



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

August 6, 2024

David Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer (CNO)
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: REISSUE - DRESDEN NUCLEAR POWER STATION,
UNITS 2 AND 3 – INTEGRATED INSPECTION REPORT
05000237/2020001 AND 05000249/2020001

Dear David Rhoades:

The U.S. Nuclear Regulatory Commission (NRC) has revised a violation initially issued on May 11, 2020 (ML20133J811). This revision is a result of the NRC's review of a letter from Patrick Boyle, Site Vice President, dated October 6, 2023 (ML23279A071), contesting Non-Cited Violation (NCV) 05000237, 05000249/2020001-02. This NCV was associated with the failure to account for instrument uncertainties during High Pressure Coolant Injection (HPCI) flow surveillances. The details of the review were provided to you in an NRC letter dated July 24, 2024 ([ML24180A058](#)).

On March 31, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Dresden Nuclear Power Station, Units 2 and 3. On April 8, 2020, the NRC inspectors discussed the results of this inspection with Mr. P. Karaba, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

Four findings of very low safety significance (Green) are documented in this report. Four of these findings involved violations of NRC requirements. One Severity Level IV violation without an associated finding is documented in this report. We are treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or the significance or severity of the violations documented in this inspection report, 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 copies to the Regional Administrator, Region III; the Director, Office of Enforcement; and the NRC Resident Inspector at Dresden Nuclear Power Station, Units 2 and 3.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,



Signed by Ruiz, Robert
on 08/06/24

Rob Ruiz, Chief
Reactor Projects Branch 1
Division of Operating Reactor Safety

Docket Nos. 05000237 and 05000249
License Nos. DPR-19 and DPR-25

Enclosure:
As stated

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Letter to David Rhoades from Rob Ruiz dated August 6, 2024.

SUBJECT: REISSUE - DRESDEN NUCLEAR POWER STATION,
UNITS 2 AND 3 – INTEGRATED INSPECTION REPORT
05000237/2020001 AND 05000249/2020001

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Numbers: 05000237 and 05000249

License Numbers: DPR-19 and DPR-25

Report Numbers: 05000237/2020001 and 05000249/2020001

Enterprise Identifier: I-2020-001-0045

Licensee: Exelon Generation Company, LLC

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL

Inspection Dates: January 01, 2020 to March 31, 2020

Inspectors: J. Corujo-Sandin, Senior Resident Inspector
G. Edwards, Health Physicist
R. Elliott, Resident Inspector
M. Garza, Emergency Preparedness Inspector
T. Go, Health Physicist
J. Park, Reactor Inspector
C. Phillips, Project Engineer
L. Rodriguez, Reactor Inspector
C. St. Peters, Reactor Engineer

Approved By: Rob Ruiz, Chief
Reactor Projects Branch 1
Division of Operating Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at Dresden Nuclear Power Station, Units 2 and 3, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

Unit 2B Low Pressure Coolant Injection Valve Damaged Due To Inadequate Inspection			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237/2020001-01 Open/Closed	None (NPP)	71111.22
A self-revealed Green finding and associated Non-cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion V, was identified on October 23, 2019. During a performance of a surveillance test on October 23, 2019, the 2B low pressure coolant injection (LPCI) pump suction valve 2-1501-5B failed to reopen following closure resulting in the 2B LPCI pump being declared inoperable. The licensee’s evaluation of this failure identified that an inspection was performed in 2015 with inadequate inspection guidance that should have identified corrosion of the valve motor limit switch that lead to the failure of the valve.			
Failure to Account Instrument Uncertainties for Ultimate Heat Sink Maximum Temperature			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237,05000249/2020001-02 Open/Closed	None (NPP)	71111.22
The inspectors identified a Green finding and associated Non-cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion XI, “Test Control,” when the licensee failed to account for instrument uncertainty in surveillance procedures’ acceptance criteria for Ultimate Heat Sink maximum temperature.			
Failure to Verify Design Assumption Supporting HPCI Test Acceptance Criteria			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237,05000249/2020001-03 Open/Closed	None (NPP)	71111.22
A finding of very low safety significance (Green) and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for the licensee’s failure to verify their design assumption that HPCI SR instrument uncertainty was implicitly incorporated in design margins, even after implementing facility changes and modifications like extended power uprates that reduced this margin.			

Differential Pressure Indicating Switch Failure in Low Pressure Core Injection Loop Select Logic			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000249/2020001-04 Open/Closed	Not Applicable	71153
A self-revealed Severity Level (SL) IV NCV of Technical Specifications (TS) 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation," was identified when the licensee determined during routine surveillance testing that one of four (4) channels of the recirculation pump high differential pressure function was inoperable for longer than the 24 hour allowed outage time.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000249/2019-001-00	LER 2019-001-00 for Dresden, Unit 3, Degraded Differential Pressure Indicating Switch in the LPCI Loop Select Logic Caused by Water Damage Results in a Condition Prohibited by Technical Specifications	71153	Closed

PLANT STATUS

Unit 2 began the inspection period in a forced outage (D2F59) due to an unexplained increase in unidentified leakage. The unit was returned to full power on January 6, 2020. On January 7, 2020, Unit 2 was down powered to 80 percent for control rod adjustment and was returned to full power on the same day, then remained there for the rest of the inspection period.

