



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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August 6, 2013

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

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
NRC INTEGRATED INSPECTION REPORT 05000237/2013003;
05000249/2013003

Dear Mr. Pacilio:

On June 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated 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 1, 2013, with Mr. D. Czufin, and other members of your staff.

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

No findings were identified during this inspection.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document 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/

Patricia J. Pelke, Acting Chief
Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 05000237/2013003; 05000249/2013003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 05000237; 05000249
License Nos: DPR-19; DPR-25

Report No: 05000237/2013003; 05000249/2013003

Licensee: Exelon Generation Company, LLC

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL

Dates: April 1 through June 30, 2013

Inspectors: G. Roach, Senior Resident Inspector
D. Meléndez-Colón, Resident Inspector
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R. Walton, Senior Operator Licensing Examiner
E. Sanchez Santiago, Reactor Inspector
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Approved by: Patricia J. Pelke, Acting Chief
Projects Branch 6
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Enclosure

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SUMMARY OF FINDINGS

Inspection Report (IR) 05000237/2013003, 05000249/2013003; 04/01/2013 – 06/30/2013;
Dresden Nuclear Power Station, Units 2 and 3, Integrated Report.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. No findings were identified during this inspection. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

No findings were identified during this inspection.

B. Licensee-Identified Violations

No violations were identified.

REPORT DETAILS

Summary of Plant Status

Unit 2

On May 25, operators reduced power to approximately 62 percent electrical for planned turbine valve testing and control rod pattern adjustment. During the load reduction, newly identified work on turbine control valves was identified. The unit was limited to 90 percent power until the corrective maintenance on the control valves could be completed. On May 28, operators restored power to 100 percent.

Unit 2 operated at or near full power for the remainder of the reporting period.

Unit 3

On May 18, operators reduced power to approximately 64 percent power for planned turbine valve testing and control rod pattern adjustment. On May 19, operators returned the unit to full power operation.

Unit 3 operated at or near full power for the remainder of the reporting period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness of Offsite and Alternate AC 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:

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

- The 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;
- The 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;
- A 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
- The 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.

.2 Readiness For Impending Adverse Weather Condition – Heavy Rainfall Conditions

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the expected flooding conditions based on predicted rainfall and rises in local river and lake levels. The evaluation included a review to check for deviations from the descriptions provided in the Updated Final Safety Analysis Report (UFSAR) for features intended to mitigate the potential for flooding. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed a walkdown of the protected area to identify any modification to the site which would inhibit site drainage during the predicted flood conditions or allow water ingress past a barrier. The inspectors also walked down underground bunkers/manholes subject to flooding that contained multiple train or multiple function risk-significant cables. The inspectors also reviewed the abnormal operating procedure (AOP) and compensatory measures for mitigating the expected flooding conditions to ensure they could be implemented as written. Specific documents reviewed during this inspection are listed in the Attachment to this report.

This inspection constituted one readiness for impending adverse weather condition (heavy rainfall) sample as defined in 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:

- Unit 2 Division I low pressure coolant injection (LPCI)/containment cooling service water (CCSW) during Division II LPCI/CCSW planned maintenance;
- Unit 2 high pressure coolant injection (HPCI) during isolation condenser (IC) out-of-service (OOS) for planned maintenance; and
- Unit 2 2B core spray during 2A core spray planned maintenance.

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, 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 corrective action program (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:

- Fire Zone 18.6, Unit 2 125V Alternate Battery Room;
- Station Blackout Diesel Generator 3;
- Fire Zone 8.2.5E, Unit 3 Reactor Feed Pumps, Elevation 517'; and
- Fire Zone 8.2.6A Unit 2 Switchgear Area, Elevation 534'.

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.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On April 17, 2013, the inspectors observed a fire brigade activation for Fire Area/ Zone 8.2.5A, Unit 2 track way area, elevation 517 feet. Based on this observation, the inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were:

- proper wearing of turnout gear and self-contained breathing apparatus;
- proper use and layout of fire hoses;
- employment of appropriate firefighting techniques;
- sufficient firefighting equipment brought to the scene;
- effectiveness of fire brigade leader communications, command, and control;
- search for victims and propagation of the fire into other plant areas;
- smoke removal operations;
- utilization of pre-planned strategies;
- adherence to the pre-planned drill scenario; and
- drill objectives.

Documents reviewed are listed in the Attachment to this report. These activities constituted one annual fire protection inspection sample 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 bunker/manhole subject to flooding:

- Station blackout, manhole number 1

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.

1R07 Annual Heat Sink Performance (71111.07)

.1 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the licensee's testing of the 2B low pressure coolant injection heat exchanger to verify that potential deficiencies did not mask the licensee's ability to detect degraded performance, to identify any common cause issues that had the potential to increase risk, and to ensure that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspectors reviewed the licensee's observations as compared against acceptance criteria, the correlation of scheduled testing and the frequency of testing, and the impact of instrument inaccuracies on test results. Inspectors also verified that test acceptance criteria considered differences between test conditions, design conditions, and testing conditions. Documents reviewed for this inspection are listed in the Attachment to this document.

This annual heat sink performance inspection constituted one sample as defined in IP 71111.07-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

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

a. Inspection Scope

On May 8, 2013, 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 May 19, 2013, the inspectors observed Unit 3 ten percent scram timing. Then, on May 29, 2013, the inspectors observed Unit 3 operators restart the reactor water clean-up system following a trip due to failed temperature switch. These were activities that required heightened awareness or were 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;
- correct use and implementation of 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 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 two quarterly licensed operator heightened activity/risk samples as defined in IP 71111.11.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the Biennial Written Examination, and the Annual Operating Test administered by the licensee from April 17, 2013, through May 24, 2013, as required by 10 CFR 55.59(a). On May 28, 2013, the inspector received and reviewed the results of the annual operating test. The results were compared to the thresholds established in Inspection Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)," to assess the overall adequacy of the licensee's LORT Program to meet the requirements of 10 CFR 55.59. (Section 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.

.4 Biennial Review (71111.11B)

a. Inspection Scope

The following inspection activities were conducted during the week of May 13, 2013, to assess: 1) the effectiveness and adequacy of the facility licensee's implementation and maintenance of its Systems Approach to Training (SAT) based Licensed Operator Requalification Training (LORT) Program, put into effect to satisfy the requirements of 10 CFR 55.59. The documents reviewed are listed in the Attachment to this report.

- Licensee Requalification Examinations (10 CFR 55.59(c); SAT Element 4 as Defined in 10 CFR 55.4): The inspectors reviewed the licensee's program for administration of the LORT 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 observed the administration of the annual operating test to assess the licensee's effectiveness in conducting the examinations, including the conduct of evaluations of individual operator and crew performance, and post-examination analysis. The inspectors evaluated the performance of one crew in parallel with the facility evaluators during two dynamic simulator scenarios. (Section 02.05)
- Problem Identification and Resolution (10 CFR 55.59(c); SAT 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., licensee event reports; licensee condition/problem identification reports including documentation of plant events and review of industry operating experience). (Section 02.10)

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

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

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

- Miscellaneous Sumps and Drains (Maintenance Rule Function Z49); and
- Main Turbine and Auxiliaries (Maintenance Rule Function Z56).

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

No findings were identified.

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 due to 2A instrument air compressor (IAC) and U2 service air to instrument air crosstie out-of-service (OOS) for the replacement of the 2A instrument air receiver outlet valve;
- Unit 2 Yellow Risk during Unit 2 Division II LPCI OOS for planned maintenance;
- Unit 3 Yellow Risk during Division I and II LPCI injection emergency core cooling system (ECCS) initiation logic system functional test (LSFT);
- Unit 3 Yellow Risk due to LPCI loop select LSFT and Unit 2 Yellow Risk due to isolation condenser OOS for planned maintenance; and
- Unit 3 Yellow Risk for HPCI LSFT.

