UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
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July 28, 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 1, 2 AND 3 NRC INTEGRATED INSPECTION REPORT 05000237/2014003; 05000249/2014003; AND 07200037/2014001

Dear Mr. Pacilio:

On June 30, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Dresden Nuclear Power Station, Units 2 and 3. The enclosed report documents the results of this inspection, which were discussed on July 14, 2014, with Mr. S. Marik, Site Vice President, and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. Both of these findings involved violations of NRC requirements; one of these violations was determined to be Severity Level IV under the traditional enforcement process. Further, inspectors documented a licensee-identified violation which was determined to be of very low safety significance and is listed in Section 4OA7 in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the subject or severity of these 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 Plant. 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.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, “Public Inspections, Exemptions, Requests for Withholding,” 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). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Jamnes L. Cameron, Chief
Branch 4
Division of Reactor Projects

Docket Nos. 50–237; 50–249; 72–037
License Nos. DPR–19; DPR–25

Enclosure:
IR 05000237/2014003; 05000249/2014003; 07200037/2014001
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50–237; 50–249; 72–037
License Nos:	DPR–19; DPR–25
Report No:	05000237/2014003; 05000249/2014003; 07200037/2014001
Licensee:	Exelon Generation Company, LLC
Facility:	Dresden Nuclear Power Station, Units 1, 2 and 3
Location:	Morris, IL
Dates:	April 1, 2014 through June 30, 2014
Inspectors:	G. Roach, Senior Resident Inspector D. Lords, Resident Inspector M. Jones, Acting Resident Inspector R. Edwards, Reactor Inspector, Materials Control, ISFSI, and Decommissioning Branch (MCID), Division of Nuclear Materials Safety (DNMS) T. Go, Health Physicist M. Holmberg, Reactor Inspector M. Learn, Reactor Engineer, MCID, DNMS R. M. Morris, Senior Operator Licensing Examiner D. Reeser, Operator Licensing Examiner C. Tilton, Senior Reactor Engineer M. Porfirio, Resident Inspector, Illinois Emergency Management Agency
Approved by:	J. Cameron, Chief Branch 4 Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

Inspection Report 05000237/2014003; 05000249/2014003; 07200037/2014001; 04/01/2014—06/30/2014; Dresden Nuclear Power Station, Units 1, 2 & 3: Maintenance Effectiveness, Other Activities.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors of operational activities associated with an Independent Spent Fuel Storage Installation (ISFSI) at the Dresden Nuclear Power Station, Units 1, 2 and 3. Two Green findings were identified by the inspectors. The findings were considered non-cited violations of NRC regulations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using IMC 0609, "Significance Determination Process" dated June 2, 2011. Cross cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas" effective date January 1, 2014. 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 5, dated February 2014.

NRC-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

Green. The inspectors identified a finding of very low safety significance and non-cited violation of 10 CFR 50.65(a)(1), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for the licensee's failure to take corrective actions by performing an (a)(1) determination when the standby coolant supply system preventative maintenance (a)(2) demonstration was failed. Specifically, in November 2013, the standby coolant supply system exceeded its maintenance rule performance criteria when it experienced an additional maintenance preventable functional failure. The licensee failed to appropriately account for this failure in their Maintenance Rule Program and, as a result, the site failed to perform appropriate corrective action, by failing to perform an (a)(1) determination in accordance with Procedures ER–AA–310, "Implementation of the Maintenance Rule," and ER–AA-310–1005, "Maintenance Rule—Dispositioning Between (a)(1) and (a)(2)," Revision 6. Corrective actions taken by the licensee to address this issue included performing a maintenance rule (a)(1) determination and placing the system into (a)(1) status. The issue was entered into the licensee's corrective action program as issue report (IR) 1644740, "NRC Questions D2R23 Performance of DOS 3900–01," and IR 1650033, "MRule A1 Determination Needed for Missed MRFF Z39–1."

The performance deficiency was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone's attribute of Equipment Performance and affected the cornerstone's objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee failed to identify a functional failure during a periodic (a)(2) demonstration purposed to provide reasonable assurance that the structures, systems, and components (SSCs), the standby coolant injection valve MO 2–3902, was capable of performing its intended function as specified in licensee emergency operating procedure DEOP 0500–03, "Alternate Water Injection Systems," Revision 22. 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. As a result, 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. The inspectors answered "Yes" to the question "Does the finding represent a loss of system and/or function" and determined that a Detailed Risk Evaluation was required. The Senior Reactor Analysts (SRAs) evaluated the finding using the Dresden Standardized Plant Analysis Risk (SPAR) model version 8.18 and Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) version 8.0.9.0 software. The exposure time for the unavailability of the Standby Coolant Supply Valve 2–3902 was assumed to be the maximum value of one year. The result was a delta core damage frequency (ΔCDF) of 6.6E–8/yr. The dominant sequence was a medium loss of coolant accident initiating event with a failure of suppression pool cooling, a failure of power conversion system recovery, and a failure of late injection. Based on the Detailed Risk Evaluation, the SRAs determined that the finding was of very low safety significance (Green). This finding had a crosscutting aspect in Human Performance, Procedure Adherence, because the licensee failed to appropriately document the failure of a standby coolant supply valve in accordance with periodic test procedure DOS 3900–01, "Standby Coolant Supply Functional Test." [H.8] (Section 1R12)

Cornerstone: Miscellaneous

- Severity Level IV. A self-revealing Severity Level IV non-cited violation of CFR Part 72.150, "Instructions, Procedures, and Drawings," was identified for failing to follow procedures that are relied upon to ensure that fuel oxidation does not occur during canister loading activities. Upon identification, the licensee entered the issue into their corrective action program (IR 01662068); performed the required evaluations; revised the necessary procedures; and re-performed vacuum drying prior to performing helium backfill.

  The inspectors determined that the licensee's failure to follow their procedure was a performance deficiency and a violation of 10 CFR 72.150 requirements. Specifically the licensee intended, but failed to follow procedure DFP 0800–71, "MPC Processing," that affected quality and relied upon to ensure that fuel oxidation would not occur during canister loading activities. The inspectors determined the performance deficiency to be more than minor using Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix E, "Example of Minor Issues," Example 4b, in that the failure to follow the procedure had potential safety consequences and the error caused a transient as air was allowed to enter the canister. The significance of the violation was found to be similar to Severity Level IV example 6.5.d.3, of the NRC's Enforcement Policy, in that the licensee failed to adequately implement quality assurance processes or procedures. The issue was not found to be similar to any examples of higher significance; as such, the violation screened as a Severity Level IV violation. Since Traditional Enforcement was used to disposition the violation, there is not a cross-cutting aspect. (Section 4OA5.1)

Licensee-Identified Violations

Cornerstone: Public Radiation Safety

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

Summary of Plant Status

Unit 2

On April 12, 2014, the unit was shut down due to the failure of the main power transformer. Operators returned the unit to full power operation on April 29, 2014.

On May 3, 2014, the unit was shut down due to an unsuccessful automatic voltage regulator (AVR) channel swap. On May 7, operators returned the unit to full power.

Power was reduced to approximately 66 percent on May 24, 2014, for a planned control rod pattern adjustment, and was returned to full power operation the next day.

With the exception of short periods for routine maintenance and surveillances, the unit operated at full power for the remainder of this inspection period.

Unit 3

On May 17, 2014, power was reduced to approximately 57 percent for a planned control rod pattern adjustment. Operators returned to full power operation on May 18.

With the exception of short periods for routine maintenance and surveillances, the unit operated at full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

.1 Readiness of Offsite and Alternate Alternating Current Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

- coordination between the TSO and the plant during off-normal or emergency events;
- explanations for the events;
- estimates of when the offsite power system would be returned to a normal state; and
- notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that the procedures addressed the following:

- actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- re-assessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and
- communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

Documents reviewed are listed in the Attachment to this report. The inspectors also reviewed corrective action program (CAP) items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures.

This inspection constituted one readiness of offsite and alternate AC power systems sample as defined in Inspection Procedure (IP) 71111.01–05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- 2A standby liquid control upon return to service;
- Unit 2 station blackout diesel (SBO) during U3 SBO work window; and
- Unit 3 Division I low pressure coolant injection during Division II work window.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, Updated Final Safety Analysis Report (UFSAR), Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended

functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in IP 71111.04–05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Unit 3 reactor building, elevation 545', fire zone 1.1.1.3;
- Unit 2 reactor building, elevation 545', fire zone 1.1.2.3;
- Main control room, elevation 534', fire zone 2.0; and
- Unit 3 condensate pumps, elevation 469', fire zone 8.2.1B.

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted four quarterly fire protection inspection samples as defined in IP 71111.05–05.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Underground Vaults

a. Inspection Scope

The inspectors selected underground bunkers/manholes subject to flooding that contained cables whose failure could disable risk-significant equipment. The inspectors determined that the cables were not submerged, that splices were intact, and that appropriate cable support structures were in place. In those areas where dewatering devices were used, such as a sump pump, the device was operable and level alarm circuits were set appropriately to ensure that the cables would not be submerged. In those areas without dewatering devices, the inspectors verified that drainage of the area was available, or that the cables were qualified for submergence conditions. The inspectors also reviewed the licensee's corrective action documents with respect to past submerged cable issues identified in the corrective action program to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following underground bunkers/manholes subject to flooding:

- switchyard cable vault manholes 1 and 2 level sensing equipment repair and replacement.

Specific documents reviewed during this inspection are listed in the Attachment to this report. This inspection constituted one underground vaults sample as defined in IP 71111.06–05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11A, B, and Q)

.1 Biennial Written and Annual Operating Test Results (71111.11A)

a. Inspection Scope

The inspectors reviewed the quality of the biennial written examination administered by the licensee from January 7 through February 15, 2013, as required by 10 CFR 55.59(a). The biennial written exam quality was reviewed during the inspection week. On June 6, 2014, the inspectors received and reviewed the results of the Annual Operating Test. The results were compared to the thresholds established in Inspection Manual Chapter (IMC) 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)," to assess the overall adequacy of the licensee's Licensed Operator Requalification Training (LORT) Program to meet the requirements of 10 CFR 55.59." (02.02)

This inspection constituted one annual licensed operator requalification examination results sample as defined in IP 71111.11–05.

b. Findings

No findings were identified.

.2 Biennial Review (71111.11B)

a. Inspection Scope

The following inspection activities were conducted during the weeks of May 19, 2014, to assess: 1) the effectiveness and adequacy of the facility licensee's implementation and maintenance of its systems approach to training (SAT) based LORT Program put into effect to satisfy the requirements of 10 CFR 55.59; 2) conformance with the requirements of 10 CFR 55.46 for use of a plant referenced simulator to conduct operator licensing examinations and for satisfying experience requirements; and 3) conformance with the operator license conditions specified in 10 CFR 55.53. The documents reviewed are listed in the Attachment to this report.

- Licensee Requalification Examinations (10 CFR 55.59(c); Systems Approach To Training Element 4 as Defined in 10 CFR 55.4): The inspectors reviewed the licensee's program for development and administration of the LORT biennial written examination and annual operating tests to assess the licensee's ability to develop and administer examinations that are acceptable for meeting the requirements of 10 CFR 55.59(a).

  - The inspectors conducted a detailed review of the previously administered biennial requalification written examination versions to assess content, level of difficulty, and quality of the written examination materials. See PI&R Section of Observation. (02.03)
  - The inspectors conducted a detailed review of 10 Job Performance Measures (JPMs) and 6 dynamic simulator scenarios to assess content, level of difficulty, and quality of the operating test materials. (02.04)
  - The inspectors observed the administration of the annual operating test to assess the licensee's effectiveness in conducting the examinations, including the conduct of pre-examination briefings, evaluations of individual operator and crew performance, and post-examination analysis. The inspectors evaluated the performance of two simulator crews in parallel with the facility evaluators during three dynamic simulator scenarios and evaluated various licensed crew members concurrently with facility evaluators during the administration of several JPMs. (02.05)
  - The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the last requalification examinations and the training planned for the current examination cycle to ensure that they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans. See PI&R Section of Observation. (02.07)

- Conformance with Examination Security Requirements (10 CFR 55.49): The inspectors conducted an assessment of the licensee's processes related to examination physical security and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The

inspectors reviewed the facility licensee's examination security procedure, and observed the implementation of physical security controls (e.g., access restrictions and simulator input/output controls) and integrity measures (e.g., security agreements, sampling criteria, bank use, and test item repetition) throughout the inspection period. (02.06)

- Conformance with Operator License Conditions (10 CFR 55.53): The inspectors reviewed the facility licensee's program for maintaining active operator licenses and to assess compliance with 10 CFR 55.53(e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators, and which control room positions were granted watch standing credit for maintaining active operator licenses. Additionally, medical records for 10 licensed operators were reviewed for compliance with 10 CFR 55.53(l). (02.08)

- Conformance with Simulator Requirements Specified in 10 CFR 55.46: The inspectors assessed the adequacy of the licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements. The inspectors reviewed a sample of simulator performance test records (e.g., transient tests, malfunction tests, scenario based tests, post-event tests, steady state tests, and core performance tests), simulator discrepancies, and the process for ensuring continued assurance of simulator fidelity in accordance with 10 CFR 55.46. The inspectors reviewed and evaluated the discrepancy corrective action process to ensure that simulator fidelity was being maintained. Open simulator discrepancies were reviewed for importance relative to the impact on 10 CFR 55.45 and 55.59 operator actions, as well as on nuclear and thermal hydraulic operating characteristics. (02.09)

- Problem Identification and Resolution (10 CFR 55.59(c): Systems Approach to Training Element 5 as Defined in 10 CFR 55.4): The inspectors assessed the licensee's ability to identify, evaluate, and resolve problems associated with licensed operator performance (a measure of the effectiveness of its LORT Program and their ability to implement appropriate corrective actions to maintain its LORT Program up-to-date). The inspectors reviewed documents related to licensed operator performance issues (e.g., recent examination and inspection reports including Cited and Non-Cited Violations; NRC End-of-Cycle and Mid-Cycle reports; NRC plant issue matrix; licensee event reports; licensee condition/problem identification reports including documentation of plant events and review of industry operating experience). The inspectors also sampled the licensee's quality assurance oversight activities, including licensee training department self-assessment reports. (02.10)

This inspection constituted one Biennial Licensed Operator Requalification Program inspection sample as defined in IP 71111.11–05.

b. Findings

No findings were identified.

c. Observations

Problem Identification and Resolution (02.10)

Written Exam Self-Assessment: The inspectors reviewed the licensee's self-assessment for the written exam quality as part of the licensee's Audit Program. The self-assessment concluded that the written exam was within the requirements of procedures and industry expectations. The inspectors reviewed written exam 'F' for quality and noted that 10 out of 36 questions were flawed (28 percent). The inspectors determined that this was a potential performance deficiency and in accordance with the inspection guidance a second exam ('E') was reviewed for quality. The inspectors determined that only 4 of the 36 questions were flawed (11 percent) for the second exam. Taking into account the 2 exams in aggregate, a total of 14 of the 72 questions were flawed, the inspectors determined that the overall flawed questions percentage was 19.4 percent. The licensee entered the issue in their CAP as Action Report (AR 01669751), "NRC LORT Requal Written Question Quality."

Remedial Training Assessment: The inspectors reviewed the licensee's self-assessment of the remedial training that had been provided due to a failure of a portion of the last requalification exam. The licensee's assessment of the documents associated with the remedial training indicated that the remedial training had been performed correctly. The inspectors reviewed the documents and determined that a potential performance deficiency associated with TS 5.2.2, "Unit Staff," was identified. The re-evaluation for failure of a requalification annual dynamic simulator scenario on April 24, 2013, was performed with the individual in a crew position other than the one that had been failed. Specifically, the crew member failed while performing the duties of the shift technical advisor (STA) and was re-evaluated in the unit supervisor position. The crew member then returned to shift and assumed the watch as the STA multiple times until May 9, 2014, when the crew member passed the LORT exam in both the unit supervisor and the STA. The inspectors identified that during the time this individual was on shift, there were other qualified STAs on his crew. Procedure OP–AA–101–111, "Roles and Responsibilities of On Shift Personnel," Section 4.5, lists that STA as a qualified on shift position. The licensee entered the issue in their CAP as AR 01663249, "TRNG: STA Re-Eval in STA Role Following NRC Exam Failure." As part of their corrective action, the licensee removed the crew member from the STA position until a causal analysis was completed.

