



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

June 16, 2014

Mr. Michael J. Pacilio  
Senior VP, Exelon Generation Co., LLC  
President and CNO, Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

**SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3  
TRIENNIAL FIRE PROTECTION INSPECTION REPORT  
05000237/2014008; 05000249/2014008**

Dear Mr. Pacilio:

On May 23, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed a triennial fire protection inspection at your Dresden Nuclear Power Station, Units 2 and 3. The enclosed inspection report documents the inspection results, which were discussed on May 23, 2014, with Mr. J. Washko 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.

NRC inspectors documented two findings of very low safety significance (Green) in this report. One of these findings was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because the issue was entered into your Corrective Action Program, the NRC is treating the issue as a Non-Cited Violation (NCV) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the subject or severity of any Non-Cited Violation 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 NRC 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 Title 10, *Code of Federal Regulations* (CFR), Section 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/

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

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

Enclosure:  
Inspection Report 05000237/2014008; 05000249/2014008  
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-237; 50-249

License Nos: DPR-19; DPR-25

Report Nos: 05000237/2014008; 05000249/2014008

Licensee: Exelon Generation Company, LLC

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL

Dates: April 7 – May 23, 2014

Inspectors: Dariusz Szwarc, Senior Reactor Inspector, Lead  
Ronald Langstaff, Senior Reactor Inspector  
David Oliver, Reactor Inspector  
Robert Winter, Reactor Inspector

Observers: Ijaz Hafeez, Reactor Inspector  
Swetha Shah, Reactor Inspector

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000237/2014008, 05000249/2014008; 04/07/2014 – 05/23/2014; Dresden Nuclear Power Station, Units 2 and 3; Routine Triennial Fire Protection Baseline Inspection.

This report covers an announced Triennial Fire Protection Baseline Inspection. The inspection was conducted by Region III inspectors. Two findings were identified by the inspectors. One finding was considered a Non-Cited Violation (NCV) of NRC regulations. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Cross-cutting aspects were determined using IMC 0310, "Aspects Within the Cross-Cutting Areas." Findings for which the SDP does not apply may be Green or assigned a severity level after NRC management review. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### A. NRC-Identified and Self-Revealed Findings

#### Cornerstone: Mitigating Systems

- Green. The inspectors identified a finding of very low safety significance (Green) related to inadequate applicability reviews of operational configuration changes that were implemented as a result of the licensee's Multiple Spurious Operation (MSO) evaluations. Specifically, the licensee failed to follow procedural requirements for determining the applicability for performing 10 CFR 50.59 screening and evaluations for changes made to the facility which de-energized several safety-related motor operated valves (MOVs). The procedural action required that the configuration changes be screened for applicability for a specific 10 CFR Part 50.59 evaluation since aspects of the changes were not completely controlled under the licensee's Fire Protection Program. The licensee entered this issue into their Corrective Action Program to perform a 10 CFR 50.59 screening of changes for each affected system to ensure that all aspects of component design were evaluated.

The performance deficiency was determined to be more than minor because the issue, if left uncorrected, would have become a more significant safety concern. Specifically, by not individually evaluating the scope and applicability of plant configuration changes, the licensee lost the ability to ensure that all aspects of component design were appropriately evaluated against the plant's design and licensing basis. Such changes have the potential to adversely affect design or operation of systems. Failure to evaluate such aspects allows the potential for adverse changes to go undetected. This finding has a cross-cutting aspect in the area of Human Performance because the licensee became complacent during the conduct of performing applicability reviews that were related to the facility's Fire Protection Program, and failed to recognize changes that included elements outside of the scope of fire protection. [H.12]. (Section 1R05.6(b))

- Green. The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of Technical Specifications (TS) Section 5.4.1.a, for the licensee's failure to seismically restrain nitrogen bottles located near safety-related motor control centers (MCCs). Specifically, the licensee failed to seismically restrain a cart with two nitrogen bottles located near safety-related MCCs per their procedures for

the handling and storage of compressed gas cylinders and restraint of portable equipment. The licensee entered this issue into their corrective action program, moved the cart with the nitrogen bottles away from the MCCs, and secured it to a column nearby.

The inspectors determined that the finding was more than minor because during a seismic event the bottles could have tipped over and impacted the MCCs, thereby causing a loss of safety-related equipment, such as the Unit 2/3 emergency diesel generator. The finding was determined to be of very low safety significance based on a detailed risk-evaluation. The finding has a cross-cutting aspect in the area of Human performance because maintenance and operations personnel did not coordinate during a change out of nitrogen bottles which resulted in the bottles being left unsecured. [H.5] (Section 4OA5.2)

**B. Licensee-Identified Violations**

No violations of significance were identified.