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.

Specific documents reviewed during this inspection are listed in the Attachment to this report. These maintenance risk assessments and emergent work control activities constituted five 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:

- Part 21 – GE Notice SC 13-04 on EPA Circuit Breaker;
- OPEVAL 13-004, “HPCI Steam Admission Valve Differential Pressure Concern During an ATWS”;
- U3 DIV II CCSW Pipe Code Class III repair;
- IR 1516289, “Incorrect Quality Level Part Used in Safety Related Valve;” and
- IR 1526426, “3-1501-5A Will Not Close from control room.”

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):

- 2/3 diesel generator cooling water piping tie-in to fire protection header.

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(s). 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 in the course of this inspection 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:

- Unit 2 Division II LPCI/CCSW planned maintenance;
- Unit 2 Station Blackout Diesel Generator planned maintenance;
- Unit 2 Isolation Condenser planned maintenance;
- Unit 2 A Core Spray Keep Fill Stop Valve Replacement; and
- Unit 2/3 B Control Room Emergency Ventilation System (CREVS).

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.

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 1434073, "D3 2Y TS CS [core spray] Pump Comp Test with Torus Avail for IST [in-service testing] Surv;"
- WO 01604908, "D2 Quarterly TS Electromatic/Target Rock Relief Valves: Pressure Switch Calibration and Functional Check;" (routine)
- WO 01441941, "D3 24M TS Div 1 & 2 LPCI ECCS Loop Select Circuitry LSFT;" (routine)
- WO 01432041; "D3 24M TS PCIS [primary containment isolation system] Group IV Isolation (HPCI) LSFT;" (routine) and
- WO 01624793, "D2 QTR TS HPCI STM Line Hi Flow ISOL MTU FUNCT" (routine).

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 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 UFSAR, 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 May 22, 2013, 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

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

The inspection activities supplement those documented in NRC Inspection Report 05000237/2012005; 05000249/2012005 and constitute one complete sample as defined in IP 71124.02-05.

.1 Radiological Work Planning (02.02)

a. Inspection Scope

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 had 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, 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, failure to provide sufficient work controls) for any inconsistencies between intended and actual work activity doses.

b. Findings

No findings were identified.

.2 Verification of Dose Estimates and Exposure Tracking Systems (02.03)

a. Inspection Scope

The inspectors reviewed the assumptions and basis (including dose rate and man-hour estimates) for the current annual collective exposure estimate for reasonable accuracy for select ALARA work packages. The inspectors reviewed applicable procedures to determine the methodology for estimating exposures from specific work activities and the intended dose outcome.

The inspectors evaluated whether the licensee had established measures to track, trend, and if necessary, to reduce occupational doses for ongoing work activities. The inspectors assessed whether trigger points or criteria were established to prompt additional reviews and/or additional ALARA planning and controls.

The inspectors evaluated the licensee's method of adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered. The inspectors assessed whether adjustments to exposure estimates (intended dose) were based on sound radiation protection and ALARA principles or if they were just adjusted to account for failures to control the work. The inspectors evaluated whether the frequency of these adjustments called into question the adequacy of the original ALARA planning process.

b. Findings

No findings were identified.

.3 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.

2RS7 Radiological Environmental Monitoring Program (71124.07)

This inspection constituted one complete sample as defined in IP 71124.07-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the annual radiological environmental operating reports and the results of any licensee assessments since the last inspection to assess whether the Radiological Environmental Monitoring Program was implemented in accordance with the Technical Specifications and Offsite Dose Calculation Manual. This review included reported changes to the Offsite Dose Calculation Manual with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, Inter-Laboratory Comparison Program and Analysis of Data.

The inspectors reviewed the Offsite Dose Calculation Manual to identify locations of environmental monitoring stations.

The inspectors reviewed the Final Safety Analysis Report for information regarding the environmental monitoring program and meteorological monitoring instrumentation.

The inspectors reviewed quality assurance audit results of the program to assist in choosing inspection "smart samples" and audits and technical evaluations performed on the vendor laboratory program.

The inspectors reviewed the annual effluent release report and the 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," report, to determine if the licensee was sampling, as appropriate, for the predominant and dose-causing radionuclides likely to be released in effluents.

b. Findings

No findings were identified.

.2 Site Inspection (02.02)

a. Inspection Scope

The inspectors walked down select air sampling stations and optically stimulated luminescence dosimeter monitoring stations to determine whether they were located as described in the Offsite Dose Calculation Manual and to determine the equipment material condition. Consistent with smart sampling, the air sampling stations were selected based on the locations with the highest X/Q, D/Q wind sectors, and optically stimulated luminescence dosimeters were selected based on the most risk significant locations (e.g., those that have the highest potential for public dose impact).

For the air samplers and optically stimulated luminescence dosimeters selected, the inspectors reviewed the calibration and maintenance records to evaluate whether they demonstrated adequate operability of these components. Additionally, the review included the calibration and maintenance records of select composite water samplers.

The inspectors assessed whether the licensee had initiated sampling of other appropriate media upon loss of a required sampling station.

The inspectors observed the collection and preparation of environmental samples from different environmental media (e.g., ground and surface water, milk, vegetation, sediment, and soil) as available to determine whether environmental sampling was representative of the release pathways as specified in the Offsite Dose Calculation Manual and if sampling techniques were in accordance with procedures.

Based on direct observation and review of records, the inspectors assessed whether the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the Final Safety Analysis Report, NRC Regulatory Guide 1.23, "Meteorological Monitoring Programs for Nuclear Power Plants," and licensee procedures. The inspectors assessed whether the meteorological data readout and recording instruments in the control room and, if applicable, at the tower were operable.

The inspectors evaluated whether missed and/or anomalous environmental samples were identified and reported in the annual environmental monitoring report. The inspectors selected events that involved a missed sample, inoperable sampler, lost optically stimulated luminescence dosimeter, or anomalous measurement to determine whether the licensee identified the cause and whether they implemented corrective actions. The inspectors reviewed the licensee's assessment of any positive sample results (i.e., licensed radioactive material detected above the lower limits of detection) and reviewed the associated radioactive effluent release data that was the source of the released material.

The inspectors selected structures, systems, or components that involve or could reasonably involve licensed material for which there is a credible mechanism for licensed material to reach ground water, and assessed whether the licensee had implemented a Sampling and Monitoring Program sufficient to detect leakage of these structures, systems, or components to ground water.

The inspectors evaluated whether records, as required by 10 CFR 50.75(g), of leaks, spills, and remediation since the previous inspection were retained in a retrievable manner.

The inspectors reviewed any significant changes made by the licensee to the Offsite Dose Calculation Manual as the result of changes to the land census, long-term meteorological conditions (3-year average), or modifications to the sampler stations since the last inspection. They reviewed technical justifications for any changed sampling locations to evaluate whether the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

The inspectors assessed whether the appropriate detection sensitivities with respect to Technical Specifications/Offsite Dose Calculation Manual were used for counting samples (i.e., the samples meet the Technical Specifications/Offsite Dose Calculation Manual required lower limits of detection). The licensee uses a vendor laboratory to analyze the Radiological Environmental Monitoring Program samples so the inspectors reviewed the results of the vendor's Quality Control Program, including the inter-laboratory comparison, to assess the adequacy of the vendor's program.

