the transient combustibles had remained in the areas for more than one shift. As such, the transient combustibles should have been identified by the hourly fire watches which were required to patrol the areas where the transient combustibles were identified.

Technical Specification Section 5.4.1.c required that written procedures be established, implemented, and maintained covering activities related to fire protection program implementation. Procedure OP-AA-201-009, "Control of Transient Combustible Materials," Revision 11, outlined the procedural requirements for control of transient combustibles. The presence of transient combustibles not necessary to support the work activity was contrary to procedure OP-AA-201-009. Section 4.4.1 of OP-AA-201-009 stated that only the amount of minor transient combustibles needed to support the work activity at the time should be used. Section 4.4.2 of the procedure stated, in part, that all transient combustible material shall be either constantly attended or removed from the work area at the end of the shift or have a transient combustible permit. Section 4.4.3.1 required the licensee to limit transient combustibles to those materials and quantities necessary to support the work activity at the time. Additionally, Section 4.4 of procedure OP-AA-201-009 referred to Attachment 15, "Examples of Minor Transient Combustibles," that listed "Wood (less than 25 pounds)." The wood pallet weighed more than 25 pounds. The other items (plastic cart, the canvas tool bag, and large roll of oil absorbing material) could not be identified with any current work activity. The inspectors also noted that Attachment 6 of the procedure listed the Turbine Building as Safety-Related. With respect to the fire watches, Procedure OP-MW-201-007, "Fire Protection System Impairment Control," Revision 7, Section 3.5.1 required the licensee to implement a fire watch as specified on Attachment 2, "Fire Watch Inspection Log." Paragraph 3 of the hourly fire watch instructions provided as part of the fire watch inspection log required the fire watch to report any conditions or hazards that could cause a fire or affect the severity of a fire, such as leaks, spills, accumulations of combustibles, equipment storage, or faulty equipment to shift management.

The licensee removed the transient combustibles and placed the issues into their corrective action program as Action Request (AR) 01245728, "FP Triennial 2011: Wooden Pallet without Permit," AR 01258369, "NRC Identify Oil Rag Roll in Cable

Tunnel,” and AR 01258376, “HSK: NRC Identifies Cart and Tool Bag Left in U3.” Although the licensee had entered the issues into their corrective action program, the licensee initially considered the later two transient combustible issues (the oil rag roll, cart and tool bag) to be housekeeping issues rather than fire hazard issues and did not take immediate corrective actions. The licensee considered the issue further and recognized that the presence of the transient combustibles did not meet the requirements of procedure OP-AA-201-009. The licensee removed the transient combustibles from the area prior to the end of the inspection. After the inspectors raised the issue concerning the effectiveness of fire watches, the licensee entered the issue into their corrective action program as AR 01263681, “2011 Triennial Fire Inspection: Combustible Material in Area,” and planned to review the training provided to fire watch personnel. In addition, the licensee initiated AR 01258254, “FP Triennial [sic] 2011, Transient Combustible Trend,” to determine if there was a declining trend with respect to transient combustible issues.

In July 2009 the licensee had implemented a number of changes to their transient combustible program by Revision 9 to procedure OP-AA-201-009. As part of the procedure change, the licensee reduced the permissible quantity of wood that would be considered a minor transient combustible from 75 to 25 pounds. Although site personnel had been briefed on the changes that were made, maintenance personnel were not fully aware of the changes in that the pallet board discussed above was initially believed to be a minor transient combustible. Further, maintenance personnel did not understand the requirement to remove materials from an area once they had completed their work. During the inspection, engineering personnel also exhibited some confusion regarding the requirements of the transient combustible program. Based on the lack of understanding of the transient combustible program exhibited by maintenance and other plant personnel, the inspectors concluded that the fire watch personnel similarly lacked a full understanding of the transient combustible program requirements. The inspectors concluded that the site did not properly communicate and reinforce expectations related to the fire protection program implementation for transient combustibles.

Analysis: The inspectors determined that the failure to control transient combustibles was contrary to the licensee’s fire protection program and was a performance deficiency. Specifically, the licensee failed to control the amount and location of transient combustible material as required by the fire protection program in areas that contained safety-related components. In addition, the licensee failed to identify the presence of transient combustibles through fire watches conducted as required by the fire protection program.

The inspectors determined that the finding was more than minor because the finding was associated with the Initiating Events cornerstone attribute of Protection Against External Factors (Fire) and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during plant operations. Specifically, the inspectors determined that the transient combustibles in the area of safety-related ESS Division II cables and a DC MCC could potentially affect DC circuits in the event of a fire in the area. In addition, the finding was similar to Inspection Manual Chapter (IMC) 0612, Appendix E, Example 4.k. The transient combustible materials were stored near safety-related cables and components and formed credible fire scenarios.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - 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. The inspectors completed a significance determination of this issue using IMC 0609, Appendix F, Attachment 2, "Degradation Rating Guidance Specific to Various Fire Protection Program Elements," dated February 28, 2005. The inspectors determined that the quantity of Class A combustible materials stored represented a low degradation against the combustible controls program because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. The inspectors determined that the finding screened as having very low safety significance (Green) in Task 1.3.1 of IMC 0609, Appendix F.

This finding had a cross-cutting aspect in the area of Human Performance within the decision making component because the licensee did not demonstrate that nuclear safety is an overriding priority. Specifically, the licensee did not properly communicate and reinforce expectations related to the fire protection program implementation concerning transient combustibles to personnel performing maintenance work and fire watches, in a timely manner. [H.1(c)]

Enforcement: Technical Specification Section 5.4.1.c requires that written procedures be established, implemented, and maintained covering activities related to fire protection program implementation. Procedure OP-AA-201-009, Step 4.4.2 required, in part, that transient combustible material be constantly attended or removed from the work area at the end of the shift or have a transient combustible permit. Section 4.4.3.1 required limiting transient combustibles to those materials and quantities necessary to support the work activity. Attachment 15 to Procedure OP-AA-201-009 required quantities of wood to be less than 25 pounds. Procedure OP-MW-201-007, Section 3.5.1 required the licensee to perform fire watches as specified on Attachment 2, "Fire Watch Inspection Log." Attachment 2 required the hourly and continuous fire watches to report any conditions or hazards that could cause a fire or affect the severity of a fire, such as accumulations of combustibles, to shift management.

Contrary to the above, on July 28 and August 29, 2011, the inspectors identified several instances of transient combustibles stored near safety-related components which were not in accordance with procedure OP-AA-201-009. Specifically, the inspectors identified a plastic cart, a tool bag, a large roll of oil absorbing material and greater than 25 pounds of Class A combustible wood near safety-related components without having only the materials and quantities necessary to support the work activity, being constantly attended, being removed at the end of the shift, or having a transient combustible permit. In addition, on August 29, 2011, the licensee's fire watches failed to report the combustibles present in the Unit 3 turbine building mezzanine and the cable tunnel to shift management as required by Procedure OP-MW-201-007. Specifically, the fire watches failed to report an accumulation of combustibles including a plastic cart, a tool bag, and a large roll of oil absorbing material near safety-related components.

Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as ARs 01245728, 01258369, 01258376, and 01263681; the transient combustibles were removed; and the licensee planned to review training materials provided to fire watch personnel, this violation is being treated as an

NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000249/2011008-01; 05000249/2011008-01, Failure to Implement Transient Combustible Program).

.2 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. The inspectors reviewed approved construction details and supporting fire tests. In addition, the inspectors reviewed license documentation, such as NRC safety evaluation reports, and deviations from NRC regulations and the National Fire Protection Association (NFPA) standards 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.

The inspectors reviewed the installation, repair, and qualification records for a sample of penetration seals to ensure the fill material was of the appropriate fire rating and that the installation met the engineering design.

b. Findings

No findings of significance were identified.

.3 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 NFPA standards to verify that fire suppression and detection systems met license commitments.

b. Findings - Failure to Identify Diesel Fire Pump Battery Terminal Corrosion

Introduction: The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of Technical Specifications for the licensee's failure to implement the diesel fire pump battery surveillance procedure. Specifically, the licensee failed to identify corrosion on the diesel fire pump battery terminals, which was contrary to the surveillance procedure that implemented the fire protection program.

Description: On August 31, 2011, the inspectors identified corrosion on at least ten battery cell terminals and inter-cell electrical connections for the Unit 2/3 diesel fire pump

battery. The inspectors were aware that terminal post corrosion is a common problem for aging batteries. Corroded inter-cell connections and post connectors can fail when exposed to the discharge current.

The diesel fire pump battery quarterly surveillance had last been performed five days earlier, August 26, 2011, under work order (WO) 01438993 01, "D2/3 QTR TSTR Diesel Fire PP Batt. Surv." and Procedure DES 8300-13, "Unit 1 and 2/3 Diesel Fire Pump and Security Diesel Starting Batteries Surveillance and Manual Procedure," Revision 16. Step I.15.c of Procedure DES 8300-13 required that the battery be inspected for signs of corrosion and be cleaned as required. The inspectors reviewed the completed work order package and determined that the step had been marked as having been completed with no deficiencies noted.

Based on the amount of corrosion identified by the inspectors on August 31, 2011, the inspectors concluded that maintenance personnel had not properly completed Step I.15.c of Procedure DES 8300-13. The licensee interviewed the individuals who had conducted the surveillance on August 26, 2011, and determined that Step I.15.c had been performed. Based upon review of the notes from the interviews conducted by the licensee, the inspectors concluded that the maintenance personnel did not recognize the corrosion as there was discussion of a baking soda residue left over from cleaning. In addition, there was discussion that the lighting for the task was not optimal. The inspectors also noted that another facility operated by the licensee had provided maintenance personnel guidance on recognizing corrosion. The guidance specifically identified corrosion as development of nodular, powdery, thick, cauliflower-like three-dimensional growth usually Green in color but may be White or dark. The inspectors noted that numerous battery inter-cell connections contained corrosion that very closely matched the above definition. Based on this information, the inspectors concluded that the individuals had not received sufficient training to recognize corrosion.

The inspectors noted that operations personnel had previously identified corrosion on four battery cells and terminals on May 11, 2011. Action Request 01212717, "Corrosion on 2/3 Diesel Fire Pump Batteries," and WO 01440920 01, Corrosion on 2/3 Diesel Fire Pump Batteries, dated May 24, 2011, were generated at that time to initiate corrective actions. At the time of this inspection, WO 01440920 was still in planning status and had not been implemented. Neither of the maintenance personnel who had performed the surveillance on August 26, 2011, was aware that corrosion had been previously identified because the corrosion was not discussed during their pre-job briefing.

The inspectors also noted that the completed surveillance procedure from August 26, 2011, documented that voltage on one battery cell was much lower than the average cell voltages but there was no acceptance criteria for cell voltage. In addition, another battery cell was documented to have a near zero voltage. Work Order 1440883 01, "2/3 DFP Battery Cell Low Voltage," dated May 24, 2011, was initiated to replace the battery cell having a near zero voltage, but had not yet progressed beyond the planning stages at the time of this inspection. No corrective actions had been initiated for the battery cell having a lower than average cell voltage because the total battery voltage was found in acceptable range.

The licensee initiated AR 01258243, "NRC Triennial 2011: NRC Walkdown Concerns," on September 1, 2011, to evaluate the condition of the cell terminals on the battery. The licensee subsequently informed the inspectors that they had surface-cleaned the battery terminals.

Analysis: The inspectors determined that the licensee's failure to implement the diesel fire pump battery surveillance procedure was contrary to Technical Specifications and was a performance deficiency. Specifically, the licensee's failure to identify corrosion on the diesel fire pump battery terminals was contrary to surveillance procedure DES 8300-13, a surveillance procedure for implementing the fire protection program.

The inspectors determined that the finding was more than minor because the failure to implement the diesel fire pump battery surveillance procedure was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (Fire) and affected the cornerstone objective of ensuring the availability and reliability of mitigating systems to respond to fire events to prevent undesirable consequences. Specifically, the diesel fire pump battery surveillance procedure specified that the battery terminals were to be inspected for signs of corrosion and be cleaned as required. If left uncorrected, the presence of corrosion in conjunction with the identified voltage issues for two battery cells could affect the reliability of the diesel fire pump.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - 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. The inspectors determined that the finding represented a low degradation because the diesel fire pump had successfully started as part of a routine surveillance performed during the week of August 29, 2011. Therefore, the inspectors determined that the finding screened as having very low safety significance (Green) in Task 1.3.1 of IMC 0609, Appendix F.

This finding has a cross-cutting aspect in the area of Human Performance within the resources component because the licensee did not have sufficiently trained personnel. Specifically, the maintenance personnel who had performed the battery surveillance did not have sufficient training to recognize the presence of corrosion. [H.2(b)]

Enforcement: Technical Specification 5.4.1.c required, in part, that written procedures be established, implemented, and maintained covering activities related to fire protection program implementation. Procedure DES 8300-13, "Unit 1 and 2/3 Diesel Fire Pump and Security Diesel Starting Batteries Surveillance and Manual Procedure," Revision 16, was a procedure which implemented the fire protection program. In Step I.15.c of Procedure DES 8300-13 required that the battery be inspected for signs of corrosion and be cleaned as required.

Contrary to the above, on August 26, 2011, the licensee failed to implement Procedure DES 8300-13. Specifically, the licensee had credited Step I.15.c of Procedure DES 8300-13 as having been completed as part of a surveillance for the 2/3 diesel fire pump on August 26, 2011. However, the inspectors identified corrosion on the battery terminals for the 2/3 diesel fire pump on August 31, 2011, which had indicated that Step I.15.c of Procedure 8300-13 had not been implemented.

Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as AR 1258243 and surface cleaned the battery terminals, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000237/2011008-02; 05000249/2011008-02, Failure to Identify Diesel Fire Pump Battery Terminal Corrosion).

.4 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.

.5 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 inspectors 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

(1) Failure to Ensure Operators Required for Safe Shutdown Were On-Site:

Introduction: The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix R, Section III.L., for the licensee's failure to ensure that operators required for safe shutdown were on-site at all times. Specifically, operators required for safe shutdown in the event of a fire traveled off-site for performing routine operator rounds.