## 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, onsite inspection of the licensee's Fire Protection Program's defense-in-depth elements used to mitigate the consequences of a fire. The Fire Protection Program shall extend the concept of defense-in-depth to fire protection in plant areas important to safety by:

- preventing fires from starting;
- rapidly detecting, controlling and extinguishing fires that do occur;
- 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 Title 10, Code of Federal Regulations (10 CFR) Part 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 areas and fire zones and B.5.b mitigating strategies selected for review during this inspection are listed below and in Section 1R05.13. The fire areas and fire zones selected constituted four 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-I	8.2.5.A	Unit 2 Trackway
TB-I	8.2.6.A	Unit 2 Turbine Building Mezzanine
TB-III	8.2.4	Unit 3 Cable Tunnel
TB-V	6.2	Auxiliary Electrical Equipment 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 also reviewed the licensee's design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the Fire Protection Program and/or post-fire safe shutdown analysis and procedures.

b. Findings

No findings of significance were identified.

.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.

The team observed an unannounced fire drill simulating a fire in the Unit 2 turbine building radiation protection mask area. The team observed fire brigade members fight a simulated fire. The team verified that the licensee identified problems, openly discussed them in a self-critical manner at the drill debrief, and identified appropriate corrective actions.

b. Findings

No findings of significance were identified.

.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

No findings of significance were identified

.6 Circuit Analyses

a. Inspection Scope

The inspectors verified that the licensee performed a post-fire safe shutdown (SSD) analysis for the selected fire areas and the analysis appropriately identified the structures, systems, and components important to achieving and maintaining safe shutdown. Additionally, the inspectors verified that the licensee's analysis ensured that necessary electrical circuits were properly protected and that circuits that could adversely impact safe shutdown due to hot shorts, shorts to ground, or other failures were identified, evaluated, and dispositioned to ensure spurious actuations would not prevent safe shutdown.

The inspectors' review considered fire and cable attributes, potential undesirable consequences, and common power supply/bus concerns. Specific items included the credibility of the fire threat, cable insulation attributes, cable failure modes, and actuations resulting in flow diversion or loss of coolant events.

The inspectors also reviewed cable raceway database information for a sample of components required for post-fire safe shutdown to verify that cables were routed as described in the cable routing matrices.

The inspectors verified for cables that are important to SSD, but not part of the success path, and that do not meet the separation/protection requirements of Section III.G.2 of 10 CFR 50, Appendix R, that the circuit analysis considered the cable failure modes. In addition, the inspectors have verified that the licensee has either (1) determined that there is not a credible fire scenario (through fire modeling), (2) implemented feasible and reliable manual actions to assure SSD capability, or (3) performed a circuit fault analysis demonstrating no potential impact on SSD capability exists.

b. Findings

(1) Inadequate Applicability Reviews of Configuration Changes for De-Energizing Safety-Related Valves

Introduction: The inspectors identified a finding of very low safety significance (Green) related to inadequate applicability reviews of operational configuration changes that were implemented as a result of the licensee's Multiple Spurious Operation (MSO) evaluations. Specifically, the licensee failed to follow procedural requirements for

determining the applicability for performing 10 CFR 50.59 screenings and evaluations for changes made to the facility which de-energized several safety-related motor operated valves (MOV's). The procedural action required that the configuration changes be screened for applicability for a specific 10 CFR Part 50.59 evaluation since aspects of the changes were not completely controlled under the licensee's Fire Protection Program.

Description: On October 15, 2012, the licensee completed evaluation EC 386234, "Dresden Fire Safe Shutdown Multiple Spurious Operation Evaluation," which provided proposed resolutions to postulated fire-induced MSO scenarios. These scenarios contained the corresponding technical evaluations to ensure conformance with the guidance of Regulatory Guide 1.189 and Nuclear Energy Institute (NEI) 00-01, "Guidance for Post Fire Safe Shutdown Analysis," Revision 2. In some cases, procedural and/or configuration modifications were recommended.

Scenario 5k of this evaluation, which was based upon the generic MSO Scenario 5k description from NEI 00-01, Table G-1 concerning spurious motor-operated valve operation and wire-to-wire short(s) that bypass torque and limit switches, identified several affected MOV's where fire-induced circuit failures could cause spurious operation. These spurious operations were considered because they may cause damage to the MOV's and prevent later required manipulations, and had the potential to affect the station's ability to achieve safe shutdown in the event of a severe uncontrolled fire.

As a result of the MSO evaluation, the licensee implemented numerous procedural and operational configuration changes to the facility to de-energize several MOV's and other components that were determined to have the possibility to maloperate as a result of fire induced failures.

Though MSO evaluations were conducted by the licensee as an element of changes to the station's Fire Protection Program, changes to the components themselves identified by the evaluations were not specific to or solely controlled by the licensee's Fire Protection Program. Many of the affected components were Shutdown Cooling (SDC) and Reactor Building Closed Loop Cooling Water (RBCCW) system MOV's and control power fuses for the SDC pumps; therefore, changes or modifications to these components were to be controlled under the licensee's 10 CFR 50.59 process.

The licensee's Procedure LS-AA-104-1000; "Exelon 50.59 Resource Manual," Revision 7 Section 4.2.1.7, Other Program Controls – Fire Protection Program stated:

"If a change to the Fire Protection Program is directly related to the activity, 10 CFR 50.59 does not apply to any related UFSAR change. Other changes to the facility or procedures that are required because of the change to the Fire Protection Program are subject to 10 CFR 50.59 unless the activity is controlled by a more specific regulation..."