The inspectors reviewed the results of the licensee's Inter-laboratory Comparison Program to evaluate the adequacy of environmental sample analyses performed by the licensee. The inspectors assessed whether the inter-laboratory comparison test included the media/nuclide mix appropriate for the facility. If applicable, the inspectors reviewed the licensee's determination of any bias to the data and the overall effect on the radiological environmental monitoring program.

b. Findings

No findings were identified.

.3 Identification and Resolution of Problems (02.03)

a. Inspection Scope

The inspectors assessed whether problems associated with the Radiological Environmental Monitoring Program were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's Corrective Action Program. Additionally, they assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involved the radiological environmental monitoring program.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

40A1 Performance Indicator (PI) Verification (71151)

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures (MS05) performance indicator for Dresden Nuclear Power Station Units 2 and 3 covering the period from the second quarter 2012 through first quarter 2013. 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 6, dated October 2009, and

NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," definitions and guidance, were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports and NRC Integrated Inspection Reports for the period of second quarter 2012 through first quarter 2013 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 safety system functional failures samples as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index - Emergency AC Power System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Emergency AC Power System (MS06) performance indicator for Dresden Nuclear Power Station Units 2 and 3 covering the period from the second quarter 2012 through first quarter 2013. 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 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports and NRC Integrated Inspection Reports for the period of second quarter 2012 through first quarter 2013 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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.

.3 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 (MS07) performance indicator for Dresden Nuclear Power Station Units 2 and 3 covering the period from the second quarter 2012

through first quarter 2013. 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 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period of second quarter 2012 through first quarter 2013 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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.

.4 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system specific activity PI for Dresden Nuclear Power Station Units 2 and 3 for the period from the first quarter 2012 through the first quarter 2013. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's reactor coolant system chemistry samples, Technical Specification requirements, issue reports, event reports, and NRC Integrated Inspection Reports 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. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two reactor coolant system specific activity samples 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 Annual Sample: Review of Operator Workarounds

a. Inspection Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but

were not limited to, a review of the cumulative effects of the operator workarounds (OWAs) on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of OWAs. The documents listed in the Attachment to this report were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into their CAP and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an Initiating Event, if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

This review constituted one OWA annual inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 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 2013 through June 2013, although some examples expanded beyond those dates where the scope of the trend warranted. The inspectors focused on the area of work planning.

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 a single semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.5 Selected Issue Follow Up Inspection: Unit 3 Turbine Oil Reservoir Deluge System Actuation

a. Inspection Scope

During a review of items entered in the licensee's CAP, the inspectors recognized a corrective action item documenting the actuation of the Unit 3 turbine oil reservoir deluge system. The inspectors reviewed the troubleshooting activities and equipment repairs, as documented in Issue Report 1515926, "U3 TURB OIL RES DELUGE ACTUATED," to verify that the licensee was appropriately addressing the issue in their corrective action program.

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

b. Observations

On May 20, 2013, the following alarms were received in the main control room:

- 923-1 G-4, "U2/3 Diesel Fire PP Running"
- XL3 Device 21-19, "3TB 534 Turb Oil Resv Fire"
- XL3 Device 21-09, "3TB 534 Turb Oil Resv Water Flow"

The Incident Commander and Equipment Operator were dispatched and reported there was neither fire nor personnel at the Unit 3 turbine oil reservoir. They also found the local pull box, 3-4141-106, actuated and no sign of fire present.

The Unit 3 turbine oil reservoir deluge system has automatic and manual actuation functions. The automatic actuation is initiated by any one of six fire protection devices feeding Terminal Board 2 in the 3-2253-43 panel, "Local Turbine Oil Tank Fire Panel." The manual actuation is initiated using the local pull box, 3-4141-106.

Upon arriving to the scene, Operations personnel found the local pull box with its cover open. The pull box showed signs of damage to the cover, which holds a spring loaded button in place. When the spring loaded button is released, a manual initiation signal is received at the local fire panel and the deluge system is actuated. A label on the inside of the pull box states: "CAUTION: Excessive Tightening of Allen Head Screw to Back Plate Could Cause Undetectable Housing Fracture Resulting in a False Alarm." Engineering concluded that the Allen screw was tightened excessively, causing the pull box to fail and leading to an actuation of the Unit 3 turbine oil deluge system. The licensee classified the pull box as run-to-failure, therefore there was no maintenance associated with this component. This same type pull box is used extensively throughout the plant. The licensee generated issue report (IR) 1515929, "U3 TURB OIL RES DELUGE ACTUATED," to address the event.

The inspectors requested from the licensee the vendor information for this manual pull box. The licensee was not able to find any vendor related information on this specific component. The inspectors referenced procedure CC-AA-204, "Control of Vendor

Equipment Manuals,” Revision 9. Per CC-AA-204, commercial, off-the shelf products/items that are typically run-to-failure need only to be included in the Vendor Manual Program at the Site Engineering Director’s discretion. Per the Site Engineering Director, these pull boxes are not included in the Vendor Manual Program.

The inspectors reviewed procedure DFPS 4134-07, “Unit 3 Turbine Oil Reservoir Deluge System Test,” Revision 16. Steps I.4.a. and I.4.b. of DFPS 4134-07 test the remote actuation pushbutton of the Unit 3 turbine oil reservoir deluge system by removing the cover from the manual pull box, 3-4141-106, and verifying that the SOLENOID ACTIVATED red lamp and the MANUAL STATION ACTUATED red lamp illuminate and the local panel alarm and the XL3 alarm 21-19 are received. Step I.4.c. directs the operator to replace the cover on local manual station 3-4141-106. The inspectors noticed that no note or precaution was in the procedure to caution the operators about avoiding excessive tightening of allen head screw to the back plate due to the potential to cause housing fracture.

The inspectors also reviewed work order (WO) 1416070, “D3 18M TSTR/COM TURBINE OIL RESERVOIR DELUGE SYS TEST,” performed on July 14, 2012. The licensee did not identify any issues during the performance of this surveillance.

The inspectors learned that in April 2013, the licensee received a notification from Honeywell Fire Systems addressing potential issues that could affect the normal operation of BG-10 series pull stations distributed under multiple brands including Fire-Lite Alarms, like the one in use at the Unit 3 turbine oil deluge system. Honeywell recommended that these pull stations should be inspected for cracking/fracturing of the plastic housing or bending of the pull station back plate. Any pull station showing signs of cracking of the housing or bending of the back plate should be replaced.

The inspectors questioned the licensee about what actions were taken or were planned to be taken to address the notification from Honeywell Fire Systems. After further conversations with the licensee the inspectors learned that no actions were taken or were planned to be taken to address the vendor’s notification.

The inspectors reviewed procedure LS-AA-115-1003, “Processing of Level 3 OPEX [operating experience] Evaluations,” and determined that the notification from Honeywell met the definition of a Level 3 OPEX and therefore should have been treated as one. Per LS-AA-115-1003, the licensee has 60 days to complete a formal Level 3 OPEX evaluation; since less than 60 days had passed since receipt of the vendor’s notification the inspectors treated this issue as a minor performance deficiency. The licensee generated issue report 1533868, “Disposition of Vendor Information,” to address the inspector’s concerns. As part of the extent of condition the licensee identified six additional pull boxes subject to the same type of failure.