Description: The licensee took credit for a High Voltage Operator to perform safe shutdown actions for several safe shutdown procedures. Based on discussions with operations personnel, it was believed that the practice of taking credit for the High Voltage Operator for safe shutdown had been in existence since the time that the safe

shutdown procedures were developed and implemented, i.e., approximately 1989. The safe shutdown procedures for which the licensee took credit for the High Voltage Operator included:

DSSP 0100-A1, Hot Shutdown Procedure - Path A1, Revision 30,
DSSP 0100-B1, Hot Shutdown Procedure - Path B1, Revision 31,
DSSP 0100-CR, Hot Shutdown Procedure - Control Room Evacuation, Revision 42.

Based on discussions with the licensee, the inspectors learned that the High Voltage Operator performed operator rounds outside the protected area at locations, which included the lift and Goose Lake Pumping Stations with the Goose Lake Pumping Station being the most remote. The licensee estimated the travel time to be 10 to 15 minutes from the Goose Lake Pumping Station to inside the plant. The inspectors noted that the Goose Lake Pumping Station was over 1.5 miles from the site vehicle checkpoint and required travel on a public road past several private residences to reach the pumping station. The lift station also required a similar route of travel, but was not located as far away. The inspectors also noted that there had been at least one instance (documented by AR 01258591, "Truck Stranded Operator During Rounds") when an operator performing duties outside of the protected area was delayed for approximately 40 minutes due to vehicle related issues.

Title 10 CFR Part 50, Appendix R, Section III.L.4 specified that the number of operating shift personnel, exclusive of fire brigade members, required to operate equipment and systems for safe shutdown shall be on-site at all times. To implement this requirement, Procedure OP-DR-101-111-1001, "On-Shift Staffing Requirements," Revision 3, specified requirements for safe shutdown manning. Step 4.3 of Procedure OP-DR-101-111-1001 required that personnel assigned for safe shutdown staff shall be within the Owner Controlled Area at all times. In discussing this issue with licensee's operations personnel, the operations personnel believed that the requirement was satisfied because the lift and the Goose Lake Pumping Stations were within the Owner Controlled Area. However, as discussed above, an operator would have to leave the Owner Controlled Area in order to get to and return from the lift and Goose Lake Pumping Stations.

The inspectors were concerned that reliance upon an operator who could be performing rounds at relatively remote locations such as the lift and the Goose Lake Pumping Stations could result in delay in implementing safe shutdown actions. Such a delay would reduce the margin for accomplishing safe shutdown actions. The hydraulic analysis, calculation GE-NE-A22-00103-56-01-D, "Dresden and Quad Cities Extended Power Uprate; Task T0611: Appendix R Fire Protection (Dresden Station)," Revision 1, specified that actions be completed in 32 minutes from the start of a fire. A validation completed in January 2006 determined that the procedure for a fire in the control room or Auxiliary Electric Equipment Room (AEER) could be completed in 25 minutes, assuming that all necessary operators were readily available. Procedure DSSP 0100-CR, the safe shutdown procedure for a fire in the control room or the AEER, directed that the High Voltage Operator initiate injection flow using control rod drive pumps. For this procedure, the validation indicated that the actions could be completed in 14 minutes. A delay of 15 minutes due to an operator needing to travel from the Goose Lake Pumping Station would result in all of the necessary actions being completed in 29 minutes, i.e., a 4 minute reduction in margin. For Procedures DSSP 0100-A1 and DSSP 0100-B1, used for major fires in either the turbine building or the cable tunnel, the High Voltage Operator was credited for removing power from the safety relief valves.

Removing power from the safety relief valves was a more time critical action because removing power prevented further loss of inventory due to one or more relief valves spuriously opening due to fire. The hydraulic analysis assumed such actions were completed within 10 minutes. The inspectors determined that, for Procedures DSSP 0100-A1 and DSSP 0100-B1, at least one spare operator would be available in addition to the High Voltage Operator to perform necessary actions.

In response to the concerns raised by the inspectors, the licensee initiated AR 01258696, "NRC FP Triennial – Question Regarding Definition of On-Site," and AR 0172652, "NRC Identified Condition with HVO Position [sic] and SSD Req.s." On September 9, 2011, the licensee issued a standing order, Log 11-09, "Execution of DSSPs (Rev 2)," to operations personnel which stated that 1) time critical actions needed to be completed within assumed times; 2) if assigned individuals were not available, any qualified individual could perform the actions as determined by the Shift Manager; and 3) operations personnel outside the protected area will be recalled to assist in safe shutdown efforts. The language of the standing order was subsequently added to the safe shutdown procedures and the procedure initially used by operators in the event of a fire, DOA 0010-10, "Fire/Explosion," Revision 14. In addition, the licensee planned to evaluate their safe shutdown procedures to determine if other resources could be used instead of the High Voltage Operator and evaluate their operations shift crew composition.

Analysis: The inspectors determined that failure to ensure that operators required for safe shutdown were on-site at all times was contrary to 10 CFR Part 50, Appendix R, Section III.L, and was a performance deficiency. Specifically, operators required for safe shutdown in the event of a fire traveled off-site for performing routine operator rounds. The finding was determined to be more than minor because the failure to ensure that operators required for safe shutdown were on-site at all times was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (Fire) and affected the cornerstone objective of ensuring reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to ensure that operators required for safe shutdown were on-site at all times could delay significantly safe shutdown actions.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - 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 review of IMC 0609, Appendix F, Attachment 2, "Degradation Rating Guidance Specific to Various Fire Protection Program Elements," the inspectors determined that the finding represented a low degradation because the inspectors determined it was feasible to perform the specified manual actions with available staff. As such, the finding screened to (Green) (i.e., very low safety significance) under Task 1.3.1, Question 1, of IMC 0609, Appendix F.

The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance.

Enforcement: Title 10 CFR 50.48(b)(2) requires, in part, that all nuclear power plants licensed to operate prior to January 1, 1979, must satisfy the applicable requirements of

Appendix R to this part, including specifically the requirements of Sections III.G, III.J, and III.O. Compliance with 10 CFR Part 50, Appendix R, Section III.L is considered necessary in order to satisfy the requirements of 10 CFR Part 50, Appendix R, Section III.G.3 for alternative shutdown capability. Section III.L.4 of 10 CFR Part 50, Appendix R states, in part, that the number of operating shift personnel, exclusive of fire brigade members, required to operate equipment and systems comprising the means to achieve and maintain hot shutdown conditions be on-site at all times. Procedure OP-DR-101-111-1001 specified staffing requirements for maintaining alternative shutdown capability. Procedure OP-DR-101-111-1001 required that personnel assigned for safe shutdown staff shall be within the Owner Controlled Area at all times.

Contrary to the above, from approximately 1989 through October 5, 2011 the licensee failed to ensure that the number of operating shift personnel, exclusive of fire brigade members, required to operate equipment and systems comprising the means to achieve and maintain hot shutdown conditions were on-site at all times. Specifically, High Voltage Operators assigned to safe shutdown positions for operating equipment and systems comprising the means to achieve and maintain hot shutdown conditions were not on-site at all times in that, as part of their normal rounds, the operators would travel to the Goose Lake Pumping Station and the lift station, which required travel off-site and outside of the Owner Controlled Area.

Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as AR 01258696 and AR 01272652, and the licensee planned to evaluate their safe shutdown procedure actions and operations shift crew composition, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000237/2011008-03; 05000249/2011008-03, Failure to Ensure Operators Required for Safe Shutdown Were On-Site).

(2) Safe Shutdown Procedure Implementation

Introduction: The inspectors identified an Unresolved Item (URI) concerning safe shutdown procedure implementation.

Description: The fire protection safe shutdown procedures specified, as a precaution, that the procedures were to be followed only in the event that normal or emergency procedures were insufficient. The training provided to operators reinforced this procedural expectation. The inspectors were concerned that this precaution effectively established an entry condition, which could delay or preclude operators from entering safe shutdown procedures during a fire. The inspectors were concerned that operators may not perform necessary actions in sufficient time in the event of a severe fire. In response to the inspectors concerns, the licensee initiated AR 01258932, "NRC FP Triennial 2011 – NRC Question Regarding T-0," and AR 01272652. This issue is a URI pending further assessment of how operators would respond to ensure that 10 CFR Part 50, Appendix R, Section III.L performance goals are met in the event of a fire. The assessment will likely include development of fire scenarios which would challenge operator decision making abilities using existing procedures, and evaluation of how operators would respond under such scenarios either through table top review with the licensee or simulator demonstration. (URI 05000237/2011008-04; 05000249/2011008-04, Safe Shutdown Procedure Implementation)

.6 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 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 whether 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, the inspectors reviewed licensee's evaluation of potential circuit protective coordination issues for the safe shutdown systems' electrical power and instrumentation busses.

(1) Review of Licensee's Multiple Spurious Operations Circuit Analyses In Accordance with Guidance in Regulatory Guide 1.189, Revision 2

Background

In October 2009, the NRC issued guidance in Regulatory Guide (RG) 1.189, "Fire Protection for Nuclear Power Plants," Revision 2, to identify acceptable methods for resolving issues related to circuits required for post-fire safe shutdown and circuits important to post-fire safe shutdown. Equipment required for post-fire safe shutdown (credited train) must use one of the three methods identified in 10 CFR Part 50, Appendix R, Section III.G.2 to protect the circuits located within the same fire area from damage, including single and multiple spurious operations (MSOs). For important to post-fire safe shutdown circuits, the licensee may use operator manual actions if the licensee demonstrates they can be shown to be feasible and reliable or resolve issues using other analysis methods including fire modeling.

In May 2009 the NRC issued Enforcement Guidance Memorandum (EGM) 09-002, "Enforcement Discretion for Fire-Induced Circuit Faults," which described the conditions limiting enforcement discretion during the resolution of the fire protection concerns involving MSOs. The EGM limited the enforcement discretion to three years from the date of issuance of RG 1.189, Revision 2: (1) six months following the issuance of RG 1.189, Revision 2, for licensees to identify non-compliances related to multiple fire-induced circuit faults, place the non-compliances into their corrective action program and implement compensatory measures for the non-compliances and (2) three years following the issuance of RG 1.189, Revision 2, for licensees to complete the corrective actions associated with non-compliant multiple fire-induced circuit faults. The enforcement discretion would not be granted to identified non-compliances that are found to be willful or findings that the Reactor Oversight Process Significant Determination Process would evaluate as (Red) or categorized at Severity Level I.

Inspection Effort

During this inspection, the inspectors reviewed representative sampling of single and multiple spurious issues throughout the plant to verify:

- The licensee successfully addressed single and multiple spurious issues in a way that met regulations;
- The licensee properly classified equipment required for safe shutdown and equipment important for safe shutdown;
- The adequacy of the licensee's evaluation of multiple spurious actuations, in accordance with RG 1.189 and Nuclear Energy Institute (NEI) 00-01, "Guidance for Post-Fire Safe Shutdown Analysis," Revision 2; and
- The adequacy of the licensee's compensatory actions taken for identified non-compliances.

The inspectors reviewed a selected sample of the licensee's post-fire safe shutdown analysis to verify that the licensee had identified both required and important circuits that could impact safe shutdown, entered the findings into the corrective action program, and initiated appropriate compensatory measures. The inspectors reviewed the Dresden's expert panel results for the potential fire-induced operations of component supported safe shutdown at Dresden Nuclear Power Station. The expert panel performed this review in accordance with RG 1.189 and guidance provided in NEI 00-01. The purpose of the expert panel was to review the applicable industry developed generic boiling water reactor (BWR) owners' group list of MSOs for applicability to Dresden Nuclear Power Station. The expert panel was also tasked with considering plant specific MSOs similar to those in the generic list, but not specifically listed. The expert panel identified MSOs as applicable to Dresden Nuclear Power Station and provided recommendations to resolve these issues. The inspectors reviewed a sample of MSO scenarios identified by the expert panel as potential non-compliances requiring further evaluations to determine corrective action needed.

The inspectors verified that the safe shutdown cables had either been adequately protected from the potentially adverse effects of fire damage, mitigated with approved compensatory measures, 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 piping and instrumentation diagrams, electrical schematics and logic diagrams, Safe Shutdown flow diagrams and cable routing drawings associated with each of the selected safe shutdown components.

The licensee initiated 34 ARs to document the identified non-conforming MSO scenarios. In addition, the licensee implemented alternate compensatory measures as a form of enhanced documented operator rounds as justified by the fire protection engineering evaluation EC-EVAL 379672, "GL 86-10 Evaluation: Use of Alternate Compensatory Measures Related to Multiple Spurious Operations (MSOs)," Revision 1. The inspectors reviewed a sample of the non-conforming MSO scenarios identified by the licensee. The inspectors noted that the licensee has not completed the analyses and evaluations of the identified non-conforming MSOs. The licensee was in the process of determining the appropriate long term corrective actions needed to address these findings. The documents and ARs reviewed by the inspectors are listed in the

Attachment to this report. The licensees' plans to complete corrective actions to address the identified MSOs prior to November 2, 2012, (the end of the enforcement discretion period per EGM 09-002). The licensee evaluated the identified MSO scenarios for potential significance and determined that none of the 34 identified MSOs were considered to be risk-significant.

b. Findings

No findings of significance were identified.

.7 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.

.8 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

No findings of significance were identified.

.9 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 on-site. 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 on-site and properly staged.

b. Findings

No findings of significance were identified.

.10 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 of the adequacy of short term compensatory measures to compensate for a degraded function or feature until appropriate corrective actions were taken.

b. Findings - Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown

Introduction: The inspectors identified a Severity Level IV, NCV of License Conditions 2.E and 3.G, for Units 2 and 3, and an associated finding of very low safety significance (Green) for the failure to obtain NRC approval prior to making a change which was adverse to safe shutdown. Specifically, the licensee made a change to Administrative Technical Requirements which permitted a suppression system to be inoperable without compensatory measures, thereby degrading the ability to suppress a fire and challenging the ability to achieve and maintain safe shutdown in the event of a fire. Compensatory measures, such as an hourly fire watch, would have provided a means to identify fire hazards in affected areas.

