



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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LISLE, IL 60532-4352

January 19, 2016

Mr. Bryan C. Hanson
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Warrenville, IL 60555

**SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 INTEGRATED
INSPECTION REPORT 05000237/2015004; 05000249/2015004**

Dear Mr. Hanson:

On December 31, 2015, 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 January 7, 2016, with Mr. J. Washko, and other members of your staff.

Based on the results of this inspection, one self-revealed finding of very low safety significance was identified. The finding involved a violation of NRC requirements. However, because of its very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating the issue as a non-cited violation (NCV) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

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

B. Hanson

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records System (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Jamnes Cameron, Chief
Branch 4
Division of Reactor Projects

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

Enclosure:
IR 05000237/2015004; 05000249/2015004

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000237/2015004; 05000249/2015004

Licensee: Exelon Generation Company, LLC

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL

Dates: October 1 through December 31, 2015

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Enclosure

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SUMMARY

Inspection Report 05000237/2015004, 05000249/2015004; 10/01/2015 – 12/31/2015; Dresden Nuclear Power Station, Units 2 & 3; Follow-Up of Events and Notices of Enforcement Discretion.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. One Green finding was self-revealed. The finding was considered a non-cited violation (NCV) of NRC regulations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas" effective date December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," dated February 2014.

Cornerstone: Barrier Integrity

Green. A finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was self-revealed on September 4, 2015, when the integrity of the Secondary Containment for Units 2 and 3 was not maintained for 39 minutes when interlock features designed to prevent both doors of a Secondary Containment interlock from being simultaneously open prevented the closure of Reactor Building to Turbine Building doors 47 and 48 following simultaneous operation during routine access of the interlock by plant personnel.

The performance deficiency was determined to be more than minor because it was associated with the Barrier Integrity cornerstone attribute of design control, and adversely affected the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding screened as very low safety significance (Green) because the inspectors answered yes to the Barrier Integrity Screening Question C.1, Exhibit 3 of IMC 0609, Appendix A. This finding has a cross-cutting aspect in the area of Human Performance, Conservative Bias, because the licensee did not use decision making-practices that emphasize prudent choices over those that are simply allowable. Specifically, the licensee failed to implement a modification which addressed a known design deficiency in the 570 foot elevation Secondary Containment interlock in 2013. The licensee reasoned that the interlock was a low traffic area and that it would be unlikely that the doors would be open simultaneously. [H.14] (Section 40A3.2)

REPORT DETAILS

Summary of Plant Status

Unit 2

Unit 2 began the inspection period in coast down to the Unit's twenty-fourth refueling outage (D2R24). Coast down continued until November 2, 2015, when the main generator was taken offline and the reactor was shut down for the commencement of D2R24. Unit startup began on November 20, 2015, with the main generator synchronized to the grid on November 21, 2015, ending D2R24. The reactor returned to full power on November 22, 2015, where it operated at or near for the remainder of the inspection period.

Unit 3

Unit 3 began the inspection period at full power. On November 30, 2015, Unit 3 was taken offline for a maintenance outage (D3M19) to address a leaking fuel assembly, a stuck control rod drive mechanism, and a leaking reactor head closure inner o-ring. Plant start-up and generator synchronization to the grid occurred December 6, 2015, ending D3M19. The reactor returned to full power on December 9, 2015, where it operated at or near for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Winter Seasonal Readiness Preparations

a. Inspection Scope

The inspectors conducted a review of the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect mitigating systems from the effects of adverse weather. Documentation for selected risk-significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Cold weather protection, such as heat tracing and area heaters, was verified to be in operation where applicable. 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. Documents reviewed are listed in the Attachment to this report. The inspectors' reviews focused specifically on the following plant structures, systems, and components due to their risk significance or susceptibility to cold weather issues:

- Unit 2/3 cribhouse;
- Unit 1 diesel driven fire pump; and

- Unit 3 high pressure coolant injection.

This inspection constituted one winter seasonal readiness preparations sample as defined in IP 71111.01–05.

b. Findings

No findings were identified.

.2 External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood (PMF). The evaluation included a review to check for deviations from the descriptions provided in the UFSAR for features intended to mitigate the potential for flooding from external factors. 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 equipment which would serve as a barrier for power block structures, and equipment meant to provide cooling water for decay heat removal of the reactors and spent fuel pools during a PMF event. The inspectors also reviewed the abnormal operating procedure for mitigating the design basis flood to ensure it could be implemented as written. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one external flooding 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 offsite power alignment when on back feed operations through the main power transformer;
- Unit 2 alternate decay heat removal alignment of shutdown and fuel pool cooling systems;
- 3A core spray during reactor coolant system low inventory conditions for maintenance outage D3M19; and
- Unit 2 power lineups to reactor protection system bus A from Bus 25 and the B RPS motor generator.

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 CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted four 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 8.2.5B, Unit 2 low pressure heater bays, elevation 517’;
- Fire Zone 8.2.5A, Unit 2 high pressure heaters/steam lines, elevation 517’;
- Fire Zone 8.2.6B, Unit 2 low pressure heater bays, elevation 538’; and
- Fire Zone 18.1.2, 18.2.2, 18.3.2 Unit 2 transformer area, elevation 517’ and Fire Zone 18.1.1, 18.2.1, 18.3.1 Unit 3 transformer area, elevation 517’.

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee’s fire plan.

The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant’s Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant’s ability to respond to a security event.

Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for

immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action documents with respect to past flood-related items identified in the corrective action program to verify the adequacy of the corrective actions. The inspectors observed surveillance testing of circulating water pump trips on high condensate pit levels indicative of an internal flooding event for Unit 2, and reviewed completion history for these surveillances for both Unit 2 and Unit 3 circulating water pumps. The inspectors performed a walkdown of the following plant areas to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- Unit 2 and Unit 3 containment cooling service water (CCSW) vaults;
- Unit 2 and Unit 3 condensate pits;
- Unit 2 and Unit 3 emergency core cooling system (ECCS) corner rooms; and
- Unit 2 and Unit 3 safety-related 4160 VAC switchgear areas.

Documents reviewed during this inspection are listed in the Attachment to this report. This inspection constituted one internal flooding 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 eddy current testing and visual inspection of the Unit 2 isolation condenser 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.

1R08 Inservice Inspection Activities (71111.08G)

From November 2, 2015, through November 20, 2015, the inspector conducted a review of the implementation of the licensee's Inservice Inspection (ISI) program for monitoring degradation of the reactor coolant system, risk significant piping and components, and containment systems.

The ISI's described in Sections 1R08.1 and 1R08.5 below constituted one inspection sample as defined in Inspection Procedure (IP) 71111.08-05.

.1 Piping Systems Inservice Inspection

a. Inspection Scope

The inspectors either observed or reviewed the following non-destructive examinations mandated by the American Society of Mechanical Engineers (ASME) Section XI Code, to evaluate compliance with the ASME Code Section XI and Section V requirements, and, if any indications and defects were detected, to determine if these were dispositioned in accordance with the ASME Code or an NRC-approved alternative requirement:

- Ultrasonic (UT) examination of residual heat treat (RR), elbow-to-pipe weld, PS2A-D3;
- UT examination of RR, valve-to-pipe weld, 202-4B/PS2A;
- UT examination of reactor pressure vessel (RPV), inner radius weld, 2/1/RPV Shell /N20A-1;
- UT examination of RPV, nozzle-to-vessel weld 2/1/RPV Shell /N20A-2;

- Magnetic Particle (MT) examination of low pressure coolant injection (LPCI), saddle-to-nozzle weld, 2-1503B-N4-1B; and
- MT examination of LPCI, shell-to-saddle weld, 2-1503B-N4-1A.

The inspectors reviewed the following examination completed during the previous outage with relevant/recordable conditions/indications accepted for continued service to determine whether acceptance was in accordance with the ASME Code Section XI or an U.S. Nuclear Regulatory Commission (NRC)-approved alternative.

- Indication disposition rejected during examination of support welds (M-1164D-580) examination (Work Order (WO) 01229047-02).

The inspectors reviewed records for the following pressure boundary weld repairs completed for risk-significant systems during the last outage to determine if the licensee applied the pre-service non-destructive examinations and acceptance criteria required by the Construction Code, and/or the NRC-approved Code relief request. Additionally, the inspectors reviewed the welding procedure specifications and supporting weld procedure qualification records to determine whether the weld procedures were qualified in accordance with the requirements of the Construction Code and the ASME Code, Section IX:

- Repair 2A LPCI heat exchanger (HX) support, 2A-1503, (WO 01719103);
- Repair 2B LPCI HX lower channel, (WO 01287892);
- Install U2 4" mechanical FLEX modification, 2-1590-4"-DX to valve 2-1599-143, (WO 01738368); and
- Install U2 6" mechanical FLEX modification, 2-1580-6"-DX to valve 2-1599-140, and 2-1582-6"-LX to valve 2-1599-142, (WO 01738368).

b. Findings

No findings were identified.

.2 Reactor Pressure Vessel Upper Head Penetration Inspection Activities (Not Applicable)

.3 Boric Acid Corrosion Control (Not Applicable)

.4 Steam Generator Tube Inspection Activities (Not Applicable)

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors performed a review of ISI-related problems entered into the licensee's corrective action program and conducted interviews with licensee staff to determine if:

- the licensee had established an appropriate threshold for identifying ISI related problems;
- the licensee had performed a root cause (if applicable) and taken appropriate corrective actions; and
- the licensee had evaluated operating experience and industry generic issues related to ISI and pressure boundary integrity.

The inspectors performed these reviews to evaluate compliance with Title 10 of the *Code of Federal Regulations* Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed by the inspectors are listed in the Attachment to this report.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Observation During Periods of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope

On November 29, 2015, the inspectors observed operators performing a Unit 3 reactor shutdown into D3M19. This was an activity that required heightened awareness or was related to increased risk. The inspectors evaluated the following areas:

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

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

This inspection constituted one quarterly licensed operator heightened activity/risk sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations

a. Inspection Scope

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

- Unit 2 fuel pool cooling system; and
- Unit 2 and Unit 3 electromatic relief valves (ERV).

The inspectors reviewed events such as where ineffective equipment maintenance had resulted 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 3 online risk YELLOW during Unit 2 250 VDC performance test;
- Unit 2 shutdown risk YELLOW when safety-related 480 VAC Bus 28 fed from Bus 29; and
- Unit 2 emergency diesel generator (EDG) emergent work to recover low oil temperature.

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

consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed during this inspection are listed in the Attachment to this report.

These maintenance risk assessments and emergent work control activities constituted three 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:

- Impact on offsite dose resulting from high energy line break during feed water temperature reduction mode of operations;
- Grease added to sealed bearing on 2/3B standby gas treatment exhaust fan;
- Isolation condenser valve 2-1301-16 with packing leakage and its effect on containment isolation groups 1 and 5; and
- Target Rock check valve fails local leak rate test, historical operability review.

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 USFAR 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 four 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):

- Engineering Change (EC) 395380, "Replace Main Steam Isolation Valve (MSIV) Angled Discs with Machined Spherical Disc," Revision 000; [permanent modification]
- EC 399218, "Unit 2 4kv Bus Transfer Logic Modification for an Open Phase Event Concurrent with a Loss of Coolant Accident (LOCA)," Revision 00; [permanent modification] and
- Reactor protection system test box installation for neutron monitoring scrams during surveillance testing. [temporary modification]

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

This inspection constituted one temporary modification sample and two permanent plant modification samples 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 activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- Work order (WO) 01416479, "IM Dresden 3 4 Year Preventative Maintenance Replace Main Steam Line Flow Detector Barton 288 Movement Calibration;"
- WO 01487866, "2F Drywell Cooler Breaker Post Maintenance Test;"

- WO 01874180, "Operations Post Maintenance Test 2-0220-39/40 Unit 2 Reactor Vessel Bottom Head Drain Valves;"
- WO 01715269, "HPCI Low Pressure Surveillance Following Turbine Overhaul;"
- WO 01692290, "Dresden 2 Refuel Full Closure Timing/Exercise of MSIVs;" and
- WO 01881135, "Reactor Services Replace Drive Cable and Motor Module on Intermediate Range Monitor 11."