40A5 Other Activities

.1 Temporary Instruction (TI) -2515/182 - Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks (Closed)

a. Inspection Scope

Leakage from buried and underground pipes has resulted in ground water contamination incidents with associated heightened NRC and public interest. The industry issued a

guidance document, Nuclear Energy Institute (NEI) 09-14, "Guideline for the Management of Buried Piping Integrity," (ADAMS Accession Number ML103090142) to describe the goals and required actions (commitments made by the licensee) resulting from this underground piping and tank initiative. On December 31, 2010, NEI issued Revision 1 to NEI 09-14, "Guidance for the Management of Underground Piping and Tank Integrity," (ADAMS Accession Number. ML110700122), with an expanded scope of components which included underground piping that was not in direct contact with the soil and underground tanks. On November 17, 2011, the NRC issued TI-2515/182, "Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks," to gather information related to the industry's implementation of this initiative.

From May 6 to May 10, 2013, the inspectors conducted a review of records and procedures related to the licensee's program for buried pipe, underground pipe, and tanks in accordance with Phase II of TI-2515/182. This review was done to confirm that the licensee's program contained attributes consistent with Sections 3.3 A and 3.3 B of NEI 09-14 and to confirm that these attributes were scheduled and/or completed by the NEI 09-14 Revision 1 deadlines. To determine whether the program attribute was accomplished in a manner which reflected good or poor practices in program management, the inspectors interviewed licensee staff responsible for the Buried Pipe Program. Additionally, the inspectors performed a walkdown of rectifiers, used for the operation and maintenance of the Cathodic Protection System and observed excavation of buried piping in preparation for testing.

Based upon the scope of the review described above, Phase II of TI-2515/182 was completed.

b. Observations

The licensee's Buried Piping and Underground Piping and Tanks Program was inspected in accordance with Paragraph 03.02.a of the TI and it was confirmed that activities which correspond to completion dates specified in the program which have passed since the Phase I inspection was conducted, have been completed. Additionally, the licensee's Buried Piping and Underground Piping and Tanks Program was inspected in accordance with Paragraph 03.02.b of the TI and responses to specific questions found in <http://portal.nrc.gov/edo/nrr/dirs/irib/Inspection%20Manual%20Forms%20Templates%20Attachments/Forms/AllItems.aspx>, was submitted to the NRC Headquarters staff.

c. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 1, 2013, the inspectors presented the inspection results to Mr. D. Czufin, Site Vice President, 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 inspection results for the areas of occupational as-low-as-reasonably-achievable (ALARA) planning and controls; radiological environmental monitoring; and RCS specific activity performance indicator verification with Mr. S. Marik, Plant Manager, on May 24, 2013.
- On May 17, 2013, the inspectors presented inspection results of the Biennial Written and Annual Operating Test and Biennial Review to Mr. P. DiGiovanna and other members of the licensee staff. The licensee acknowledged the issues presented.
- The Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks (TI-2515/182) with the Plant Manager, Mr. S. Marik and other members of the licensee staff on May 10, 2013.

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

ATTACHMENT: SUPPLEMENTAL INFORMATION SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

D. Czufin, Site Vice President
S. Marik, Station Plant Manager
D. Anthony, NDES Manager
J. Biegelson, Engineering
H. Bush, Radiation Protection Manager
J. Cady, Radiation Protection Manager
P. Chambers, Dresden Licensed Operator Requalification Training Lead
P. DiGiovanna, Training Director
P. DiSalvo, GL 89-13 Program Owner
H. Do, Corporate ISI Manager
H. Dodd, Regulatory Assurance Manager
D. Doggett, Emergency Preparedness Manager
J. Fox, Design Engineer
J. Freeman, Corporate Engineering
G. Gates, Operations
D. Glick, Radioactive Material Shipping Specialist
G. Graff, Nuclear Oversight Manager
M. Hosain, Site EQ Engineer
R. Johnson, RETS/REMP Specialist
B. Kapellas, Operations Director
D. Ketchledge, Engineering
J. Knight, Director, Site Engineering
M. Knott, Instrument Maintenance Manager
J. Kish, Site ISI
S. Kvasnicka, NDE Level III
D. Leggett, Chemistry Manager
G. Lupia, Corporate Buried Pipe Engineer
P. Mankoo, Chemistry Supervisor
G. Morrow, Shift Operations Superintendent
M. McDonald, Maintenance Director
T. Mohr, Engineering Program Manager
P. O'Brien, Regulatory Assurance – NRC Coordinator
D. O'Flanagan, Security Manager
M. Otten, Operations Training Manager
B. Painter, ALARA Manager
M. Pavey, RP Specialist
R. Ruffin, Licensing Engineer
D. Schiavoni, Engineering
J. Sipek, Work Control Director

R. Stachniak, Engineering
R. Sisk, Buried Pipe Program Owner
L. Torres, Engineering
R. Urbaneck, Cathodic Protection Program Owner

IEMA

R. Zuffa, Illinois Emergency Management Agency

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None.

Closed

Temporary Instruction 2515/182, Phase II	TI	Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks
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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)

- IR 1497698, "PJM 345 Real Time Bus Voltages Unavailable"
- DOA 6500-12, "Low Switchyard Voltage," Revision 23
- OP-AA-108-107-1001, "Station Response to Grid Capacity Conditions," Revision 4
- WC-AA-107, "Seasonal Readiness," Revision 11
- OP-AA-108-107-1002, "Interface Procedure Between COMED/PECO and Exelon Generation (Nuclear/Power) for Transmission Operations," Revision 6
- WC-AA-101, "On-Line Work Control Process," Revision 19
- IR 1503400, "Entered DOA 10-04, Floods"
- IR 1504308, "EP Impact of local Area (Northeast Illinois) Flooding"
- IR 1506177, "Flood Plan Readiness Issues"
- IR 1506288, "Post-Job Critique for Site Response to High River Levels"
- DOA 0010-04, "Floods," Revision 38

1R04 Equipment Alignment (71111.04)

- DOP 2300-M1/E1; Unit 2 HPCI System Checklist
- IR 1515964; "NRC ID: SSD Light 351 Green Trickle Light Extinguished"
- DOP 1400-E1, "Unit 2 Core Spray Electrical," Revision 03
- IR 1518658, "NRC IDS EPN Errors in DOP 1400-E1"
- IR 1518245, "Valve will Not Move in Either Direction"
- DOP 1400-M1, "Unit 2 Core Spray System," Revision 24,
- Dwg: M-27, Diagram of Core Spray Piping

1R05 Fire Protection (71111.05Q and A)

- IR 1499602, "HSK: NRC Concerns Brought to Shift"
- IR 1499604, "HSK: NRC Concerns Brought to Shift"
- IR 1505048, "Fire Protection NRC Question – Material Around EHC Pumps"
- IR 493981, "Alarm Gong (Bell) Damaged from Piping interference"
- IR 1508948, "NRC Concerns"
- Updated Fire Hazards Analysis, Amendment 18, 4.8.7 Turbine Building--Mezzanine Elevations 534 Feet 0 Inch and 538 Feet 0 Inch (Fire Zone 8.2.6.A)
- Fire Load Calculation Sheet, Calculation No. DRE97-105, Revision 08, Amendment 18
- WO 1626542-01, "OP D2/3 QTR COM Fire Drill (6th Drill of QTR)"
- WO 1626542-02, "OPS have RP Replaces SCBA Packs Following Fire Drill"
- OP-AA-201-005, "Fire Brigade Qualification," Revision 8
- OP-AA-201-003, "Fire Drill Performance," Revision 12

1R07 Annual Heat Sink Performance (71111.07)

- WO 1568744-01, "MM-Perform Tube Cleaning of 2B LPCI HX"
- ER-AA-340-1002, "Service Water Heat Exchanger Inspection Guide," Revision 39