Additionally, Section 4.1, "Applicability Purpose," stated:

"In order to take credit for the exemption from performing 50.59 Reviews for proposed activities as a result of performing the Applicability Review described in this section of the Resource Manual, the following criteria must be satisfied:

1. All aspects of the proposed activity must be addressed by other regulatory requirements; otherwise, at a minimum, a 50.59 Screening must be performed as described in Section 5 of this manual for those portions of the activity which are not covered by the other regulatory requirements.
2. Approved procedure(s) for implementing the change process described in the other regulatory requirements, including Technical Specifications, must exist; otherwise, at a minimum, a 50.59 Screening must be performed as described in Section 5 of this manual for the proposed activity.”

The inspectors identified that during the determination of 10 CFR 50.59 applicability, the decision boxes on Worksheet LS-AA-104-1002, “50.59 Applicability Review Form,” stating that all aspects of the proposed activity were being controlled by the Fire Protection Program, were checked; therefore, asserting that a 10 CFR 50.59 screening was not required, and that such changes were solely controlled under the licensee’s Fire Protection Program.

Inspectors concluded that the operational configuration changes implemented by the licensee to de-energize MOVs and other components identified by the licensee’s MSO evaluations constituted a change to the facility that included aspects outside the scope of the licensee’s Fire Protection Program, and that a 10 CFR 50.59 screening was required to be performed by the licensee’s Procedure LS-AA-104-1000. This finding was entered into the licensee’s CAP as Issue Report (IR) 1662096. Corrective actions included the performance of 10 CFR 50.59 screening of changes for each affected system to ensure that all aspects of component design were evaluated.

Analysis: The inspectors determined that the licensee’s failure to follow procedural requirements for determining the applicability for performing a 10 CFR 50.59 screening was contrary to Procedure LS-AA-104-1000 and was a performance deficiency. Specifically, the licensee failed to perform 10 CFR 50.59 screenings for operational configuration changes made to the facility which de-energized several safety-related MOVs.

The performance deficiency was determined to be more than minor because the issue, if left uncorrected, had the potential to become a more significant safety concern. Specifically, by not individually evaluating the scope and applicability of plant configuration changes, the licensee lost the ability to ensure that all aspects of component design were appropriately evaluated against the plant’s design and licensing basis. Such changes have the potential to adversely affect design or operation of systems. Failure to evaluate such aspects allows the potential for adverse changes to go undetected. The inspectors concluded this finding was associated with the Mitigating Systems Cornerstone.

In accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Initial Characterization of Findings,” Table 2 the inspectors determined the finding affected the Mitigating Systems cornerstone. The inspectors determined the finding could be evaluated using Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” Exhibit 2 for the Mitigating Systems cornerstone and answered “Yes” to the Mitigating Systems Cornerstone Question A.1. Specifically, the issue did not result in the actual loss of the operability or functionality of a safety system. As a result, the finding was determined to be very low safety significance (Green).

This finding has a cross-cutting aspect in the area of Human Performance because the licensee did not recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes or implement appropriate error reduction tools. Specifically, the licensee became complacent during the conduct of performing the numerous applicability reviews that resulted from the MSO evaluations, and failed to recognize changes that included elements outside of the scope of fire protection. [H.12].

Enforcement: This finding does not involve enforcement action because no violation of a regulatory requirement was identified. Because this finding does not involve a violation and is of very low safety significance, it is identified as a FIN. (FIN 05000237/2014008-01; 05000249/2014008-01, Inadequate Applicability Reviews of Configuration Changes for De-Energizing Safety-Related Valves).

.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.

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 onsite. The inspectors evaluated whether cold shutdown could be achieved within the required time using the licensee's procedures and repair methods. The inspectors also verified

that equipment necessary to perform cold shutdown repairs was available onsite and properly staged.

b. Findings

No findings of significance were identified.

.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

No findings of significance were identified.

.11 Review and Documentation of Fire Protection Program Changes

a. Inspection Scope

The inspectors reviewed changes to the approved Fire Protection Program to verify that the changes did not constitute an adverse effect on the ability to safely shutdown. The inspectors also reviewed the licensee's design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the Fire Protection Program and/or post-fire safe shutdown analysis and procedures.

b. Findings

No findings of significance were identified.

.12 Control of Transient Combustibles and Ignition Sources

a. Inspection Scope

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. A sample of transient combustible control permits was also reviewed. The inspectors performed plant walkdowns to verify that transient combustibles and ignition sources were being implemented in accordance with the administrative controls.

b. Findings

No findings of significance were identified.

.13 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 (TI) 2515/171 or subsequent performances of these inspections.

The B.5.b mitigating strategies selected for review during this inspection are listed below. The offsite and onsite communications, notifications/emergency response organization activation, initial operational response actions and damage assessment activities identified in Table A.3 1 of Nuclear Energy Institute (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.