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 TSSs, 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 six post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R20 Outage Activities (71111.20)

.1 Refueling Outage Activities

a. Inspection Scope

The inspectors reviewed the Outage Safety Plan (OSP) and contingency plans for the Unit 2 refueling outage (RFO), conducted November 2 - 21, 2015, to confirm that the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During the RFO, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below:

- licensee configuration management, including maintenance of defense-in-depth commensurate with the OSP for key safety functions and compliance with the applicable TS when taking equipment out of service;
- implementation of clearance activities and confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing;

- installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error;
- controls over the status and configuration of electrical systems to ensure that TS and OSP requirements were met, and controls over switchyard activities;
- monitoring of decay heat removal processes, systems, and components;
- controls to ensure that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system;
- reactor water inventory controls including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss;
- controls over activities that could affect reactivity;
- maintenance of secondary containment as required by TS;
- licensee fatigue management, as required by 10 CFR 26, Subpart I;
- refueling activities, including fuel handling and sipping to detect fuel assembly leakage;
- startup and ascension to full power operation, tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify that debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing; and
- licensee's identification and resolution of problems related to RFO activities.

Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

.2 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for a Unit 3 scheduled maintenance outage D3M19 that began on November 30, 2015, and continued through December 6, 2015. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, personnel fatigue management, startup and heat-up activities, and identification and resolution of problems associated with the outage. The inspectors followed the licensee's identification and replacement of a leaking fuel assembly, the removal and replacement of stuck control rod drive mechanism D-11, and replacement of a leaking inner reactor vessel o-ring.

Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

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

- WO 01690848, "2-0220-62A Feedwater Check Valve Local Leak Rate Test (LLRT);" (isolation valve)
- WO 01690114, "Valves 2-1201-1,2-1201-1A, 2-1201-2, Reactor Water Clean-up System Inlet Volume LLRT;" (isolation valve)
- WO 01859850, "D2 3M TS low pressure coolant injection (LPCI) Discharge Piping Water Solid Verification;" (routine)
- WO 01689720, "OP D2 RFL Verify ERV/Target Rock Actuator Stroke;" (routine) and
- WO 0171013901, "Bus 23-1 Under Voltage and ECCS Integrated Functional Test." (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 were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the 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 safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- 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 three routine surveillance testing samples and two containment isolation valve samples as defined in IP 71111.22, Sections–02 and–05.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (IP 71114.04)

a. Inspection Scope

The regional inspectors performed an in-office review of the latest revisions to the Emergency Plan, Emergency Action Levels (EAL), and EAL Bases document to determine if these changes decreased the effectiveness of the Emergency Plan. The inspectors also performed a review of the licensee’s 10 CFR 50.54(q) change process, and Emergency Plan change documentation to ensure proper implementation for maintaining Emergency Plan integrity.

The U.S. Nuclear Regulatory Commission review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment to this report.

This EAL and Emergency Plan Change inspection constituted one sample as defined in Inspection Procedure 71114.04 06.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

This inspection constituted one complete sample as defined in Inspection Procedure (IP) 71124.01-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

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

results of the audit and operational report reviews to gain insights into overall licensee performance.

b. Findings

No findings were identified.

.2 Radiological Hazard Assessment (02.02)

a. Inspection Scope

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

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

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

The inspectors selected the following radiologically risk-significant work activities that involved exposure to radiation:

- Radiation Work Permit (RWP) 10017125; Dresden Unit-2 Refueling Outage Number 24 (D2R24); Torus Dive As-Low-As-Reasonably-Achievable (ALARA) and Planning;
- RWP 10017113; D2R24; Drywell Nuclear Instrumentation System;
- RWP 10017116; D2R24; Drywell Control Rod Activities;
- RWP 10017134; D2R24; Reactor Cavity Work Platform Activities; and
- RWP 10017130; D2R24; Reactor Disassembly/Reassembly Activities. For these work activities, the inspectors assessed whether the pre-work surveys performed were appropriate to identify and quantify the radiological hazard and to establish adequate protective measures. The inspectors evaluated the Radiological Survey Program to determine if hazards were properly identified, including the following:
 - identification of hot particles;
 - the presence of alpha emitters;
 - the potential for airborne radioactive materials, including the potential presence of transuranics and/or other hard-to-detect radioactive materials;
 - the hazards associated with work activities that could suddenly and severely increase radiological conditions and that the licensee has established a means to inform workers of changes that could significantly impact their occupational dose; and
 - severe radiation field dose gradients that can result in non-uniform exposures of the body.

The inspectors observed work in potential airborne areas and evaluated whether the air samples were representative of the breathing air zone. The inspectors evaluated whether continuous air monitors were located in areas with low background to minimize false alarms and were representative of actual work areas. The inspectors evaluated the licensee's program for monitoring levels of loose surface contamination in areas of the plant with the potential for the contamination to become airborne.

b. Findings

No findings were identified.

.3 Instructions to Workers (02.03)

a. Inspection Scope

The inspectors selected various containers holding non-exempt licensed radioactive materials that may cause unplanned or inadvertent exposure of workers, and assessed whether the containers were labeled and controlled in accordance with Title 10, *Code of Federal Regulations* (CFR), Part 20.1904, "Labeling Containers," or met the requirements of 10 CFR 20.1905(g), "Exemptions To Labeling Requirements".

The inspectors reviewed the following RWPs used to access high-radiation areas and evaluated the specified work control instructions or control barriers:

- RWP 10017125; D2R24; Torus Dive ALARA and Planning;
- RWP 10017113; D2R24; Drywell Nuclear Instrumentation System;
- RWP 10017116; D2R24; Drywell Control Rod Activities;
- RWP 10017134; D2R24; Reactor Cavity Work Platform Activities; and
- RWP 10017130; D2R24; Reactor Disassembly/Reassembly Activities.

For these RWPs, the inspectors assessed whether allowable stay times or permissible dose (including from the intake of radioactive material) for radiologically significant work under each RWP were clearly identified. The inspectors evaluated whether electronic personal dosimeter alarm set-points were in conformance with survey indications and plant policy.

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

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

b. Findings

No findings were identified.

.4 Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

The inspectors observed locations where the licensee monitors potentially contaminated material leaving the radiological control area and inspected the methods used for control, survey, and release from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use and evaluated whether the work was performed in accordance with plant procedures and whether the procedures were sufficient to control the spread of contamination and prevent unintended release of radioactive materials from the site. The inspectors assessed whether the radiation monitoring instrumentation had appropriate sensitivity for the type(s) of radiation present.

The inspectors reviewed the licensee's criteria for the survey and release of potentially contaminated material. The inspectors evaluated whether there was guidance on how to respond to an alarm that indicates the presence of licensed radioactive material.

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

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

The inspectors evaluated whether any transactions, since the last inspection, involving nationally tracked sources were reported in accordance with 10 CFR 20.2207.

b. Findings

No findings were identified.

.5 Radiological Hazards Control and Work Coverage (02.05)

a. Inspection Scope

The inspectors evaluated ambient radiological conditions (e.g., radiation levels or potential radiation levels) during tours of the facility. The inspectors assessed whether the conditions were consistent with applicable posted surveys, RWPs, and worker briefings.

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

The inspectors assessed whether radiation monitoring devices were placed on the individual's body consistent with licensee procedures. The inspectors assessed whether

the dosimeter was placed in the location of highest expected dose or that the licensee properly employed an U.S. Nuclear Regulatory Commission-approved method of determining effective dose equivalent.

The inspectors reviewed the application of dosimetry to effectively monitor exposure to personnel in high-radiation work areas with significant dose rate gradients.

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

- RWP 10017125; D2R24; Torus Dive ALARA and Planning;
- RWP 10017113; D2R24; Drywell Nuclear Instrumentation system;
- RWP 10017116; D2R24; Drywell Control Rod Activities;
- RWP 10017134; D2R24; Reactor Cavity Work Platform Activities; and
- RWP 10017130; D2R24; Reactor Disassembly/Reassembly Activities.

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

The inspectors examined the licensee's physical and programmatic controls for highly activated or contaminated materials (i.e., nonfuel) stored within spent fuel and other storage pools. The inspectors assessed whether appropriate controls (i.e., administrative and physical controls) were in place to preclude inadvertent removal of these materials from the pool.

The inspectors examined the posting and physical controls for selected high-radiation areas and very-high radiation areas to verify conformance with the occupational performance indicator.

b. Findings

No findings were identified.

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

a. Inspection Scope

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

The inspectors discussed the controls in place for special areas that have the potential to become very-high radiation areas during certain plant operations with first-line health physics supervisors (or equivalent positions having backshift health

physics oversight authority). The inspectors assessed whether these plant operations require communication beforehand with the health physics group, so as to allow corresponding timely actions to properly post, control, and monitor the radiation hazards including re-access authorization.

The inspectors evaluated licensee controls for very-high radiation areas and areas with the potential to become a very-high radiation areas to ensure that an individual was not able to gain unauthorized access to the very-high radiation areas.

b. Findings

No findings were identified.

.7 Radiation Worker Performance (02.07)

a. Inspection Scope

The inspectors observed radiation worker performance with respect to stated radiation protection work requirements. The inspectors assessed whether workers were aware of the radiological conditions in their workplace and the RWP controls/limits in place, and whether their performance reflected the level of radiological hazards present.

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

b. Findings

No findings were identified.

.8 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

The inspectors observed the performance of the radiation protection technicians with respect to all radiation protection work requirements. The inspectors evaluated whether technicians were aware of the radiological conditions in their workplace and the RWP controls/limits, and whether their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities.

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

b. Findings

No findings were identified.

.9 Problem Identification and Resolution (02.09)

a. Inspection Scope

The inspectors evaluated whether problems associated with radiation monitoring and exposure control were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involve radiation monitoring and exposure controls. The inspectors assessed the licensee's process for applying operating experience to their plant.

b. Findings

No findings were identified.

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

The inspection activities supplement those documented in Inspection Report (IR) 05000237/2014003; IR 05000249/2014003 and IR 05000237/2014005; IR 05000249/2014005, and constitute one complete sample as defined in IP 71124.02-05.

.1 Radiological Work Planning (02.02)

a. Inspection Scope

The inspectors determined whether post-job reviews were conducted and if identified problems were entered into the licensee's CAP.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors evaluated whether the licensee 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.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07)

The inspection activities supplement those documented in IR 5000237/2015002; IR 05000249/2015002, and constitute one complete sample as defined in IP 71124.07-05.

.1 Site Inspection (02.02)

a. Inspection Scope

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

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures Performance Indicator (MS05) for Dresden Nuclear Power Station, Units 2 and 3, covering the period from the 4th quarter 2014 through 3rd quarter 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, 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 October 2014 through September 2015 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 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the RCS Leakage Performance Indicator (BI02) for Dresden Nuclear Power Station, Units 2 and 3, covering the period from the 4th quarter 2014 through 3rd quarter 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI

Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee’s operator logs, RCS leakage tracking data, issue reports, event reports and NRC Integrated Inspection Reports for the period of October 2014 through September 2015 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 reactor coolant system leakage 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 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 40A2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of July 2015 through December 2015. Although some examples expanded beyond those dates where the scope of the trend warranted.

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

The inspectors and the licensee noted similar trends in equipment and program performance. Although these deficiencies did not always result in any immediate adverse consequences, a potential trend in these areas is apparent and suggests that additional licensee attention to effect corrective actions may be appropriate. The licensee entered the following potential adverse trends into their CAP during this time period: Nuclear Instrument reliability (IR 2600093), and Plant barrier impairments (IR 2600075). The Inspectors also identified EDG reliability as a potential adverse trend. Specific examples associated with these trends included, but were not limited to:

- On October 8, 2015, during Unit 2 intermediate range monitor (IRM) range adjustment per DIP 0700-09, drive IRM 14 failed to drive in to the reactor core. The operator attempted to drive in IRM 14 and the "full out" lamp extinguished but indication never changed. The operator attempted to drive out IRM 14 and after a period of time the "full out" lamp lit but indication never changed. Although IRM 14 was inoperable, IRM's were not required in the current mode. The IRM drive mechanism was fixed prior to a planned shutdown for the upcoming refueling outage November 1, 2015. Unit 2 and Unit 3 have produced more than thirty IR's with respect to neutron monitoring equipment reliability during this review period (IR 2567703).