.3 Resident Inspector Quarterly Review of Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

On April 14, 2014, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification training to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;

- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program simulator sample as defined in IP 71111.11.

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope

On April 25, 2014, the inspectors observed Unit 2 reactor start up after scram. This was an activity that required heightened awareness or was related to increased risk. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms (if applicable);
- correct use and implementation of procedures;
- control board (or equipment) manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications (if applicable).

The performance in these areas was compared to pre-established operator action expectations, procedural compliance and task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator heightened activity/risk sample as defined in IP 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- Unit 2 reactor water clean-up; and
- Service water system.

The inspectors reviewed events such as where ineffective equipment maintenance had or could have resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two quarterly maintenance effectiveness samples as defined in IP 71111.12–05.

b. Findings

Failure to Take Appropriate Corrective Action When a Maintenance Rule Performance Goal for the Standby Coolant System Was Not Met

Introduction: The Inspectors identified an NCV of very low safety significance (Green) of 10 CFR 50.65, “Requirements for Monitoring the Effectiveness of Maintenance at nuclear Power Plants,” paragraph (a)(1), for the standby coolant supply system. Specifically, on November 27, 2013, licensee personnel failed to take appropriate corrective actions by not performing an (a)(1) determination in accordance Exelon procedures when MO 2–3902, service water to condenser valve, failed to meet its Maintenance Rule (a)(2) performance goal. The failure to properly classify the valve failure led to the missed opportunity to recognize that the system had exceeded its Maintenance Rule Reliability performance criteria and required a maintenance rule (a)(1) evaluation in accordance with procedure ER–AA–310, “Implementation of the

Maintenance Rule," and ER–AA–310–1005, "Maintenance Rule—Dispositioning Between (a)(1) and (a)(2)," Revision 6.

Description: On November 27, 2013, licensee staff completed Work Order 01487558, "D2 RFL PM Standby Coolant Supply Operability Test MOVs 2–3901/3902/330," which required the performance of DOS 3900–01, "Standby Coolant Supply Functional Test." A review of operator logs from November 27, 2013, indicates operators attempted to open MO 2–3902, service water supply to condenser valve, per step I.27 of DOS 3900–01, without success, two times.

Following the two unsuccessful attempts using the motor to open the valve from the control panel, operators attempted to manually open the valve, after placing the motor breaker in the off position per procedures DOP 0040–01 and DOS 3900–01. Operators were again unsuccessful and suspended attempts to mechanically reposition the valve due to "fear of breaking the valve" if excessive force is applied.

Operator log entries indicate after failing to successfully reposition MO 2–3902, operators remained in step I.27 while the mechanical maintenance department (MMD) cleaned the MO 2–3902 valve stem and then successfully moved the valve disc off the seat and cycled the valve. Once the valve cycled successfully the operators classified MO 2–3902 as SAT and continued through the procedure.

During this inspection, Inspectors noted that procedure DOS 3900–01 required the valve to be deemed not operable per step I.29, with an Issue Report issued per step I.30 when the acceptance criteria is not met. Contrary to the procedure, the licensee documented the acceptance criteria was met per step I.29 which states, "(AC) IF MO 2(3)–3902 was successfully cycled in the step I.28 OR I.29.h, THEN the valve is operable". The licensee generated IR 01590535, "2–3902 MOV Failed to Open," and closed this IR to a work order with no work complete, since the valve passed testing when trouble shooting was performed under step I.27 of the procedure. The inspectors observed that step I.29 should consider "…I.27 OR I.28.h…" as acceptance criteria.

The inspectors determined the licensee failed to implement this procedure as written and failed to document and assess the functional failure of MO 2-3902 as required, per procedure DOS 3900–01, Standby Coolant Supply Functional Test, Revision 10.

Analysis: The inspectors determined that the licensee's failure to identify that the November 27, 2013, MO 2-3902 standby coolant supply valve failure was a functional failure that required an (a)(1) determination, was a performance deficiency. Specifically, licensee personnel failed to appropriately classify the failure of MO 2–3902, service water to condenser valve, as a functional failure of the service water system and as a result, failed to perform a 10 CFR 50.65 (a)(1) determination.

The performance deficiency was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone's attribute of equipment performance and affected the cornerstone's objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee failed to take appropriate corrective actions, by performing an (a)(1) determination in accordance Exelon procedures, when MO 2–3902, service water to condenser valve, failed to meet its Maintenance Rule (a)(2) performance goal. Inspectors determined the licensee failed to

provide reasonable assurance the standby coolant injection valve MO 2–3902, was capable of performing its intended function as specified in licensee emergency operating procedure DEOP 0500–03, “Alternate Water Injection Systems,” Revision 22.

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. As a result, 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. The inspectors answered “Yes” to the question “Does the finding represent a loss of system and/or function” and determined that a Detailed Risk Evaluation was required.

The Senior Reactor Analysts (SRAs) evaluated the finding using the Dresden Standardized Plant Analysis Risk (SPAR) model version 8.18 and Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) version 8.0.9.0 software. The exposure time for the unavailability of the Standby Coolant Supply Valve 2–3902 was assumed to be the maximum value of one year.

The result was a delta core damage frequency (ΔCDF) of 6.6E–8/yr. The dominant sequence was a medium loss of coolant accident initiating event with a failure of suppression pool cooling, a failure of power conversion system recovery, and a failure of late injection.

Based on the Detailed Risk Evaluation, the SRAs determined that the finding was of very low safety significance (Green).

This finding had a crosscutting aspect in Human Performance, Procedure Adherence [H.8], because individuals performing the procedure failed to follow processes, procedures, and work instructions when they failed to identify and appropriately document the failure of a standby coolant supply valve in procedure DOS 3900–01, “Standby Coolant Supply Functional Test.” Specifically, licensee personnel failed to appropriately document and classify the failure to stroke of MO 2–3902, standby coolant supply valve, as a functional failure after the valve failed to meet its acceptance criteria. Additionally, the licensee deviated from the procedure, and performed troubleshooting actions different from those specified in the procedure.

Enforcement: Title 10 CFR 50.65 (a)(1), requires, in part, that when the performance or condition of a structure, system, or component does not meet established goals, appropriate corrective action shall be taken.

Contrary to the above, on November 27, 2013, the site failed to appropriately account for the standby coolant system valve failure per the Maintenance Rule Program. Specifically, licensee staff failed to take appropriate corrective actions following a valve failure when licensee staff failed to perform the required (a)(1) determination in accordance with Procedures ER–AA–310, “Implementation of the Maintenance Rule,” and ER–AA–310–1005, “Maintenance Rule—Dispositioning Between (a)(1) and (a)(2),” Revision 6. As a result, the performance of an (a)(1) determination was not performed until it was identified by inspectors on April 8, 2014. Because the finding was of very low safety significance, and has been entered into the licensee corrective action program as IR 1644740 “NRC Questions D2R23 Performance of DOS 3900–01” and IR 1650033,

"MRule A1 Determination Needed for Missed MRFF Z39–1," this violation is being treated as a NCV consistent with section 2.3.2 of the NRC Enforcement Policy. (**NCV 05000237/2014003–01; "Failure to Take Appropriate Corrective Action When a Maintenance Rule Performance Goal for the Standby Coolant System Was Not Met**")

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- Unit 2 YELLOW risk with 2A standby liquid control out-of-service(OOS);
- Unit 2 YELLOW risk with high pressure coolant injection OOS;
- Unit 3 YELLOW risk with 3B turbine building closed cooling water OOS; and
- Unit 3 YELLOW risk with Division II low pressure coolant injection OOS.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

Documents reviewed during this inspection are listed in the Attachment to this report. These maintenance risk assessments and emergent work control activities constituted four samples as defined in IP 71111.13–05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- 480V motor control center bucket locking tabs not locked;
- Unit 3 reactor low pressure permissive pressure switch out of technical specification acceptance range;

- Impact of Unit 2 ‘A’ recirculation pump not auto downshifting following scram events;
- High pressure coolant injection historical operability review due to steam leak on drain pot; and
- Unit 2 shutdown cooling system discharge pressure high on ‘A’ loop.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to the licensee’s evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted five samples as defined in IP 71111.15–05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following modification(s):

- Replace screen refuse piping and valves and replace sump pumps to support refill of crib house bay 13 following a loss of dam event.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the UFSAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected system. The inspectors, as applicable, observed ongoing and completed work activities to ensure that the modifications were installed as directed and consistent with the design control documents; the modifications operated as expected; post-modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. As applicable, the inspectors verified that relevant procedure, design, and licensing documents were properly updated. Lastly, the inspectors discussed the plant modification with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modification in place could impact overall plant performance. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one permanent plant modification sample as defined in IP 71111.18–05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following post-maintenance (PM) activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- 2A standby liquid control following work window;
- 2–8526, Unit 2 containment nitrogen make-up header relief valve replacement;
- 2–1601–20A, reactor building to torus vacuum breaker solenoid replacement;
- WO 00501605–04, “OP Rack Out/In 4kV Breaker for Swap Bus 24–1 Cubicle 12, 2B RWCU” and WO 00403853–02, “OP Open/Close Breaker to Support 2–7829–3F3 Inspection;” and
- WO 00828778, “Operations Post Maintenance Test of Replace Solenoid Valve on Air Operated Valve 3–1601–92”.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted five post-maintenance testing samples as defined in IP 71111.19–05.

b. Findings

No findings were identified.

1R20 Outage Activities (71111.20)

.1 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an unscheduled outage that began on April 12, 2014, and continued through April 28, 2014. Unit 2 scammed automatically due to a main transformer bushing failure and the resultant sudden pressure relay actuation. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, personnel fatigue management, startup and heatup activities, and identification and resolution of problems associated with the outage.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one other outage sample as defined in IP 71111.20–05.

b. Findings

No findings were identified.

.2 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an unscheduled outage that began on May 3, 2014, and continued through May 7, 2014. Unit 2 suffered a second scram associated with a controlling channel failure in the automatic voltage regulator (AVR). Following the AVR channel failure, the main generator reactive power output began to oscillate eventually resulting in a load rejection and reactor scram. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, personnel fatigue management, startup activities, and identification and resolution of problems associated with the outage.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one other outage sample as defined in IP 71111.20–05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- WO 1703736–01, "OP Run D2 EDGCWP [emergency diesel generator coolant water pump] to Flush DGCWP [diesel generator coolant water pump] to IC Cross Tie Piping;" (routine)
- WO 01717254, "Dresden 2 Quarterly Technical Specification Main Steam Line High Flow Switch Calibration;" (routine)
- WO 01497028–03, "OP D3 24M TS Test LPCI [loop pressure coolant injection] Swing Bus Relays;" (routine)
- WO 01720374, "Dresden 2 Quarterly Technical Specification HPCI [high pressure coolant injection] Pump Operability Test and IST Surveillance;"(routine) and
- WO 01504123, "Dresden 2, 2 Year Preventative Maintenance Post Refuel HPCI Fast Initiation Test." (IST)

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;

- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples, and one inservice testing sample as defined in IP 71111.22, Sections–02 and–05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Training Observation

a. Inspection Scope

The inspector observed a simulator training evolution for licensed operators on April 14, 2014, which required emergency plan implementation by a licensee operations crew. This evolution was planned to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that the licensee evaluators noted the same issues and entered them into the corrective action program. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the Attachment to this report.

This inspection of the licensee's training evolution with emergency preparedness drill aspects constituted one sample as defined in IP 71114.06–06.

b. Findings

No findings were identified.

2. RADIATION SAFETY

CORNERSTONES: OCCUPATIONAL AND PUBLIC RADIATION SAFETY

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

This inspection constituted a partial sample as defined in IP 71124.01–05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed all licensee performance indicators for the Occupational Exposure Cornerstone for follow-up. The inspectors reviewed the results of radiation protection program audits (e.g., licensee's quality assurance audits or other independent audits). The inspectors reviewed any reports of operational occurrences related to occupational radiation safety since the last inspection. The inspectors reviewed the results of the audit and operational report reviews to gain insights into overall licensee performance.

b. Findings

No findings were identified.

.2 Radiological Hazard Assessment (02.02)

a. Inspection Scope

The inspectors determined if there have been changes to plant operations since the last inspection that may result in a significant new radiological hazard for onsite workers or members of the public. The inspectors evaluated whether the licensee assessed the potential impact of these changes and has implemented periodic monitoring, as appropriate, to detect and quantify the radiological hazard.

The inspectors reviewed the last two radiological surveys from selected plant areas and evaluated whether the thoroughness and frequency of the surveys where appropriate for the given radiological hazard.

The inspectors conducted walkdowns of the facility, including radioactive waste processing, storage, and handling areas to evaluate material conditions and performed independent radiation measurements to verify conditions.

b. Findings

No findings were identified.

.3 Instructions to Workers (02.03)

a. Inspection Scope

The inspectors reviewed selected occurrences where a worker's electronic personal dosimeter noticeably malfunctioned or alarmed. The inspectors evaluated whether workers responded appropriately to the off-normal condition. The inspectors assessed whether the issue was included in the CAP and dose evaluations were conducted as appropriate.

For work activities that could suddenly and severely increase radiological conditions, the inspectors assessed the licensee's means to inform workers of changes that could significantly impact their occupational dose.

b. Findings

No findings were identified.

.4 Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

The inspectors reviewed the licensee's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters. The inspectors assessed whether or not the licensee has established a *de facto* "release limit" by altering the instrument's typical sensitivity through such methods as raising the energy discriminator level or locating the instrument in a high-radiation background area.

The inspectors selected several sealed sources from the licensee's inventory records and assessed whether the sources were accounted for and verified to be intact.

b. Findings

No findings were identified.

.5 Radiological Hazards Control and Work Coverage (02.05)

a. Inspection Scope

The inspectors evaluated the adequacy of radiological controls, such as required surveys, radiation protection job coverage (including audio and visual surveillance for remote job coverage), and contamination controls. The inspectors evaluated the licensee's use of electronic personal dosimeters in high noise areas as high radiation area monitoring devices.

The inspectors reviewed the following radiation work permits for work within airborne radioactivity areas with the potential for individual worker internal exposures:

- RWP–10014939; "D2R23 Reactor Disassembly / Assembly; and Related Activities Associated with Refuel Floor";

- RWP–10014886; “D2R23 Drywell Nuclear Instrumentation Activities”; and
- RWP–10014896 / 10014897; “D2R23 Drywell Control Rod (CRD) System Maintenance Activities”.

For these radiation work permits, the inspectors evaluated airborne radioactive controls and monitoring, including potential for significant airborne levels (e.g., grinding, grit blasting, system breaches, entry into tanks, cubicles, and reactor cavities). The inspectors assessed barrier (e.g., tent or glove box) integrity and temporary high-efficiency particulate air ventilation system operation.

b. Findings

No findings were identified.

.6 Risk-Significant High Radiation Area and Very High Radiation Area Controls (02.06)

a. Inspection Scope

The inspectors discussed with the radiation protection manager the controls and procedures for high-risk, high radiation areas and very high radiation areas. The inspectors discussed methods employed by the licensee to provide stricter control of very high radiation area access as specified in 10 CFR 20.1602, “Control of Access to Very High Radiation Areas,” and Regulatory Guide 8.38, “Control of Access to High and Very High Radiation Areas of Nuclear Plants.” The inspectors assessed whether any changes to licensee procedures substantially reduce the effectiveness and level of worker protection.

The inspectors discussed the controls in place for special areas that have the potential to become very high radiation areas during certain plant operations with first-line health physics supervisors (or equivalent positions having backshift health physics oversight authority). The inspectors assessed whether these plant operations require communication beforehand with the health physics group, so as to allow corresponding timely actions to properly post, control, and monitor the radiation hazards including re-access authorization.

b. Findings

No findings were identified.

.7 Radiation Worker Performance (02.07)

a. Inspection Scope

The inspectors reviewed radiological problem reports since the last inspection that found the cause of the event to be human performance errors. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. The inspectors discussed with the radiation protection manager any problems with the corrective actions planned or taken.

b. Findings

No findings were identified.

.8 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

The inspectors reviewed radiological problem reports since the last inspection that found the cause of the event to be radiation protection technician error. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective matched the corrective action approach taken by the licensee to resolve the reported problems.

b. Findings

No findings were identified.