<b>NEI 06-12, Revision 2, Section</b>	<b>Licensee Strategy</b>	<b>Selected for Review</b>
3.4.8	Manually Open Containment Vent Lines	Selected
3.4.9	Inject Water into the Drywell	Selected

b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA2 Identification and Resolution of Problems (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.

##### 4OA5 Other Activities

- .1 (Closed) Unresolved Item 05000237/2011008-04; 05000249/2011008-04, Safe Shutdown Procedure Implementation: During the triennial fire protection inspection conducted in 2011, the inspectors identified an unresolved item (URI) associated with the use of safe shutdown procedures in the event of a fire. Specifically, the fire protection safe shutdown procedures had precautions that stated the procedures were to be followed only in the event that normal or emergency procedures were deemed insufficient. The inspectors were concerned that a potential delay in entering the fire protection safe shutdown procedures would prevent operators from performing necessary actions in sufficient time during a severe fire. Since the 2011 inspection the licensee has made changes to their fire protection procedures, including recalling and staging operators that would result in shorter response times. In addition, the inspectors observed operator response during several scenarios in the simulator. The inspectors reviewed the licensee's licensing basis and normal, emergency, and fire protection safe shutdown procedures. The inspectors could not identify a violation associated with the safe shutdown procedures at this time. Therefore, this URI is closed.
- .2 Failure to Seismically Secure Nitrogen Bottles

Introduction: The inspectors identified a finding of very low safety significance (Green) and associated non-cited violation (NCV) of Technical Specifications (TS) Section 5.4.1.a for the failure to seismically restrain nitrogen bottles located near safety-related motor control centers (MCCs). Specifically, the licensee failed to seismically restrain a cart with two nitrogen bottles located near safety-related MCCs per their procedures for the handling and storage of compressed gas cylinders and restraint of portable equipment. This could have resulted in the bottles tipping over during a seismic event and potentially causing the loss of safety-related equipment.

Description: During a walkdown on May 8, 2014, in the Unit 2 turbine building mezzanine, the inspectors identified an unsecured cart with two nitrogen bottles. This cart was located within ten feet of safety-related MCCs 28-2 and 28-3. These two MCCs controlled the Unit 2/3 diesel cooling water pump, Unit 2 containment cooling service water pump vault cooler fans, and the 125 volt battery charger 2A, all of which were safety-related. The inspectors were concerned that during a seismic event the bottle

cart could tip over and impact the MCCs, potentially tripping the safety-related equipment that was controlled by those MCCs.

The nitrogen bottles were used as a backup supply of nitrogen for the Unit 2 feedwater regulator valves. Operations personnel had requested the mechanical maintenance personnel to bring replacement nitrogen bottles for the feedwater regulator valves. Operations personnel replaced the bottles but failed to communicate with maintenance personnel to remove the empty bottles from the area. As a result, the inspectors identified the unsecured cart with two nitrogen bottles.

Technical Specification 5.4.1.a required that written procedures be established, implemented, and maintained covering applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A. Section 9 of Appendix A to Regulatory Guide 1.33 listed procedures for performing maintenance among the required procedures. Procedure SA-AA-122, "Handling and Storage of Compressed Gas Cylinders/Portable Tanks and Cryogenic Containers/Dewars," Revision 11, contained the requirements for properly securing compressed gas cylinders while in use, being transported, or in storage. Section 4.3.17 of the procedure stated, in part, that compressed gas cylinders be secured to substantial supports. Further, Procedure DAP 03-20, Restraint of Portable Equipment," Revision 19, Section F.4 stated, in part, that an unattended item in an area requiring seismic restraint be restrained per Paragraph F.7. Paragraph F.7 listed various structures to which the item may be attached to. The nitrogen bottle cart was not attached to any of the listed items.

Once the inspectors identified the unsecured bottle cart the licensee initiated condition report IR 1661843, "NRC ID: Nitrogen Bottles Not Seismically Secured," dated May 19, 2014, and secured the bottle cart to a nearby column. Subsequently, the licensee removed the bottles and cart from the area.

Analysis: The inspectors determined that the licensee's failure to seismically restrain nitrogen bottles was contrary to procedures for the handling and storage of compressed gas cylinders and restraint of portable equipment and was a performance deficiency. Specifically, the licensee failed to seismically restrain a cart with two nitrogen bottles located near safety-related MCCs, which could have resulted in the bottles tipping over during a seismic event and potentially causing the loss of safety-related equipment.

The performance deficiency was determined to be more than minor because the issue was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (seismic) and affected the cornerstone objective of ensuring the availability, reliability, and capability of safety-related structures, systems, and components to respond to initiating events to prevent undesirable consequences. Specifically, during a seismic event the nitrogen bottle cart could have impacted MCCs 28-2 and 28-3 and rendered the Unit 2/3 diesel generator inoperable.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined the finding affected the Mitigating Systems cornerstone. The inspectors determined the finding could be evaluated using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 4 because the finding was associated with a seismic event. In Exhibit 4, the inspectors answered "Yes" to the screening statement, "The loss of this equipment by itself during the external initiating event it was intended to mitigate would degrade one or more trains of a system that supports a risk significant

system or function,” because the loss of MCC 28-3 would render the Unit 2/3 Diesel Generator Cooling Water Pump unavailable which would thus make the 2/3 Diesel Generator unavailable. Therefore, the finding required a detailed risk evaluation.