- On October 12, 2015, inspectors identified U2 West LPCI corner room submarine door dogged and caps remove on 2" pipe penetration with hose ran through penetration near submarine door with U2 low pressure ECCS inoperable; and U3 East LPCI corner room submarine door dogged and caps installed on 2" pipe penetration near submarine door with U3 low pressure ECCS operable. Submarine doors provide flood protection between the torus basement and the LPCI corner rooms. Although the door that separate the two units are not water tight, the licensee concluded U3 ECCS system remained operable, verified via UFSAR 3.4.1.2.2. During the Unit 2 D2R24 outage there were multiple degraded fire and flooding barriers without compensatory actions, therefore creating inconsistencies with plant barrier impairments (IR 2586496).
- On May 29, 2015, while performing the monthly surveillance, the Unit 3 EDG was inoperable because it failed to start following the initiation of a local start demand. The cause of the failure was slow operation of the air start regulator due to excessive corrosion products in the regulator (IR 2541257). On October 20, 2015, while running the Unit 2 EDG the operator notice a through wall leak that developed on the ½" flexible hose of the Engine driven fuel pump at a rate of one gallon per minute. The Unit 2 EDG was shutdown via the fuel rack and declared in operable (IR 2573588). Next, on November 11, 2015, the Unit 2 EDG was declared inoperable due to low lube oil temperatures. The low lube oil temperatures were caused by the failure of the Licensee to properly implement compensatory actions to monitor and maintain the EDG room temperature above the operability requirement of 85 degrees. The licensee obtained information from the EDG manufacture recommending the engine not be started with the intention of reaching rated operating conditions per the plant's Technical Specifications if lube oil temperature was below 80 degrees (IR 2598796). The licensee classified the Unit 2 EDG as an unacceptable critical system in their second trimester 2015 Health Monitoring Report. The inspectors have included the EDG's as part of the Component Design Basis Inspection (CDBI) in 2016.

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

b. Findings

No findings were identified.

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

.1 (Closed) Licensee Event Report 05000249/2015-001-00, "Main Steam Line Flow Switches Found Outside Technical Specification Allowed Value"

a. Inspection Scope

On September 5, 2015, a main steam line high flow switch did not meet the required channel check criteria. In addition, two other flow switches were identified as not meeting their required surveillance requirements. Due to a personnel error there was a failure to perform the technical specification requirement to trip the channel which had failed the channel check criteria. The failure of the other two flow switches was not related to the failure to trip the channel which had failed to meet the channel check criteria.

The failure to perform the required TS action was documented in IR 2552152. The main steam line flow switches were repaired and recalibrated. The failure to enter a required TS action statement was a performance deficiency. This performance deficiency was previously documented in NRC inspection report 05000249/2015003 (Adams Accession Number ML15295A194). Documents reviewed are listed in the Attachment.

The licensee reported this event in accordance with 10 CFR 50.73(a)(2)(i)(B), any event or condition which is prohibited by the plant's Technical Specifications.

This Licensee Event Report (LER) is closed.

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

b. Findings

No findings were identified.

.2 (Closed) LER 05000237/2015-003-00; 05000249/2015-003-00: "Unit 2 Turbine Building to Reactor Building Interlock Doors open Simultaneously"

a. Inspection Scope

On September 4, 2015 at 0810, contract workers installing a plant modification in the vicinity of the Turbine Building to Reactor Building 570 foot elevation Secondary Containment interlock doors 47 and 48 attempted to pass through the interlock simultaneously opening both interlock doors. As each door opened the opposite door's interlock locking mechanism deployed which prevented the workers from closing their respective doors once they realized that both doors were open and Secondary Containment integrity was not being met. Both security and operations staff were notified and responded to the interlock. Operators were able to bypass the interlock function and reset the locking mechanisms enabling doors 47 and 48 to be sealed shut at 0849 restoring Secondary Containment integrity.

The inspectors reviewed the licensee's actions in response to the event, the immediate corrective actions, and the licensee's apparent cause evaluation report. Documents reviewed are listed in the Attachment to this report. A finding and violation of NRC requirements was identified and is discussed below.

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

This LER is closed.

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

b. Findings

Introduction: A finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was self-revealed on September 4, 2015, when the integrity of the Secondary Containment for Units 2 and 3 was not maintained for 39 minutes when interlock features designed to prevent both doors of a Secondary Containment interlock from being simultaneously open prevented

the closure of Reactor Building to Turbine Building doors 47 and 48 following simultaneous operation during routine access of the interlock by plant personnel.

Description: On September 4, 2015 at 0810, contract workers installing a plant modification in the vicinity of the Turbine Building to Reactor Building 570 foot elevation Secondary Containment interlock doors 47 and 48 attempted to pass through the interlock simultaneously opening both interlock doors. During the event, security received an alarming condition on door 47 (Turbine Building side of the interlock) as this door also serves as a security door. Security personnel were dispatched to the scene and noted that both doors were slightly ajar as their securing mechanisms had actuated when both doors were opened and were preventing their full closure and therefore sealing function. Security immediately contacted the main control room (MCR) and requested operations support to close the doors. Operators dispatched to the scene were able to bypass the interlock function and reset the door locking mechanisms which allowed doors 47 and 48 to be closed at 0849 restoring the Secondary Containment boundary. The licensee entered TS 3.6.4.1 due to not having at least one interlock door closed in the 570 foot elevation interlock between 0810 and 0849.

The design of the 570 foot elevation interlock doors is such that both doors sit in an unlocked position and only become locked on a valid open signal from the opposite door. On an open signal from the opposite door, a solenoid in the overhead door locking mechanism energizes which engages the door locking latch pin through the eyelet tab mounted on the door frame. The solenoid will stay energized keeping the door in the locked position until a valid closed signal is received from the opposite door. On a valid closed signal, the solenoid de-energizes allowing the door locking pin to disengage and unlock the door. The valid open and closed door signals come from a switch located in the door jambs.

A known design vulnerability of this type of interlock arrangement occurs if both doors are opened simultaneously. When this occurs, neither door will be locked shut by their associated latch pin. The solenoids and latch pins will still function as designed on a valid open signal from the opposite door, but the timing is such that the doors will already have begun to open before the latch pins can engage to lock the door. With the latch pin deployed, the doors will not be able to be resealed shut until the interlock can be bypassed by operations personnel.

During the event on September 4, 2015, a contract worker attempted to access the Turbine Building door (47). The individual looked in the window initially and did not identify traffic at the Reactor Building door (48). The worker then swiped his security badge and placed his hand on the biometric reader to unlock the security portion of the interlock. While meeting these security requirements, another contract worker looked through the Reactor Building door window and did not see the worker on the Turbine Building side as they were off to the side engaging the card reader. The worker on the Turbine Building side did not re-evaluate conditions in the interlock when they completed the security portion of access control. At this point the workers simultaneously operated the interlock doors. The Reactor Building door (48) is not a security door and therefore does require additional steps to operate.

The licensee performed an Apparent Cause Evaluation (ACE 2551306-06) and determined the apparent cause of the event to be failure to address a known design vulnerability with a high consequence risk factor. Specifically, in September 2013 the

site's Plant Health Committee (PHC) was presented a modification for three Secondary Containment interlock door sets on the 517 foot elevation. Engineering recommendation to the PHC was to not pursue the modification for the 570 foot elevation interlock doors because this access saw considerably less traffic and possessed windows and a door configuration which would allow individuals using the interlock to more readily see if someone was accessing the other door. In addition, the licensee considered the simultaneous operation of the doors to be a low probability event. As such, the PHC concurred with the recommendation and did not require the interlock modification to be installed on the 570 foot access doors. It should be noted that the existing design deficiency the licensee considered in 2013 was focused on the flaw in the design which would enable both doors to open when they are simultaneously operated. It did not consider the larger concern of the doors not being able to be immediately re-closed due to action of the locking mechanisms. Contributing causes for individual accountability, in that the worker accessing the Turbine Building door did not verify that the Reactor Building door was not being manipulated immediately prior to opening the Turbine Building door, and the interlock design deficiency itself which would enable simultaneous operation to defeat the interlock were identified in the ACE.

This event affected Secondary Containment on both Unit 2 and Unit 3 as the Reactor Building is configured as a common environment and so once the interlock was bypassed on the Unit 2, 570 foot elevation the entire Reactor Building was affected. The duration that the doors remained simultaneously open was approximately 39 minutes. TS 3.6.4.1 required 0.25 inches water column vacuum was maintained in the Reactor Building for the duration of the event.

Analysis: The inspectors determined that the failure to establish measures to ensure that suitable parts and equipment for the Secondary Containment interlock doors which affected the design function of the interlock doors to maintain the secondary containment integrity was a performance deficiency warranting further review. Specifically, when plant staff inadvertently simultaneously entered the interlock, both doors opened allowing access into the interlock and subsequently deployed locking mechanism which prevented the re-closure of the interlock doors for 39 minutes and therefore, the Secondary Containment could not have performed its safety function as specified by TS 3.6.4.1 and Updated Final Safety Analysis Report (UFSAR) section 6.2.3. The performance deficiency was determined to be more than minor, and thus a finding, in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the Barrier Integrity Cornerstone Attribute of Design Control and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, dated June 19, 2012. The inspectors reviewed the Barrier Integrity Screening Questions in Appendix A, Exhibit 3 and answered "yes" to question C.1. As a result, the finding was determined to be very low safety significance (Green).

This finding has a cross-cutting aspect in the area of Human Performance, Conservative Bias, because the licensee did not use decision making-practices that emphasize prudent choices over those that are simply allowable. Specifically, licensee engineering and the PHC failed to implement a modification which addressed a known design

deficiency in the 570 foot elevation Secondary Containment interlock in 2013. The licensee reasoned that the interlock was a low traffic area and that it would be unlikely that the doors would be open simultaneously. [H.14]

Enforcement: 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components.

Contrary to the above, on September 4, 2015 the licensee failed to review for suitability of application of parts and equipment essential to the safety-related functions of the Secondary Containment interlock doors and their sealing function of maintaining Secondary Containment integrity. Specifically, the licensee failed to ensure parts and equipment associated with the Secondary Containment interlock for Reactor Building to Turbine Building doors 47 and 48 did not adversely affect the ability of the Secondary Containment interlock doors from performing their design sealing function in order to maintain Secondary Containment integrity.

Licensee corrective actions included restoration of Secondary Containment integrity via bypassing the interlock feature and closing the doors, blocking access to the interlock under non-emergency conditions, and designing a modification to the interlock mechanism for doors 47 and 48 which is scheduled to be installed in January 2016. The modification will maintain both doors in an energized locked closed state until they receive a permissive open signal based on the state of the other door. The modification is designed to not permit simultaneous opening of doors 47 and 48, and will prevent the door locking mechanisms from deploying when their respective door is open.

Because this violation was of very low safety significance and it was entered into the licensee's CAP (IR 2551306), this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (**NCV 05000237/2015004-01; 05000249/2015004-01, Failure to Maintain Design Control of Secondary Containment Interlock Doors**).

.3 Closed) Licensee Event Report 05000237/2015-004-00; 05000249/2015-004-00, "Loss of Secondary Containment Vacuum Due to a Degraded Access Hatch"

a. Inspection Scope

On September 5, 2015, at 0935 with the reactor building ventilation in an abnormal line-up in order to support an upcoming preventative maintenance window, the Main Control Room (MCR) received an alarm indicating low reactor building (secondary containment) differential pressure. In the abnormal line-up, only one supply and one exhaust fan was running instead of the normal two supply and exhaust fans. Operators immediately confirmed the low differential pressure alarm with four local differential pressure indicators located on the refueling floor of the reactor building. This resulted in an unplanned entry into secondary containment Technical Specification (TS) 3.6.4.1 for not maintaining the required 0.25 inches water column vacuum inside the secondary containment boundary. Operators were dispatched into the plant to identify the cause of the loss of vacuum, when at 1018 a ventilation access hatch was discovered failed open at the unit 2 reactor building exhaust fan suction. Set screws in latches designed to secure the hatch closed had become loose and in one case damaged making the latches ineffective leaving the hatch held shut by only the vacuum inside the ventilation

line. The lower vacuum conditions of the abnormal line-up allowed the hatch to fail open by gravity. The reactor building exhaust fans are physically located in the turbine building outside of the secondary containment boundary. The licensee immediately closed the access hatch and vacuum conditions were quickly restored to normal allowing the MCR operators to exit TS 3.6.4.1.