2RS2 Occupational As-Low-As-Reasonably-Achievable Planning and Controls (71124.02)

This inspection constituted a partial sample as defined in IP 71124.02–05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed pertinent information regarding plant collective exposure history, current exposure trends, and ongoing or planned activities in order to assess current performance and exposure challenges. The inspectors reviewed the plant's three-year rolling average collective exposure.

b. Findings

No findings were identified.

.2 Radiological Work Planning (02.02)

a. Inspection Scope

The inspectors selected the following work activities of the highest exposure significance.

- RWP–10014939; "D2R23 Reactor Disassembly / Assembly; and Related Activities Associated with Refuel Floor";
- RWP–10014886; "D2R23 Drywell Nuclear Instrumentation Activities"; and
- RWP–10014896 / 10014897; "D2R23 Drywell Control Rod (CRD) System Maintenance Activities".

The inspectors reviewed the as-low-as-reasonably-achievable (ALARA) work activity evaluations, exposure estimates, and exposure mitigation requirements. The inspectors determined whether the licensee reasonably grouped the radiological work into work activities based on historical precedence, industry norms, and/or special circumstances.

The inspectors assessed whether the licensee's planning identified appropriate dose mitigation features, considered alternate mitigation features, and defined reasonable dose goals. The inspectors evaluated whether the licensee's ALARA assessment has taken into account decreased worker efficiency from use of respiratory protective devices and/or heat stress mitigation equipment (e.g., ice vests). The inspectors determined whether the licensee's work planning considered the use of remote technologies (e.g., teledosimetry, remote visual monitoring, and robotics) as a means to reduce dose and the use of dose reduction insights from industry operating experience and plant-specific lessons learned. The inspectors assessed the integration of ALARA requirements into work procedure and radiation work permit documents.

The inspectors compared the results achieved (dose rate reductions and person-rem used) with the intended dose established in the licensee's ALARA planning for these work activities. The inspectors compared the person-hour estimates provided by maintenance planning and other groups to the radiation protection group with the actual work activity time requirements and evaluated the accuracy of these time estimates. The inspectors assessed the reasons (e.g., failure to adequately plan the activity and failure to provide sufficient work controls) for any inconsistencies between intended and actual work activity doses.

b. Findings

No findings were identified.

.3 Source Term Reduction and Control (02.04)

a. Inspection Scope

The inspectors used licensee records to determine the historical trends and current status of significant tracked plant source terms known to contribute to elevated facility aggregate exposure. The inspectors assessed whether the licensee had made allowances or developed contingency plans for expected changes in the source term as the result of changes in plant fuel performance issues or changes in plant primary chemistry.

b. Findings

No findings were identified.

.4 Problem Identification and Resolution (02.06)

a. Inspection Scope

The inspectors evaluated whether problems associated with ALARA planning and controls are being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP.

b. Findings

No findings were identified.

2RS5 Radiation Monitoring Instrumentation (71124.05)

This inspection constituted a complete sample as defined in Inspection IP 71124.05–05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the plant Final Safety Analysis Report (FSAR) to identify radiation instruments associated with monitoring area radiological conditions including airborne radioactivity, process streams, effluents, materials/articles, and workers. Additionally, the inspectors reviewed the instrumentation and the associated TS requirements for post-accident monitoring instrumentation, including instruments used for remote emergency assessment.

The inspectors reviewed a listing of in-service survey instrumentation including air samplers and small article monitors, along with instruments used to detect and analyze workers' external contamination. Additionally, the inspectors reviewed personnel contamination monitors and portal monitors, including whole body counters, to detect workers' internal contamination. The inspectors reviewed this list to assess whether an adequate number and type of instruments were available to support operations.

The inspectors reviewed licensee and third-party evaluation reports of the Radiation Monitoring Program since the last inspection. These reports were reviewed for insights into the licensee's program and to aid in selecting areas for review ("smart sampling").

The inspectors reviewed procedures that govern instrument source checks and calibrations, focusing on instruments used for monitoring transient high radiological conditions, including instruments used for underwater surveys. The inspectors reviewed the calibration and source check procedures for adequacy and as an aid to smart sampling.

The inspectors reviewed the area radiation monitor alarm setpoint values and setpoint bases as provided in the TSs and the UFSAR.

The inspectors reviewed effluent monitor alarm setpoint bases and the calculational methods provided in the Offsite Dose Calculation Manual (ODCM).

b. Findings

No findings were identified.

.2 Walkdowns and Observations (02.02)

a. Inspection Scope

The inspectors walked down effluent radiation monitoring systems, including at least one liquid and one airborne system. Focus was placed on flow measurement devices and all accessible point-of-discharge liquid and gaseous effluent monitors of the selected systems. The inspectors assessed whether the effluent/process monitor

configurations aligned with ODCM descriptions and observed monitors for degradation and out-of-service tags.

The inspectors selected portable survey instruments that were in use or available for issuance and assessed calibration and source check stickers for currency as well as instrument material condition and operability.

The inspectors observed licensee staff performance as the staff demonstrated source checks for various types of portable survey instruments. The inspectors assessed whether high-range instruments were source checked on all appropriate scales.

The inspectors walked down area radiation monitors and continuous air monitors to determine whether they were appropriately positioned relative to the radiation sources or areas they were intended to monitor. Selectively, the inspectors compared monitor response (via local or remote control room indications) with actual area conditions for consistency.

The inspectors selected personnel contamination monitors, portal monitors, and small article monitors and evaluated whether the periodic source checks were performed in accordance with the manufacturer's recommendations and the licensee's procedures.

b. Findings

No findings were identified.

.3 Calibration and Testing Program (02.03)

Process and Effluent Monitors

a. Inspection Scope

The inspectors selected effluent monitor instruments (such as gaseous and liquid) and evaluated whether channel calibration and functional tests were performed consistent with radiological effluent TS/ODCM. The inspectors assessed whether; (a) the licensee calibrated its monitors with National Institute of Standards and Technology traceable sources; (b) the primary calibrations adequately represented the plant nuclide mix; (c) when secondary calibration sources were used, the sources were verified by the primary calibration; and (d) the licensee's channel calibrations encompassed the instrument's alarm set-points.

The inspectors assessed whether the effluent monitor alarm set points were established as provided in the ODCM and station procedures.

For changes to effluent monitor set points, the inspectors evaluated the basis for changes to ensure that an adequate justification existed.

b. Findings

No findings were identified.

Laboratory Instrumentation

a. Inspection Scope

The inspectors assessed laboratory analytical instruments used for radiological analyses to determine whether daily performance checks and calibration data indicated that the frequency of the calibrations was adequate and there were no indications of degraded instrument performance.

The inspectors assessed whether appropriate corrective actions were implemented in response to indications of degraded instrument performance.

b. Findings

No findings were identified.

Whole Body Counter

a. Inspection Scope

The inspectors reviewed the methods and sources used to perform whole body count functional checks before daily use of the instrument and assessed whether check sources were appropriate and aligned with the plant's isotopic mix.

The inspectors reviewed whole body count calibration records since the last inspection and evaluated whether calibration sources were representative of the plant source term and that appropriate calibration phantoms were used. The inspectors looked for anomalous results or other indications of instrument performance problems.

b. Findings

No findings were identified.

Post-Accident Monitoring Instrumentation

a. Inspection Scope

Inspectors selected containment high-range monitors and reviewed the calibration documentation since the last inspection.

The inspectors assessed whether an electronic calibration was completed for all range decades above 10 rem/hour and whether at least 1 decade at or below 10 rem/hour was calibrated using an appropriate radiation source.

The inspectors assessed whether calibration acceptance criteria were reasonable; accounting for the large measuring range and the intended purpose of the instruments.

The inspectors selected effluent/process monitors that were relied on by the licensee in its emergency operating procedures as a basis for triggering emergency action levels and subsequent emergency classifications, or to make protective action recommendations during an accident. The inspectors evaluated the calibration and availability of these instruments.

The inspectors reviewed the licensee's capability to collect high-range, post-accident iodine effluent samples.

As available, the inspectors observed electronic and radiation calibration of these instruments to assess conformity with the licensee's calibration and test protocols.

b. Findings

No findings were identified.

Portal Monitors, Personnel Contamination Monitors, and Small Article Monitors

a. Inspection Scope

For each type of these instruments used on site, the inspectors assessed whether the alarm setpoint values were reasonable under the circumstances to ensure that licensed material is not released from the site.

The inspectors reviewed the calibration documentation for each instrument selected and discussed the calibration methods with the licensee to determine consistency with the manufacturer's recommendations.

b. Findings

No findings were identified.

Portable Survey Instruments, Area Radiation Monitors, Electronic Dosimetry, and Air Samplers/Continuous Air Monitors

a. Inspection Scope

The inspectors reviewed calibration documentation for at least one of each type of instrument. For portable survey instruments and area radiation monitors, the inspectors reviewed detector measurement geometry and calibration methods and had the licensee demonstrate use of its instrument calibrator as applicable. The inspectors conducted comparison of instrument readings versus an NRC survey instrument if problems were suspected.

As available, the inspectors selected portable survey instruments that did not meet acceptance criteria during calibration or source checks to assess whether the licensee had taken appropriate corrective action for instruments found significantly out of calibration (e.g., greater than 50 percent). The inspectors evaluated whether the licensee evaluated the possible consequences of instrument use since the last successful calibration or source check.

b. Findings

No findings were identified.

Instrument Calibrator

a. Inspection Scope

As applicable, the inspectors reviewed the current output values for the licensee's portable survey and area radiation monitor instrument calibrator unit(s). The inspectors assessed whether the licensee periodically measures calibrator output over the range of the instruments used through measurements by ion chamber/electrometer.

The inspectors assessed whether the measuring devices had been calibrated by a facility using National Institute of Standards and Technology traceable sources and whether corrective factors for these measuring devices were properly applied by the licensee in its output verification.

b. Findings

No findings were identified.

Calibration and Check Sources

a. Inspection Scope

The inspectors reviewed the licensee's 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," source term to assess whether calibration sources used were representative of the types and energies of radiation encountered in the plant.

b. Findings

No findings were identified.

.4 Problem Identification and Resolution (02.04)

a. Inspection Scope

The inspectors evaluated whether problems associated with radiation monitoring instrumentation were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involve radiation monitoring instrumentation.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness and Occupational and Public Radiation Safety

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index—Emergency Alternating Current Power System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Emergency AC Power System PI (MS06) Dresden Nuclear Power Station Units 2 and 3 covering the period from the second quarter 2013 through first quarter 2014. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC Integrated Inspection Reports for the period of April 2013 through March 2014 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI emergency AC power system samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index—High Pressure Injection Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index—High Pressure Injection Systems performance indicator PI (MS07) Dresden Nuclear Power Station Units 2 and 3 covering the period from the second quarter 2013 through first quarter 2014. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC Integrated Inspection Reports for the period of April 2013 through March 2014 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI high pressure injection system samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.3 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Exposure Control Effectiveness Performance Indicator (OR01) for the period from the first quarter 2013 through the first quarter 2014. The inspectors used Performance Indicator definitions and guidance contained in the NEI Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 2013, to determine the accuracy of the Performance Indicator data reported during those periods. The inspectors reviewed the licensee's assessment of the Performance Indicator for occupational radiation safety to determine if the indicator related data was adequately assessed and reported. To assess the adequacy of the licensee's Performance Indicator data collection and analyses, the inspectors discussed with radiation protection staff the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic personal dosimetry dose rate and accumulated dose alarms and dose reports and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one occupational exposure control effectiveness sample as defined in IP 71151–05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of January 2014 through June 2014, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semi-annual trend inspection sample as defined in IP 71152–05.

b. Findings

No findings were identified.

.4 Selected Issue Follow-Up Inspection: Review of Dresden Actions and Vulnerabilities of Electrical Cabling In Regards to Operating Experience Associated With Quad Cities Nuclear Plant Steam Leak and Fire

a. Inspection Scope

On April 2, 2014, the Quad Cities Nuclear Power Station experienced a steam leak from an expansion bellows associated with the main turbine gland sealing steam system. The steam leak impinged on adjacent cabling in the 'D' Feedwater Bay resulting in an electrical fire. The fire led to a reactor scram and the loss of functionality of numerous safety and non-safety related components throughout the plant.

The inspectors reviewed Dresden's response to this event with regards to the vulnerability of electrical cables to failure in harsh environments. Specifically, the inspectors reviewed the licensee's immediate actions including walkdowns of the equivalent heater bays for steam leaks and visual indications of cabling with damaged or degraded outer jacketing. The inspectors also performed a historical review of the licensee's Environmental Qualification (EQ) program for electrical cabling in potentially harsh environments throughout the plant, ensuring required cable inspections were performed and noting corrective actions taken by the licensee when degraded cables were identified.

On May 8, 2014, the inspectors observed the licensee perform DES 0040–02, "600 Volt Butyl Cable EQ Surveillance", on cable 32487 the main power cable associated with the unit 3 'A' train shutdown cooling system suction loop isolation valve. The inspectors observed the licensee perform cable jacket and termination inspections at the supply point at Motor Control Center (MCC) 38–1, the load point at main control panel 903–4, and along the cable run in what is considered the harshest location for temperature in the turbine building. In addition, the inspectors observed the licensee perform a Megger test on the cable to ensure the adequacy of its cable insulation.

The inspectors' review of the licensee's EQ program noted that electrical cabling existing in harsh environments throughout the plant had for the most part remained fully functional with little indication of degradation. In the instances where deficiencies were identified, the licensee took action to repair or replace cabling that could be susceptible to failure when exposed to extreme conditions (temperature, humidity, radiation, etc.) following an event.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152–05.

b. Findings

No findings were identified.

.5 Selected Issue Follow Up Inspection: Thermally Induced Pressurization of Reactor Water Cleanup Pipe Segments

a. Inspection Scope

In Regulatory Guide (RG) 1.141 “Containment Isolation Provisions for Fluid Systems,” the NRC established a position on the design of containment fluid systems subject of potential over-pressurization. Specifically, the NRC stated “The licensee should provide thermally induced overpressure protection for liquid-filled piping between containment isolation barriers inside containment to prevent damage when the piping is isolated unless the licensee can demonstrate that the pressure between the isolation barriers cannot exceed the design pressure of the isolation barriers or the design pressure of the piping.” The Dresden site was licensed in 1970 prior to the NRC issuing RG 1.41 (1978) and thus the licensee was not committed to meet this RG.

During a review of the UFSAR Section 5.4.8 “Reactor Water Cleanup” (RWCU), the inspectors noted that the RWCU supply line that penetrated the containment was subjected to a pressure increase following a loss of coolant accident (LOCA) induced by the thermal heatup of the trapped fluid in the pipe segment. Specifically, in this UFSAR Section, the licensee stated that “Heatup of this trapped volume could over-pressurize and fail the associated piping, creating a bypass path for the primary containment.” Similar issues had been identified in other systems and at other plants as discussed in NRC Generic Letter 96–06 “Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions.” The inspectors performed a review of the licensee’s corrective actions for the affected RWCU pipe segments to confirm adequate resolution of this issue. Specifically, the inspectors verified the following attributes during their review of the licensee's corrective actions for the affected piping:

- complete and accurate identification of the problem in a timely manner commensurate with its safety significance and ease of discovery;
- consideration of the extent of condition, generic implications, common cause and previous occurrences;
- evaluation and disposition of operability/reportability issues;
- classification and prioritization of the resolution of the problem, commensurate with safety significance;
- identification of the apparent and/or contributing causes of the problem; and
- identification of corrective actions, which were appropriately focused to correct the problem.

This review constituted one in depth problem identification and resolution sample as defined in IP 71152–05.

b. Findings

No findings were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Supplemental Licensee Event Report 05000237/2013–008–01: "Leak Identified On a Relief Valve During Pressure Test Resulting In a Degraded Principal Safety Barrier"

On November 26, 2013, while Unit 2 was shut down for refueling outage D2R23, the licensee was performing the Reactor Vessel System Leakage Test per licensee procedures ER–AA–330–001 and DOS 0201–01. Licensee staff observing for indications of system leakage noted a 1 drop per second leak from the 2–0203–3C electromatic relief valve (ERV). This component is a part of the reactor coolant system pressure boundary and as such the leak was coded as ASME Section XI Code Class I pressure boundary leakage.