Description: On June 30, 1989, the NRC approved the relocation of Administrative Technical Requirements for fire protection from Technical Specifications to the Dresden Administrative Technical Requirements. At that time, the NRC also imposed fire protection license conditions for both units to implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report (UFSAR) and as approved in certain safety evaluation reports. The license conditions also permitted the licensee to make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

The fire protection administrative controls approved by the NRC contained in Technical Specifications prior to the relocation approved on June 30, 1989, contained the following requirements for both units:

“With a sprinkler system inoperable, establish fire inspections with backup fire suppression equipment within 1 hour.

- a. In the Unit 2/3 turbine mezzanine 538' elevation area or Unit 2 [3] hydrogen seal oil area, a continuous fire watch is to be established.
- b. In all other areas given in Table 3.12-2, perform surveillance hourly.”

After the relocation of the requirements from Technical Specifications was approved by the NRC, the licensee performed a review and revised the requirements for sprinkler systems to:

“With a water suppression system identified in Table 3.1-3 inoperable, establish fire inspections with backup fire suppression equipment within one hour, as follows:

- 1) In the Unit 2/3 turbine mezzanine 534 foot elevation area or the hydrogen seal oil areas, a continuous fire watch is to be established.
- 2) For all other water suppression systems listed in Table 3.1-3 with no operable area detection provided, perform surveillance hourly if accessible and inspect the inaccessible area once per eight hours except if the requirements of DATR 3/4.2 (Post-Fire Safe Shutdown Equipment) are applicable.
- 3) For plant locations with inoperable suppression systems and operable area detection no action is required.”

The above change incorporated the provision that, except for areas requiring a continuous fire watch, no fire inspections (i.e., no fire watches) were necessary if the area had operable detection. The licensee performed the review for the change under 10 CFR 50.59 safety evaluation, “Dresden Administrative Technical Requirements 3/4.1, 3/4.2,” Revision 0. The evaluation was approved by the off-site review committee on September 11, 1989, (Offsite Review 89-031, “Dresden Administrative Technical Requirements 3/4.1, 3/4.2”). The stated licensee justification for the change was:

“The surveillance change for out of service suppression equipment does not decrease the safety margin because area detection provides an equivalent measure of surveillance as an hourly fire watch. Prior to the installation of Appendix R modifications only spot detection over selected switchgear was installed in the plant.”

The inspectors noted that area detection did not provide an equivalent measure of surveillance as an hourly fire watch. Specifically, while area detection may detect a fire, area detection would not identify conditions, which would either increase the likelihood of a fire or the severity of a fire. For example, a fire watch would be able to detect transient combustibles in an area or oil leaks from equipment, either of which could increase the likelihood or severity of a fire in the area. Area detection would provide no indication of such hazards. The inspectors also noted that the addition of area detection was a backfit required by 10 CFR Part 50, Appendix R. As such, the inspectors determined that it was inappropriate to consider the presence of area detection as an enhancement for purposes of justifying the change.

The inspectors noted that there are three tiers of defense-in-depth for the fire protection program as described in 10 CFR Part 50, Appendix R. The three tiers are:

- 1) To prevent fires from starting;
- 2) To detect rapidly, control, and extinguish promptly those fires that do occur;

- 3) To provide protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant.

The condition of having an inoperable suppression system was a degradation of the second defense-in-depth tier of detecting rapidly, controlling, and extinguishing promptly those fires that do occur. Specifically, an inoperable suppression system would adversely affect the ability to control and promptly extinguish a fire. The presence of area detection would not compensate for the affected ability to control and promptly extinguish a fire. The requirement for fire watches, as previously specified by Technical Specifications, was an acceptable compensatory measure in that the fire watches provided an enhancement to the first tier of defense-in-depth of preventing fires from starting. Allowing a degradation to the second defense-in-depth element without a compensatory measure affected the ability to achieve and maintain safe shutdown in the event of a fire in that fixed or automatic suppression capability was reduced and an unsuppressed fire would challenge the ability to safely shutdown the plant.

Based on discussions with the Office of Nuclear Reactor Regulation, the inspectors determined that the change would likely not have been approved had NRC approval been sought as required. The change remained in effect through the end of this inspection. During this inspection, the inspectors identified two fire protection impairment permits (11-024, "U2 and U3 Cable Tunnel Sprinkler System OOS for Valve Maintenance," and 11-067, "2/3 TB Cable Tunnel Fire Protection Isolated for Flow Switch Repair"), which took credit for area detection in lieu of performing hourly fire watches. In response to concerns raised by the inspectors, the licensee initiated AR 01258817, "2011 Triennial Fire Inspection – TRM 3.7.J Note Concerns," and issued an operations standing order (Log 11-11, "NRC Tri-ennial [sic] Fire Inspection interim actions") to require fire watches, regardless of whether there was operable detection, when a suppression system was out of service.

Analysis: The inspectors determined that the failure to obtain NRC approval prior to making a change which was adverse to safe shutdown was contrary to License Conditions 2.E and 3.G for Units 2 and 3, respectively, and was a performance deficiency. Specifically, the licensee made a change to Administrative Technical Requirements, which permitted a suppression system to be inoperable without compensatory measures thereby degrading the ability to suppress a fire and challenging the ability to achieve and maintain safe shutdown in the event of a fire. Compensatory measures, such as an hourly fire watch, would have provided a means to identify fire hazards in affected areas. The finding was determined to be more than minor because failure to obtain NRC approval prior to making a change adverse to safe shutdown was associated with the Initiating Events cornerstone attribute of protection against external factors (i.e., fire) and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the change permitted suppression systems to be inoperable without any compensatory action, such as an hourly fire watch. The lack of fire watches degraded the ability to recognize conditions which could either increase the likelihood of a fire or the severity of a fire.

Violations of fire protection program changes adverse to safe shutdown are dispositioned using the traditional enforcement process instead of the significance determination process (SDP) because they are considered to be violations that

potentially impede or impact the regulatory process. However, the associated finding is evaluated under the SDP to determine the significance of the violation. In this case, the inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - 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. However, the inspectors determined that IMC 0609, Appendix F, Attachment 2, "Degradation Rating Guidance Specific to Various Fire Protection Program Elements" does not cover findings involving degradation of fire watches other than hot work activities. As a result, the inspectors screened the finding using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The inspectors used the guidance in Step 4.1.2 of IMC 0609, Appendix M and concluded that the majority of issues identified by fire watches would involve combustible materials which would not result in ignition of a fire from existing sources of heat or electrical energy as specified in IMC 0609, Appendix F, Attachment 2. Therefore, the inspectors determined that the finding was representative of a low degradation and screened as having very low safety significance (Green) in Task 1.3.1 of IMC 0609, Appendix F. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, dated April 25, 2011, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance (i.e., Green finding).

The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

Enforcement: License Conditions 2.E and 3.G for Units 2 and 3, respectively, require the licensee to implement and maintain in effect all provisions of the approved fire protection program as described in the UFSAR and as approved in Safety Evaluation Reports subject to the following provision: The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

Contrary to the above, on September 11, 1989, the licensee failed to obtain Commission approval for a change to the approved fire protection program which adversely affected the ability to achieve and maintain safe shutdown in the event of a fire. Specifically, the licensee made a change to Administrative Technical Requirements to permit a suppression system to be inoperable without compensatory measures thereby degrading the ability to suppress a fire and challenging the ability to achieve and maintain safe shutdown in the event of a fire.