- WO 1555353, "D2 AN COM Perform Hx Thermal Performance Test – 2B LPCI Hx"

1R11 Licensed Operator Regualification Program (71111.11)

- DGP 03-04, "Control Rod Movements," Revision 71
- Scenario OPEX AE, LOR Annual Operating Examination, Revision 8
- Scenario OPEX C, LOR Annual Operating Examination, Revision 11
- Crew Simulator Evaluation Sheets, 5/17/2013
- IR 01243713, CCP, 3B IAC Breaker found out of position, 5/25/2011
- IR 01309633, CCP, Clearance and Tagging Near miss with U3 Refuel Bridge, 1/3/2012
- IR 01311306, Tags for Switching Orders placed improperly, 1/9/2012
- IR 01381578, Severity Level 3 Clearance and Tagging Event, 6/25/2012

1R12 Maintenance Effectiveness (71111.12)

- Maintenance Rule Performance Criteria, Z49: Miscellaneous Sumps and Drains, April 1, 2011 to March 31, 2011
- Maintenance Rule Failure Report, Z49: Miscellaneous Sumps and Drains
- WO 01252347; D2 18M TSTR CCSW Pump Vault Drain Line Check Valve Leak Test
- WR 00377632; Preemptive Replacement of Unit 3 CCSW Vault Floor Drain Piping
- DOS 4400-01; Containment Cooling Service Water Vault Floor Drain; Revision 13
- Dresden Station Maintenance Rule Periodic Assessment #9; Assessment Period: October 1, 2010 to September 30, 2012
- Drawing M-29; Diagram of L.P. Coolant Injection Piping; Sheet 2
- IR 1162402; Total U2 CCSW Vault Leakage Above Admin Limit
- IR 1242640; Higher than Expected Leakage Past the 2-4999-75
- IR 1249841; Lost Indication for 2B&D Reactor Building Floor Drain Sump (Pumps)
- IR 1255976; IR 1249841 is a Maintenance Rule Functional Failure (MRFF)
- IR 1318932; U2 Torus Basement Sump Safety Hazard
- IR 1512362; Absorbent Pad Below the Grating in U2 HPCI Room
- IR 1512465; Housekeeping Issues Identified During NRC Walkdown
- IR 1512368; Condensate Pump Floor Drains Blocked
- Prompt Investigation 1233432-02; Perform Equipment Prompt on 2A Drywell Sump Failure
- MRFF Determination 1233432-06
- MRFF Determination 1249841-02
- MRFF Determination 1457461-02
- IR 1280853, "Conduit Fitting Not Connected on MSV-3"
- IR 1280045, "Bypass Valve Demonstrating Hot Discharge Line"
- WO 1287869-01, "EM Repair Potential Wiring Degradation"
- IR 1280026, "Main Turbine Lube Oil Tank Junction Box Fails Inspection"
- IR 1278722, "2-5600-SPUV Piping Union Found Degraded"
- IR 1229503, " U2 Main Turbine Lube Oil Header Pressure Lower Than Normal"
- IR 1227069, "Main Turbine Eccentricity Reading Erratic"
- IR 1518082, " Unexpected Alarm U2 Turbine Major Trouble"
- IR 1441776, "Deficiencies Found During Inspection of Local Junction Box"
- IR 1425117, "Unexpected Alarm 902-7 F-1 Main Turb Supv Trouble (7F1)"
- IR 1409932, "U2 Turbine Bypass Valve Failed to Fully Open"
- IR 1408001, " Unit Two Turb Control VLV2 Heim Joint Issue"
- IR 1371033, " Breaker Tripped Free When Attempting to Start 2A EHC PP"
- IR 1367263, "U2 Main Turbine Lube Oil Reservoir Level Adverse Step Change"

- IR 989733, "RCR to CMO with the Assistance of Key Departments RA and Engineering to Document the Cause of the Excessive EHC Leak on Unit 3 Main Stop Valve 4"

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

- IR 1515964; "NRC ID: SSD Light 351 Green Trickle Light Extinguished"
- OP-AA-108-117; Protected Equipment List"
- IR 1519360; "U3 HPCI Removed From Service Prior to PPW Being Hung"

1R15 Operability Determinations and Functional Assessments (71111.15)

- MA-DR-773-733, "Unit 3 – Calibration and Functional Test of RPS MG Set and RPS Reserve Power Supply EPAs" Revision 3
- IR 1495917, "Part 21 – GE Notice SC 13-04 on an EPA Circuit Breaker"
- SC 13-04, "EPA Breaker Failure of 24 Month Channel Calibration and Functional Tests" March 13, 2013
- OPEVAL 13-005, "Evaluate GE (Hitachi) SC 13-04 for EPA Circuit Card Failure," Revision 0
- WO 01630550, "Part 21 – GE Notice SC 13-04 on an EPA Circuit Breaker"
- MR 02173096, "Request Identification/ verification of Replacement Circuit Breaker"
- DRE03-0015, "High Pressure Coolant Injection Motor Operated Valve Design Basis Document and Differential Pressure Calculation" Revision 0
- DRE04-0020, "Calculation Demonstrating that Full HPCI Turbine Flow is Achievable with 2(3)2301-5 Valve 50% Open" Revision 0
- EC 365922, "HPCI full flow @ 2(3) 1302-3 Valve 50% and not -5 Vlv," Revision 0
- IR 1512618; Degraded Unit 3 CCSW
- IR 1513772; Pin Hole Leak Identified on Unit 3 CCSW Division II Piping
- Drawing M-360; Diagram of L.P. Coolant Injection Piping; Sheet 2
- OP-AA-108-115; Operability Determinations (CM-1); Revision 11
- CC-AA-204, "Control of Vendor Equipment Manuals," Revision 9

1R18 Plant Modifications (71111.18)

- EC 391643, Revision 2, "Alternate ISCO, RPV and Spent Fuel Pool Makeup Water Source"
- EC 393137, Revision 0, "Evaluation of Emergency Flood Pump Capacity and Discharge Head"
- Design Analysis DRE 99-035, Revision 4, "Capacity and Discharge Head for Portable Isolation Condenser Make-Up Pump to be Used During Flood Conditions"
- Design Analysis DRE 13-0004, Revision 0, "Use of Unit 2/3 Diesel Generator Cooling Water Pump as an Alternate Makeup Source During a Design Basis Flood"
- Design Analysis DRE 13-0005, Revision 001, "Piping Stress Analysis of Alternate ISCO Makeup Water Source"
- Engineering Evaluation 386029, "Dresden Response to INPO IER 11-4 Recommendations 1 & 2"
- IR 1517249, "NRC Identifies Housekeeping Issues on U3 Torus Catwalk"
- IR 1512365, "BOP Light 219 Fast Charge Light Blinking"
- Dwg: M-355, Diagram of Service Water Piping
- Dwg: M-23, Diagram of Fire Protection Piping
- Dwg: M-375, Diagram of Fire Protection Piping
- 50.59 Screening Form, 2013-0025, Rev. 000, "Alternate ISCO, RPV and Spent Fuel Pool Makeup Water Source"
- Report "Dresden Station Fragnets, Unit 2/3 EDG LCO," March 20 through April 1, 2013

1R19 Post-Maintenance Testing (71111.19)