The licensee replaced the leaking component prior to starting up from the refueling outage. An inspection of the weld by NWS Technologies noted porosity in the original weld supporting the line connecting the main valve body to the pilot valve of the ERV. Weld specialists determined that the weld was from original construction, based on the welding technique utilized as well as no history of weld repair at the site of the flaw in either the licensee's or vendor's historical records.

The inspectors reviewed and closed the original event report in Dresden NRC Integrated Inspection Report 2014002. Documents reviewed are listed in the Attachment to this report. No findings or violations of NRC requirements were identified.

The licensee reported this event in accordance with 10 CFR 50.73(a)(2)(ii)(A), any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded.

This License Event Report (LER) is closed.

This event follow-up review constituted one sample as defined in IP 71153–05.

.2 (Closed) Supplemental Licensee Event Report 05000237;05000249/2013–001–02, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"

On June 28, 2013, between 0749:07 and 0749:14 hours, the secondary containment interlock doors separating the Reactor Building and the 2/3 Emergency Diesel Generator (EDG) Room were simultaneously open resulting in an unplanned entry into Secondary Containment Technical Specification 3.6.4.1. Operators on scene rapidly shut the secondary containment boundary door on the 2/3 EDG side of the interlock ensuring that Reactor Building to outside environment differential pressure requirements were maintained at all times. At the time of the event, operators were passing through the 2/3 EDG side interlock door while a radiation protection member was accessing the interlock from the Reactor Building side. Information ascertained from the individuals involved during the licensee's Prompt Investigation identified a potential fault in the interlock circuitry associated with the 2/3 EDG Room side door as the radiation protection individual observed no interlock warning light indications and was able to open the Reactor Building side door with the 2/3 EDG side door already in an open status.

The licensee submitted this Supplemental LER to document that an Engineering Evaluation of this event had been performed in accordance with NEI 99–02, "Regulatory Assessment Performance Indicator Guideline," demonstrating that this event did not constitute a Safety System Functional Failure (SSFF). The inspectors will review this assessment under Inspection Procedure 71151, Performance Indicators in a later Dresden NRC Integrated Inspection Report.

The original revision of this LER was closed with no findings or violations identified in Dresden Integrated Inspection Report 2013004.

The licensee reported this event in accordance with 10 CFR 50.73(a)(2)(v)(C), any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material. No findings or violations of NRC requirements were identified.

This LER is closed.

This event follow up review constituted one sample as defined in IP 71153–05.

.3 (Closed) Supplemental Licensee Event Report 05000237;05000249/2013–003–01, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"

On September 23, 2013, between 1655:59 and 1656:05 hours, the secondary containment interlock doors separating the reactor building and the 2/3 EDG) room were simultaneously open resulting in an unplanned entry into secondary containment, TS 3.6.4.1. An operator on scene rapidly shut the secondary containment boundary door on the 2/3 EDG side of the interlock ensuring that reactor building to outside environment differential pressure requirements were maintained at all times. At the time of the event, the operator actuated the reactor building side doorway in order to complete passing through the interlock when they reported hearing clicking noises from the interlock relays followed by both the 2/3 EDG side and reactor building side doors opening. The operator manually closed the 2/3 EDG side door, proceeded to exit the interlock through the reactor side door and then reported the event to the main control room operators.

The licensee submitted this Supplemental LER to document that an Engineering Evaluation of this event had been performed in accordance with NEI 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7 demonstrating that this event did not constitute a SSFF. The inspectors will review this assessment under Inspection Procedure 71151, Performance Indicators in a later Dresden NRC Integrated Inspection Report.

The original revision of this LER was closed with no findings or violations identified in Dresden NRC Integrated Inspection Report 2013005.

The licensee reported this event in accordance with 10 CFR 50.73(a)(2)(v)(C), any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material. No findings or violations of NRC requirements were identified.

This LER is closed.

This event follow up review constituted one sample as defined in IP 71153–05.

.4 (Closed) Supplemental Licensee Event Report 05000237;05000249/2013–004–01, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"

On November 5, 2013, at 0842, lasting for approximately 1 second, the secondary containment interlock doors on the Unit 2 side separating the reactor building and the turbine building were simultaneously open resulting in an unplanned entry into secondary containment, TS 3.6.4.1. At the time of the event, a designated door operator had just started opening the turbine building side door to allow passage of personnel when they noticed the reactor building side door come partially open and then immediately close. The reactor building to outside environment differential pressure requirements of maintaining at least 0.25 inches water column vacuum were maintained at all times.

The licensee submitted this Supplemental LER to document that an Engineering Evaluation of this event had been performed in accordance with NEI 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7 demonstrating that this event did not constitute a SSFF. The inspectors will review this assessment under Inspection Procedure 71151, Performance Indicators in a later Dresden Integrated Inspection Report.

The original revision of this LER was closed to a minor violation of 10 CFR 50, Appendix B, Criterion III, Design Control in Dresden Integrated Inspection Report 2014002.

The licensee reported this event in accordance with 10 CFR 50.73(a)(2)(v)(C), any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material. No additional findings or violations of NRC requirements were identified.

This LER is closed.

This event follow up review constituted one sample as defined in IP 71153–05.

.5 (Closed) Supplemental Licensee Event Report 05000237;05000249/2013–007–01, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"

On November 16, 2013, at 1019, lasting for approximately 5 seconds, the secondary containment interlock doors on the Unit 3 side separating the reactor building and the turbine building were simultaneously open resulting in an unplanned entry into secondary containment, TS 3.6.4.1. An operator, specifically staged inside the interlock due to recent challenges associated with the performance of the doors, rapidly shut the secondary containment boundary door on the reactor building side of the interlock. This ensured that reactor building to outside environment differential pressure requirements were maintained at all times. At the time of the event, the designated door operator had just started opening the reactor building side door to allow passage of personnel when they noticed a change in the airlock pressure. The operator noted at that point that the turbine building side door had come ajar approximately 1 inch.

The licensee submitted this Supplemental LER to document that an Engineering Evaluation of this event had been performed in accordance with NEI 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7 demonstrating that this event did not constitute a SSFF. The inspectors will review this assessment under Inspection Procedure 71151, Performance Indicators in a later Dresden NRC Integrated Inspection Report.

The original revision of this LER was closed with no findings or violations identified in Dresden NRC Integrated Inspection Report 2014002.

The licensee reported this event in accordance with 10 CFR 50.73(a)(2)(v)(C), any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material. No findings or violations of NRC requirements were identified.

This LER is closed.

This event follow up review constituted one sample as defined in IP 71153–05.

.6 (Closed) Licensee Event Report 05000237;05000249/2014–001–00, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"

On March 27, 2014, between, 0151:17 and 0151:22, the secondary containment interlock doors separating the reactor building and the 2/3 EDG room were simultaneously open resulting in an unplanned entry into secondary containment, TS 3.6.4.1. Operators on scene rapidly shut the secondary containment boundary door on the reactor building side of the interlock ensuring that reactor building to outside environment differential pressure requirements were maintained at all times. At the time of the event, two operators actuated the reactor building side doorway when a maintenance supervisor was entering the interlock from the 2/3 EDG room. Main control room operators received an alarm indicating a failure of the secondary containment interlock during the brief period both doors were opened.

Licensee troubleshooting following the event and Apparent Cause Evaluation (ACE) 1639014 performed in support of the troubleshooting were not able to identify a definitive cause for the interlock failure. In the short term, the licensee is assigning a designated door operator in the interlock during periods of high traffic through the interlock. The licensee installed phase one of a permanent modification to the circuit logic for the reactor building to 2/3 EDG interlock in November 2013. The modification included ladder logic circuitry which addresses the previously identified need to establish an XOR gate style logic ensuring that both doors do not open when simultaneously operated. Phase two of the modification will include redundant mechanical door latches and a new automatic opener on the reactor building door side of the interlock. Phase two is expected to be completed during calendar year 2014. The inspectors reviewed the licensee's planned corrective actions and had no concerns. No findings or violations of NRC requirements were identified.

The licensee reported this event in accordance with 10 CFR 50.73(a)(2)(v)(C), any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material.

This LER is closed.

This event follow up review constituted one sample as defined in IP 71153–05.

.7 (Closed) Licensee Event Report 05000237/2014–002–00; "Unit 2 Reactor Scram Due to Main Power Transformer Failure"

On April 12, 2014 at 1012, the licensee received a unit 2 reactor scram due to a main power transformer (MPT) sudden pressure trip. Operators immediately ensured the plant was in a safe hot shutdown (Mode 3) condition. All plant equipment operated as expected with the exception of the 'A' reactor recirculation pump which did not automatically downshift to minimum speed. The operators manually ran the 'A' reactor recirculation pump back to minimum speed to balance flow between the recirculation loops. Licensee troubleshooting determined that the transfer of power of bus 21 from the Unit Auxiliary Transformer to the Reserve Auxiliary Transformer when the main generator tripped resulted in a speed hold of the 'A' recirculation pump adjustable speed drive (ASD) system, which is a part of the design response of the system. The licensee subsequently included this ASD system response into the operator training course notes.

Licensee inspection of the MPT identified a failed 'B' phase bushing which sent shrapnel outward damaging the 'A' and 'C' phase bushings and inward damaging the transformer internals. The extent of damage resulted in the licensee replacing the MPT with a spare transformer which had been maintained on site. Due to the duration required for making repairs, the licensee placed the reactor in cold shutdown (Mode 4) on April 13, 2014. A reactor startup was commenced on April 25, 2014 and the generator was synchronized to the grid through the replacement transformer on April 27, 2014. No findings or violations of NRC requirements were identified.

This event was reported in accordance with 10 CFR 50.73(a)(2)(iv)(A), any event or condition that resulted in manual or automatic actuation of the reactor protection system.

This LER is closed.

This event follow up review constituted one sample as defined in IP 71153–05.

.8 (Closed) Licensee Event Report 05000237/2014–003–00; "Unit 2 Reactor Scram During Automatic Voltage Regulator Channel Transfer"

On May 3, 2014 at 1209, the licensee received a unit 2 reactor scram due to a main generator trip during a planned automatic voltage regulator (AVR) channel swap. Operators immediately ensured the plant was in a safe hot shutdown (Mode 3) condition. All plant equipment subsequently operated as expected.

On April 29, 2014, the licensee noted a voltage transient on the output of Unit 2. Subsequent troubleshooting identified the AVR was which was selected to channel 2 was operating with an erratic output. The licensee determined that channel 2 was failed but swapping to channel 1 could result in a trip as the erratic output of the defective channel resulted in a large difference between the channels. The licensee brought the vendor, ABB, into the troubleshooting and recovery process and developed a procedure for swapping the AVR off of the defective channel 2. As previously mentioned, the attempt to swap from the defective AVR channel was unsuccessful resulting in a generator trip and subsequent turbine trip and reactor scram. The licensee continues to investigate the failure of the AVR channel and the inability to swap between channels

with help from the vendor. No findings or violations of NRC requirements were identified.

This event was reported in accordance with 10 CFR 50.73(a)(2)(iv)(A), any event or condition that resulted in manual or automatic actuation of the reactor protection system.

This LER is closed.

This event follow up review constituted one sample as defined in IP 71153–05.

.9 Offsite Notification Due To Tritium Discovered In Onsite Well

On June 8, 2014 at 1703, the licensee notified the NRC of an onsite sampling well near the 2/3 contaminated water storage tank (CST) that indicated elevated levels of tritium. The State of Illinois requires notification when a release to soil, groundwater or surface water goes offsite at greater than 200 pCi/L or remains on-site greater than 0.002 Curies. Based upon the sampling results from the monitoring well near the 2/3 CST with a concentration of approximately 0.0000013 Curies/liter it was likely that the 0.002 Curie on-site threshold had been exceeded. Additionally, tritium was identified in samples taken from the on-site sewage treatment facility and the licensee calculated that the total amount of tritium discharged to the Kankakee River was not more than 0.1 Curies. Subsequently, Dresden Nuclear Power Station informed the Illinois Emergency Management Agency (IEMA) and Illinois Environmental Protection Agency (IEPA) of recent groundwater monitoring results at Dresden Station and the station issued a formal press release.

The licensee determined that the tritium in the groundwater was likely from the "B" CST. The contents of the tank were moved to other tanks and the licensee performed non-destructive examinations that identified minor defects in the floor of the suspected tank. The licensee secured all discharges from the on-site sewage treatment facility until the source into the facility was identified and eliminated. The inspectors reviewed the activities performed by the licensee to identify the source of the tritium and mitigate the path of tritium to the Kankakee River, including a walk down of the sewage treatment facility. The inspectors reviewed the sampling protocols before and after the licensee identified radioactive contamination in the system. The inspectors reviewed the actions taken by the licensee to restore the functionality of the on-site sewage treatment facility, including excavation and replacement of failed sewage system piping in the immediate vicinity of the "B" CST. The failed piping contained several through wall flaws which enabled tritium contaminated ground water to enter the system. The licensee discussed methods that might be used to remediate the tritium plume from the area of the CST, however a detailed plan was still under development by contracted experts in this area. The inspectors will review the licensee's plan for remediation and observe the construction and performance of the remediation system as a part of the baseline inspection program. A licensee identified NCV of Technical Specification 5.4.1 is documented in section 4OA7 of this Inspection Report.

This event follow up review constituted one sample as defined in IP 71153–05.

4OA5 Other Activities

.1 Operation of an Independent Spent Fuel Storage Installation at Operating Plants (60855.1)

a. Inspection Scope

The inspectors observed and evaluated select licensee loading, processing, and transfer operations of the third and fourth canister during the licensee's 2014 dry fuel storage campaign to verify compliance with the applicable Certificate of Compliance (CoC), the associated Final Safety Analysis Report(FSAR), and approved independent spent fuel storage (ISFSI) procedures. Specifically, the inspectors observed: loading and independent verification of fuel assemblies placed into a multi-purpose canister (MPC); decontamination and surveying; welding and non-destructive testing of the MPC lid; vacuum drying; Helium backfill; and MPC transfer operations. The licensee used the Holtec International HI-STORM 100 Cask System for this campaign.

The inspectors reviewed procedures used to perform ISFSI preparation, loading, sealing, transfer, monitoring, and storage activities including applicable heavy loads procedures and inspection documentation to determine compliance with the site's heavy loads program. Select documents were reviewed, in part, after the licensee completed certain loading activities.

The inspectors reviewed the licensee's evaluations associated with fuel characterization and selection for storage. The inspectors reviewed the licensee's evaluation characterizing fuel as intact fuel, damaged fuel, or fuel debris. The licensee loaded Dresden Unit 1 fuel during this campaign, some of which was classified as damaged or fuel debris. The inspectors verified that the damaged fuel and fuel debris were appropriately placed into damaged fuel canisters. The fuel selection packages were reviewed to verify that the licensee was loading fuel in accordance with the CoC approved contents.

A number of condition reports and the associated corrective actions were reviewed since the last ISFSI inspection. The inspectors also reviewed 10 CFR 72.48 screenings and changes to the licensee's 10 CFR 72.212 evaluations since the last ISFSI inspection.

The inspectors performed a walk down of the ISFSI pad to assess the material condition of the pad and the loaded HI-STORM 100 and HI-STAR storage casks. Additionally, the inspectors performed independent radiation surveys around the ISFSI pad and storage casks and observed the licensee perform required surveillances.

b. Findings

Non-Cited Violation : 07200037/2014001–01 "Failure to Preclude Multi-Purpose Canister Air Intrusion"

Introduction: A self-revealing, Severity Level IV NCV of 10 CFR 72.150, "Instructions, Procedures, and Drawings," was identified for failing to follow procedures that are relied upon to ensure that fuel oxidation does not occur during canister loading activities.

Description: On May 19, 2014, the licensee was preparing to place helium in a MPC recently loaded with spent nuclear fuel and undergoing processing for dry cask

storage. The operators were using licensee procedure DFP 0800–71, "MPC Processing," Section 4.18. At this time, vacuum drying was completed and step 4.18.9 directed the licensee to disconnect vacuum drying system (VDS) suction hoses from closed air operated valves (AOVs) that isolated the MPC from the surrounding atmosphere. However, the operators inadvertently loosened the closed AOVs attached to the MPC rather than the VDS suction hoses. This action caused an indeterminate amount of air to enter the MPC. The operators immediately recognized the condition and retightened the AOV. The individuals continued work in preparation for helium backfilling until they left the area for shift turnover. The issue was not brought to licensee management attention and no other immediate actions were taken to monitor or remedy the issue for approximately 4 hours. Following shift turnover a new crew entered the work area and identified the retightened AOV connection continued to allow air into the MPC. The new operators tightened the connection again, notified licensee management, and a work force stand down followed. In an attempt to perform immediate recovery actions, the licensee evaluated implementation of DOA 0800–01, "Spent Fuel Cask Abnormal Conditions," Revision 06; however, the licensee determined that the procedure could not be performed as written.