Because this violation was of very low safety significance, was not repetitive or willful, and it was entered into the licensee's corrective action program as AR 01258817 and issued an operations standing order to require fire watches, regardless of whether there was operable detection, when a suppression system was out-of-service, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000237/2011008-05; 05000249/2011008-05, Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown). The associated finding aspect of a violation is evaluated separately from the traditional enforcement violation and therefore the associated finding is being assigned a separate tracking number (FIN

05000237/2011008-06; 05000249/2011008-06, Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown).

.11 B.5.b Inspection Activities

a. Inspection Scope

The inspectors reviewed the licensee’s preparedness to handle large fires or explosions by reviewing selected mitigating strategies. This review ensured that the licensee continued to meet the requirements of their B.5.b related license conditions and 10 CFR 50.54(hh)(2) by determining that:

- Procedures were being maintained and adequate;
- Equipment was properly staged, maintained, and tested;
- Station personnel were knowledgeable and could implement the procedures; and
- Additionally, inspectors reviewed the storage, maintenance, and testing of B.5.b related equipment.

The inspectors reviewed the licensee’s B.5.b related license conditions and evaluated selected mitigating strategies to ensure they remain feasible in light of operator training, maintenance/testing of necessary equipment and any plant modifications. In addition, the inspectors reviewed previous inspection reports for commitments made by the licensee to correct deficiencies identified during performance of Temporary Instruction 2515/171 or subsequent performances of these inspections.

The B.5.b mitigating strategies selected for review during this inspection are listed below. The off-site and on-site communications, notifications/emergency response organization activation, initial operational response actions and damage assessment activities identified in Table A.3 1 of NEI 06-12, “B.5.b Phase II and III Submittal Guidance,” Revision 2, are evaluated each time due to the mitigation strategies’ scenario selected.

NEI 06-12, Revision 2, Section	Licensee Strategy (Table)
2.3.1	SFP Makeup – External Strategy (A.2-2)
3.4.2	DC Power Supplies to Allow Depressurization of RPV and Injection With Portable Pump (A.5-2)

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (71152)

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program procedures and samples of corrective action documents to verify that the licensee was identifying issues related to the fire protection program at an appropriate threshold and entering them in the corrective action program. The inspectors reviewed selected samples of condition reports, design packages, and fire protection system non-conformance documents.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On September 2, 2011, and on October 5, 2011, the inspectors presented the preliminary and final inspection results, respectively, to Mr. Czufin, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements, which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- In April 2011 the licensee determined that several paths existed, in addition to previously evaluated condensate storage tank (CST) to hotwell make-up valve path, which could cause gravity drain of the CST to the hotwell due to multiple spurious operations. As a result, the licensee determined that a review and circuit analysis of other CST and clean demineralizer paths needed to be performed. The licensee initiated a circuit analysis review, which was still in progress at the time of this inspection, to more fully address potential CST drain down scenarios. Based on the inspectors' review, it was determined that the above non-compliance for an MSO (Scenario 2aj, "Loss of CST Inventory to Hot Well," of NEI 00-01, Table G-1, "BWR Generic MSO List") was a violation of 10 CFR Part 50, Appendix R, Section III.G. The inspectors determined that the licensee's existing procedures already addressed the more significant potential drain down path event involving spurious opening of CST to hotwell make-up valves and that a drain down event would occur over a relatively long period of time, providing operators an opportunity to intervene. Therefore, inspectors assigned a low degradation to this finding and determined that it screened as having very low safety significance (Green). The licensee initiated ARs 01257847, "FP Triennial: MSO Scenario Did Not Have IR," and 01257854, "MSOPS 2aj: CST Drain Down," to add Scenario 2aj to the corrective action program.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

D. Czufin, Site Vice President
H. Dodd, Senior Manager, Operations Support and Services
D. Gronek, Director, Operations
L. Jordan, Director, Training
B. Kapellas, Director, Work Management
C. Kent, Manager, Operations Support
D. Knox, Programs Engineering
D. Legget, Manager, Regulatory Assurance
T. Loch, Manager, Design Engineering
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D. O'Flanagan, Manager, Security
C. Pragman, Fire Protection, Corporate
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P. Simpson, Licensing, Corporate
J. Sipek, Director, Engineering
M. Taylor, Fire Protection, Corporate
B. Young, Programs Engineering

Nuclear Regulatory Commission

R. Daley, Chief, Engineering Branch 3
C. Phillips, Senior Resident Inspector
D. Melendez, Resident Inspector

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000249/2011008-01 05000249/2011008-01	NCV	Failure to Implement Transient Combustible Program (Section 1R05.1.b)
05000237/2011008-02 05000249/2011008-02	NCV	Failure to Identify Diesel Fire Pump Battery Terminal Corrosion (Section 1R05.3.b)
05000237/2011008-03 05000249/2011008-03	NCV	Failure to Ensure Operators Required for Safe Shutdown Were On-Site (Section 1R05.5.b(1))
05000237/2011008-04 05000249/2011008-04	URI	Safe Shutdown Procedure Implementation (Section 1R05.5.b(2))
05000237/2011008-05 05000249/2011008-05	NCV	Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown (Section 1R05.10.b)
05000237/2011008-06 05000249/2011008-06	FIN	Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown (Section 1R05.10.b)

Closed

05000249/2011008-01 05000249/2011008-01	NCV	Failure to Implement Transient Combustible Program (Section 1R05.1.b)
05000237/2011008-02 05000249/2011008-02	NCV	Failure to Identify Diesel Fire Pump Battery Terminal Corrosion (Section 1R05.3.b)
05000237/2011008-03 05000249/2011008-03	NCV	Failure to Ensure Operators Required for Safe Shutdown Were On-Site (Section 1R05.5.b(1))
05000237/2011008-05 05000249/2011008-05	NCV	Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown (Section 1R05.10.b)
05000237/2011008-06 05000249/2011008-06	FIN	Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown (Section 1R05.10.b)

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 of 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.