- WO 1538509-80, "EM Replace Components for MCC 29-7 Cubicle A3 Per EC 388891"
- WO 1538509-82, "OP PMT U2 LPCI Loop II Coolant INJ OB ISOL MOV 2-1501-21B"
- DOS 1500-01, "LPCI System Valve Operability and Timing," Revision 33
- DOP 0040-01, "Station Motor Operated Valve Operations," Revision 35
- Valve Test Acceptance Criteria Test Procedure DOS 1500-01 (Unit 2)
- WO 1438046, "D2 2Y PM SBO DG Mechanical Maintenance Inspection"
- DOS 6620-07, "SBO 2 (3) Diesel Generator Surveillance Tests," Revision 36
- IR 1514701, "NRC Questions "Sealant Like" Material on SBO"
- IR 1514704, "NRC Questions "Sealant Like" Material on SBO"
- IR 1508709, "Improper Crimps Found in U2 SBO ECP D"
- IR 1508194, "TS 2-6620-119B Found Out of Tolerance"
- IR 1508113, "DOS 0040-02 Shows 2 Different Oils for the SBO SAC"
- IR 1509321, "Discrepancy Noted During SBO Inspection"
- IR 1509168, "U2 SBO D/G KVAR (Local) Meter OOT – Needs Replaced"
- IR 1509091, "SBO Local D/G KW Meter OOT and Recommend Replacing"
- IR 1509055, "Issues While Mounting New Circuit Board in U2 SBO Inverter"
- IR 1509860, "SBO Starting Air 'A' Train"
- IR 1509862, "SBO Starting Air 'A' Train"
- IR 1509863, "SBO Starting Air 'B' Train"
- WO 1537345-01, "IM D2 24M PM Time Delay (TDDO) Relays 2-0595-117A Thru 117D"
- WO 334682-03, "OP PMT SOV 2-1301-17, ISO COND INBD Vent"
- WO 334683-03, "OP PMT SOV 2-1301-20, ISO COND OUTBD Vent"
- DOS 1600-03, "Unit 2 Quarterly Valve Timing," Revision 49
- DOS 0040-07, "Verification of Remote Position Indication for Valves Included in In-Service Testing (IST) Program," Revision 43
- DIS 1300-08, "Sustained High Reactor Pressure Time Delay Relay Calibration," Revision 08
- WO 1035206, "2A CS Pmp Disch Hdr Keep Fill SV Req Internal Inspection"
- WO 821002-02, "OP PMT Inspect Valve 2-1402-13A for Leaks"
- MA-AA-736-610, "Application of Freeze Seal to All Piping," Revision 7
- DOS 1400-05, "Core Spray System Pump Operability and Quarterly IST Test with Torus Available," Revision 46
- WO 1567831-03, PMT Auto Pump down for CREVS B Train Compressor
- WO 1567831-06, Starting B Train CR HVAC and RCU to Support EMD
- IR 1529979, "MOD Quality Impacts CREVS Installation Schedule WO-01567831"
- EC 390278, "Installation of Automatic Pump Down for CREVA B Train Compressor"
- Letter from D. Matthews, NRC to R. Torok, Electric Power Research Institute, dated July 17, 1997, "Review of EPRI Topical Report TR-106439, "Guideline on Evaluation and Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Applications" (TAC No. M94127)"
- NRC 2012-31-00-Part 21, "Aualtech NP – TYCO Model CNT-35-96 Timing Relay Will Not Trip at a Specific Setting i.e.: '10H' setting"
- NRC Generic Letter 91-05, "Licensee Commercial-Grade Procurement and Dedication Programs," dated April 9, 1991
- IR 1384531, Agastat (TYCO) ETR Time Delay Relay One Time Replacement"
- LaSalle Station IR 1396878, "Notification of Defect in TYCO CNT-35-96 Timing Relay"
- Quad Cities IR 132397, "Agastat Time-Delay Relays – Coil Lead Solder Connection Issue"
- NRC Information Notice 90-57, Supplement 1, "Substandard, Refurbished Potter & Brumfield Relays Represented as New"

1R22 Surveillance Testing (71111.22)

- Unit 3 OP Qtr Core Spray MOV Operability and Pump IST (DOS 1400-02/05)
- WO 1434073, D3 2Y TS CS Pmp Comp Test with Torus Avail for IST Surv”
- WO 1612846, “D3 Qtr TS CS Pmp Test with Torus Avail for IST Data Surv”
- ECR 400080, “3-1402-8B/ Didn’t Meet Acceptance Criteria During DOS 1400-09”
- IR 1509674, “3-1402-4B Would not Close with Control Switch”
- IR 1510613, “Item Being Issued On Hold Tag Pending Seismic Review”
- WO 01441941, “D3 24M TS Div 1 & 2 LPCI ECCS Loop Select Circuitry LSFT”
- WO 01441941-02, “IM Burnish Contacts as Needed to Support DIS 1500-32”
- WO 1439872, “ D3 24M TS Div 2 LPCI INJ CONT Cooling System LSFT”
- IR 1516292, “Annunciator A-4 on the 903-3 Did Not Activate as Expected”
- DIS 1500-30, “Division II LPCI Containment Cooling System Logic System Functional Test,” Revision 09
- DIS 1500-32, “ Division I & II, LPCI Coolant Injection ECCS LOOP Selection Circuitry Logic System Functional Test,” Revision 07,
- DWG 12E-3438A, Schematic Diagram LPCI Containment Cooling System 2
- DWG 12E-3434, Schematic Diagram LPCI / Containment Cooling Alarms Notes and Reference Drawings
- WO 01432041; “D3 24M TS PCIS Group IV Isolation (HPCI) LSFT”
- IR 1519945; “Unit 3 HPCI Logic Test Unexpected Results”
- IR 1519650; “Time Delay Relay Out of Dresden Limits (Non Tech Spec)”
- WO 01432041-02, “IM Burnish Contacts as Needed to Support DIS 2300-04”
- DIS 2300-04; “HPCI System Logic System Functional Test Without HPCI Turbine Accessories”; Revision 33
- DIS 2300-01, “HPCI Steam Line High Flow Isolation Channel Functional Test (Master Trip Unit Calibration),” Revision 24

1EP6 Drill Evaluation (71114.06)

- OPEX-B, “Two Inoperable APRMs in One Channel; Small Recirculation Line Leak in the Drywell; Drywell LOCA/Emergency Depressurization;” Revision 14
- OPEX-D, “Loss of Bus 24-1; Loss of Drywell Pneumatics; ATWS: Power/Level Control;” Revision 11
- Common Cause Assessment 1491342; “EP Review of NRC Performance Indicator DEP Failures”
- IR 1518330, “Trng (LORT) DEP Failure During LORT Annual Exam”
- IR 1517733, “Possible Enhancements to DW Leakage Evaluation for EALs”
- IR 1491342, “EP Review of NRC PI DEP Failures”

2RS2 Occupational ALARA Planning and Controls (71124.02)

- RWP-10013533 and 10013532; ALARA-10013533; D3R22 Drywell Control Rod Drive Exchange Support Activities; Revision 0RP-AA-700-1101; Calibration Data Sheet RSO-50 Ion Chamber No. 075694
- RWP-10013522; ALARA-10013522; D3R22 Drywell Nuclear Instrumentation; Revision 0
- RWP-10013577; ALARA-10013577; D3R22 Reactor Disassembly and Reassembly and Related Activities; Revision 0
- RWP-10013574; ALARA-10013574; D3R22 Turbine Retrofit Upgrade; Revision 0
- RWP-10013578; ALARA-10013574; D3R22 Refuel Floor Reactor Vessel Inspections; Revision 0