Holtec HI-STORM 100 Final Safety Analysis Report Table 8.0.1, "Operational Considerations," states that damage to fuel assembly cladding from oxidation is precluded by assurance that fuel assemblies are never subjected to air or oxygen during loading and unloading operations. Section 3.2.20 of procedure DFP 0800–71, "MPC Processing," further states that "air introduction into a 'Blown Down' MPC is not permitted (ISG–22). Spent fuel shall be maintained in an inert environment to prevent fuel pellet oxidation and the potential splitting of fuel rods."

NRC Interim Staff Guidance-22 (ISG–22) discusses that oxidation of fuel pellets may occur from air in-leakage into a dry cask if a cladding breach exists. The oxidation can occur rapidly and cause significant swelling of the fuel pellets and fragments, which could result in gross fuel cladding breaches if the time-at-elevated-temperature after water removal is excessive. As a corrective action, the licensee reviewed ISG–22. One option ISG–22 describes as a method to negate fuel damage involves determining the time-at-temperature the fuel is exposed to an oxidizing atmosphere and calculate the expected oxidation to determine if a gross breach would occur. The licensee, with assistance from Holtec, determined the loaded fuel peak cladding temperature was 229° Celsius and that a 100 hour time limit should be established, based on ISG–22, for fuel exposed to an oxidizing atmosphere at this temperature.

Following this analysis, and completing the necessary procedure revisions, the site was able to re-perform vacuum drying on May 20, 2014, removing the oxidizing atmosphere in approximately 27 hours. These actions were well within the limit of 100 hours established by their evaluation.

Analysis: The inspectors determined that the licensee's failure to follow their procedure was a performance deficiency and a violation of 10 CFR 72.150 requirements. Specifically the licensee intended, but failed to follow procedure DFP 0800–71, "MPC Processing," that affected quality and relied upon to ensure that fuel oxidation does not occur during canister loading activities.

Consistent with the guidance in Section 2.2 of the NRC Enforcement Manual, ISFSIs are not subject to the significance determination process and, thus, traditional enforcement

will be used for these facilities. Therefore, the violation was dispositioned per the traditional enforcement process using Section 2.3 of the Enforcement Policy. The inspectors determined the performance deficiency was more than minor using IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Example of Minor Issues," Example 4b, in that the failure to follow the procedure had potential safety consequences and the error caused a transient as air was allowed to enter the canister.

Consistent with the guidance in Section 2.6.D of the NRC Enforcement Manual, if a violation does not fit an example in the Enforcement Policy Violation Examples, it should be assigned a severity level: (1) Commensurate with its safety significance; and (2) informed by similar violations addressed in the Violation Examples. The significance of the violation was found to be similar to Severity Level IV example 6.5.d.3, of the NRC's Enforcement Policy, in that the licensee failed to adequately implement Quality Assurance (QA) processes or procedures. The issue was not found to be similar to any examples of higher significance; as such, the violation screened as a Severity Level IV violation. Since traditional enforcement was used to disposition the violation, there is not a cross-cutting aspect.

Enforcement: Title 10 CFR 72.150, "Instructions, Procedures, and Drawings," states, in part, that the licensee shall prescribe activities affecting quality by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall require that these instructions, procedures, and drawings be followed. The licensee established procedure DFP 0800–71, "MPC Processing," revision 33, as the implementing procedure for processing a MPC for storage, an activity affecting quality.

Contrary to the above, on May 19, 2014, the licensee failed to follow step 4.18.9 of procedure DFP 0800–71, "MPC Processing," which directed the licensee to disconnect VDS suction hoses from closed AOVs. Upon identification, the licensee entered the issue into their corrective action program (IR 01662068); performed the required evaluations; revised the necessary procedures; and re-performed vacuum drying prior to performing helium backfill. This violation is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV07200037/2014001–01; Failure to Preclude MPC Air Intrusion).**

.2 (Closed) Unresolved Item (05000237/2011003–06; 05000249/2011003–06), "Concerns with the Licensing and Design Basis"

During the 2011 Ultimate Heat Sink (UHS) Inspection, the inspectors opened an Unresolved Item (URI 05000237/2011003–06; 05000249/2011003–06) due to questions related to the availability of safety-related seismic qualified systems during a seismic induced dam failure. Specifically, the dam failure would cause a drop of intake water level and a reactor trip on low condenser vacuum. The seismic induced loss of offsite power (LOOP) would cause a Group 1 isolation. The operators would be directed to control reactor pressure with the isolation condenser and level with the high pressure core injection (HPCI). The inspectors were concerned with the following:

- the licensee's credited safe mitigation path for this event relied on non-safety-related components (screen refuse pumps) to mitigate the effects of a credible postulated UFSAR accident;

- the availability of the containment cooling service water (CCSW) pumps and their ability to support HPCI and suppression pool cooling; and

- the five hours it took for an actual seismically qualified method to be available to supply make-up water to the isolation condenser post dam failure.

This issue was left unresolved pending further clarification of Dresden's licensing and design basis during a seismic event.

During this follow-up inspection, the inspectors reviewed drawings, calculations, surveillance procedures, letters submitted by the licensee in support of licensing basis changes and safety evaluation reports submitted by the Office of Nuclear Reactor Regulation (NRR).

To address concern No. 1, the inspectors reviewed NRR's Safety Evaluation Report for Extended Power Uprate, dated December 21, 2001. In Section 6.4.5, "Ultimate Heat Sink (UHS)," of this report, NRR recognizes the use of the screen refuse pumps by stating, in part: "The intake compartment is re-flooded by aligning the discharge of the installed refuse pumps, which take suction from the bottom of the intake bay and are fed from motor control centers capable of being powered from emergency diesel generators. The licensee stated that the action to install stop logs and re-flood the intake compartment within 2 hours is written in procedures and has been validated. Thus, makeup to the IC [isolation condenser] from the UHS will be available prior to depletion of the initial makeup sources following EPU [extended power uprate]. Furthermore, Section 6.4.5 concludes with the following statement: "The sources of makeup water are not seismically qualified but, considering the redundancy and diversity of the sources, there is a high confidence that at least one source will be available following a design basis event, including seismic events that could cause dam failure. Based on the review of the licensee's rationale and evaluation, the staff agrees with the licensee's conclusion that the ability of the DNPS UHS to support operations at the proposed EPU conditions is acceptable." The inspectors concerns were resolved that nonsafety-related equipment was credited for this accident.

To address concern No. 2, the inspectors questioned the time it would take for the CCSW system to be returned to service after it had drained back to the UHS. This included venting the system by drilling holes in the CCSW pipe. To address these questions, the licensee provided drawings: (1) M–29, "Diagram of LP Coolant Injection Piping;" M–193, "Outdoor Piping"; and, M–4278, "CCSW Pump 2A–1501–44 Seal Tubing Replacement." After further review of these drawings, the licensee realized the CCSW piping had vent holes already installed. After further questions on the adequacy of the hole diameters, the licensee provided EC 338507, "Perform Evaluation to Determine the Correct Size Holes for CCSW Suction Line in Cribhouse Bay 13 to Address Venting After a Loss of Dam Event," dated March 21, 2003, which determines that with the actual ½" diameter vent holes already in the pipe, it would take 110 minutes for air to be vented off once Bay 13 reaches the required level of 501 feet. The inspectors verified the procedure used to mitigate the consequences of a dam failure, DOA 0010–01, "Dresden Lock and Dam Failure," Revision 31, included requirements for the operator to wait 110 minutes or more before turning on the CCSW pumps once the level is restored to 501 feet or above (Step D.10.e.(17)). Since it would take the operators close to 4 hours (2 hours to re-flood Bay 13 using the screen refuse pumps and 2 hours allowed for venting the CCSW piping) before they could start a CCSW

pump, the inspectors were concerned with the operability of HPCI without water through the room cooler. The licensee provided Design Engineering Document 6216498, which evaluated the operability of HPCI without CCSW for up to 4 hours.

In addition, to satisfy the inspectors' concerns related to the need for CCSW to support suppression pool cooling in the event safety relief valves lift to control reactor pressure, the licensee provided letter dated September 26, 2001, "Additional Information Supporting the License Amendment Request to Permit Uprated Power Operation at Dresden Nuclear Power Station." In this letter, the licensee responded to NRR's question to "provide additional discussion regarding the results of the study to confirm the adequacy of the isolation condenser to provide suppression pool cooling following a small break loss of coolant accident (LOCA) with a dam failure and the acceptability of proceeding with the power update based on the results of this study." The licensee's response included stating the "study shows that additional equipment, specifically cooling water supply to the CCSW heat exchangers, will be required 24 hours after the onset of the event to supply suppression pool cooling." In NRR's Safety Evaluation Report for Extended Power Uprate, dated December 21, 2001, the staff acknowledged the licensees' response. Since the CCSW system can be restored within four hours from the start of the event, the inspectors are no longer concerned of the plant's ability to provide suppression pool cooling within 24 hours.

To address concern No. 3, the inspectors reviewed surveillance DOS 0010–16, "Unit 2(3) Isolation Condenser Safe Shutdown Valve Operability," Revision 25, which verifies valves can be manually and locally manipulated to align flow from the Unit 2 diesel generator cooling water (DGCW) pump to both units' isolation condensers. Based on the number of manipulations, the presence of "quick connects" and the staged hoses of correct sizes, it would appear the licensee could perform this alignment within the specified two hours to provide makeup to the isolation condensers from the onset of the event.

Based on the above, the inspectors determined that no performance deficiencies or violations of regulatory requirements were associated with this URI. The documents that were reviewed are included in the Attachment to this report. This review did not represent an inspection sample. This URI is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 14, 2014, the inspectors presented the inspection results to Mr. S. Marik, 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.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The closure of URI 05000237/2011003–06; 05000249/2011003–06 was discussed with Mr. S. Marik and other members of the licensee's staff on March 14, 2014.

- The inspection results for the area of radiation monitoring instrumentation with Mr. J. Washko, Plant Manager, on May 18, 2014.

- On May 23, 2014, the Operator Licensing Requalification Inspection presented the preliminary inspection results to Mr. J. Washko and other members of the licensee staff. The licensee acknowledged the issues presented.

- The results of the ISFSI operational inspection were presented on May 30, 2014 to Mr. S. Marik, Dresden Site Vice President, and other members of the licensee's staff.

- On June 16, 2014, the Operator Licensing Requalification Inspection presented the overall pass/fail results of the annual operating test administered during calendar year 2014 and the final assessment of the inspection results with Mr. P. DiGiovanna, Training Director.

- The inspection results for the areas of Radiological Hazard Assessment and Exposure Controls; Occupational ALARA Planning And Controls; And Occupational Exposure Control Effectiveness Performance Indicator Verification with Mr. J. Sipek, Acting Plant Manager, on June 20, 2014.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

4OA7 Licensee-Identified Violations

The following violation of very low 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 disposition as a NCV.

TS 5.4.1 requires that written procedures shall be established, implemented, and maintained for procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Section 7.e.2 includes implementation of the Radiation Survey Program. Station Procedure RP–AA–503, unconditional release survey method requires, in part, that materials have no detectable radioactivity for unconditional release from the site. Contrary to the above, on June 9, 2014, a contracted sewage truck transporting contaminated sewage from Unit 1 ejector pit to the licensee's sewage treatment plant was unconditionally released after the truck was emptied. Specifically, the sewage truck was unconditionally released to the contractor's facility without the proper authorization from RP Management. On the following day, the truck was returned to the licensee's facility for survey and decontamination by the RP staff. The empty sewage truck contained traced amount of radioactivity of Co–60 and tritium above minimal detectable activities. The licensee investigation determined that the empty sewage truck did not leak or cause contamination during transit on the public road. This event was entered into the licensee's CAP as CR 01673475. The Radiation Protection Department immediately stopped work. Future transport of sewage between the licensed facility and the licensee's sewage treatment plant will be escorted by radiation protection personnel to ensure that drivers follow licensee direction. The significance of the finding was

determined by using Inspection Manual Chapter 0609, Appendix D, "Public Radiation Safety SDP." The issue is of very low safety significance (Green) because it involved radioactive material control, was not a finding involving transportation, and did not result in public exposure greater than 0.005 rem.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee
S. Marik, Site Vice President
J. Washko, Station Plant Manager
D. Anthony, NDES Manager
T. Barren, Dry Cask Storage Senior Project Manager
G. Baxa, Senior Regulatory Engineer
J. Biegelson, Engineering
J. Cady, Instrument Manager
A. Cassell, Health Physicist
P. Chambers, Dresden Licensed Operator Requalification Training Lead
P. DiGiovanna, Training Director
P. DiSalvo, GL 89–13 Program Owner
H. Do, Engineering Manager
D. Doggett, Emergency Preparedness Manager
R. Early, Site Reactor Services Manager
J. Fox, Design Engineering Manager
D. Glick, Radioactive Material Shipping Specialist
G. Graff, Nuclear Oversight Manager
M. Hosain, Site EQ Engineer
J. Humenik, Manager Maintenance Planning
R. Johnson, Chemistry
B. Kapellas, Operations Director
D. Ketchledge, Engineering
J. Knight, Director, Site Engineering
M. Knott, Instrument Maintenance Manager
J. Kish, ISI Programs Engineering
S. Kvasnicka, NDE Level III
T. Leffler, Senior Staff Engineer, Dresden Engineering
L. Mager, RGPP Specialist
W. Marsh, Interim Security Manager
T. Mohr, Supervisor, Engineering Programs
G. Morrow, Operations
M. McDonald, Maintenance Director
T. Mohr, Engineering Program Manager
P. O'Brien, Regulatory Assurance—Corrective Action Program Coordinator
D. O'Flanagan, Security Manager (former)
M. Overstreet, Radiation Protection Manager
T. Palanyk, Manager Operations Support
M. Pavey, Health Physicist
P. Prater, Manager Operations Training
E. Rogers, NOS Lead Assessor
D. Schiavoni, Engineering
R. Schmidt, Chemistry Manager
J. Sipek, Work Control Director
R. Stachniak, Engineering
R. Sisk, Buried Pipe Program Owner
A. Triventi, ODCM/RETS, CHP

J. Wegner, Engineering
D. Walker, Regulatory Assurance—NRC Coordinator
P. Wojtkiewicz, Senior Engineering Manager

Nuclear Regulatory Commission
A. Boland, Director, Division of Reactor Projects
J. Cameron, Chief, Division of Reactor Projects, Branch 4
J. Rutkowski, Project Engineer, Division of Reactor Projects, Branch 4

IEMA
R. Zuffa, Illinois Emergency Management Agency
M. Porfirio, Resident Inspector,
Illinois Emergency Management Agency

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000237/2014003–01	NCV	Failure to Take Appropriate Corrective Action When a Maintenance Rule Performance Goal for the Standby Coolant System Was Not Met (Section 1R12)
07200037/2014001–01	NCV	Failure to Preclude Multi-Purpose Canister Air Intrusion (Section 4OA5.1)

Closed

05000237/2014003–01	NCV	Failure to Take Appropriate Corrective Action When a Maintenance Rule Performance Goal for the Standby Coolant System Was Not Met (Section 1R12)
07200037/2014001–01	NCV	Failure to Preclude Multi-Purpose Canister Air Intrusion (Section 4OA5.1)
05000237/2013–008–01	LER	Leak Identified On a Relief Valve During Pressure Test Resulting In a Degraded Principal Safety Barrier (Section 4OA3.1)
05000237/2013–001–02 05000249/2013–001–02	LER	Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously (Section 4OA3.2)
05000237/2013–003–01 05000249/2013–003–01	LER	Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously (Section 4OA3.3)
05000237/2013–004–01 05000249/2013–004–01	LER	Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously (Section 4OA3.4)
05000237/2013–007–01 05000249/2013–007–01	LER	Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously (Section 4OA3.5)
05000237/2014–001–00 05000249/2014–001–00	LER	Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously (Section 4OA3.6)
05000237/2014–002–00	LER	Unit 2 Reactor Scram Due to Main Power Transformer Failure (Section 4OA3.7)
05000237–2014–003–00	LER	Unit 2 Reactor Scram During Automatic Voltage Regulator Channel Transfer (Section 4OA3.8)
05000237/2011003–06 05000249/2011003–06	URI	Concerns with the Licensing and Design Basis (Section 4OA5)

Discussed

None.