The risk evaluation was performed by Region III Senior Reactor Analysts (SRAs). It was assumed that a seismic event sufficient to cause a loss of offsite power (LOOP) was required to cause an interaction between the nitrogen bottles and MCC 28-2 and MCC 28-3 that would result in the loss of these MCCs. Thus, the delta increase in core damage frequency ( $\Delta$ CDF) was calculated assuming scenarios involving a seismically-induced LOOP initiating event. It was conservatively assumed that the operators would fail to recover offsite power for at least 24 hours. Due to the performance deficiency, the potentially risk significant equipment on these MCCs (i.e., the 125 volt Battery Charger 2A on MCC 28-2 and the Unit 2/3 Diesel Cooling Water Pump on MCC 28-3) were modeled as failed following a seismically-induced LOOP.

The initiating event frequency for a seismically-induced LOOP for Dresden was obtained from the NRC’s Risk-Assessment Standardization Project handbook as  $5.19E-5$ /yr using the United States Geological Survey 2008 Hazard Vectors.

The Dresden Standardized Plant Analysis Risk (SPAR) model version 8.21 and Systems Analysis Programs for Hands on Integrated Reliability Evaluations version 8.1.0 software were used to obtain a delta Conditional Core Damage Probability ( $\Delta$ CCDP) for the event. The result was a  $\Delta$ CCDP of  $3.79E-4$ . The  $\Delta$ CDF for the issue was thus estimated to be  $2.0E-8$ /yr for Dresden Unit 2 (i.e.,  $5.19E-5$ /yr  $\times$   $3.79E-4$  =  $2.0E-8$ /yr). The dominant core damage sequence was a seismically-induced LOOP initiating event with a failure of the isolation condenser, a failure of high pressure coolant injection (HPCI), and a failure of manual reactor depressurization.

Therefore, based on the detailed risk evaluation, the SRAs determined that the finding was of very low safety significance (Green).

This finding has a cross-cutting aspect in the area of human performance because the licensee did not implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, the licensee’s operations personnel did not coordinate with maintenance personnel when changing out nitrogen bottles for the feedwater regulating station and this resulted in the bottles being left seismically unsecured near safety-related MCCs. [H.5]

Enforcement: Technical Specification Section 5.4.1.a states, in part, that “written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.” NRC Regulatory Guide 1.33, Appendix A, Section 9 addresses “Procedures for Performing Maintenance.” Procedure SA-AA-122, Step 4.3.17, states, in part, that compressed gas cylinders be secured to substantial supports. Procedure DAP 03-20, “Restraint of Portable Equipment,” Step F.4 states that an item that will be left unattended in an area requiring seismic support shall be stored greater than its height plus 24 inches from safety-related equipment or seismically restrained per Paragraph F.7. Paragraph F.7 listed various structures to which the item may be attached to.

Contrary to the above, between May 2 and May 19, 2014, the licensee failed to implement Step 4.3.17 of Procedure SA-AA-122 and Steps F.4 and F.7 of Procedure DAP 03-20. Specifically, the licensee failed to seismically restrain a cart with two

nitrogen bottles located near safety-related MCCs. During a seismic event the bottle cart could have tipped over and impacted the MCCs, potentially causing the loss of safety-related equipment.

This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy because it was of very low safety significance and was entered into the licensee's Corrective Action Program as IR 1661843. The licensee moved the cart with the nitrogen bottles away from the MCCs and secured it to a column nearby. (NCV 05000237/2014008-02; 05000249/2014008-02, Failure to Seismically Secure Nitrogen Bottles).

#### 4OA6 Management Meetings

##### .1 Exit Meeting Summary

On May 23, 2014, the inspectors presented the inspection results to Mr. J. Washko, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

J. Washko, Station Plant Manager  
B. Franzen, Operations Support Manager  
T. Mohr, Supervisor, Engineering Programs  
B. Montjoy, Fire Marshall  
C. Pragman, Fire Protection, Corporate  
D. Thomas, Simulator Supervisor  
B. Young, Fire Protection Program Owner  
D. Walker, Regulatory Assurance

#### Nuclear Regulatory Commission

D. Lords, Resident Inspector  
G. Roach, Senior Resident Inspector

### LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

#### Opened

05000237/2014008-01 05000249/2014008-01	FIN	Inadequate Applicability Reviews of Configuration Changes for De-Energizing Safety-Related Valves. (Section 1R05.6(b))
05000237/2014008-02 05000249/2014008-02	NCV	Failure to Seismically Secure Nitrogen Bottles. (Section 4OA5.2)

#### Closed

05000237/2014008-01 05000249/2014008-01	FIN	Inadequate Applicability Reviews of Configuration Changes for De-Energizing Safety-Related Valves. (Section 1R05.6(b))
05000237/2011008-04 05000249/2011008-04	URI	Safe Shutdown Procedure Implementation. (Section 4OA5.1)
05000237/2014008-02 05000249/2014008-02	NCV	Failure to Seismically Secure Nitrogen Bottles. (Section 4OA5.2)