Corrective actions for this event included repairs to the affected hatch; an extent of condition inspection of similar ventilation hatches on unit 3; a revision to operations procedures to inspect the access hatches prior to entry in abnormal reactor building ventilation line-ups; a revision to the maintenance procedure for ventilation hatches to include inspections of the latches and associated set screws; and planned modifications to install secondary latches to susceptible hatches in the reactor building, drywell ring header, and turbine building ventilation systems.

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

This LER is closed.

This event follow up review constituted one sample(s) as defined in IP 71153 05.

b. Findings

No findings were identified.

.4 (Closed) Licensee Event Report 05000237/2015-005-00, "Unit 2 HPCI Motor Gear Unit Would Not Return to Full Flow during Testing"

a. Inspection Scope

On September 23, 2015, at 2100, with the reactor at 100 percent power, the Unit 2 High Pressure Coolant Injection (HPCI) system failed a scheduled surveillance test when system flow could not be raised. After operating at full flow with the HPCI Motor Gear Unit (MGU) controlling speed automatically, HPCI system flow had been reduced to 75 percent by lowering the flow controller setpoint in accordance with the test procedure. Raising the flow controller setpoint failed to restore the HPCI system flow to 100 percent. The test was stopped, HPCI was declared inoperable, and the operators made an unplanned entry into emergency core cooling (ECCS) and isolation condenser (IC) system Technical Specification (TS) 3.5.1 G.1 and G.2 for not having HPCI operational.

The licensee developed and executed a complex troubleshooting plan and determined that the most probable cause of the HPCI test failure was the HPCI Motor Gear Unit (MGU) high speed stop limit switch, which prevents the MGU speed being raised too far. The limit switch was replaced and the MGU speed was raised and lowered during successful HPCI testing. HPCI was declared operable on September 25, 2015.

Additional corrective actions planned by the licensee include determining the cause of the limit switch failure, development of a procedure for alternative methods to adjust HPCI flow during a manual MGU control switch failure, and providing operator training on the procedure. Documents reviewed are listed in the Attachment to this report.

This event was reported in accordance with 10 CFR 50.73(a)(2)(v)(D), any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to ... mitigate the consequences of an accident.

This LER is closed.

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

b. Findings

No findings were identified.

.5 Follow-Up Review of Licensee's Response to Unit 3 HPCI Auxiliary Oil Pump Failure

a. Inspection Scope

On March 25, 2015, while the licensee was performing planned maintenance and testing on the Unit 3 HPCI system, the HPCI Auxiliary Oil Pump failed. During the testing, at 1341 hours, the control room received U2 250 Volts Direct Current (VDC) Battery Ground alarms and Unit 2 250 VDC Battery Charger Trouble alarms. The affected 250 VDC buses at Dresden Station are cross tied between units and are safety-related buses. At approximately the same time, a Radiation Protection Technician called the control room to report that when he entered the room he observed flashing light and smoke coming from the HPCI Auxiliary Oil Pump, which is also safety-related. The control room then received HPCI pump room area smoke alarms, as well as indications that the U2/3 Diesel Fire Pump was running and the fire system had pressurized (pre-activated) but did not discharge. At 1344 hours, the U3 HPCI Pump was secured by the control room operators. After the control room operators secured the U3 HPCI Pump, the shift manager dispatched the incident commander to determine if there was a fire in the area. Within a few minutes (exact time unknown), the incident commander reported that there was haze in the area but no flame was active at the time, therefore there was no fire. Following the pre-activation of the fire system, there were reports back to the control room that there was water flowing out of the fire deluge piping, leaking from a valve, and dripping on to the 3C and 3D LPCI pump motors. Since the 3D LPCI pump motor was running in support of the HPCI testing, the operators had to secure it. The shift manager reviewed the initiating conditions for Emergency Action Level (EAL) HA3, which states, in part, "fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown". He determined that since the incident commander indicated that there was no flame at the time the incident commander made his observations, then there was no fire and EAL HA3 was not applicable.

The inspectors conducted inspection activity to independently review and evaluate the licensee's potential failure to classify and declare an Alert for a fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown.

The inspectors reviewed shift log entries, the licensee's Apparent Cause Evaluation 2498875-02, interviewed site personnel, and independently evaluated additional information submitted by the licensee in response to the inspectors' requests for information.

Based on the independent review performed by the inspectors, no performance deficiency or violation of the regulatory requirements were identified.

This event follow up review constituted one sample as defined in Inspection Procedure 71153-05.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 7, 2016, the inspectors presented the inspection results to Mr. J. Washko, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The inspection results for the areas of radiological hazard assessment and exposure controls; occupational ALARA planning and controls; and radiological environmental monitoring with Mr. S. Marik, Site Vice President, on November 13, 2015.
- The results of the Inservice inspection with Mr. S. Marik, Site Vice-President, on December 11, 2015.
- The annual review of EAL and emergency plan changes with the licensee's Emergency Preparedness Manager, Mr. D. Doggett, via telephone on December 11, 2015.

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

S. Marik, Site Vice President
J. Washko, Station Plant Manager
L. Antos, Security Manager
J. Biegelson, Plant Engineering Manager
P. DiSalvo, Senior Engineer
D. Doggett, Emergency Preparedness Manager
B. Franzen, Regulatory Assurance Manager
H. Gabal, Health Physicist, Radwaste Shipper
D. Glick, Radioactive Material Shipping Specialist
F. Gogliotti, Engineering Director
G. Graff, Nuclear Oversight Manager
M. Hosain, Site EQ Engineer
B. Kapellas, Maintenance Director
J. Kish, ISI Programs Engineering
J. Miller, NDE Level III
G. Morrow, Operations Director
M. Overstreet, Radiation Protection Manager
M. Pavey, Health Physicist
P. Prater, Operations Training Manager
A. Pullam, Training Director
J. Quinn, Work Control Director
R. Schmidt, Chemistry
D. Walker, Regulatory Assurance – NRC Coordinator
D. Wolverton, Engineering Manager

Nuclear Regulatory Commission

J. Cameron, Chief, Division of Reactor Projects, Branch 4

Illinois Emergency Management Agency

M. Porfirio, Resident Inspector

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000237/2015004-01 05000249/2015004-01	NCV	Failure to Maintain Design Control of Secondary Containment Interlock Doors (4OA3.2)
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Closed

05000237/2015004-01 05000249/2015004-01	NCV	Failure to Maintain Design Control of Secondary Containment Interlock Doors (4OA3.2)
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05000249/2015-001-00	LER	Main Steam Line Flow Switches Found Outside Technical Specification Allowed Value
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05000237/2015-003-00 05000249/2015-003-00	LER	Unit 2 Turbine Building to Reactor Building Interlock Doors Open Simultaneously
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05000237/2015-004-00 05000249/2015-004-00	LER	Loss of Secondary Containment Vacuum Due to a Degraded Access Hatch
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05000237/2015-005-00	LER	Unit 2 HPCI Motor Gear Unit Would Not Return to Full Flow during Testing
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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)

- WO 01790583 (U2/3) and WO 01790585 (U1)
- WO 00508201, "U3 MCC 75-1 XFMR"
- IR 2595111, "2/3A Heating Boiler High Water Level Alarm Intermittent"
- IR 2592843, "Heating Boiler Computers Not Functioning"
- IR 2592078, "Heating Boilers Control Computers Are Overheating"
- IR 2591461, "Degraded Door Seal"
- IR 2591282, "Cold Weather Prep Issue for U3"
- IR 2591280, "Cold Weather Prep Issue for U3"
- IR 2590988, "2/3 B Boiler Tripped"
- IR 2590171, "Winter Snow Removal Concerns Cables, Hoses, Berms"
- IR 2588795, "Heating Boiler Steam tunnel Full of Water"
- IR 2578512, "Work Package Required to Replace 2/3B Boiler Vent Fan"
- IR 2578511, "Work package Required to Replace 2/3A Boiler Vent Fan"
- IR 2560831, "Transformer 75 Alarm Panel Found Malfunctioning"
- DFPS 4123-01, "Unit 1 Diesel Fire Pump Operability," Revision 50
- DOS 0010-19, "Preparation for Cold Weather Operations for Unit 1 & Out Buildings," Revision 40
- DOS 0010-22, "Preparation for Cold Weather operations for Unit 2," Revision 24
- DOS 0010-25, "Preparation for Cold Weather Operations for Unit 3," Revision 22
- DOS 0010-31, "Preparation for Cold Weather Operations at the Lift Station, Goose Lake Pump Station, Security Diesel Building, and Cooling Towers," Revision 19
- DOP 4400-07, "Circulating Water De-Icing Operation," Revision 15
- Engineering Change 391644, "Reactor and Diesel Building Flood Barriers," Revision 005
- Engineering Change 391644, "Reactor and Diesel Building Flood Barriers," Revision 003
- EC-Evaluation Number 393281, "Evaluation of Water Flow Paths Under Aquadam During PMF," Revision 00
- WO 1849387, "D2/3 Qtr PM Emergency Diesel Pump (Flood Pump) Operation"
- Engineering Technical Evaluation 393281, "Evaluation of Water Flow Paths Under Aquadam During PMF [probable maximum flood]," Revision 00
- IR 2543173, "EC 391644 Enhancements Suggested to Improve Flood Resp."
- IR 2543877, "Flooding Overall Strategy Revision"
- IR 2534947, "IEMA/NRC Questions – Floor Drains"
- AR 1271673-03, "CA to Plant Engineering (Schiavoni) to provide mark-ups of DOS 1300-04 to specify 6 year PM Acceptance criteria for FOR EMERG FLOOD PUMPS with a PCRA to the OPS Procedure Writers as required"
- DOA 0010-04, "Floods," Revision 44
- MA-DR-MM-6-00101, "Maintenance Activities for Site Flooding," Revision 02
- MRC Meeting Minutes, ICES 316695, "Failure to Recognize Vulnerabilities in Flood Strategies Due to Historical Minimum Compliance Culture Regarding Flooding Events," dated 08/11/15

- MRC Meeting Minutes for IR 1513452-20, "NRC: Preliminary White Finding – Flood Mitigation Procedure," dated 05/01/15

1R04 Equipment Alignment (71111.04)

- WO 1498536-02, "Support Cubicle Inspection at Bus 23 to Cubicle 03"
- DOP 6100-23, "Backfeeding of Transformer 2 and Transformer 21," Revision 18
- Protected Equipment List for Unit 2 TR 21 (Div I) Backfeed
- Protected Equipment List for Unit 2 345 KV BT 6-7
- Protected Equipment List for Unit 2 345 KV BT 1-2
- Protected Equipment List for Unit 2 345 KV BT 1-7
- Protected Equipment List for Unit 2 345 KV BT 5-6
- IR 2585597 NRC ID: DOP 6100-23 Graph Missing Legend
- DOS 1000-02, "Alternate Decay Heat Removal Using Shutdown Cooling and Fuel Pool Cooling," Revision 19
- DOP 1000-04, "Fuel Pool Cooling Mode of Operation of Shutdown Cooling System," Revision 36
- DOP 1900-01, "Fuel Pool Cooling and Cleanup System Startup," Revision 35
- DOP 0500-03, "Reactor Protection System Power Supply Operation," Revision 59
- DOA 0500-05, "Unit 2 RPS, Instrument and Essential Service System," Revision 24

1R05 Fire Protection (71111.05)

- Pre-Fire Plan for Fire Zone 8.2.5B, Revision 1
- DRES 97-105, "Fire Load Calculation Sheet," Amendment 18, Revision 09
- IR 2587039, "NRC ID: BOP Lights 223 and 224 Not Working"
- Pre-Fire Plan, Fire Zone 8.2.5A, Revision 1
- Pre-Fire Plan, Fire Zone 8.2.6B, Revision 1
- Pre-Fire Plan, Fire Zones 18.1.2, 18.2.2, 18.3.2, 18.1.1, 18.2.1, 18.3.1, Revision 1

1R06 Flooding (71111.06)