LIST OF DOCUMENTS REVIEWED

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

1R01 Adverse Weather Protection (71111.01)

- OP-AA-108-107-1001; "Station Response to Grid Capacity Conditions;" Revision 4
- OP-AA-108-107-1002; "Interface Procedure Between ComEd/PECO and Exelon Generation (Nuclear/Power) for Transmission Operations;" Revision 7
- WC-AA-101; "On-Line Work Control Process;" Revision 21
- WC-AA-107; "Seasonal Readiness;" Revision 14
- DOA 6500-12; "Low Switchyard Voltage;" Revision 24
- 60-day Response Letter to NRC Generic Letter 2006-02; Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power; April 3, 2006
- IR 112474-16; "SOER 99-1, Loss of Grid Effectiveness Assembly"
- IR 1544386; "Trip of 345kV Line 1263"
- IR 1588904-02; "Dresden NOS Readiness Assessment Report"
- IR 1600623,;"Unexpected Alarms 901-B1 H-2, L-0904 Trip"
- IR 1614990; "345kV L1220 Relay Upgrade Could Not Be Performed as Scheduled"

1R04 Equipment Alignment (71111.04)

- DOP 1500-E1; "Unit 3 LPCI and CCSW System Electrical;" Revision 13
- DOP 1500-M1; "Unit 3 LPCI and CCSW System Valve Checklist;" Revision 32
- IR 1662829; "NRC Concerns with DOP 1500-E1 and M1"
- DOP 1100-E1; "Unit 2 Standby Liquid Control Electrical Checklist;" Revision 07
- DOP 1100-M1; "Unit 2 Standby Liquid Control System Checklist;" Revision 14
- DOS 1100-04; "Standby Liquid Control System Quarterly/Comprehensive Pump Test for the Inservice Testing (IST) Program;" Revision 48
- Dwg. DRES211LN-001; Standby Liquid Control System, P&ID: M-33; Revision 03
- IR 1655853; "U2 SBO Alarm Tile Will Not Acknowledge"
- Unit 2 DOP 6620-E1; Revision 03, "Unit 2 Station Blackout Electrical Checklist"
- Unit 2 DOP 6620-M1; Revision 09, "Unit 2 Station Blackout Mechanical Checklist"

1R05 Fire Protection (71111.05)

- Dresden Pre-Fire Plan; Fire Area/Zone FZ 2.0, Main Control Room Elev. 534'
- IR 1673518; "PA Handset Not Functioning"
- Dre97-0105; "Determination of Combustible Loading;" Revision 9
- 124 U3RB-2B; "Dresden Generating Station Pre-Fire Plan;" Revision 4
- 108 U2RB-7; "Dresden Generating Station Pre-Fire Plan." Revision 4
- 157 U3TB-68; "Dresden Generating Station Pre-Fire Plan;" Revision 2
- Dresden Fire Protection Report; Safe Shutdown Analysis; Amendment 13
- DSSP 0100-A1; Hot Shutdown Pathway A1; Revision 34

1R06 Flooding (71111.06)

- WO 00461370; "Need To Dewater SY MH-3"

- Manhole Location Drawing- Dresden Station
- IR 01645465; “Need To Dewater SY MH-3”
- ER-AA-300-150; Revision 0, Cable Condition Monitoring Program
- IR 1645544; “NRC Resident Questions Related to Cable Vaults”
- NRC Information Notice 2010-26; “Submerged Electrical Cables”
- NRC Generic Letter 2007-01: Inaccessible or underground Power Cable Failures That Disable Accident Mitigation Systems or Cause Plant Transients”
- Letter from P. Cowan; Exelon Generation Company, LLC to U.S. NRC; dated December 7, 2007, “Response to Generic Letter 2001-01 RAI for Braidwood Station, Byron Station, Clinton Power Station, Dresden Nuclear Power Station, LaSalle County Station, Limerick Generating Station, Oyster Creek Nuclear Generating Station, Peach Bottom Atomic Power Station, Quad Cities Nuclear Power Station and Three Mile Island Nuclear Station Unit 1”

1R011 Licensed Operator Requalification Program (71111.11A and B)

- IR 01442529; Procedure Revision required for DOS 1700-10; dated November 20, 2013
- IR 01525770; OIO – Informal Benchmarking Point Beach NPS Training; dated June 17, 2013
- IR 01532452; 4.0 Critique Results from Crew 3 for U3 Shift on June 10, 2013; dated June 10, 2013
- IR 01566864; NOS ID: DRE ILT 10-1 Exam Not Forwarded to RM; dated October 2, 2013
- IR 01567488; NOS ID: Records Management is an ARMA; dated October 3, 2014
- IR 01572194; NOS Identified TRNG ARMA for Records – ACE; dated November 13, 2013
- IR 01572194; NOS Identified TRNG ARMA for Records; dated October 15, 2013
- IR 01575579; Unexpected Alarm Received During CO Placement; dated October 23, 2013
- IR 01585840; 3C IAC Moisture Indication; dated November 15, 2013
- IR 01607721; Single Loop Operation Critique; dated January 10, 2014
- IR 01617643; ‘B’ Off-Gas Cooler Condenser Train Parameters; dated February 05, 2014
- IR 01632200; U2 HPCI MGU Did Not Stop at LSS; dated March 12, 2014
- IR 01663231; TRNG: TQ-AA-201 Procedure Vulnerabilities Identified; dated May 22, 2014
- IR 01663239; TRNG: Training Behavior Shortfalls in Exam Material Control; dated May 22, 2014
- IR 1297166; FASA TNRG: NRC 71111.11 Pre-Inspection Self-Assessment; dated February 15, 2014
- IR 1442322; Check-In TR: Lic Operator Requal Prog Inspection; dated February 14, 2013
- IR 1467190; Dresden High Exam Failure Rate During LORT Cycle Exam; dated January 2013
- IR 1589744; Check-In (CH): Pre-NRC 71111.11 Licensed OP Requal Program; dated March 3, 2014
- IR 1589744; Check-In: Pre-NRC 71111.11 Licensed OP Requal Program; dated March 6, 2014
- IR 1609590; Declining Throughput for Initial License Training at Dresden Station; dated February 17, 2014
- IR-1663279; TRNG: STA Not Re-Eval in STA Role Following NRC Exam Failure; dated May 22, 2014
- JPM P2-0300-03; Vent SCRAM Air Header to Perform Alternate Insertion of Control Rods; Revision 12; dated February 2014
- JPM P2-0500-02; Energize 2B RPS Bus from 2A RPS MG Set; Revision 18; dated February 2014
- JPM P2-3300-01; Line-up Condensate Transfer for Alternate Water Injection; Revision 13; dated February 2014

- JPM P3-0250-05; Take Action for Failed Relief Valve - Pull Fuses Revision 5; dated February 2014
- JPM P3-6600-03; Diesel Generator 3 Local Manual Start; Revision 10
- JPM P3-6900-04; Respond to Partial or Complete Loss of the Unit 3 250 VDC Power Supply; Revision 14
- JPM S-0700-17; RBM - Clear RBM Malfunction - ALT Path; dated February 2014
- JPM S-1600-07; Raise Unit 2 Torus Water Level Using Core Spray; Revision 2; dated February 2014
- JPM S7500-04; Start SBGT; Revision 2; dated February 2014
- JPM S-EP-14; Determine Emergency Classification; Revision 4; dated February 2014
- LORT OBE 4A; 2013-2015 Cycle 4; Revision 2; dated; March 2014
- LS-AA-126-1005; Pre-NRC 71111.11 Inspection Licensed Operator Requalification Training Assessment; Revision 5; dated February 28, 2014
- LT081; Simulator Exercise Guide; Revision 0
- LT149; Simulator Exercise Guide; Revision 00
- LT191; Simulator Exercise Guide; Revision 0
- NOSA-DRE-13-08; Operations Audit Report (AR 1442937); dated September 23, 2013; Through October 3, 2013
- OP-AA-101-111; Roles and Responsibilities of On-Shift Personnel; Revision 6
- OP-AA-105-102; Reactivation of License Log; Attachment 2; Revision 9
- OPEX-AD; Simulator Exercise Guide; Revision 8; dated February 2014
- OPEX-AJ; Simulator Exercise Guide; Revision 4; dated February 2014
- OPEX-AK; Simulator Exercise Guide; Revision 4; dated February 2014
- OPEX-AM; Simulator Exercise Guide; Revision 3; dated February 2014
- OPEX-AQ; Simulator Exercise Guide; Revision 3; dated February 2014
- OPEX-AR; Simulator Exercise Guide; Revision 3; dated February 2014
- OPEX-AS; Simulator Exercise Guide; Revision 3; dated February 2014
- OPEX-H; Simulator Exercise Guide; Revision 12; dated February 2014
- TA-AA-224-F100; Remedial Training Notification and Action on Failure; dated January 27, 2014
- TQ-AA-150-F04; Simulator Evaluation Form – Individual; dated April 30, 2014
- TQ-AA-155; Conduct of Simulator Training and Evaluation; Revision 2
- TQ-AA-155-F05; Simulator Evaluation Form – Crew; dated April 30, 2014
- TQ-AA-155-F11; LORT Improvement Plan; Revision 0
- TQ-AA-224-F060; Multiple Topic Trainee Feedback Form; Dresden Operations Training (LORT); Cycle 3; dated January 20, 2014; Through February 24, 2014
- TQ-AA-224-F070; Evaluation Summary; LORT 2013-2015 Cycle 3 Final Rollup; dated January 21, 2014, Through February 28, 2014
- TQ-JA-150-22; LORT Written Examination Briefing; Revision 0
- TQ-JA-155-08; Simulator Evaluation – Individual Competency Standards; Revision 1

1R11 Licensed Operator Requalification Program (71111.11Q)

- Unit 2(3) DGP 01-01; Revision 181; “Unit Startup”
- Unit 2/3 DGP 01-S3; Revision 21; “Unit 2/3 Master Outage Checklist”
- Unit 2(3); DGP 01-S1; Revision 97; “Start-up Checklist”

1R12 Maintenance Effectiveness (71111.12)

- ER-AA-310; “Implementation of the Maintenance Rule;” Revision 9
- ER-AA-310-1001; “Maintenance Rule – Scoping;” Revision 4

- ER-AA-310-1002; “Maintenance Rule Functions – Safety Significance Classification;” Revision 3
- ER-AA-310-1003; “Maintenance Rule – Performance Criteria Selection;” Revision 4
- ER-AA-310-1004; “Maintenance Rule – Performance Monitoring;” Revision 11
- ER-AA-310-1008; “Exelon Maintenance Rule Process Map;” Revision 0
- MA-AA-716-012; “Post Maintenance Testing;” Revision 18
- PID 12E-2509; “Primary Containment Isolation System Clean-Up System Isolation Logic;” Sheet 1 Revision AY
- Operational Decision Making 1571690; “2A RWCU Pump Trips;” October 15, 2013
- (a)(1) Action Plan 1579254-03; U2 RWCU Function Z12-1
- Engineering Change 395707; “Temporarily Bypass Unit 2 RWCU Trips;” Revision 0
- Engineering Change 397337; “Upgrade RWCU Isolation Logic – U2;” Revision 0
- WO 557937; “Contingency for Failure of RWCU Temperature Switch TIS 2-1291-4”
- IR 1519239; “TIS 3-1291-4 Failed Causing D3 RWCU System Isolation”
- IR 1524639; “TIS 2-1291-4 Failed to Actuate”
- IR 1526671; “U2/U3 RWCU TIS Failures Long Term Actions”
- IR 1565226; “U2 A RWCU Pump Trip”
- IR 1570139; “U2 RWCU System Tripped”
- IR 1571690; “RWCU System Trip”
- IR 1579254; “Maintenance Rule Function U2 12-1 Needs (A)(1) Determination”
- IR 1595439; “Unexpected RWCU System Isolation”
- IR 1597810; “U2 RWCU System Trip”
- IR 1659368; “NRC Question: U2 RWCU Status”
- IR 1660024; “Maintenance Rule Station Performance Criteria Questioned”
- IR 1660071; “NRC Question: Completion of WO 00557937”
- IR 01644740; “NRC Questions D2R23 Performance of DOS 3900-01”
- IR 01590535; “2-3902 MOV Failed To Open”
- IR 1650033; “MRule A1 Determination Needed for Missed MRFF Z39-1”
- IR 1657513; “Q2R22 Lesson Learned for MA-AA-723-301”
- IR 1672817; “PMID 2525-01 Not Fully Completed for 2-3902 in D2R22”
- WO “D2 RFL PM STBY Coolant Supply Oper Test MOVs 2-3901/3902/330”
- DOS 3900-01; “Standby Coolant Supply Functional Test;” Revision 10
- Maintenance Rule Expert Panel (a)(1) Determination Meeting Minutes
- ER-AA-310-1005; Maintenance Rule- Dispositioning Between (a)(1) and (a)(2); Revision 6
- ER-AA-310-1004; Maintenance Rule – Performance Monitoring; Revision 11
- ER-AA-310; Implementation of the Maintenance Rule; Revision 9
- DEOP 0500-02; Alternate Water Injection Systems; Revision 22
- AR 01650033; MRULE A1 DETERMINATION NEEDED FOR MISSED MRFF Z39-1
- MRule Expert Panel Minutes; July 24, 2013
- MRule Expert Panel Minutes; September 24, 2013
- Operator Logs; November 27, 2013
- IR 01644740; NRC Questions D2R23 Performance of DOS 3900-01
- DOA 3900-01; Loss of Cooling by Service Water System; Revision 20
- WO 01487558; D2 RFL PM STBY Coolant Supply OPER Test MOVs 2-3901/3902/330
- WO 01296111; D2 RFL PM STBY Coolant Supply OPER Test MOVs 2-3901/3902/330
- AR 01590535; 2-3902 - YASSY” U2 STBY Coolant Supply Valve; November 27, 2013

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

- OP-AA-108-117; Protected Equipment Program; Revision 3
- Protected equipment list for Unit 2 ‘B’ SBLC

- Check-in Self-Assessment; Protected Equipment Program Compliance; May 14, 2104
- Protected Equipment List for Unit 2 Div. 1 LPCI
- IR 1646228; Top NOS Concern for NSRB – Protected Pathway Process"
- Protected Equipment List for Unit 3 "A" TBCCW Pump
- Protected Equipment List for Unit 3 DIV II LPCI OOS
- IR 1653146; "CHECK-IN (OPS): Protected Pathway Champion"
- OP-AA-108-117; "Protected Equipment Program;" Revision 4

1R15 Operability Determinations and Functional Assessments (71111.15)