## 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.

### CALCULATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DRES970-0105	Fire Load Calculation Sheet, Appendix 1, pages 45, 53, 54, 56, 57, and 60	9
EC 371626	Validation of Hydraulic Capabilities of B5b Pump	4
EC 386234	Exelon – Dresden Fire Safe Shutdown Multiple Spurious Operation Evaluation	0
EC 391132	Operator Manual Action Feasibility Study	0
EC 396961	Evaluation of Explosion Potential of Hydrogen Cylinders Located in Unit 2 & 3 Reactor Buildings	February 5, 2014

### CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED DURING INSPECTION

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
1644680	Transient Combustible on Pipe Support in Overhead	April 8, 2014
1644681	Transient Combustibles in Cable Tray	April 8, 2014
1645142	NRC – Green Trickle Charge Light Out on BOP Emergency Light No. 317	April 9, 2014
1645534	NRC – RP Label Needs to be Replaced	April 10, 2014
1645538	NRC – Transient Combustibles	April 10, 2014
1645562	Typo Identified in EC 391132 References	April 9, 2014
1645589	NRC Concern RP Clothing Bins Located Under SR Cable Tray	April 10, 2014
1645653	NRC – FHA Needs Revision to Reflect Plant	April 10, 2014
1646202	NRC: Transient Combustibles	April 11, 2014
1646322	Fire Protection – B.5.b Walk Down	April 10, 2014
1646820	Emergency Procedures Need Revised	April 13, 2014
1656157	Cable Pull Rope Found in Cable Riser	May 5, 2014
1656187	NRC ID: Issues Identified During Walkdown	May 5, 2014
1656551	NRC ID: Cable Tray Covers Not Installed Properly	May 6, 2014
1656604	Pipe, Conduit, and Cable Tray Support Anchorage Corrosion	May 6, 2014
1656992	Fire Protection – Fire Protection Tour	May 7, 2014
1657015	Fire Protection – Fire Protection Tour	May 7, 2014
1657188	NRC ID Issue in Operator Manual Action Study	May 7, 2014
1657194	NRC ID: Typo in FPR Reference	May 7, 2014
1657531	Fire Protection Tour	May 8, 2014
1657562	Fire Protection Tour	May 8, 2014

**CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED DURING INSPECTION**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1657566	Incorrect Valve Referenced in FPR	May 8, 2014
1661843	NRC ID: Nitrogen Bottles Not Seismically Secured	May 19, 2014
1662096	Issues with Procedure Revisions Identified	May 20, 2014
1662235	NRC FP Walkdown Identifies Missing Ground	May 20, 2014
1662820	NRC: Compressed Gas Storage Concerns	May 21, 2014
1663352	NRC Identified Issues	May 22, 2014
1663367	NRC Gas Bottle Comments	May 22, 2014
1663505	NRC ID Typos in DAP 03-20	May 23, 2014
1665036	NRC Concerns Regarding DSSP 0200-T8	May 28, 2014

**CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
577295-21	Implement B.5.b Commitments (Training)	December 14, 2007
1060673	MSOPS 5I: Spurious Diesel Generator Operation Without Cooling	April 23, 2010
1246198	Hose Failures Impacting Function of B.5.B Pump/Equipment	August 1, 2011
1258696	NRC FP Triennial – Question Regarding Definition of On-Site	September 2, 2011
1258817	2011 Triennial Fire Inspection – TRM 3.7.J Note Concerns	September 9, 2011
1258932	NRC FP Triennial 2011 – NRC Question Regarding T-0	September 2, 2011
1261226	NOS ID: B.5B Equipment Issues	September 9, 2011
1270119	Improvement Opportunity for Infrequently Used Procedures	September 29, 2011
1270446	Trend on B.5.B. & Flooding Issues	September 30, 2011
1272652	NRC Identified Condition with HVO [High Voltage Operator] Position and SSD [Safe Shutdown] Requirements	October 5, 2011
1320046	B5B AC/DC Rectifier/Charger Found with Moisture Damage	January 30, 2012
1323965	B5B Equipment Repair Priority	February 7, 2012
1425720	EC 379672 – RBCCW MOV Breakers 2(3)-3701, 3704	October 12, 2012
1425720	EC379672- RBCCW MOV Breakers 2(3)-3701,3704	March 29, 2013
1426481	EC 379672 – SDC System Equipment Configuration Changes	October 15, 2012
1426574	EC 379672 – Recirc Suction Valve Config Changes	October 15, 2012
1426574	EC379672- Recirculation Suction Valve Configuration Change	October 19, 2013
1481032	MSOPS: MSO Revisions Not Included in Latest	February 27, 2013

**CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1521603	DSSP Revision NRC IN 2013-09 Compressed Flammable Gas Cylinders	June 5, 2013
1540444	B.5.B Pump Low Engine Water Temps	July 28, 2013
1622463	Actions Needed to Address Fleetwide Gas Cylinder Response	February 17, 2014
1632003	NRC Identified Oil in TB Cable Tray from Turbine Bearing No. 10 Above	March 11, 2014