- WO 01610927, "D2 24M Tstr Cdsr Pit Hi/Hi Wtr Level 2A Circ Wtr PP Trip LSFT"
- WO 01506199, "D3 24M Tstr Cdsr Pit Hi/Hi Wtr Level 2A Circ Wtr PP Trip LSFT"
- Work Request No. 284, "Install a Pipe Through the Lower Corner of the Corner Room Doors to Aid in Torus Draining"
- IR 2586698, "RBFDS Check Valve Leaks by Back Grounded From IR 02586458"
- IR 2586458, "2B or 2D RBFDS Check Valve Leak-by"
- IR 2586496, "IEMA Question with TRM 3.5.A"
- IR 2586251, "2B/2D RBFDS Have Lost Power"
- DGP-04-01, "Mode 5 Operator Rounds," Revision 32 (TRM)
- DIS 4400-01, "Condenser Pit High and High-High Water Level Switch Functional Test," Revision 18
- DIS 4400-05, "Condenser Pit High-High Water Level 2(3)C," Revision 08
- DOA 0040-02, "Localized Flooding in Plant," Revision 26
- DOS 4400-02, "Condenser Pit High-High Water Level 2(3)A Circulating Water Pump Trip Logic System Functional Test," Revision 20
- DOS 4400-01, "Containment Cooling Service Water Vault Floor Drain," Revision 13
- DR PSA-012, "Dresden Internal Flood Evaluation Summary and Notebook," dated December 2013
- Structural Design Calculation 5058-00-EQ-WTD, "Dresden Units 2 & 3 Alterations to Reactor Bldg. Watertight Doors"

- Surveillance history for D3 24M TSTR CDSR PIT Hi/Hi WTR LVL 3A CIRC WTR PP TRIP LSFT from 05/24/1997 through 01/10/2014
- Surveillance history for D3 AN TS CDSR PIT Hi/Hi WTR LVL SWITCH FUNC CHECK from 12/07/1999 through 10/28/2014
- Surveillance history for D2 24M TSTR CDSR PIT Hi/Hi WTR LVL 2A CIRC WTR PP TRIP LSFT from 06/21/1995 through 02/05/2015
- Surveillance history for D2 AN S CDSR PIT Hi/Hi WTR LVL SWITCH FUNCTIONAL CHECK from 12/08/1999 through 02/06/2015
- Surveillance history for D3 8Y PM PERFORM CHECK VALVE INSPECTION 3-4999-75 from 06/01/2004 through 04/13/2013
- Surveillance history for D3 18M TSTR CCSW PMP VAULT DRAIN LINE CHK VLV LEAK TEST from 08/11/2004 through 04/05/2014
- Surveillance history for D2 18M TSTR CCSW PMP VAULT DRAIN LINE CHK VLV LEAK TEST from 08/10/2004 through 03/02/2014
- Surveillance history for D2 8Y PM PERFORM CHECK VALVE INSPECTION 2-4999-75 from 06/01/2004 through 06/25/2011
- Regulatory Guide 1.102, "Flood Protection for Nuclear Power Plants," Revision 1

Drawings:

- 12E-2844H, Wiring Diagram Miscellaneous Junction Boxes Solenoids and Switches PT.2
- B-441, Water Tight Door Unit 2 Reactor Building El. 476'6"
- B-443, Water Tight Door Reactor Building

1R07 Annual Heat Sink Performance (71111.07A)

- WO 01703022, "D2 2RFL Com Isolation Condenser Internal Grating/Support Steel Visual"
- DMP 1300-01, "Installation and Removal of Isolation Condenser Exhaust Vent Pipe Cover/Hatch," Revision 08
- WO 01078888, "D2 4RFL TSPR/IST Disassemble & Insp 2-1301-11 Per DTP 48"
- WO 00884517, "D2 5RFL Com Isolation Condenser Insp/Eddy Current East Tube Bundle"
- Eddy Current Examination Final Report, for Dresden Unit 2, D2R24, ISO Condenser, EPN:2-1302-East, November 2015
- Drawing: 66-2-5637 A1, Tube Bending Chart

1R08 Inservice Inspection (71111.08G)

- IR 01627236, "NDE Identifies Rejectable Indications on U2 LPCI HX Supports"
- IR 02426896, "Fukushima Flex Mod. Piping Weld Radiography Reject"
- IR 02581793, "NDE Indication Identified on HPCI Control Valve Seats"
- IR 01651282, "Piping Support"
- IR 02543861, "NOS IDs NSR Hardware Installed on SR Supports"
- IR 02516855, "Fukushima FLEX Mod Pre-Fab Radiography Reject"
- IR 01584430, "D2R23 2B LPCI Heat Exchanger Partition Plate Weld Crack"
- IR 02410391, "NDE Rejectable Indication on U2 LPCI Support (2-M1164D-580)"
- ER-AA-335-014-2008, "VT-1 Visual Examination In Accordance With ASME 2007 Edition, 2008 Addenda," Revision 0
- CC-AA-501-1008, "Welding General Requirements," Revision 8
- CC-AA-501-1003, "Visual Weld Acceptance Criteria," Revision 5
- D2R24-UT-002, "UT of PS2A-D3," November 5, 2015
- D2R24-UT-002, "UT of 202-4B/PS2A," November 5, 2015
- D2R24-MT-004, "MT of 2-1503B-N4-1B," November 11, 2015

- D2R24-MT-003, "MT of 2-1503B-N4-1A," November 11, 2015
- D2R24-01, "UT of 2/1/RPV Shell /N20A-1," November 10, 2015
- D2R24-02, "UT of 2/1/RPV Shell/N20A-2," November 10, 2015
- GEH-UT-311, "Procedure for Manual Ultrasonic Examination of Nozzle Inner Radius, Bore and Selected Nozzle to Vessel Regions," Revision 19
- GEH-UT-309, "Procedure for Manual Ultrasonic Examination of Flaw Sizing of Nozzle Inner Radius and Bore Regions," Revision 13
- GEH-PDI-UT-2, "PDI Generic Procedure for the Ultrasonic Inspection of Austenitic Piping Welds," Revision 8
- ER-AA-335-003, "Magnetic Particle (MT) Examination," Revision 7
- WO 01719103, "NDE Identifies Rejectable Indications on U2 LPCI HX Supports"
- WO 01738368, "Fukushima NRC Order EA-12-049: U2 Mechanical FLEX Mod"
- WO 01287892, "Eroded Area found on 2B LPCI HTX Lower Channel"
- WPS 1-8-GTSM-PWHT, "WPS for Manual GTAW/SMAW P1 to P8 Material," Revision 1
- PQR 1-53B; PQR for WPS 8-1-GTSM; January 29, 1986
- PQR 2-53A; PQR for WPS 8-1-GTSM; February 12, 1986
- PQR 002-41-055; PQR for WPS 8-1-GTSM; Revision 0
- WPS 1-1-GTSM WPS for Manual GTAW/SMAW P1 to P1 Material; Revision 0
- PQR TE1.1-6-6"; PQR for WPS 1-1-GTSM; Revision 0
- CC-AA-501-1011, "Preheat, Interpass Temperature and Post-Weld Heat Treatment of Welds," Revision 4
- Report Number 14-049; MT Exam Data Sheet of 2/2/HTEX 2A-1503/M-116D-580 West and East Supports; February 27, 2014

1R11 Licensed Operator Requalification Program (71111.11)

- DGP 02-01, Unit Shutdown, Revision 160
- DGP 03-04, Control Rod Movements, Revision 72
- IR 2593209, "3C Reactor Feed Pump Aux Oil Pump Trip"
- IR 2593304, "Unexpected Trend for 3B2 Feedwater Heater & Steam Jet Air Ejector Flow During D3M19 Shutdown"
- IR 2593307, "3C Condensate Booster Pump Breaker Stuck in Charged"
- IR 2593312, "Intermediate Range Monitor (IRM) 13 Recorder Select Switch Doesn't Select"
- IR 2593313, "IRM 17 Recorder Select Switch Doesn't Select"
- IR 2593314, "IRM 18 Recorder Select Switch Doesn't Select"
- IR 2593315, "Cannot Drive IRM 11 Into the Core"
- Reactor Operator logs on Mid-Shift 11/29 – 11/30/15
- Reactivity Maneuver, Dresden Unit 3 – Shutdown for D3M19

1R12 Maintenance Effectiveness (71111.12)

- WO 775377, "D2 8Y PM Insp, Clean, Cal FPC PP Suction Press SW"
- IR 2570576, "Pressure Gauge 2-1941-25A Not Indicating Correct Pressure"
- IR 2539684, "PS Fuel Pool Cooling PMP Suction Failed"
- IR 2518409, "Fuel Pool Cooling Pump Drawing Issues"
- IR 2509889, "2-1904-24 U2 FPF Outlet AOV Not Operating Properly"
- IR 2486155, "2015 Fuel Pool Clean Up Campaign RXS"
- IR 2473965, "60 DPM Leak on 2B Fuel Pool Cooling Pump Inboard Seal"
- IR 2459301, "FME: Potential FME Concerns"
- IR 2436231, "DOP 2000-19 Needs to be Revised"
- IR 2436221, "DOP 2000-20 Needs to be Revised"

- IR 2396586, "U2 FP Filtr/Demin Outlet AO 2-1904-5-11 Air Leak on Sov."
- IR 2389460, "Control Switch for U2 FP Filter Outlet Valve Free Spin"
- IR 1691176, "Suspected Leak-by on 2-1901-14 Valve"
- IR 1683900, "Trend IR – Unit 2 Fuel Pool Temperature Rising Trend"
- IR 1619878, "PMID 178747-01 Will Not Complete Before Its Late Date Due"
- IR 1608956, "U2 Fuel Pool Filter Flow Control Valve Not Controlling"
- IR 1591220, "U2 FP To Reactor Cavity Gate"
- IR 1586526, "Unidentified Leakage Into U2 RBEDT (2-2001-456)"
- IR 1584878, "SFP Valve 2-1916-503 Leaking at Packing"
- IR 1564062, "2A FPC Pump Trip During Pump Swap"
- IR 1554784, "2A FPC Pump Auto Trip"
- IR 1553933, "2B Fuel Pool Cooling Pump Will Not Stay Running"
- IR 1505781, "Found Pressure Switch 3-1901-108B Broken"
- Drawing: M-31, Diagram of Fuel Pool Cooling Piping
- Maintenance Rule Expert Panel Minutes, August 4, 2015
- Maintenance Rule Expert Panel Minutes, June 5, 2013
- Maintenance Rule Expert Panel Minutes, December 12, 2012
- Maintenance Rule Expert Panel Minutes, August 22, 2012
- Technical Assessment for 2B FPC
- 4th Quarter 2015 System Health Report for Unit 2 Fuel Pool Cooling
- EC 371581, "Install Temperature Elements on MS Safety Relief Valves for Enhanced Leakage Detection," Revisions 1, 2, and 3
- IR 2592960, "2D ERV Discharge Temperature Difference at Limit"
- IR 1138685, "Discrepancies Noted During 3D ERV Surveillance"
- IR 1138662, "Discrepancies Noted During 3C ERV Surveillance"
- IR 1138700, "Discrepancies Noted During 3E ERV Surveillance"
- IR 1138745, "Discrepancies Noted During 3B ERV Surveillance"
- IR 0992969, "3B ERV Tailpipe Temperature Above 216°F"
- OP-AA-108-111, "Adverse Condition Monitoring and Contingency Plan," Revision 9
- OP-AA-108-111, "Adverse Condition Monitoring and Contingency Plan," Revision 10
- DOA 0250-01, "Relief Valve Failure," Revision 31
- DOS 0250-06, "Acoustic Monitor/Temperature Detector Instrument (Channel) Check," Revision 16
- EN # 51458, "Part 21 Report – Electromatic Relief Valve Cutout Switch"
- Quad Cities Best Practices, ERV Leak Rate Estimation Table (6-1-2009)
- Drawing: M-12, Diagram of Main Steam Piping

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

- Protected Equipment List for U3 250 VDC Battery
- Protected Equipment List for Unit 2 Bus 28 and Bus 29 Cross Tied
- IR 2583416, "U2 EDG Inoperable Due to Low Temperature"
- IR 2583140, "PRV For 2/3 EDG Dampers Increased Leakage"