- RWP-10014432; ALARA-10014432; 2013 Unit 2 and Unit 3 Dry Cask Storage Activities; Revision 1
- IR 01447088; Post Job Review CRD Pull Puts and Support; Date December 2, 2012
- IR 1436699; FASA on RP Baseline ALARA; February 21, 2013
- IR 01516377; Reactor Services Individual Received an Electronic Dosimeter Dose Rate Alarm; May 20, 2013
- IR 01516377; Reactor Services Individual Received an ED Dose Rate Alarm; May 20, 2013
- IR 01439652; Nuclear Oversight Identified ALARA Practices; November 13, 2012
- IR 01441958; CRD Vortex Tool Repairs in the Drywell Resulted in Emergent Dose; November 18, 2012
- IR 01441990; Operators Received 50 mrem Just Going Down to the Drywell Basement Multiple Times; ALARA Practice; November 19, 2012
- IR 01442313; Safety Issue and Potential Increase in Dose Unit-3 Drywell; November 19, 2012
- IR 01443561; D3R22 Revised Dose Estimate on RWP 10013578; November 23, 2012
- IR 01444122; Emergent Dose Exposure for Containment Spray Scaffolds; November 26, 2012
- IR 01447103; Post Job Report for SRV/ERV (RWP-10013528) D3R22LL; December 3, 2012
- IR 01466301; Dose Variance Between Actual and Estimate (Non-Outage); January 23, 2013
- Excellent In Exposure Reduction during D3R22 Outage; Revision 0
- Annual dose Report for 2012; April 26, 2013
- Dresden Station D3R22 RP/ALARA Refuel Outage Report Fall 2012

2RS7 Radiological Environmental Monitoring Program (71124.07)

- Dresden Nuclear Annual Radiological Environmental Operating Report from January 1 through December 31, 2012; Published May 2013
- Murray and Trettel, Inc., Dresden Meteorological Monitoring Tower Inspection Report; Date May 9, 2012
- IR 01517551; NRC Inspector Questioned an Elevated Surface Water Tritium at Kankakee River; May 24, 2013
- IR 01516348; REMP Air Sampler D-58 Lost Power Due to a Storm; May 21, 2013
- IR 01489195; OSLDS Missing During Routine Quarterly Exchange; March 18, 2013
- IR 01371589; OSLDS Missing; May 29, 2013
- IR 01493961; Meteorological Building Tower Instrumentation Floor Degraded; March 28, 2013
- IR 01494078; Met. Vendor 2012 Issue Summary; March 28, 2013
- IR 01489183; Three Small Holes Found in REMP Air Sample Filter; March 18, 2013
- IR 01493228; REMP Air sample Station D-01 Trees Need Removal; March 27, 2013
- IR 1493236; REMP Air sample Station D-04 Trees Need Removal; March 27, 2013
- IR 01493210; REMP Air Particulate/Iodine Sample Station D-53 Re-Oriented Toward the Station Line of Sight; March 27, 2013
- IR 01493223; Duplex Outlet Over Heated REMP Air Sampler D-10; March 27, 2013
- IR 01438405; Unit-1 Chimney Portable Sample Pump Not Working; November 10, 2012
- IR 01325448; REMP Sample Station D-03 LP 36L Circuit Lost Power; February 10, 2012
- EN-DR-408-4160; Dresden RGPP Reference Material; Revision 2
- Mitigation of Buried Piping Containing Licensed Material Document
- Environmental Inc. Midwest Laboratory; Sampling Procedure Manual: Revision 15
- CY-AA-170-1000; Radiological Environmental Monitoring Program and Meteorological Program Implementation; Revision 7
- Dresden Offsite Dose Calculation Manual; Revision 12
- DNPS Offsite Dose Calculation Manual Changes Made in 2012
- Murray and Trettel 2011 Meteorological Monitoring Report for Dresden; May 18, 2012

- X/Q and D/Q Maxima at or Beyond the Restricted Area Boundary; Dresden site Meteorological Data January 2012 – December 2012
- SR-2012-30; EXELON Nuclear Audit of Murray and Trettel, Incorporated; January 16, 2013

40A1 Performance Indicator Verification (71151)

- Supplemental Licensee Event Report 237/2012-001-01, One Division of APRM Neutron Flux-High Channels Inoperable as a Result of Power Maneuver, December 6, 2012
- Licensee Event Report 249/2012-001-00, Unexpected Isolation of the Isolation Condenser Due to Test Switch Failure, September 10, 2012
- Supplemental Licensee Event Report 237/2012-002-01, Inlet Steam Drain Pot Drain Line Leaks Result in HPCI Inoperabilities, December 21, 2012
- IR 01379087; “NRC Question: SSFF Evaluation of HPCI Steam Leak”
- IR 1374428; “Unit 2 Emergency Diesel Generator Cooling Water Pump Failed to Start”
- CDE Unit Performance Data
- Operations Logs - 2nd Q 2012 – 1st Q 2013
- NEI 99-02; “Regulatory Assessment Performance Indicator Guideline”; Revision 6
- Reactor Oversight Program MSPI Bases Document Dresden Nuclear Generating Station; Revision 9
- ER-AA-2008; “Mitigating Systems Performance Index Monitoring and Margin Evaluation”; Revision 3
- WC-AA-201; Attachment 6; “Unavailability Guidelines”; Revision 20
- DOS 6600-01; “Diesel Generator Surveillance Test”; Revision 123
- IR 1465026; “Broken Motor Cooling Blades”
- Operator Aid – Designation Number 160; “Emergency Diesel Generators and SBO Diesel Generators Start/Stop Log”; Revision 1
- IR 1506919, “NRC Question: HPCI MSPI Unavailability”
- IR 1509405, “NRC Question: HPCI MSPI Unavailability FAQ”
- LS-AA-2004; Collecting and Reporting of WANO Data; Revision 3
- CY-AA-130-3010-FO3; Dose Equivalent Iodine Determination: Revision 2
- Dose Equivalent Iodine Determination of Dresden Unit-2 and Unit-3; May 23, 2013
- LS-AA-2090; Monthly Data Elements for NRC Reactor Coolant System (RCS) Specific Activity; Revision 4
- Weekly Data Elements of RCS Activity from January 2012 through April 2013

40A2 Identification and Resolution of Problems (71152)

- IR 1515929, “U3 Turbine Oil Reservoir Deluge Actuated”
- IR 1516120, “NRC Concern with SBTG Following Turb Oil Deluge Actuation”
- IR 1516876, “U3 TLO Deluge Actuation Extent of Condition”
- IR 1516875, “U3 TLO Deluge Actuation Extent of Condition”
- IR 1516873, “U3 TLO Deluge Actuation Extent of Condition”
- IR 1516871, “U3 TLO Deluge Actuation Extent of Condition”
- IR 1516868, “U3 TLO Deluge Actuation Extent of Condition”
- IR 1516866, “U3 TLO Deluge Actuation Extent of Condition”
- CC-AA-204, “Control of Vendor Equipment Manuals,” Revision 9
- CC-AA-204-1001, “Control of Vendor Equipment Manuals Guideline,” Revision 0
- LS-AA-115-1003, “Processing of Level 3 OpEx Evaluations,” Revision 3
- IR 1501211, “Engineering Review on OWA for CCSW Pumps”
- IR 1518827, “H2 Cooler TIC Failed Closed”
- IR 1516971, “Goose Lake Pump Check Valve Leaking By”