**DRAWINGS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
12E-2311	Key Diagram Turbine Building 480V Motor Control Centers 28-2 and 29-2	AU
12E-2312	Key Diagram Turbine Building 480V MCC 28-3	AA
12E-2351B	Schematic Diagram Diesel Generator 2/3 Auxiliaries and Start Relays Sheet1	AP
12E-2351B	Schematic Diagram Diesel Generator 2/3 Auxiliaries and Start Relays Sheet 2	AQ
12E-2351B	Schematic Diagram Diesel Generator 2/3 Auxiliaries and Start Relays Sheet 2	AJ
12E-2398	Schematic Diagram Reactor Building Closed Cooling Water System Motor Operated Valve	F
12E-2420B	Schematic Diagram Recirculating Pump 2B Motor Operated Valves	AB
12E-2500A	Schematic Diagram Primary Containment Isolation System Motor Operated Valves 1001-1A and 1001- 1B	N
12E-2506	Isolation Condenser Control Logic	AQ
12E-2512	Drywell and Torus Vent and Purge Isolation Control	AL
12E-2649D	Schematic, Wiring, And Window Display Diesel Generator 2/3 Annunciator B	U
12E-2662D	Schematic and Wiring Diagram 480V AC Reactor Building MCC 29-7	AH
12E-2676B	Schematic and Wiring Diagram 480V Turbine Building MCC 28-3	AE
12E-2677B	Schematic and Wiring Diagram 480V Reactor Building MCC-29-1	AN
12E-3050	Cable Pans – Cable Tunnel Sections	H
12E-3441A	Schematic Diagram LPCI-Containment Cooling System Motor Operated Valves 1501-21B and 1501-22B	AB
12E-3506, Sheet 3	Isolation Condenser Control Logic, Sh. 6	AB
12E-3512	Drywell and Torus Vent & Purge Isolation Control	V

## **DRAWINGS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
B-01A	Composite Site Plan	C
F-12-1	Detection and Suppression Cable Tunnel	1
F-208-6	Lighting Emergency Battery Units Turbine Building Ground Floor EL.517'-6"	F
F-3-1	Detection and Suppression Reactor LDG EL 517'-6"	K
F-385	Fire Suppression System Air Compressor Reactor Building Area A and B	G
F-8-1	Detection and Suppression Control Room and Miscellaneous Turbine Building Floors	O
M-30, Sheet 1	Diagram of Reactor Water Clean-Up System	AAN
M-51	Diagram of High Pressure Coolant Injection Piping	CM

## **EVALUATIONS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
13-4104-1	Dresden DSSP Entry Evaluation	August 15, 2013
EC 387105	Evaluation of AEER CO2 System Operation with as Found Timer Settings	0
EC 396830	Evaluation of Loose/Dislodged Spray Deflectors on the Unit 2/3 Cable Tunnel Sprinkler System	0

## **OTHER**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
OP-AA-201-003	Fire Drill Record for Drill Conducted on May 19, 2014	May 19, 2014
DC-EP-01-DRQC	Cable Routing Design Criteria	0

## **PROCEDURES**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
CC-AA-211	Fire Protection Program	5
DAN 923-5 H-2	Dresden Annunciator Response - Control RM HVAC Fire PROT PNL Trouble	8
DAN XL3 Device 81-29	AEER CO2 System Activated Alarm	3
DAN XL3 Device 81-01 Thru Device 81-26	Dresden Annunciator Response - Device 81- 01 Thru Device 81-26	6
DAP 03-20	Restraint of Portable Equipment	19
DFPS 4114-13	Station Blackout Building Fire Equipment Inspection	23
DOA 0010-10	Fire/Explosion	18
DOA 0010-11	Aircraft Crash/Missile Impact	1

## PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DOA 0010-18	Escalated Event/Hostile Force Intrusion	39
DOA 1600-09	Emergency Containment Venting	6
DOS 0010-36	Operations Support Equipment Inspection	28
DOS 0010-38	Flex Pump Operability Surveillance	14
DSSP 0010-01	Determining Safe Shutdown Paths for Extensive Plant Damage	12
DSSP 0100-CR	Hot Shutdown Procedure – Control Room Evacuation	48
DSSP 0200-T8	Temporary 480V Feed Connections – SDC and Recirc MOV's	10
OP-AA-201-009	Control of Transient Combustible Material	2
OP-AA-201-009	Control of Transient Combustible Material	13
OP-AA-201-1001	B.5.B Mitigating Strategies Equipment Expectations	3
OP-DR-101-111-1001	On-Shift Staffing Requirements	10
OP-DR-106-101	Extensive Damage Mitigation	5
SA-AA-122	Handling and Storage of Compressed Gas Cylinders/Portable Tanks and Cryogenic Containers/Dewars	11
SAMG-1	Primary Containment Flooding	1
SY-DR-101-133-1001	Dresden Station Integrated Response Plan With Off-Site Response Agencies	1
TSG-3	Operational Contingency Action Guidelines	14