- EC 398169; "Historical Operability Evaluation of U2 HPCI System Due to Steam Leak on Drain Pot 2-2307-A Steam Trap Strainer 2-2301-1S;" Revision 0
- EC Request 413429; "Isolation Condenser Throttle Valve 2-1301-3 Position;" Revision 0
- Operability Evaluation #13-010; EC 396493; IR 1599386, "2-1302 Isolation Condenser;" Revision 0
- DOS 1300-01; "Isolation Condenser Five Year Heat Removal Capability Test;" Revision 40
- WO 1703750; "D2 5Y TS Isolation Condenser Heat Removal Test"
- WO 1703776; "Work Order Needed to Throttle 2-1301-3"
- IR 1599386; "Increase in Measured Carryover During U2 IC Heat Capacity Test"
- IR 1603512; "Work Order Needed to Throttle 2-1301-3"
- IR 1634084; "Steam Leak on HPCI Inlet Drain Pot Strainer"
- IR 1662585; "U2 HPCI System Historical Operability Due to Steam Leak"
- IR 1667359; "NRC Requested Conference Call Regarding ISO Condenser"
- IR 1668429; "Replace Motor on MOV 3-1501-19A"
- IR 1624591; "480V MCC Bucket Locking Tabs Not Locked"
- IR 1624591; "480V MCC Bucket locking Tabs Not Locked"
- MA-AA-716-230-1003; Revision 4, "Thermography Program Guide"
- WO 1568669; "D2 & 2/3 18M Infrared Insp MCC's, Busses, Electric Panels"
- WO 370964; "EM D2 6Y Insp 480V MCC Bkr SBLC Tank Htr – Group 3"
- IR 1650147; "D3 350# ECCS Perm. PS Out of Tech Spec 3-0263-52B1"
- P&ID 12E-2430; 2349, Revision 00, Core Spray Logic
- IR 1657212; "NRC Questions ASD Speed Hold Impact on LPCI LOOP Select"
- Op Eval 14-01; LPCI Loop Select Speed Hold/Mismatch Issues with Respect to ASD Logic; Revision 0
- Engineering Change 398132; LPCI Loop Select Speed Hold/Mismatch Issues with Respect to ASD Logic; Revision 0.
- IR 1655423; "2A Recirc Pump Did Not Run Back on Reactor Scram"
- IR 1651595; "U2 Reactor Scram Crew 5 Held 4.0 Critique"
- IR 1671165; "IR Requested Under Action Item 1657212-03"
- DGP -0-03; Revision 103, "Reactor Scram"
- IR 562542; "Shutdown Cooling System Discharge Pressure High"
- IR 1666733; "New IR for U2 SDS Sys Disch Press HI on a LOOP"
- IR 581181; "Shutdown Cooling Pump 2C Discharge Pressure High"
- IR 611464; "U2 Shutdown Cooling System Discharge Pressures (A/B/C) High"
- EC 351622; "Evaluation of closed LOOPs"

1R18 Plant Modifications (71111.18)

- DEP 0040-27; Revision 04, "Insulation Resistance Temperature Correction Data Sheet"
- ER-AA-335-004; Ultrasonic Thickness Calibration Sheet for Refuse Pit Piping Line 2/3-4407-12"-O

- WO 01579414; “FNM Temp Leak Repair Refuse Pit Pump Discharge Piping Leaking””
- IR 1664930; “Potential Undocumented TCC”
- IR 1665107; “FME Retrieved in 2/3 Cribhouse Refuse Pit”
- IR 1660863; “IEMA & NRC Requested Information of Submerged Motors”
- IR 1659848; “FME: Suction Screen Found Missing Off Pump When Removed”
- WO 01148658; “NDE Needed on Line 2/3-4401-12”
- IR 1657927; “Temp Refuse Pit Pump Stopped Working”
- IR 1657674; “Screen Refuse Pit, System Engineering Contacted by IEMA”
- IR 1654045; “Through Wall Leak Onto Control Box for Screen Refuse Sump”
- IR 1651575; “Screen Refuse TCCP Pump Not Functioning”
- IR 1646072; “2/3 Screen Refuse Pit Temp Sump Pump; WO 1702051-02 Missing”

1R19 Post-Maintenance Testing (71111.19)

- WO 501605-04; “OP Rack Out/In 4kV Breaker UTC 874023”
- WO 403853-02; “OP Open/Close Breaker to Support 2-7829-3F3 Inspection”
- AR 1670333; “2B RWCU Breaker Cubicle Resistance While Racking”
- AR 1670409; “2B RWCU Pump Breaker Doesn’t Indicate Charged”
- WO 1697149; “RV 2-8526 Requires Replacement”
- OpEval 13-009; EC 396372, “2-8526 Unit 2 Nitrogen make-Up Header Relief Valve”
- DOS 70000-31; “Local Leak Rate Testing of Unit 2(3) Containment Ventilation System Valves;” Revision 05
- Dwg M-25; Diagram of Pressure Suppression Piping
- WO 1560013; “AOV 2-1601-20A Chattering When Opening and Closing”
- DOS 1600-28; Revision 17, “Air Operated Valve Fail Safe and Accumulator Integrity Test”
- DOS 1600-03; Revision 51, “Unit 2 Quarterly Valve Timing”
- DOS 0040-07; “Verification of Remote Position Indication for Valves Included in Inservice Testing (IST) Program
- WO 00403853-02; “OP Open/Close Breaker to Support 2-7829-3F3 Inspection”
- Clearance 00117902; Final Clear Checklist 002

1R20 Outage Activities (71111.20)

- IR 1651191; “DOS 0300-03 Will Not Be performed Prior to D2F53 Startup”
- IR 1651156; “C-Doghouse Meggar Reading Unexpected Results”
- IR 1649344; “MPT-2 Move Delayed Due to Modified Haul Path”
- IR 1649068; “ISO Condenser M/U Pump Battery Chargers Lose Power”
- IR 1647183; “IRM 16 Momentary Spike”
- IR 1647364; “Safety: D2F53 Standards Team Observation – Working at Heights”
- IR 1646567; “SRM 23 Fails Signal to Noise Ratio”
- IR 1646688; “First Aid (Drinking Fluids for Heat Stress) Required”

1R22 Surveillance Testing (71111.22)

- MA-AA-716-230-1002; “Vibration Analysis/Acceptance Guideline;” Revision 2
- DOS 6600-07; “Testing LPCI Swing Bus Protective Relays Auto Transfer Function;” Revision 27
- DOS 6600-08; “Diesel Generator Cooling Water Pump Quarterly and Comprehensive/Preservice Test for Operational Readiness and In-Service Test (IST) Program;” Revision 58
- WO 1704649-01; “OP D2 Quarterly Tech Spec D/G Cooling Water Pump Test for IST Program Surveillance”

- WO 1707670-01; “OP D2/3 Quarterly Tech Spec D/G Cooling Water Pump Test for IST Program Surveillance”
- IR 1603512; “Work Order Needed to Throttle 2-1301-3”
- IR 1655191; “2/3 DGCWP Vibrations Found In Alert Range During DOS 6600-08”
- IR 1665174; “Scaffolding Left Near Vibration Sensitive Racks”
- IR 1665194; “During DIS 0250-01 Found Switch O.O.T./Tech. Spec.”
- IR 1665202; “During DIS 0250-01 Found Switch O.O.T./Non Tech. Spec
- WO 1316283; “D2 4 year PM Replace Barton 288 Movement Calibration”
- WO 1316286; “D2 4 year Replace Barton 288 Movement Calibration”
- DAN 902(3)-5 D-4; Revision 20
- DIS 0250-01; “Main Steam line High Flow Isolation Switch Channel Calibration and Channel Functional Test;” Revision 33
- WO 01720374; “Dresden 2 Quarterly Technical Specification HPCI Pump Operability Test and IST Surveillance”
- DOS 2300-03; “High Pressure Coolant Injection System Operability and Quarterly IST Verification Test;” Revision 105
- IR 1673444; “2-2301-48 Valve Packing Leak”
- WO 01504123; “Dresden 2, 2 Year Preventative Maintenance Post Refuel HPCI Fast Initiation Test”
- DOS 2300-07; “High Pressure Coolant Injection Fast Initiation Test;” Revision 44
- IR 1674524; “Leak on Dresden 2 HPCI Turbine Casing Bolting Identified”
- IR 1674501; “3-4 DPM Leak Identified on HPCI Main Pump Casing Bolt”

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

- RWP-10014939; D2R23 Reactor Disassembly / Assembly; and Related Activities Associated with Refuel Floor
- RWP-10014886; D2R23 Drywell Nuclear Instrumentation Activities
- RWP-10014896; D2R23 Drywell Control Rod (CRD) System Maintenance Activities
- RWP-10016043; 2014 Site Excavation and Repair of Underground Transfer Lines; Revision 2
- RWP-10014902; D2R23 Drywell In-Service Inspection Activities; Revision 1
- RWP-10016036; Unit 2/3 Dry Cask Storage Project 2014 (6 casks)
- RWP-10016098; Removal Two Vacuum Vessel of Sludge from Concentrated waste Vault Using Robot
- RWP-10014918; D2R23 Torus Diving and Desludging Activities
- RP-AA-503; Unconditional Release Survey Method; Revision 6
- RP-AA-400-1007; Elevated Dose Rate Response Planning; Revision 2
- RP-AA-401-1004; Controls for the Draining and Decontamination of BWR Reactor Cavity and Associated Pits; Revision 0
- RP-AA-460-1006; Control for Repair or Replacement of In-Core Detector and associated Components; Revision 2
- RP-AA-461; Radiological Controls for Contaminated Water Diving Operations; Revision 5
- RP-AA-462; Controls for Radiographic Operations; Revision 2
- AR-01596918; Removal of Unit 2/3 Spent Fuel Pool Filters that Resulted in More Dose; December 13, 2013

2RS2 Occupational ALARA Planning and Controls (71124.02)

- ALARA Review; 10014939; D2R23 Reactor Disassembly / Assembly; and Related Activities Associated with Refuel Floor
- ALARA Review 10014886; D2R23 Drywell Nuclear Instrumentation Activities

- ALARA Review 10014896; D2R23 Drywell Control Rod (CRD) System Maintenance Activities
- ALARA Review 10014897; D2R23 Drywell Control Rod (CRD) System Maintenance Activities
- ALARA Review 10016036; Unit 2/3 Dry Cask Storage Project 2014 (6 casks)
- ALARA Review 10016098; Removal Two Vacuum Vessel of Sludge from Concentrated waste Vault Using Robot
- ALARA Review 10014918; D2R23 Torus Diving and Desludging Activities
- AR-01601256; Post Job Review for RWP-10014886, Under Vessel Sump Pump Issue in Drywell Instrument Activities; December 27, 2013
- AR-01607854; D2R23LL Post Job Review for RWP-10014902
- AR-01607869; D2R23LL: Post Job Review for RWP-10014915
- AR-01607881; D2R23: Post Job review of RWP-10014918: Torus Dive Work Activities
- AR-01607973; D2R23LL; Post Job Review for RWP-10014940; Refuel Floor and Reactor Cavity Activities during Unit-2 Outage
- RP-AA-401-1002; Radiological Risk Management; Revision 6

2RS5 Radiation Monitoring Instrumentation (71124.05)

- Dresden SPING Set Point Calculations: ODCM Efficiency Monitor Calculation; October 19, 2012
- Eckert & Ziegler Analytics; Activities for 1 inch Diameter and 0.25 inch Thick of Cs-137 Button Standard Radionuclide Sources; July 8, 2013
- Instrument Calibrated On-Site and Their Calibration Sources 2013
- DRS-5821-56; SPING Effluent Monitor Calibration; Revision 6; February 7, 2013
- CY-DR-130-325; 2500 Series Liquid Scintillation Counter; Revision 2; March 2, 2014
- CY-AA-130-300; Gamma Spectrometry; Revision 5
- SN 8973769; High Purity Germanium Efficiency Calibration; April 22, 2014
- AMS-4/AMS4OPT14; Exelon PowerLabs; Certificate of Calibration April 21, 2014
- DRS-5821-56; D2/3 18 Month Technical Specification Chimney SPING-4 Efficiency Calibration; September 8, 2013
- DRS-1800-05; Unit 2/3 ARM Station 9 through 36 Calibration; April 17, 2013
- AR-01529551; NOS Identified That There Was No Documentation for NIST Traceable Source; June 6, 2013
- AR-01397250; Dresden-2 Drywell CAM Detector Mylar was Found Torn and Unattached; August 5; 2012
- AR-0150+339: Unit 2 Service Water Strainer Slow to Swap; May 5, 2013
- AR-01405825; Unit-3 Drywell Continuous Air Monitor LED Display Screen is Not Functioning; August 28, 2013
- AR-01533818; Out of Tolerance on Dresden-3 Drywell CAM; July 9, 2013
- AR-01627544; Refuel Floor CAM High Background Due to Build-up Dust; February 27, 2014
- AR-01466735; Dresden-3 Fuel Pool ARM Downscale and Upscale Trips Out of Tolerance; January 25, 2013
- AR-01505847; Dresden-2 ARM No. 6 CRD Rebuild Room Cable Intermittent; April 24, 2013
- AR-01624329; NRC Questions on Process Radiation Monitors (Maintenance Rule); February 10, 2014
- AR-01576268; Start-up and Maintenance Instructions for TSC PING not Developed; October 24, 2013
- AR-01404105; Dresden Whole Body Counter Out of Service; August 22, 2012
- AR-01421473; Radioactive Source not Properly Controlled; October 1, 2012
- AR-01444590; Individual Alarmed PCM at Main Access Exit Point; November 26, 2012
- AR-01542212; Sources Inadvertently Switched During PM-7 Calibration; July 31, 2013
- RP-AA-700-1210; Operation and Calibration of IPM Whole Body Frisking Monitor; Revision 0a

- RP-AA-700-1239; SAM-12 Calibration Data Sheet; October 24, 2013
- RP-AA-700-1240; ARGOS-5 Calibration Data Sheet; October 10, 2013
- RP-AA-700-1240; ARGOS-5 Calibration Data Sheet; September 17, 2013
- Calibration of the Canberra Fastscan No. 1 WBC System at the Dresden Nuclear Generating Station Report Date August 27, 2013
- RP-AA-700-1213; Operation and Calibration of PCM-2 Wholebody Frisking Monitor; Revision 0
- RP-AA-700-1401; Operation and Calibration of Eberline Model PM-7 Personnel Contamination Monitor; Revision 1
- RP-AA-700-1235; Operation and Calibration of PM-12 Gamma Portal Monitor; Revision 1
- RP-AA-700-1231; Operation and Calibration of the Model LAM-11; Large Article Monitor; Revision 1
- DIS-1700-21; Reactor Building Ventilation Channel A and B Calibration and Functional Test; December 19, 2013
- Exelon Letter to NRC Region III SVPLTR #03-0041; Offsite Dose Calculation Manual Mid and High Range Noble Gas Instrument Functionality Requirements Not Met; October 2, 2013
- CY-DR-150-890; Annual Unit 2 and Unit 3 High Radiation Sample System (HRSS) Contingency Capability Plan Verification; November 27, 2013 (Licensee PASS System)

4OA1 Performance Indicator Verification (71151)

- EC 397055; "SSF Evaluation for Loss of Secondary Containment via Interlock Door Breach;" Revision 1
- LS-AA-2140; Monthly Data Elements for NRC Occupational Exposure Control Effectiveness: Attachment 1: from January 2013 through April 2014
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 7
- DR-MSPI-01; Reactor Oversight Program MSPI Bases Document Dresden Nuclear Generating Station; Revision 10
- ER-AA-2008; Mitigating Systems Performance Index Monitoring and Margin Evaluation; Revision 3
- LS-AA-2200; Mitigating System Performance Index Data Acquisition & Reporting; Revision 5
- Unit 2 Performance Indicator Data 2nd Quarter 2012 through1st Quarter 2014
- Unit 3 Performance Indicator Data 2nd Quarter 2012 through1st Quarter 2014
- IR 01585414; MSPI Failure Determination
- CDE MSPI Monthly Input Data Sheets April 2013 through March 2014
- Dresden System Health Monitoring Report 1st Quarter of 2014

4OA2 Identification and Resolution of Problems (71152)

- AR 01660004; NRC Question Regarding RWCU GL 96-06 Piping; dated May 14, 2014
- ASME Section XI Repair/Replacement Plan; WO 00534239 RRP 2-03-027; dated June 3, 2003
- Calculation DR02-0061; Evaluation of RWCU and SDC Piping for Thermal Overpressurization Following a LOCA (GL 96-06); Revision 00A
- Calculation DRE02-0061; Evaluation of RWCU and SDC Piping for Thermal Overpressurization Following a LOCA (GL 96-06); Revision 0
- Calculation DRE02-0062; Thermal Heatup of Isolated Piping Through Penetrations X111A/B and X-113; Revision 0
- Calculation EMD-062763; Comparison of ANSI B31.1; 1967 with ASME Section III Code (1977 Issue, Winter 1978 Addenda) for Zion Piping Analysis; Revision 0
- Drawing M-3037; Reactor Water Clean-Up Bypass Valve; Revision 3