1R15 Operability Determinations and Functional Assessments (71111.15)

- IR 1538812, "RWCU and ILB HELB Calculations do not Support FWTR"
- IR 2566301, "Historical Operability Review of IR 2550903"
- IR 2566693, "Follow-up to IR 1538812 – ILB Dose Evaluation and FWTR"
- Unit 2/3 Standing Order for FWTR and HELB Analysis Rev.7, Log 13-05
- DRF 0000-0135-9756; "HELB Mass and Energy Release Evaluation; Revision 0

- Letter From J. Hosmer to U.S.NRC; Reactor Water Clean Up System, High Energy Line Break (HELB) Outside the Drywell; September 4, 1996
- Letter from J. Hosmer, Commonwealth Edison to NRC, RE: Dresden U2 and 3, Quad Cities U1 and 2, RWCU System, HELB Outside the Drywell
- IR 2582186, "SRI Concern Brought Up to Shift Manager"
- WO 1474617, "D2/3 4Y EQ SGBT B Exhaust Fan Mtr Surv"
- Apparent Cause Investigation Report for IR 2558395, dated 11/5/2015
- DES 7500-02, "SBGT Exhaust Fan Motor EQ Surveillance"
- IR 2501100, "DTP 09: Steam Leak on 2-1301-16 Manual Valve"
- IR 2577743, "As-Left RX Bldg Vent Stack Sping Flow High Out-of-Tolerance"
- IR 2604266, "HIST. Functionality Review of Target Rock (ATI 02587149-02)"
- IR 2587149, "NRC Resident Question on Target Rock Check VLV LLRT Failure"
- IR 2583601, "D2R24 – DW Pneu. To Target Rock Check Valve Failed LLRT"
- IR 2604266, "Hist. Functionality Review of Target Rock (ATI 02587149-02)"
- IR 00990348, "D2R21 Check Valve 2-4799-281A Failed IST Leakage Test"
- WO 01690811, "Perform Surveillance DOS 7100-02"
- WO 00512180, "U2 DW Pneu Supply Ck Vlv to AO 2-203-3A"
- DOS 7100-02, "Leakage Test of Target-Rock Pneumatic System," Revision 05
- Email from Jared A. Smith, Exelon Nuclear, to Brent Boston, NRC, dated November 18, 2015
Subject: Target Rock Accumulator Volumes
- NRC Bulletin 80-01: "Operability of Ads Valve Pneumatic Supply"

Drawings:

- M-30; Diagram of Reactor Water Clean-Up System (Unit 2); Sheet 1
- M-361; Diagram of Reactor Water Clean-Up System (Unit 3); Sheet 1
- P&ID M-30, DRES204LN001-001, RWCU System and Instrumentation, Revision 04
- M-28, Diagram of Isolation Condenser Piping

1R18 Plant Modifications (71111.18)

- DOP 0500-10, "Installation of Scram Bypass Jumpers," Revision 07
- IR 2566737, "NRC Identifies Incorrect Terminal in DOP 0500-10"
- 50.59 Review Sheet for DOP 0500-10, Revision 07
- EC 395380, "Replace MSIV Angled Discs with Machined Spherical Disc," Revision 000
- WO 01692901-02, "D2 RFL PM MSIV 2-0203-2B Check/Adjust Packing Torque"
- IR 2586507, "NRC Question with MSIV Spherical Plug Mod"
- MA-DR-MM-4-20015, "Spare MSIV Main Disc Refurbishment," Revision 02
- DOS 7000-02, "Local Leak Rate Testing of Main Steam Isolation Valves (Wet Test)," Revision 04

Drawings:

- DR-34289, 20 Inch Pattern Globe Valve Pilot Operated to Open Spring to Close First Generation Weldless Liner
- WO 01800535, "Open Phase Concurrent with LOCA Logic Changes Unit 2"
- IR 2583308, "OP-AA-109-101 Clarification Requested"
- EC 399218, "Unit 2 4kv Bus Transfer Logic Modification for an Open Phase Event Concurrent with a LOCA," Revision 00
- 50.59 Review for EC 399218/399219, Revision 000/000
- Design Consideration Summary for EC 399218
- Letter from A. Pietrangelo, Nuclear Energy Institute to M. Satorius, US NRC, RE: Industry Initiative on Open Phase Condition, Project Number 689, dated October 9, 2013

- 12E-6506V, Cable Tabulation Cables 69350 to 69399
- 12E-2653A, Wiring Diagram 4160V SWGR Bus 23 Cubicles 1, 2, 3, 4, 5 & 6
- 12E-2653B, Wiring Diagram 4160V SWGR Bus 23 Cubicles 7, 8, 9, 10, 11, 12 & 13
- 12E-2653C, Internal Schematic & Device Loc Diagram 4160V Switchgear Bus 23 Cubicle 1, 5, 6, 7, 8, 9, 10 & 11
- 12E-2653E, Internal Schematic & Device Loc Diagram 4160V Switchgear Bus 23 Cubicle 3
- 12E-2654A, Wiring Diagram 4160V SWGR Bus 24 Cub's 1, 2, 3, 4, 5, 6 & 7
- 12E-2654B, Wiring Diagram 4160V SWGR Bus 24 Cub's 8, 9, 10, 11, 12, 13, 14 & 15
- 12E-2654C, Internal Schematic & Device Location Diagram 4160V Switchgear Bus 24 Cub's 1, 2, 3, 4, 11, 13 & 15
- 12E-2654J, Internal Schematic & Device Location Diagram 4160V Switchgear Bus 24 Cubicle 14

1R19 Post-Maintenance Testing (71111.19)

- DOS 0250-01, "Main Steam Line High Flow Isolation Switch Channel Calibration and Channel Functional Test," Revision 35
- DOP 5750-E5, "Unit 2 Drywell Coolers," Revision 0
- WO 01709067, "Dresden 2 Refueling Technical Specification 1000 psi Reactor Vessel System Leakage Test/Hydro"
- WO 01874180, "U2 Increased DWEDS Leakage D2R24 Contingency WO"
- IR 2580544, "Leakage Past RX Vessel Bottom Head INBD DRN SV (2-0220-39)"
- IR 2580548, "Leakage Past RX Vessel Bottom Head OTBD DRN SV (2-0220-40)"
- DOS 2300-03, "High Pressure Coolant Injection System Operability and Quarterly IST Verification Test," Revision 108
- IR 2587842, "Missed QC Hold Point in U2 HPCI Control Valve Seat Seal Weld"
- WO 01692296, "D2 24M/RFL TS MSIV Closure Scram CKT Func Test Prior to S/U"
- WO 01730543, "D2 QTR/CSD TS (IST) Cold Shutdown Valve Testing Surveillance"
- WO 01730550, "D2 QTR/CSD PM Main Steam Isol Vlv Fail-Safe Test During CSD"
- WO 01789750, "D2R24 PMTS Required Prior to Entering Mode 2"
- WO 01807754, "D2 QTR/CSD TS Full Closure Timing/Exercise of MSIV's for IST"
- IR 2594957, "NRC Questions Changes to 'Cold S/D Timing' Procedure"
- DOS 0250-02, "Full Closure Timing and Exercising of Main Steam Isolation Valves," Revision 29
- DOS 0250-02, "Full Closure Timing and Exercising of Main Steam Isolation Valves," Revision 30
- DOS 0250-03, "Main Steam Isolation Valve Fail-Safe Closure Test," Revision 23
- DOS 0500-20, "MSIV Closure Scram Circuit Functional Test," Revision 17
- DOS 1600-18, "Cold Shutdown Valve Testing," Revision 43
- WO 01881135, "Can Not Drive IRM 11 Into the Core"
- IR 2593315, "Can Not Drive IRM 11 Into the Core"
- DIP 0700-24, "SRM/IRM Drive and Motor Module Refuel Maintenance and Testing," Revision 11
- DIS 0700-33, "SRM and IRM Drive Detector Not Full in Limit Switch Channel Calibration," Revision 07

Drawings:

- ISI-501, System Pressure Test Walkdown Isometric Drywell First Floor Elevation 515'-5 ¾
- 12E-3477, Schematic Diagram Neutron Monitoring System Source & Intern. Range Monitors Drive Control Part 1

1R20 Outage Activities (71111.20)

D2R24:

- DFP 0800-91, "New Fuel Receiving," Revision 02
- DFP 0800-92, "New Fuel Preparation and Storage," Revision 02
- DFP 0800-93, "Fuel Bundle/Assembly, Channel and Channel Fastener Inspection checklist," Revision 03
- DGP 01-01, "Unit Startup," Revision 187
- DGP 02-01, "Unit Shutdown," Revision 160
- DGP 03-01, "Power Changes," Revision 128
- DGP 03-04, "Control Rod Movements," Revision 72
- DOP 1000-03, "Shutdown Cooling Mode of Operation," Revision 79
- DOS 0250-07, "Electromatic Relief Valve Testing with the Reactor Depressurized," Revision 05
- OU-DR-104, "Shutdown Safety Management Program," Revision 20
- PORC 15-040 Chair Subcommittee Approval for DAP 07-44, "Control of Temporary Openings in Secondary Containment During Performance of Work Packages, Surveillance, or Other Procedures," Revision 15
- TRM [Technical Requirements Manual] Change Request for 15-007, "Surveillance Frequency Control Program"
- WO 99052231-12 "Support EMD with bump check of the 2A fuel pool cooling pump following temp power installation in support of WO 99053231-02"
- IR 2485819, "Door Latch Sticking When Handle Turned to the Right"
- IR 2535849, "Fire Door Not Latching Properly"
- IR 2546066, "Fire Door 38 Between U2 HPCI and U3 LPCI Inoperable"
- IR 2560047, "D2R24 Shutdown Safety Independent Review Results"
- IR 2563977, "ODM to Document D2C24 Coastdown FFWTR Decision"
- IR 2567039, "Non-Consequential Anomalous Condition Obser in Shuffleworks"
- IR 2567263, "Unit 2 IRM 13 Indicates Resistive Connection"
- IR 2574534, "NRC ID- The NRC Inspectors Noted the Following Issues"
- IR 2574758, "NRC ID- NRC Found Fire Door 2-4100-82 Unlatched"
- IR 2578253, "Fatigue Assessment"
- IR 2578259, "Fatigue Assessment"
- IR 2581499, "D2R24 NRC Identified Issues in the U2 Drywell"
- IR 2581664, "U2 Drywell Floor Drain Clean-Out Degraded"
- IR 2582186, "SRI Concern Brought Up to Shift Manager"
- IR 2582282, "NRC Identified Issue – Material Without Required Firebreak"
- IR 2582946, "NRC Resident Inspector Concerns"
- IR 2583176, "Historical FM in RPV Annulus by Jet Pump 5"
- IR 2583258, "D2R24 LLRT FW CK 220-58B Exceeded Admin Alarm Limit"
- IR 2583264, "D2R24 LLRT FW CK 220-58B Exceeded Admin Alarm Limit"
- IR 2583276, "D2R24 FW CK 0220-62B Exceeded Admin Alarm Limit"
- IR 2583453, "NOS ID: Potential Hot Work Issue"
- IR 2583457, "NOS ID: Material Straddling Contaminated Boundary"
- IR 2583549, "Abrasions on Non-SEG 4KV Bus"
- IR 2583636, "U2 Drywell Annulus Leakage Found"
- IR 2583670, "Incorrect AMP Fuse Installed in U2 DIV 2 ADS Logic"
- IR 2583924, "U2 SFP Inner Gate"
- IR 2583946, "Secondary Containment Valve Operating Slowly"
- IR 2583979, "D2R24 FME RX Core – JP-14"
- IR 2583985, "NOS ID: Expired Fall Protection Equipment"