ASSESSMENTS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
FRPT 1106230-03	2011 Fire Protection Triennial FASA [Focused Area Self-Assessment] Self-Assessment	May 27, 2011
NOSA-DRE-09-09	Fire Protection Audit Report	November 5, 2009

CALCULATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
GE-NE-A22-00103-56-01-D	Dresden and Quad Cities Extended Power Uprate; Task T0611: Appendix R Fire Protection (Dresden Station)	1
DRE97-0105	Determination of Combustible Loading (Main Body and Appendix No. 1)	8

CORRECTIVE ACTION PROGRAM DOCUMENTS (A/Rs) ISSUED DURING INSPECTION

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
01243803	Mobile Stairs In Were Not Chocked as Required	July 25, 2011
01245367	NRC FP Triennial – Vehicle Key Availability	July 29, 2011
01245372	NRC FP Triennial – Enhance Satellite Phone Program	July 29, 2011
01245718	FP Triennial 2011: Temp Pwr Cables Still Installed from 2008	July 29, 2011
01245723	FP Triennial 2011, NRC Identified HSK Issue – U3 Cable Tunnel	July 29, 2011
01245728	FP Triennial 2011: Wooden Pallet Without Permit	July 29, 2011
01245736	FP Triennial 2011: ELP Heads not Aimed Proper	July 29, 2011
01245738	FP Triennial 2011: Drums in Plant with Expired Permits	July 29, 2011
01249521	FP Triennial 2011: Cable Trays Improperly Labeled	August 9, 2011
01249747	FP Triennial 2011: DSSP 0100-A1 Requires Revision	August 10, 2011
01250404	FP Triennial 2011; Housekeeping and Fire Loading Question	August 11, 2011
01250614	FP Triennial 2011 – NRC Observation, Procedure Enhancement	August 12, 2011
01253907	FP Triennial 2011: Typo in FPR and DSSP	August 22, 2011
01257126	FP Triennial 2011: SSA Needs Enhancement	August 30, 2011
01257128	NRC FP Triennial – TSG-3 Enhancement	August 30, 2011
01257133	FP Triennial 2011: SSA Appendix A Cable Routine	August 30, 2011
01257311	FP Triennial 2011: Document Discrepancies Identified	August 30, 2011

CORRECTIVE ACTION PROGRAM DOCUMENTS (A/Rs) ISSUED DURING INSPECTION

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
01257532	FP Triennial 2011: Enhancement to SSR	August 30, 2011
01257847	FP Triennial: MSO Scenario Did Not Have IR	August 31, 2011
01257854	MSOPS 2AJ: CST Drain Down	August 31, 2011
01258236	NRC Triennial 2011: NRC Walkdown Concerns	September 1, 2011
01258243	NRC Triennial 2011: NRC Walkdown Concerns	September 1, 2011
01258253	NRC Triennial 2011: Safe Shutdown Labels	September 1, 2011
01258254	NRC Triennial 2011, Transient Combustible Trend	September 1, 2011
01258369	HSK: NRC Identify Oil Rag Roll in Cable Tunnel	September 1, 2011
01258376	HSK: NRC Identifies Cart and Tool Bag Left in U3	September 1, 2011
01258696	NRC TP Triennial – Question Regarding Definition of On-Site	September 2, 2011
01258817	2011 Triennial Fire Inspection – TRM 3.7.j Note Concerns	September 2, 2011
01258928	FP Triennial 2011: NRC Concern on TCP Procedure	September 2, 2011
01258932	NRC FP Triennial 2011 – NRC Question Regarding T-0	September 2, 2011
01263681	2011 Triennial Fire Inspection: Combustible Material in Area	September 15, 2011
01272652	NRC Identified Condition with HVO Position and SSD Req.s	October 5, 2011

CORRECTIVE ACTION PROGRAM DOCUMENTS (A/Rs) REVIEWED

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
00320066	Appendix R Timeline Documentation Enhancement	
01060471	MSOPS 1A, 1B, and 2E: RPS Scram Circuits	April 23, 2010
01060490	MSOPS 2AI: Spurious Operation of a Feedwater or Booster Pump	April 23, 2010
01060494	MSOPS 2B: MSIV's Hot Short Results in MSIVs Failing to Close	April 23, 2010
01060502	MSOPS 2D: Failure to trip the Recirc Pump on Loss of Cooling	April 23, 2010
01060539	MSOPS 2W: HPCI Drain to the Sump Failing Open	April 23, 2010
01060669	MSOPS 5H: Cross Tying the Off Site Power Sources	April 23, 2010
01214717	Corrosion on 2/3 Diesel Fire Pump Batteries	May 11, 2011
01234201	NRC Bulletin 2011-01 – Identified Recommendations/Gaps	June 29, 2011
01247865	Issue Found in DSSP 0100-CR	August 4, 2011
01250514	Plastic Pallets / Lined Blankets in U2 Trackway / No Permits	August 11, 2011
01258591	Truck Stranded Operator During Rounds	September 1, 2011

DRAWINGS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
12E-117	Area 3 Conduit and Tray Layout Plan Below EL 551'-0"	P
12E-2048	Cable Routing and Fire Stops Cable Tunnel and Outdoor	AH
12E-2057F	Elect Instl Fire Protection Sys Turb Bldg EL 534'-6" Southeast	E

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Attachment

DRAWINGS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
12E-2301	Single Line Diagram 4160V Bus 21,22,23,24 480V SWGR 20, 25,26,27 Sht. 2, 3	AJ
12E-2322A	Key Diagram Turbine Bldg 125V DC Reserve Bus Dist Panels	P
12E-2449	Schematic Diagram Reactor Vessel Head Cover Vent and Seal Leak Off Valves	L
12E-3017	Electrical Installation Conduits in Cable Tunnel Plan	AV
12E-3061A	Electrical Installation Turbine Building EL 517'-6" Northwest	V
12E-3062B	Elect Instl Fire Protection Sys Turb Bldg EL 517'-6" SE Area	B
12E-3063B	Elect Instl Fire Protection Sys Turb Bldg EL 517'-6" SW Area	D
12E-3065D	Elec Install Fire Protection Sys Turb Bldg EL 538'-0" NW Area	E
12E-3067	Electrical Installation Turbine Building EL 538'-6" Southwest	CI
12E-3067D	Elec Install Fire Protection Sys Turb Bldg EL 538'-0" SW Area	G
12E-3334	Relaying and Metering Diagram 4160V Switchgear 34-1 and 33-1	W
12E-3501	Schematic Diagram Primary Containment Isolation System Sensor and Trip Logic Sht. 1, 2 and 3	AU
12E-3502	Schematic Diagram Primary Containment Isolation Sys Switch Development, Reset Ckt Tip Isol Recirc Loop Intlk	A F
12E-3504	Schematic Diagram Pri Containment Isolation Sys Main Steam Isolating Circuit Inboard Sht. 1, 2	U
12E-3504A	Schematic Diagram Pri Containment Isolation Sys Main Steam Isolating Circuit Outboard	T
12E-3506	Schematic Diagram Primary CNMT Isolation System Isolation Condenser VLV-Outboard MOV 1301-3	AD
12E-3507	Schematic Diagram Primary Containment ISOL System Isolation Condenser Control Logic Sht. 1 and 2	AF
12E-3507B	Schematic Diagram Isolation Condenser Reactor Inlet Valves 3-1301-1 and 3-1301-4	P
12E-3674D	Wiring and Schematic Diagram Reactor Building 480V AC MCC 38-1 (3-7838-1)	AH
F-221	Hot Shutdown Equipment List Dresden Unit 3	C
F-363	Fire Suppression Sys Turbine Building Corridor	P
F-384	Fire Suppression Sys Piping Plan Trackways Area G and E	N
F-389	Fire Suppression Sys Section and Branch Lines Cable Tunnel Sht. 1-4	J
F-391	Fire Suppression Sys Piping Plan Cable Tunnel Area D-D	A
F-410	Fire Suppression Sys One Hydrogen Seal Oil Unit	B
F-425	Fire Suppression Sys Area Between Col 51 to 53F to G Unit 3	A
F-428	Fire Suppression Sys Piping Plan Cable Tunnel Area D-D	A
M-35 Sh. 1	Diagram of Dematerialized Water System Piping	DY
M-366	Diagram of Dematerialized Water System Piping	BW

EVALUATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
-----	An Evaluation of Standard For Portable Fire Extinguishers (NFPA #10)	April 24, 1985
-----	Safety Evaluation (10 CFR 50.59); Dresden Administrative Technical Requirements 3/4.1, 3/4.2	0
Dresden MSOs	BWR Generic MSO List Dresden	July 6, 2011
EC 379672	GL 86-10 Evaluation; Evaluation for Use of Alternate Compensatory Measures Related to Multiple Spurious Operations (MSO)	0
MSO 2b	Main Steam Isolation Valves Hot Shorts Result in MSIVs Failing to Close or Spuriously Open	Draft A
MSO 2aj/al	Drain Down of Condensate Storage Tank (CST) to Hot Well and CST Discharge to Radwaste System	Draft A
SSA/SDR	Dresden Station Units 2 and 3 Fire Protection Report, Volume 2, Appendix R Conformance (Sections III.G, J, and III.L) Safe Shutdown Report	June 2001

MISCELLANEOUS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
11-024	Fire Protection Impairment Permit; U2 and U3 Cable Tunnel Sprinkler System OOS for Valve Maintenance	March 29, 2011
11-067	Fire Protection Impairment Permit; 2/3 TB Cable Tunnel Fire Protection Isolated for Flow Switch Repair	July 9, 2011
11-085	Fire Protection Impairment Permit; XL-3 Loop 63, 72, 73, 74 INOP; 3-4115-500 (H2 Seal Oil Deluge) isolated	August 4, 2011
299L-S4	Initial License Operator Training; Dresden Safe Shutdown	2
00473313	Kidde – Red Alert Service Emergency Foam Delivery (As Needed); Blanket Master Contract	April 5, 2011

PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DFPS 4175-07	Fire Door/Oil Spill Barrier Surveillance	28
DOA 0010-10	Fire/Explosion	9
DOA 0010-10	Fire/Explosion	10
DOA 0250-01	Relief Valve Failure	30
DOS 0010-14	Safe Shutdown Equipment Inspection	29
DOS 4650-01	Control Room Emergency Breathing Air Sys Surveillance	06
DSSP 0010-01	Determining Safe Shutdown Paths For Extensive Plant Damage	9
DSSP 0010-01	Determining Safe Shutdown Paths For Extensive Plant	10

PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
	Damage	
DSSP 0100-A1	Hot Shutdown Procedure - Path A1	30
DSSP 0100-A2/B2	Hot Shutdown Procedure - Path A2/B2	33
DSSP 0100-B1	Hot Shutdown Procedure - Path B1	31
DSSP 0100-CR	Hot Shutdown Procedure - Control Room Evacuation	42
DSSP 0100-T14	Minimum CST Inventory For RPV Makeup	06
DSSP 0200-T3	Diesel Generator 2/3 Local Manual Start	10
DSSP 0200-T3	Diesel Generator 2/3 Local Manual Start	10
LOG 11-09	Standing Order; Execution of DSSPs (Rev 2)	September 9, 2011
LOG 11-11	Standing Order; NRC Tri-ennial Fire Inspection Interim Actions	October 11, 2011
OP-AA-101-111	Roles and Responsibilities of On-Shift Personnel	5
OP-AA-201-002	Attachment 1 Fire Event Report	3
OP-AA-201-003	Attachment 1 Fire Drill Record	11
OP-AA-201-004	Fire Prevention For Hot Work	8
OP-AA-201-007	Fire Protection System Impairment Control	7
OP-AA-201-009	Control of Transient Combustible Material	11
OP-DR-101-111-1001	On-Shift Staffing Requirements	3
TSG-3	Operational Contingency Action Guidelines	5
Unit 00 DES 8300-13	Unit 1 and 2/3 Diesel Fire Pump and Security Diesel Starting Batteries Surveillance and Maintenance Procedure	16
Unit 2(3) DOS 8300-16	Unit 2(3) Monthly Station Battery Inspection	15

REFERENCES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DRE97 0034	Medium Voltage Relay Settings	000
Project No. 7927-05	MSIV – Spurious Operational Analysis	September 2, 1987
SLICE Version 7.6	Tray No: 806 SEG Code: II	August 5, 2011

VENDOR DOCUMENTS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
ALCAD	Nickel Cadmium Batteries – Installation and Operation Manual	---

WORK ORDERS (WOs)

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
00823687 01	D1/2/3 3Y TSTR Fire Water System Triennial Flow Test	February 19, 2009
00940844 01	D2/3 5Y COM Insp Fire Prot Strainer 2/3-4102-12	July 20, 2011
01137792 01	D2 18M Isolation Condenser Valve Operability Check	March 1, 2010
01195732 01	D2/3 18M TSTR/COM Fire Door/Oil Spill Barrier Surveillance	June 17, 2010
01213572 01	D3 18M TSTR/COM Insp H2 Seal Oil Unit Deluge Valve	August 26, 2010
01221580 01	D3 18M TSTR/COM Fire Sprinkler Sys Integrity – Low Rad	September 11, 2010
01236660 01	D2 18M Isolation Condenser Valve Operability Check	November 24, 2010
01250941 01	D2/3 18M TSTR/COM Verify Fire Sprinkler Sys Integrity	January 26, 2011
01255249 01	D1/2/3 AN TSTR Heat/Smoke Detector Operability Test	July 29, 2010
01262281 01	D2/3 AN TSTR OP Tst Ht Det H2 Seal Oil/Turb Res 2/3	October 5, 2010
01264853 01	D2/3 AN TSTR Fire Pump Flow Capacity Test	September 6, 2010
01308656 01	D2/3 AN PM Cont Rm Hvac Sys Smoke Detector Test	May 5, 2011
01335391 07	D3 AN TSTR Heat/Smoke Detector Operability Test	March 11, 2011
01349463 01	D1 AN TSTR Fire Pump Flow Capacity Test	June 22, 2011
01438993 01	D2/3 Qtr TSTR Diesel Fire Pump Battery Surv.	August 26, 2011
01440883 01	2/3 DFP Battery Cell Low Voltage	May 24, 2011
01440920 01	Corrosion on 2/3 Diesel Fire Pump Batteries	May 24, 2011

List of Acronyms Used

ADAMS	Agencywide Document Access Management System
AR	Action Request
BWR	Boiling Water Reactor
CFR	Code of Federal Regulations
CST	Condensate Storage Tank
DC	Direct Current
EGM	Enforcement Guidance Memorandum
ESS	Essential Service System
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
LLC	Limited Liability Company
MCC	Motor Control Center
MSO	Multiple Spurious Operation
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records
RG	Regulatory Guide
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WO	Work Order

M. Pacilio

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Sincerely,

/RA by K. G. O'Brien For/

Steven A. Reynolds, Director
Division of Reactor Safety

Docket Nos. 50-237; 50-249
License Nos. DPR-19; DPR-25

Enclosure: Inspection Report 05000237/2011008(DRS); and 05000249/2011008(DRS)
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