- Drawing M-3802; Reactor Water Clean-Up Layout; Revision 9
- Drawing M-1159E-1; Blume Curve Math Model Reactor Water Clean-Up System; Revision 7
- Drawing M-1159E-2; Blume Curve Math Model Isometric Reactor Water Clean-Up System; Revision 3
- Drawing ISI-107; Inservice Inspection Class 1 Reactor Water Clean-Up Piping; Revision J
- Drawing ISI-118; Inservice Inspection Class 1 Reactor Water Clean-Up Piping; Revision K
- Letter - US NRC; Dresden Nuclear Power Station, Units 2 and 3- Generic Letter 96-06; dated July 22, 2002
- Letter- US NRC; Quad Cities Nuclear Power Station Units 1 and 2 – Completion of Licensing Action for Generic Letter 96-06; dated May 8, 2002
- Letter – ComEd; Response to Request for Additional Information for Generic Letter 96-06, Dresden Nuclear Power Station Units 2 and 3; dated July 24, 1998
- Letter- ComEd; Dresden Station Unit 2 Refueling Outage 15; dated May 16, 1998
- Letter- US NRC; Information Pertaining to Commonwealth Edison Company Implementation of Modifications Associated with Generic Letter 96-06; dated February 6, 1998
- Letter- ComEd; Dresden Nuclear Power Station Units 2 and 3 Supplemental Response to NRC Generic Letter 96-06; dated May 30, 1997
- Letter- ComEd; Dresden Nuclear Power Station Units 2 and 3 Supplemental Response to NRC Generic Letter 96-06; dated March 28, 1997
- Letter-US NRC; Commonwealth Edison Company Response to Nuclear Regulatory Commission Generic Letter 96-06; dated January 28, 1997
- Letter- ComEd; Commonwealth Edison Company Response to NRC Generic Letter 96-06; dated October 28, 1996
- Ultrasonic Testing Data Sheet –Weld 8-19-H; dated January 30, 1985
- Ultrasonic Testing Data Sheet –Weld 8-19-A; dated February 14, 1985
- Ultrasonic Testing Data Sheet –Weld 8-1A; dated February 11, 1987
- Ultrasonic Testing Data Sheet –Weld 8-6A; dated February 11, 1987
- Ultrasonic Testing Data Sheet –Weld RWC-06F; dated May 8, 1986
- Ultrasonic Testing Data Sheet –Weld RWC-07F; dated May 8, 1986
- Ultrasonic Testing Data Sheet –Weld RWC-08F; dated April 22, 1986
- Ultrasonic Testing Data Sheet –Weld RWC-30F; dated May 8, 1986
- Ultrasonic Testing Data Sheet –Weld RWC-11F; dated April 25, 1986
- Ultrasonic Testing Data Sheet –Weld RWC-15F; dated April 23, 1986
- Ultrasonic Testing Data Sheet –Weld RWC-13S; dated April 25, 1986
- IR 1672244; “Multiple ATI Extensions for FASA Results in Measurement Review”
- IR 1673594; “NOS ID: Incorrect Significance Level of Issue Report”
- IR 1493028; “NOS ID: Elevation of Inadequate SOC Closure Comments”
- IR 1585288; “RA – PI&R FASA Document Review”
- IR 1512273; “NOS ID: SOC Closure Elevation Action Item Closure Enhancement”
- IR 1581415; “NOS ID: Complex Troubleshooting Plan observation”
- IR 1588744; “Cyber Security: Missed CDA Identification”
- IR 1615567; “Improper Closure of ACIT That Affects the CAL Health Indicator”
- IR 1626267; “NOS ID: Corrective Actions Not Assigned and Completed”
- IR 1493028; “NOS ID: Elevation of Inadequate SOC Closure Comments”
- IR 1486955; “NOS ID: SBO Building Storage Area HSK Issues”
- IR 1485302; “(RCR 1468057) CA 115694-45 Inappropriately Closed”
- IR 1603648; “Engineering CCA Request: Advocating Equipment Reliability”
- IR 1570438; “NOS ID: New Potential Engineering Fundamentals INPO AFI”
- IR 1589071; “Generate EACE per IR# 1585176”
- IR 1666200; “Results of Eng Review – IR 1645448 For Historic Operability”
- IR 1634389; “Request for CCA to Review Critical Component Failures”

- IR 1430296; “Semi Annual Safety Culture Meeting Improvement Opportunity”
- IR 1430302; “SCMP 2nd and 3rd Quarter 2012”
- IR 1437632; “Root Cause Procedure Inconsistency”
- IR 1566753; “Safety Culture Improvement Opportunity Identified”
- IR 1416720; “LS-AA-115-1003 Low Concern”
- IR 1479796; “Dresden Review of NER PB-13-004 (Part 21 Notifications)”
- IR 1591167; “Declining Human Performance”
- LS-AA-125-1002; Revision 7, Common Cause Analysis for AR 1342674, Assignment #2
- Exelon “Operations Department 2014 First Quarter Trending Data”
- Exelon “Engineering Department 2014 First Quarter Trending Data”
- Exelon “Maintenance Department 2014 First Quarter Trending Data”
- Quad Cities AR 1642409; “U2 Steam Leak / Fire / Alert Declared”
- Quad Cities AR 441896; Contact Dresden personnel and inform them of the issue at Quad Cities to help them determine applicability”
- IR 1648595; “Issuance of Quad Cities Yellow NER NC-14-006-Y”
- WO 1347110; “4Y EQ BUTYL Rubber Cable Surv M03-1001-1A”
- CC-AA-203; Revision 9, “Environmental Qualification Program”
- Dresden Station “B.1.35 Environmental Qualification of Electric Comps”
- IR 1506684; “Issues with EQ Butyl Rubber Cable Inspection PMS”
- IR 1506969; “NRC Asked Question on IR 1506684”
- IR 1551249; “DES 0040-02 Discrepancies”
- IR 1587061; “EQ Butyl Rubber Cable Inspection Found Cracking Degradation”
- IR 1596961; “Need Engineering Review of DC Voltage Testing on Cables”
- IR 1500279; “WO# 1250960-01 Not Completed as Scheduled”
- IR 1586553; “Degraded Cable Feed to MOV 2-1301-1”
- DES 0040-02; Revision 12, “600 Volt Butyl Cable EQ Surveillance”
- IR 1655518; “Water Leaks From Cable Trays Above Blowout Panels in Htr Bay”
- IR 1644591; “Tracking IR for 2/3 Heater Bay / Turbine Pipeway Inspection”
- WO 1184795; “Degraded Cable in HB Cable Tray”
- IR 841546; “Degraded Cable in HB Cable Tray”
- IR 963593; “LR: Damaged Cable in the Unit 3 Heater Bay Cable Tray”
- IR 1172078; “Insufficient Detail in Corrective Action Closure Document”

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

- Prompt Investigation #1655458; “U2 Reactor Scram due to AVR Malfunction”
- IR 1655458; “U-2 Reactor Scram”
- IR 1655539; “Cannibalized Transformer and Bridge for U2”
- IR 1656624; “Tracking Items for AVR Failure Analysis”
- IR 1655743; “NOS ID: Unit Restart Item Improperly Signed as Complete”
- IR 1655760; “Incorrect Fuse Blown Monitoring Device”
- Apparent Cause Investigation Report; “2/3 Emergency Diesel Generator Interlock Doors Opened Simultaneously” – (IR 1639014)
- EC 397055; “SSF Evaluation for Loss of Secondary Containment Via Interlock Door Breach”
- IR 1649358; Equipment Apparent Cause Evaluation, “MPT 2 Low Voltage bushing X3 Failure Investigation Results”
- IR 1646633; “U2 Reactor Scram”
- IR 1646636; “ENS Phone Communication Made (EN#50030)”
- IR 1646703; “DTP-09 Packing Leak on 2-1001-2C 2C SDC Pump Suction MOV”
- IR 1646788; “SRM 23 Signal to noise Ratio Issue Not Fixed by Discharge”
- IR 1646830; “2A SDC Motor Oil Leak at Thermocouple Fitting”

- IR 1646537; “Valve 2-2001-8 Failed to Close”
- IR 1646558; “2A Recirc Pump Did Not Run Back on Scram”
- IR 1646620; “U2 EHC and Turbine Issues”
- IR 1650958; “NOS ID: Post Transient Review Discrepancies”
- IR 1652901; “Unexpected Alarm U2 Gen Volt Reg Common Alarm”
- IR 1653135; “U2 Automatic Voltage Regulator (AVR) Trouble”
- IR 1655843; “Loose Connections Found in Unit 2 Voltage Regulator Panel”
- IR 1655458; “U2 Reactor Scram due to AVR Malfunction”
- IR 1591640; “D2R23LL: Automatic Voltage Reg (AVR) Commissioning Issues”
- IR 1592551; “Transient Recorded Pulsations During AVR Commissioning”
- EC 382479; Unit 2 Automatic Voltage Regulator Replacement”
- OP-AA-106-101-1006; Revision 13, Attachment B “IR 1653135 & 1654046 – Unit 2 Automatic Voltage Regulator is not regulating as designed”
- Dresden Unit 2 AVR SCRAM Process Timeline
- WO 1745402; “Elevated Tritium Results From Monitoring Well MD-11”
- IR 1673511; “NRC Questions Regarding ODCM Receptor Info”
- IR 1673515; “NRC Questions Regarding Initial Event Analysis”
- IR 1673516; “NRC Question Regarding STP Expected Tritium Cleanup”
- IR 1673509; “NRC Questions on Storm Drain system”
- IR 1673624; “Untimely Documentation in CAP of Tritium in STP Effluent”
- IR 1673627; “NRC Information Request”
- IR 1673546; “2014 INPO AFI – ER.4, License Material Containing Tritium”
- Dresden Nuclear Power Station “Interim Tritium Leak and Identification and Resolution Summary;” dated June 2014
- EC 398446; “Evaluate the Presence of Tritium in the Sewage Treatment Plant and the Measures Needed for Remediation”
- IR 1674688; “2/3B CST Repair / Tritium Mitigation Strategy”
- Procedure CY-DR-170-213; “Dresden Potentially Contaminated System Controls Program”
- Letter to James Keppler; US NRC from D.L. Peoples, Commonwealth Edison; dated July 7, 1980, Subject: Response to IE Bulletin 80-10
- Preliminary Notification (PNO-III-14-006)
- Event Notification # 50180
- Exelon Generation News Release; “Dresden Station Environmental Monitoring Identifies Tritium at Station;” dated June 8, 2014
- Morris Daily Herald news article published Monday; June 9, 2014, “Dresden Station monitoring identifies tritium”
- IR 1669137; “Elevated Tritium Readings on STP Effluent”
- IR 1669096; “Elevated Tritium Results From monitoring Well MD-11”
- IR 1669471; “B CST Confirmed to be Leaking Through the Floor Plates”
- IR 1669482; “NRC / IEPA / IEMA Communication Update”

4OA5 Other Activities

- AR 01221390; NRC Ids Issues with Surveillance Procedure for Dam Failure; dated May 27, 2011
- AR 01221386; NRC Identifies Issues with Procedure for Dam Failure; dated May 27, 2011
- AR 01202741; Enhancement to DGA 12; dated May 27, 2011
- AR 01221421; 2/3 Screen Refuse Pumps Not in the Maintenance Rule; dated May 27, 2011
- AR 01173579; NRC Heat Sink Inspection – Bay 13 Inspection Corrosion; dated February 10, 2011

- EC 338507; Perform Evaluation to Determine the Correct Size Holes for CCSW Suction Line in Cribhouse Bay 13 to Address Venting After a Loss of Dam Event; dated March 21, 2003
- 6216498; Design Engineering Document Dresden Unit 2 HPCI Room Cooler Operability; dated July 7, 2000
- M-29; Diagram of LP Coolant Injection Piping; Revision BG
- M-193; Outdoor Piping; Revision L
- M-4278; CCSW Pump 2A-1501-44 Seal Tubing Replacement; Revision A
- DEOP 200-1; Primary Containment Control; Revision 10
- DOS 0010-01; Dresden Dam Failure Equipment Test; Revision 22
- DOS 0010-16; Unit 2(3) Isolation Condenser Safe Shutdown Valve Operability; Revision 15
- DOA 0010-01; Dresden Lock and Dam Failure; Revision 31
- DOA 0010-03; Earthquakes; Revision 21
- DGA 12; Partial or Complete Loss of AC Power; Revision 72

4OA5 Operation of an ISFSI at Operating Plants

- AR 01393602; NRC Question Regarding ISFSI Flooding Analysis; July 26, 2012
- AR 01400926; Review of IRS 01393602 and 01393491 – ISFSI Flooding; July 26, 2012
- AR 01437639; NOS ID: Ineffective Action for ISFSI Compliance Issue; November 8, 2012
- AR 01437685; NOS Finding: ISFSI Pad Does Not Meet Design Specifications; November 8, 2012
- AR 01466572; Caulk Removal at East ISFSI Dry Cask Bases for EC392063; January 24, 2013
- AR 01482153; Dry Cask Storage 125-Ton Lift Yoke Inadequate Load Test Cert; March 1, 2013
- AR 01501118; Dry Cask Storage – Calc/Eval Needed for Dresden Mating Device; April 4, 2013
- AR 01514228; Dry Cask Storage – MPC Closure Rings; May 14, 2013
- AR 01516533; Dry Cask Lift Yoke Pins – OE36167 Impacting EPN 2/3-5801-Y125; May 21, 2013
- AR 01516839; NOS ID: RB Overhead Crane not Load Tested at UFSAR Frequency; May 22, 2013
- AR 01526772; Dry Cask Storage, MPC Download Sling, Rigging Eval Request; June 19, 2013
- AR 01572283; Design Change Did not Address ISFSI Impact Under 10 CFR72.48; October 14, 2013
- AR 01622722; Dry Cask MPC Lift Cleat Analysis – Differing Tech. Opinion; February 14, 2014
- AR 01637692; DCS MPC 342 Minimum Weld Size Does Not Meet Required Specs; March 20, 2014
- AR 01650797; DCS: Completion of 2nd Cask for 2014; April 21, 2014
- AR 01662068; Air Intrusion into MPC#343; May 19, 2014
- 72.48-577; RXS #3 (2014) Weld cask Loaded in Task 03/ Response to Request for Technical Information (Holtec); Revision 0
- 8 MN-GTAW; PCI Welding Procedure Specification; Revision 3
- WCP-3; Weld Material Control; Revision 0
- GQP 8.1; Process Traveler; Revision 17
- GQP 9.6; Visual Examination of Welds; Revision 14
- DFP 0800-32; Fuel Movements Within the Spent Fuel Pools; Revision 31
- DFP 0800-71; MPC Processing; Revision 33
- DOA 0800-01; Spent Fuel Cask Abnormal Conditions; Revision 6
- DRE 13-0029; Fuel Selection Package DRE-0059 for MPC-68F-030; Revision 0
- DRE 13-0030; Fuel Selection Package DRE-0057 for MPC-68FF-343; Revision 1
- DRE 13-0035; Attachment A: Alternate Assembly List; Revision 0
- WO01607335; D2/3 AN COM ISFSI Test of U2/3 RB 125 Ton Lift Yoke; October 31, 2013

- WO01546367; D2/3 AN COM ISFSI Test of HI-TRAC Trunnions; July 19, 2013
- NOSA-DRE-12-11; Independent Spent Fuel Storage Installation Audit; November 13, 2012

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
AOV	Air Operated Valve
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CoC	Certificate of Compliance
CFR	Code of Federal Regulations
DRP	Division of Reactor Projects
ERV	Electromatic Relief Valve
GL	Generic Letter
HI-STORM	Storage Cask
HI-TRAC	Transfer Cask
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
ISFSI	Independent Spent Fuel Storage Installation
ISG	Interim Staff Guidance
LER	Licensee Event Report
LLC	Limited Liability Corporation
LOCA	Loss of Coolant Accident
LORT	Licensed Operator Requalification Training
LPCI	Low Pressure Coolant Injection
MCID	Materials Control ISFSI and Decommissioning
MPC	Multi-Purpose Canister
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
PI	Performance Indicator
PM	Planned or Preventative Maintenance
PMT	Post-Maintenance Testing
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VDS	Vacuum Drying System
WO	Work Order

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Sincerely,

/RA/

Jamnes L. Cameron, Chief
Branch 4
Division of Reactor Projects

Docket Nos. 50–237; 50–249; 72–037
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Letter to Michael Pacilio from Jamnes Cameron dated July 28, 2014

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 1, 2 AND 3 NRC INTEGRATED INSPECTION REPORT 05000237/2014003; 05000249/2014003; AND 07200037/2014001

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