- IR 2584021, "Emergent Scaffold Required"
- IR 2584095, "Excessive Leakage Through Relief Valve 2-8526 During LLRT"
- IR 2584132, "FME Discovered in HCU 22-07 During Initial Inspection"
- IR 2584140, "FME/Paint Chip Found During RX IVVI"
- IR 2584145, "Near Miss Occurred While Rebuilding the "C" Accumulator"
- IR 2584148, "GE Tech Level 2 PCE on D2 613' Repairing REM-Take 2 Tool"
- IR 2584152, "FME/Legacy Found During IVVI"
- IR 2584153, "CBI PR Level 2 PCE in D2 DW Bullpen Moving SRVS to D1 Hotsho"
- IR 2584163, "Valve Cannot Be Operated"
- IR 2584222, "Switch 2-5141-509 Found Out of Calibration"
- IR 2584240, "2-0301-13B Broken"
- IR 2584264, "FME D2R24 Debris Identified in Core by JP 14 Base"
- IR 2584265, "Instrument Air Leak on Supply Line to 2-2001-5"
- IR 2584270, "Discrepancy Identified in Sampling Results"
- IR 2584275, "2/3B ISO Make Up PP House Temp Indicator Reading Low"
- IR 2584297, "U3 EDG Requires MR (A)(1) Determination"
- IR 2584327, "Leak Between SO 2-3504-C and AOV 2-3504-C"
- IR 2584362, "D2R24 IVVI – Jet Pump 15/16 Riser Pipe Indication"
- IR 2584519, "FME: Ball Bearings in Jet Pump 18 AD2 Trough, Shroud Side"
- IR 2584571, "Fire Marshal Tour: Transient Combustible Material"
- IR 2584590, "Fire Marshal Tour – Transient Combustible Material"
- IR 2584624, "NOS ID: Rope Passes Through Fire Barrier"
- IR 2584653, "Fire Extinguisher Missing"
- IR 2584656, "IEMA Walkdown"
- IR 2584682, "CRD P-8 Overtravel in and Will Not Settle to 00"
- IR 2584715, "D2R24 FME – Brush Bristles Located in Core at JP-8 AD-2"
- IR 2584741, "D2R24- LLRT Results Above Warning Limit for 2-2499-3B"
- IR 2584784, "Removed Actuator Requires Rebuild Prior to Next Outage"
- IR 2584785, "Rebuild Removed Actuator Prior to Next Outage"
- IR 2584790, "Trend IR D2R24 FME Issues"
- IR 2584799, "PCE in 2/3 ALARA Decon Room"
- IR 2584809, "2-23999-661 Will Not Isolate"
- IR 2585371, "Potential Loose Core Plate Wedge"
- IR 2585604, "Fire Marshal Tour"
- IR 2585746, "Instrument Air Supply AOV Leaking"
- IR 2585804, "Bus 23-1 UV Reset Flag Lever Sticking (127-1-B23-11)"
- IR 2585808, "2A RFP Shaft Scoring at Inboard Bearing"
- IR 2585840, "FME Discovered in Reactor Vessel Annulus"
- IR 2585960, "Degraded Cable Found in PB at Valve 2-3103C"
- IR 2585973, "Corrosion Found on Support During ISI Inspection"
- IR 2586128, "NOS ID: MCC 28-2 Panel A3 Door Found Opened"
- IR 2586202, "D2R24 IVVI SRM/IRM Plunger Engagement"
- IR 2586318, "NOS ID: Combustibles Stored Under Stairs"
- IR 2586490, "U2 M-10 CRD Accumulator is Reading 0 PSIG"
- IR 2586493, "4KV Grounding Breaker Found Damaged"
- IR 2586496, "IEMA Question with TRM 3.5.A"
- IR 2586509, "Request SPC for U3 EDG Governor"
- IR 2586616, "Ventilation Damper Nitrogen Leak"
- IR 2586621, "Coating on Scorpion has Areas Missing"
- IR 2586627, "U2 Scram Outlet Valve Indicator Issue on P-8 (54-31)"
- IR 2587039, "NRC ID: BOP Lights 223 and 224 Not Working"

- IR 2587255, "D2R24 – 2A LPCI Heat Exchanger Inspection"
- IR 2587352, "Intentionally Abbreviated Maintenance 2-5600-SPUV"
- IR 2587395, "2A 100% Cond Prefilt Inlet"
- IR 2587432, "Trend IR for Legacy FME Found in RX Vessel During D2R24"
- IR 2587553, "IRM 15 Spiking"
- IR 2587615, "Ball Valve is Leaking Air"
- IR 2587617, "Ball Valve is Leaking"
- IR 2587650, "Valve Failed to Reposition"
- IR 2587663, "Water Started Issuing From 2-3103-B3 w/Welding in Progress"
- IR 2587677, "Small Air Leaks Found on 2-1601-20B"
- IR 2587682, "Small Air Leak on 2-1601-56"
- IR 2587688, "Fatigue Assessment and Work Hour Rule Violation"
- IR 2587702, "Nitrogen Leaking From Packing HCU M-10 46-39"
- IR 2587704, "Acceptance Criteria Not Met for 2-2301-7"
- IR 2587708, "2B RWCU Pump Cubicle Damaged"
- IR 2587717, "Nitrogen Leaking From Packing and Cap HCU N-7 50-27"
- IR 2587835, "Unexpected RPIS Indication During Undervessel Work"
- IR 2587838, "DOS 2300-04 Revision Required"
- IR 2587840, "U3RB/TB 517 Interlock Broken"
- IR 2587873, "2-1101-1 Closed Indication in Control Room Not Functioning"
- IR 2587882, "Unit 2, 250 Battery Post Specific Gravities to be Re-taken"
- Reg Guide 5.73, "Fatigue Management for Nuclear Power Plant Personnel," dated March 2009

D3M19:

- DGP 02-01, Unit Shutdown, Revision 160
- DGP 03-04, Control Rod Movements, Revision 72
- IR 2593209, "3C Reactor Feed Pump Aux Oil Pump Trip"
- IR 2593304, "Unexpected Trend for 3B2 Feedwater Heater & Steam Jet Air Ejector Flow During D3M19 Shutdown"
- IR 2593307, "3C Condensate Booster Pump Breaker Stuck in Charged"
- IR 2593312, "Intermediate Range Monitor (IRM) 13 Recorder Select Switch Doesn't Select"
- IR 2593313, "IRM 17 Recorder Select Switch Doesn't Select"
- IR 2593314, "IRM 18 Recorder Select Switch Doesn't Select"
- IR 2593315, "Cannot Drive IRM 11 Into the Core"
- IR 2593319, "Unexpected alarms and U3 RPS Channel "A" Half-Scram"
- IR 2593323, "Unexpected Increase in Indicated Off Gas Flow"
- IR 2593347, "Unexpected Alarms and U3 RPS Channel "A" Half-Scram"
- IR 2593388, "SRM 21 Won't Deselect"
- IR 2593446, "3-0203-1A Valve Has Fast "Light to Light" Closing Time"
- IR 2593450, "3-0203-1B Valve Shows Dual Indication"
- IR 2593452, "3-0203-2B Valve Shows Dual Indication"
- IR 2593459, "Valve Has Fast Closing Time"
- IR 2593649, "Reactor Vessel Flange Temperature"
- IR 2594278, "Level 1 PCE"
- IR 2594569, "Security – Gate 20 Opening Intermittently"
- IR 2594576, "Reactor Vessel Shell Flange O-Ring Surface Inspection"
- IR 2594826, "RX Head Flange Outer O-Ring Seating Surface Inspection"
- Reactor Operator Logs on Mid-Shift 11/29 – 11/30/15
- Reactivity Maneuver, Dresden Unit 3 – Shutdown for D3M19
- D3M19, Start-Up PORC Package

- 50.9 Review, "Dresden Unit 3 Cycle 24A Leaker Replacement Core"

1R22 Surveillance Testing (71111.22)

- WO 1710139, "Operations Refuel TS Bus 23-1 UV and ECCS Integrated Functional Test"
- WO 1859850, "D21M TS LPCI Discharge Piping Water Solid Verification"
- WO 1859851, "D2 3M TS CS Discharge Piping Water Solid Verification"
- WO 1859852, "D3 3M TS CS Discharge Piping Water Solid Verification"
- WO 1859853, "D3 3M TS LPCI Discharge Piping Water Solid Verification"
- DOS 0250-07, "Electromatic Relief Valve Testing With the Reactor Depressurized,"
Revision 05
- DOS 0250-08, "Target Rock Safety Relief Valve Testing with the Reactor Depressurized,"
Revision 4
- DOS 6600-06, "Bus Voltage and ECCS Integrated Functional Test for Unit 2/3 Diesel
Generator to Unit 2," Revision 55
- DOS 7000-26, "Local Leak Rate Testing of Unit 2(3) Feedwater System Valves
2(3)-220-58A(B), 2(3)-220-62A(B)," Revision 7
- DOS 7000-18, "Local Leak Rate Testing of Unit 2(3) Reactor Water Cleanup System Valves,"
Revision 6
- DOS 7000-08, "Local Leak Rate Testing of Primary Containment Isolation Valves,"
Revision 10
- ER-DR-200-101, "Periodic Monitoring for Gas Accumulation in ECCS Systems"
- IR 2583986, "Service Request Not Processed in a Timely Manner"
- IR 2582345, "D2R24 U2 RWCUI Inlet Volume LLRT Results Above Warning Limit"
- IR 2582857, "2-0203-3C (S45) ERV Actuator Plunger Movement During Surveil"
- IR 2583578, "D2R24 LLRT FW CV 220-58A"
- IR 2585389, "2A Core Spray Pump Runtime on Minimum Flow"
- IR 2585804, "Bus 23-1 UV Reset Flag Lever Sticking (127-1-B23-1)"
- IR 2585807, "Bus 23-1 UV Relay Target Will Not Reset (127-2-B23-1)"
- IR 2573986, "ECCS Ultrasonic Tests Not Within Surveillance Requirement Frequency"

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

- EP-AA-1000, "Standardized Radiological Emergency Plan," Revisions 24 and 25
- EP-AA-1004, "Addendum 3, Emergency Action Levels for Dresden Station," Revision 0
- EP-AA-1004, "Radiological Emergency Plan Annex for Dresden Station," Revisions 34 and 35
- EP-AA-120-1001, "10CFR 50.54(q) Change Evaluation," Revision 7
- EP-AA-120-F-01, "EP Document Approval Form," Revision J

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

- RWP 10017125, "Dresden Unit-2 Refueling Outage Number 24 (D2R24), Torus Dive ALARA
and Planning
- RWP 10017113, "D2R24, Drywell Nuclear Instrumentation System
- RWP 10017116, "D2R24; Drywell Control Rod Activities"
- RWP 10017130, "D2R24, Reactor Disassembly/Reassembly Activities"
- RWP 10017134, "D2R24, Reactor Cavity Work Platform Activities"
- RWP 10017148, "D2R24, Drywell Valve Maintenance and Support Activities"
- RWP 10017150, "D2R24, Drywell In-service Inspection Activities"
- RP-AA-461, Attachment 3, "Pre-Dive Checklist and Crew's Initial Brief dated 11/12/15,"
Revision 6
- RP-AA-461, Attachment 6, "Diver- Performed Survey Verifications, dated 11/12/15"

- PI-AA-126-1001-F-01, "Focused Area Self-Assessment," Rev. 0, AR-2409751; dated 08/05/15
- RP-AA-100, "Conduct of Radiation Protection Operations," Rev. 1
- RP-AA-400-1003, "Work Group Radiological Excellence Plans," Rev. 2
- RP-AA-400-1006, "Outage Exposure Estimating and Tracking," Rev. 4
- RP-AA-441, "Evaluation and Selection Process for Radiological Respirator Use," Rev. 5
- RP-AA-460, "Controls for High and Locked High Radiation Areas," Rev. 26
- RP-AA-460-1006, "Controls for the Repair or Replacement of In-Core Detectors and Associated Components," Rev. 2
- RP-AA-461, "Radiological Controls for Contaminated Water Diving Operations," Rev. 6
- Semi-Annual Inventory and Leak Test Checklist, dated 08/05/15
- Source Inventory Checklist, dated 08/05/15
- Sample Report Batch 24195 of Alpha and Beta Smears, dated 08/06/15
- RP-AA-800, "Control, Inventory, and Leak Testing of Radioactive Sources," Rev. 7
- Survey Map of Unit-2 Reactor Building Reactor Cavity, RSR#135846, RWP 10014941
- Survey Map of Unit-2 Torus Internals Catwalk, RSR#155527, dated 11/13/15
- Sample of Personnel Exposure Investigation, Munse 7187, dated 11/07/15
- IR 02541942, "Electronic Dosimeter Rate Alarm," dated 07/26/15
- IR 02579568, "Mechanical Maintenance Department (MMD) Level-1 Personnel Contamination Event (PCE)," dated 10/30/15
- IR 02580106, "Two MMD Technicians Received Level 1 PCE during Unit-2 Reactor Building 613' Refuel Floor," dated 10/29/15
- IR 02583564, "Level 1 PCE While Removing Stem from Stop Valve," dated 11/06/15
- IR 02583592, "Level 1 PCE While Rigging Stem from Stop Valve at Dresden Unit-2 during the Outage," dated 11/06/15
- IR 02577801, "Level I PCE at 613' Elevation Reactor Building Refuel floor," dated 10/28/15
- IR 02577354, "Electronic Dosimeter Dose Rate Alarm Contacts with Drain," dated 10/27/15