- WO 01621707; "OP D2/3 QTR Perform Work Around and Challenge Review"; June 3, 2013
- OP-AA-106-101-1006, "Issue Resolution Documentation Form," Revision 11, Tracking Number 1344066-02
- IR 1482727, "CCA to Reactor Engineering to bin the Reactivity Management hits from the past 12-months that are impacting the indicator. The Goal of the CCA is to identify a reason then explore in detail during the Reactivity Management FASA"
- IR 1506235, "CAP Trending is NOS Area Needing Management Attention"
- SM-AA-300, "Procurement Engineering Support Activities," Revision 6
- IR 1504216, "Not Enough Oil Reserved to Support Work"
- IR 1503324, "Wrong Part was Ordered per the W/O"
- IR 1526672, "QVI ID: Wiring Issues with EC and WP Documents"
- IR 1505793, "QVI ID: Wiring Issues with EC and WP Documents"
- IR 1504033, "Replace Wrong Size Impeller of U3 HPCI Sump Pump"
- IR 1502263, "Unnecessary PM Performed"
- IR 1473597, "U2 Turb Crane, HMI Inaccurate, WO Cancelled, No Work Perform"
- IR 1500996, "U3 Bus Duct Filter was the Wrong Size"
- IR 1504251, "Task for LCO Identified in Execution"
- IR 1459659, "U3 TSI Laptop Wireless Capability – CYBER"
- IR 1460029, "Inconsistent Results with Manpower Feedback"
- IR 1494648, "Work Execution Delay"
- IR 1502432, "Multiple Issues with Work Package Resulting in Schedule Hit"
- IR 1459791, "CCA – Ops Staff – Review IRs from 2012 and bin as appropriate."
- IR 1463958, "CCA to MS to Determine Common Cause of Scaffold Issues that Occurred During D3R22"
- IR 1475357, "CCA to MS (Kester) to perform CCA on maintenance caused IRs during D3R22"
- IR 1461141, "CCA to Engineering Department CAPCo to identify the common cause(s) of the identified adverse trend reported for 4Q12 Engineering Department"
- IR 1479690, "CCA to Security on the 2013 NOS audit results"
- IR 1492691, "Engineering to perform a CCA on Temp Mod Status Tracking/Program Issues for the past 6 months"
- IR 1448473, "Benchmark (EN)" Temporary Configuration Change Control"
- WO 1416070, "D3 18M TSTR/COM TURBINE OIL RESERVOIR DELUGE SYS TEST"
- WO 1562215, "Manual Pull Box Will Not Reset"
- IR 1396645, "Manual Pull Box Will Not Reset"
- WO 923536, "U2 Turb Oil Reservoir Deluge Manual Pull Box Broken"
- IR 491798, "U2 Turb Oil Reservoir Deluge Manual Pull Box Broken"
- DFPS 4134-07, "Unit 3 Turbine Oil Reservoir Deluge System Test," Revision 16
- IR 1533868, "Disposition of Vendor Information"

4OA5 Temporary Instruction (TI) 2515/182

- ER-AA-5400-1002; Underground Piping and Tank Examination Guide; Revision 5
- ER-AA-5400; Buried Piping and Raw Water Corrosion Program (BPRWCP) Guide; Revision 5
- ER-AA-5400-1003; Buried Piping and Raw Water Corrosion Program (BPRWCP) Performance Indicators; Revision 4
- AR-AA-450; Structures Monitoring; Revision 2
- ER-AA-335-004; Ultrasonic (UT) Measurement of Material Thickness and Interfering Conditions; Revision 6
- SA-AA-117; Excavating, Trenching, and Shoring; Revision 15
- IMP-GWT-01N; Long Range Guided Wave Ultrasonics Pipe Screening System; Revision 5
- DRE-UPT-01; Underground Pipe and Tank Inspection Plan; April 15, 2013

- ATI 1169592-13; NEI 09-14 Revision 1 Condition Assessment Tank Plan; Revision 0
- DOS 0010-03; Cathodic Protection Surveillance; Revision 35
- Corrpro Job No. 340600457; 2012 Cathodic Protection System Resurvey Report; April 2013
- ATI 00928304; Root Cause Report; Elevated Tritium Valves Identified in 2 Storm Drains Due to Through-Wall Leaks in Underground Piping; July 24, 2009
- 12-146; Ultrasonic Thickness Results; June 13, 2012
- 12-147; Ultrasonic Thickness Results; June 13, 2012
- 12-130; Ultrasonic Thickness Results; June 11, 2012
- 12-015; Ultrasonic Thickness Results; January 24, 2012
- G4-220#1287; Guided Wave Test Results; November 19, 2012
- G3-142#3416; Guided Wave Test Results; August 2, 2012
- G3-142#3406; Guided Wave Test Results; August 2, 2012
- G3-141#3355; Guided Wave Test Result; November 27, 2012
- G3-142#3418; Guided Wave Test Result; August 2, 2012
- BPRWCP Program Health Report; First Quarter; 2013
- EC Eval 366134; Evaluate Regulator Issues for EDG Fuel Oil Storage Tank Wall Thickness Measurements; Revision 0
- EC 386633; Code Minimum Wall Thickness Evaluation for 8-inch DGSW Buried Piping from Radwaste Building to the Crib House; Revision 0
- NUC2012133.00; Condition Assessment of Excavated Buried Pipe; July 16, 2012
- WO 00851878-01; D2/40M TS Perform Pressure Testing of DGSW Piping Block 2DG0; May 14, 2007
- WO 01250946-01; D2/3 40M TS Perform Pressure Testing of 2/3 DGSW Piping Block 2; April 25, 2012
- WO 00935084-01; D2/3 40M TS Perform Pressure Testing of 2/3 DGSW Piping Block 2; July 13, 2009
- AR 00961898; Degraded Pipe Weepage Identified; September 4, 2009
- AR 01449549; Additional NEI 09-14 Buried Tank Identified at Dresden; December 7, 2012
- AR 01477927; Cathodic Protection Bullhorn Asset Tracker in Alarm; February 20, 2013
- M-198; Outdoor Piping Sheet 6; Revision J
- M-195; Outdoor Piping Sheet 3; Revision BG

LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
AOP	Abnormal Operating Procedure
ATWS	Anticipated Transient without Scram
CAP	Corrective Action Program
CCSW	Containment Cooling Service Water
CFR	Code of Federal Regulations
CS	Core Spray
DGCW	Diesel Generator Cooling Water
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety (NRC)
ECCS	Emergency Core Cooling System
HPCI	High Pressure Coolant Injection
IAC	Instrument Air Compressor
IC	Injection Cooling
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
IR	Issue Report
LLC	Limited Liability Corporation
LORT	Licensed Operator Requalification Training
LPCI	Low Pressure Coolant Injection
LSFT	Logic System Functional Test
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OOS	Out-of-service
OWA	Operator Workaround
PARS	Publicly Available Records System
PCIS	Primary Containment Isolation System
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PM	Planned or Preventative Maintenance
PMT	Post-Maintenance Testing
RCS	Reactor Coolant System
RP	Radiation Protection
SAT	Systems Approach to Training
SDP	Significance Determination Process
SSC	Systems, Structures, and Components
TI	Temporary Instruction
TS	Technical Specification
TSO	Transmission System Operator
UFSAR	Updated Final Safety Analysis Report
WO	Work Order



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

August 6, 2013

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

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
NRC INTEGRATED INSPECTION REPORT 05000237/2013003;
05000249/2013003

Dear Mr. Pacilio:

On June 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated 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 1, 2013, with Mr. D. Czufin, and other members of your staff.

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

No findings were identified during this inspection.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document 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/
Patricia J. Pelke, Acting Chief
Branch 6
Division of Reactor Projects

Docket Nos. 50-237; 50-249
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Letter to M. Pacilio from P. Pelke dated August 6, 2013

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
NRC INTEGRATED INSPECTION REPORT 05000237/2013003;
05000249/2013003

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