## REFERENCES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DRE-96292	Discoloration of the Quelpyre Mastic 703B found on the Cables in the AEER at Dresden Station	July 14, 2010
EM-29115	600-Volt Butyl Insulated PVC Jacketed Control Wire and Cable, for Stations and Substations	June 30, 1964
LP ID 1125	Command and Control During Contingencies	5
LP ID 295LN004	B.5.b/EDMG – Operations Training Lesson Plan and Slideshow	July 12, 2013
N/A	Dresden Fire Protection Report	19
N/A	B.5.b Training for Security Shift Supervision – Slides and Attachments	0
N/A	Licensed and Non-Licensed Operator Requalification Long Range Training Plans from 2011 to Present	N/A
N/A	50.59 Applicability Review for DOP 1000-08	0
N/A	50.59 Applicability Review for DOP 1000-08	1

## REFERENCES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
SY-AA-150-1001-F-07	Security Training Schedule – Initial Training, Class 02	0
7-50	FM Global Property Loss Prevention Data Sheets	January 2012

## VENDOR DOCUMENTS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
Form d975exel2001.doc	Analysts Inc. Diesel Fuel Analysis Reports from 03/05/14 to 03/28/14	8
GE-NE-A22-00103-56-01-D	Task T0611: Appendix R Fire Protection (Dresden Station)	1
Safetygram-15	Cylinder Pressure-Relief Devices (Air Products)	September 1999

## WORK ORDERS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
1191996	D2/3 5Y COM Replacement of the B5B Hoses	August 1, 2012
1377117	D2/3 AN COM B5B Portable Pump	December 30, 2011
1385078	D3 RFL TSTR/COM Shutdown Fire Stop/Break Surveillance	November 19, 2012
1395086	D2/3 18M TSTR/COM Aux Elec Equip Room Halon Fire Protection	October 22, 2012
1415646	D2/D3 18M TSTR/COM Fire Stop/Break Surveillance with Units Operating	June 22, 2013
1434965	D3 AN TSTR Heat/Smoke Detector Operability Test	March 5, 2012
1457190	D2/3 3Y COM Replace B5B Pump #1 Engine Battery	February 20, 2013
1486466	D2 RFL TSTR/COM Shutdown Fire Stop/Break Surveillance	November 21, 2013
1502709	D2/3 18M TSTR/COM AEER Manual Cardox System Test	February 3, 2012
1521791	D2/3 18M TSTR/COM AEER Cardox System Test	July 30, 2013
1535541	B5B AC/DC Rectifier/Charger Found with Moisture Damage	August 24, 2012
1551089	D2/3 AN COM Visual Inspection of the B5B Hoses	June 13, 2013
1558235	D2/3 AN PM B5B Portable Generator/Charger Maintenance	May 10, 2013
1558238	D2/3 AN PM B5B Portable Generator/Charger Load Test	May 9, 2013
1574661	D@ 18M TSTR/COM Insp H2 Seal Oil Unit Deluge Valve	February 4, 2014

## **WORK ORDERS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
1579772	D2/3 AN COM Battery Load Test on B5B/Flex Pump #1 Battery	May 10, 2013
1585669	D2/3 3Y COM Flex B.5.B Pump #1 MAINT Per OP-AA-201-010-1001	October 28, 2013
1586087	D1 AN TSTR/COM Diesel Fire Pump Flow Capacity Test	December 4, 2013
1586634	D1/2/3 AN TSTR Heat/Smoke Detector Operability Test	September 10, 2013
1586637	D2/3 12M COM B5B Portable Pump #1	October 30, 2013
1588914	D2/3 AN TSTR/COM Diesel Fire Pump Flow Capacity Test	November 6, 2013
1598809	D2/3 AN COM B5B Portable Pump – Wet Run	July 28, 2013
1618177	D2/3 AN COM B5B Portable Pump	October 28, 2013
1666806	D2/3 QTR PM Inspect/Run B5B Portable Generator/Charger	November 25, 2013
1686990	D2/3 QTR PM Safe Shutdown Equipment Inspection	February 7, 2014
1690407	D2/3 1M PM Inspect B5B Portable Generator/Charger 2/3-6690-202	December 21, 2013
1710573	D2/3 1M COM B5B Portable PP BATT Electrolyte and Voltage Check	March 3, 2014

### List of Acronyms Used

ADAMS	Agencywide Document Access Management System
AR	Action Request
CCDP	Conditional Core Damage Probability
CDF	Core Damage Frequency
CFR	Code of Federal Regulations
EC	Engineering Change
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
LOOP	Loss of Offsite Power
MCC	Motor Control Center
MOV	Motor Operated Valve
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 System
RBCCW	Reactor Building Closed Loop Cooling Water
SDC	Shutdown Cooling
SDP	Significance Determination Process
SPAR	Standardized Plant Analysis Risk
SRA	Senior Reactor Analyst
SSD	Safe Shutdown
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WO	Work Order

M. Pacilio

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In accordance with Title 10, *Code of Federal Regulations* (CFR), Section 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/

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

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

Enclosure:  
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