2RS2 Occupational ALARA Planning and Controls (71124.02)

- RP-AA-400-1004, "Emergent Dose Control and Authorization," Rev. 7
- RP-AA-400-1007, "Elevated Dose Response Planning," Rev. 2
- RP-AA-401, "Operational ALARA Planning and Control," Rev. 19
- IR 02581507, "Estimate Exceeded for RWP 10017169 D2R24 BOP Temporary Shielding Work," dated 11/03/15
- IR 02580781, "Dose Variance for the Week of October 26, 2015," dated 11/02/15

2RS7 Radiological Environmental Monitoring Program (71124.07)

- IR 02574338, "IR Initiated for REMP Sampling Issues," dated 10/21/15
- IR 02547993, "NRC 2Q2015 Report Identified Green NCV for REMP," dated 08/28/15
- IR-02469852, "IR was Initiated for REMP Milk Sampling Anomaly," dated 03/17/15
- IR-02469852, "IR Initiated Because Teledyne Brown Engineering did not Analyzed the Sample when the Sample was Received," dated 05/01/15
- IR-01683942, "IR Initiated for REMP Sampling Issues in 2014," dated 07/21/14
- IR-02411283, "REMP Sampling Issues," dated 11/13/14

4OA1 Performance Indicator Verification (71151)

- LER 05000237;05000249/2013-004-00, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"

- LER 05000237/2013-005-00, "Primary Containment Inboard and Outboard Feed Water Isolation Valves Exceed Leakage Limits"
- LER 05000237/2013-006-00, "LPCI Swing Bus Auto Transfer Did Not Transfer as Expected"
- LER 05000237; 05000249/2013-007-00, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"
- LER 05000237/2013-008-00, "Leak Identified on a Relief Valve During Pressure Test Resulting in a Degraded Principal Safety Barrier"
- LER 05000249/2013-001-00, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open"
- LER 05000237/2013-009-00, "HPCI Failed to Achieve Rated Flow Due to Failure of Stop Valve to Open"
- LER 05000237; 05000249/2013-001-02, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"
- LER 05000237; 05000249/2013-003-01, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"
- LER 05000237; 05000249/2013-004-01, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"
- LER 05000237; 05000249/2013-007-01, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"
- LER 05000237; 05000249/2014-001-00, "Secondary Containment Inoperable Due to Two Interlock Doors Being Open Simultaneously"
- LER 05000237/2013-008-01, "Leak Identified on a Relief Valve During Pressure Test Resulting in a Degraded Principal Safety Barrier"
- LER 05000237/2014-002-00, "Unit 2 Reactor Scram Due to Main Power Transformer Failure"
- LER 05000237/2014-003-00, "Unit 2 Reactor Scram During Automatic Voltage Regulator Channel Transfer"
- LER 05000237/2014-002-01, "Unit 2 Reactor Scram Due to Main Power Transformer Failure"
- LER 05000237/2014-003-01, "Unit 2 Reactor Scram During Automatic Voltage Regulator Channel Transfer"
- LER 05000237/2014-003-02, "Unit 2 Reactor Scram During Automatic Voltage Regulator Channel Transfer"
- LER 05000249/2014-001-00, "Electromatic Relief Valve Failed to Actuate During Surveillance Testing"
- LER 05000237/2014-002-02, "Unit 2 Reactor Scram Due to Main Power Transformer Failure"
- LER 05000249/2014-001-01, "Electromatic Relief Valve Failed to Actuate During Surveillance Testing"
- LER 05000237/2015-001-00, "Unit 2 Scram Due to Feedwater Level Control Issues"
- LER 05000237/2015-002-00, "2C ERV Failed to Actuate During Extent of Condition Testing"
- LER 05000237/2015-001-01, "Unit 2 Scram Due to Feedwater Level Control Issues"
- LER 05000237/2015-002-01, "2C ERV Failed to Actuate During Extent of Condition Testing"
- LER 05000249/2014-001-02, "Electromatic Relief Valve Failed to Actuate During Surveillance Testing"
- LER 05000237/2015-002-02, "2C ERV Failed to Actuate During Extent of Condition Testing"
- LER 05000249/2015-001-00, "Main Steam Line Flow Switches Found Outside Tech Spec Allowed Value"

4OA2 Identification and Resolution of Problems (71152)

- SY-AA-101-112, "Exelon Security Search Processes," Revision 32
- SY-AA-101-112-F-05, "Alarm Resolution/Risk Assessment Checklist," Revision 1
- SY-AA-101-145, "Security Standards of Conduct," Revision 5

- SY-DR-101-119, "Control of Receiving Warehouses," Revision 2
- SY-DR-101-115, "Dresden Operation of Active Vehicle Barriers," Revision 06
- IR 2567703, "Unit 2 IRM 14 Did Not Drive During Procedure"
- IR 2600093, "Trend IR: NI System (IRM & SRM) Reliability"
- IR 2594939, "Trend IR: Inconsistencies with Plant Barrier Impairments"
- IR 2586496, "IEMA Question with TRM 3.5.A"
- IR 2541257, "SPC- U3 EDG Start Failure"
- IR 2573588, "U2 EDG Fuel Leak During Monthly Run"
- IR 2598796, "SPC Closure for U2 EDG Inoperable Due to Low Temperature"
- IR 2488474, "U2 EDG Fail to Start"
- IR 2600125, "NOS ID: Predefines in Suspend Status"
- ACE 2564366, "Critical Component Failure LOW ACE 2015"
- IR 2600075, "Trend IR: Rod Worth Minimizer Performance"
- IR 2573666, "Rod Worth Minimizer Issue During Fuel Channel Distortion Testing"
- IR 2589942, "Unit 2 Control Rod Drive K-15 Loss of Rod Position Indication System at 08"
- IR 2593465, "NOS ID: Protected Pathway Action from IR 2406166 Ineffective"
- IR 2593518, "NOS ID: Review of Protected Equipment Program Implementation"

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

- IR 2559585, "U2 HPCI MGU Possible Failure"
- IR 2551890, "3A MSL Hi Flow Switch Failed Channel Check"
- IR 2552152, "Technical Specification 3.3.6.1 Entry Due to Main Steam Line Flow Switch"
- ACE 02552152-03, "Technical Specification 3.3.6.1 Entry Due to Main Steam Line Flow Switch"
- IR 2560317, "U2 HPCI Troubleshooting – WO 1863600-05 Discrepancy"
- DOP 0010-10, "Unit 2-3 Technical Specification Instrumentation Operability Manual," Revision 64
- Technical Specification 3.3.6.1, Primary Containment Isolation Instrumentation
- NRC Inspection Report 005000237/2015003; 05000249/2015003, Section 4OA7 (ML 15295A194)
- LER 05000237; 05000249/2015-004-00, "Loss of Secondary Containment Vacuum Due to a Degraded Access Hatch"
- LER 05000237; 05000249/2015-003-00, "Unit 2 Turbine Building to Reactor Building Interlock Doors Open Simultaneously"
- LER 05000237/2015-005-00, "Unit 2 HPCI Motor Gear Unit Would Not Return to Full Flow During Testing"
- IR 1633610, "Report Secondary Containment SSFF Determination Result"
- IR 2517964, "SSFF Reporting Needs to be Consistent with LERs"
- IR 2551306, "RX Bldg/Turb Bldg 569' Elev Interlock Door Bypassed"
- IR 2551721, "Unexpected Alarm 923-5 C-1, RX Bldg DP Lo"
- IR 2552152, "Tech Spec 3.3.6.1 Entry Due to MSL Flow Switch"
- IR 2559585, "U2 HPCI MGU Possible Failure"
- NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 7
- Unit 2(3) Daily Surveillance Log, Appendix A, Revision 132
- Monthly Unit 2 and Unit 3 Total Drywell Leakage Data, October 2014 through September 2015
- IR 2412905, "3B DWEDS PP Did Not Start as Expected"
- IR 2495028, "U2 Drywell Equip Sump LVL Hi-Hi Alarm Rec'd"
- IR 2505583, "NRC Resident Inspector Questions on U2 DW Leakage"
- IR 2539936, "2-2001-5 Air Leak at Diaphragm Found"

- OP-AA-108-111, "Adverse Condition Monitoring and Contingency Plan – Unit 2 Drywell Identified Leakage – Revision 00," Revision 10
- IR 2551721, "Unexpected Alarm 923-5 C-1, RX Bldg DP Lo"
- ACE for IR 2551721, "Loss of Secondary Containment Vacuum Due to A Degraded Access Hatch"
- DMS 5700-01, "Ventilating System Fan Damper Surveillance," Revision 16
- DOP 5750-02, "Reactor Building Ventilation," Revision 45
- Surveillance history for D2 18M Com Insp/Lub RX Bldg Supply/Exh Vent Damper from 05/14/1995 through 10/16/2015.
- Drawing: M-269, Diagram of Reactor Building Ventilation
- WO 1868032-01, "Interlock Door Logic Circuit Change Re-configuration"
- IR 2551306, "RX Bldg/Turb Bldg 569' Elev Interlock Door Bypassed"
- IR 0813265, "570 Elevation Interlock Door Alarm 902-4 E-20"
- ACE for IR 2551306, "Unit 2 570' Elevation Interlock Doors Opened Simultaneously"
- EC 403455-000, "570 TB to RXB Interlock Door Circuit Logic Reconfiguration
- 50.59 Review for EC 403455, Revision 000"
- Design Attribute Review (DAR) for EC 403455, "570 TB to RXB Interlock Door Circuit Logic Reconfiguration," Revision 000
- PI-AA-120, "Issue Identification and Screening Process," Revision 3
- IR 2498875, "Unit 3 HPCI Auxiliary Oil Pump Motor Failure Mechanism"
- Control room logs from 03/25/15

LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CCSW	Containment Cooling Service Water
CFR	<i>Code of Federal Regulations</i>
D2R24	Dresden, Unit 2, Refueling Outage Number 24
D3M19	Dresden, Unit 3, Maintenance Outage Number 19
DRP	Division of Reactor Projects
EAL	Emergency Action Levels
EC	Engineering Change
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
ERV	Electromatic Relief Valve
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
IR	Issue Report
IRM	Intermediate Range Monitor
ISI	Inservice Inspection
LER	Licensee Event Report
LLC	Limited Liability Corporation
LLRT	Local Leak Rate Test
LOCA	Loss of Coolant Accident
LPCI	Low Pressure Coolant Injection
LSFT	Logic System Functional Testing
MCR	Main Control Room
MGU	Motor Gear Unit
MSIV	Main Steam Isolation Valve
MT	Magnetic Particle Examination
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OSP	Outage Safety Plan
PARS	Publicly Available Records System
PHC	Plant Health Committee
PI	Performance Indicator
PM	Planned or Preventative Maintenance
RFO	Refuel Outage
RR	Residual Heat Treat
RWCU	Reactor Water Cleanup
RWP	Radiation Work Permit
SDP	Significance Determination Process

TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
UT	Ultrasonic Examination
VAC	Volts Alternating Current
VDC	Volts Direct Current
WO	Work Order

B. Hanson

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Sincerely,

/RA/

Jamnes Cameron, Chief
Branch 4
Division of Reactor Projects

Docket Nos. 50-237; 50-249
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IR 05000237/2015004; 05000249/2015004

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Letter to D. Hanson from J. Cameron January 19, 2016

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
INTEGRATED INSPECTION REPORT 05000237/2015-004;
05000249/2015-004

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