Unit 3 began the inspection period at full power and maintained full power throughout the first quarter.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed activities described in IMC 2515, Appendix D, "Plant Status," observed risk-significant activities, and completed on-site portions of IPs. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time the resident inspectors performed periodic site visits each week and during that time conducted plant status activities as described in IMC 2515, Appendix D; and observed risk significant activities when warranted. In addition, resident and regional baseline inspections were evaluated to determine if all or portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In the cases where it was determined the objectives and requirements could not be performed remotely, management elected to postpone and reschedule the inspection to a later date.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Impending Severe Weather Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the adequacy of the overall preparations to protect risk-significant systems from expected snowfall and wind gusts on February 12 and 13, 2020.

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 2 High Pressure Coolant Injection (HPCI) Post Maintenance on March 5, 2020
- (2) 2/3 Emergency Diesel Generator (EDG) with 2/3 EDG maintenance window on March 24, 2020
- (3) Unit 3 Standby Liquid Control (SBLC) on March 28, 2020

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations during a complete walkdown of the Unit 3 Isolation Condenser with Unit 3 HPIC maintenance window system on February 25, 2020.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Fire Zone (FZ) 9.0.A, Unit 2 diesel-generator elevation 517' on January 10, 2020
- (2) FZ 7.0.A.1-3 and FZ 8.2.7, Unit 2 battery room elevation 549' on January 22, 2010
- (3) FZ 8.2.8.A, Unit 3 main turbine floor elevation 561' on January 27, 2020
- (4) FZ 11.1.1, Unit 3 southwest corner room elevation 476' on January 27, 2020

Fire Brigade Drill Performance Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the onsite fire brigade training and performance during an announced fire drill on February 13, 2020.

71111.07T - Heat Exchanger/Sink Performance

Triennial Review (IP Section 03.02) (2 Samples 1 Partial)

The inspectors evaluated heat exchanger/sink performance on the following:

- (1) Unit 3 Diesel-Generator Cooling Water Coolers (3-6669-A/B), cooled by the service water system, Section 02.02.b
- (2) Unit 3 HPCI Room Cooler (3-5747), cooled by the service water system, Section 02.02.b
- (3) (Partial)
Ultimate Heat Sink, Sections 02.02.d.2 and 02.02.d.6

71111.11Q - Licensed Operator Regualification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01)
(1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the Unit 2 Control Room during forced outage D2F59 restart on January 3, 2020.

Licensed Operator Regualification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated 2020-OBE [out-of-the box evaluation] 03B on January 28, 2020.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Rod block monitor (A2 at risk) on February 26, 2020

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Unit 2 station blackout diesel maintenance window on January 27, 2020
- (2) Unit 3 4 KV Technical Specification Undervoltage and Degraded Voltage Relay Replacement (normally done off-line) on February 11, 2020
- (3) Unit 2 Rod Position Indication System (RPIS) Power Supply Replacement (on-line) on February 24, 2020
- (4) Unit 3 work week risk on February 26, 2020
- (5) Unit 2 work week risk on February 26, 2020

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (5 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) Functionality of station black out diesel-generator batteries
- (2) Emergency Diesel Generator Unit 2 and Unit 3 Surveillance Requirement 3.3.8.1.4 possibly missed
- (3) Standby Gas Treatment due to use of chemicals in the turbine building
- (4) Unit 3 HPCI – operability of room cooling system with seam leaks in the room

- (5) Unit 2/3 EDG Operability with elevated Ultimate Heat Sink (UHS) Temperature

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Engineering Change 622852, Revision 2, Containment Cooling Service Water 16" Pipe Replacement - DIV I Line 2-1510-16"-D Pipe Penetration on 517" Elevation of the Turbine Building

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Unit 2 Station blackout diesel-generator surveillance run after scheduled maintenance window on January 30, 2020
- (2) Unit 3 HPCI on February 27, 2020
- (3) Containment vent and purge isolation valve on February 28, 2020
- (4) Unit 2 RPIS power supply replacement on February 25, 2019
- (5) Unit 2 EDG on March 11, 2020

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated D2F59 forced outage due to generator hydrogen leak, which began in December 2019 and ended on January 3, 2020.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (6 Samples)

- (1) Unit 2/3 EDG Monthly Surveillance on January 6, 2020
- (2) Unit 3 HPCI Fast Start Surveillance under Work Order (WO) 04733340-01
- (3) Unit 2/3 B Isolation Condenser Makeup Pump Quarterly Operability under WO 04982736-01
- (4) Recirculation pump DP indication and setpoint calibration on March 20, 2020
- (5) Electromatic relief valve and Target Rock valve calibration and functional test on March 31, 2020
- (6) Unit 2 HPCI, Core Spray and LPCI Verification systems discharge piping are full of water, WO 05003761-01, WO 0500370-01, and 05003762-01 on February 19, 2020

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) 3A Core Spray In-service Test on February 3, 2020

71114.02 - Alert and Notification System Testing

Inspection Review (IP Section 02.01-02.04) (1 Sample)

- (1) The inspectors evaluated the following maintenance and testing of the alert and notification system:
 - 2018 Annual Preventive Maintenance
 - 2019 Annual Preventive Maintenance

71114.03 - Emergency Response Organization Staffing and Augmentation System

Inspection Review (IP Section 02.01-02.02) (1 Sample)

- (1) The inspectors evaluated the readiness of the Emergency Preparedness Organization.

71114.05 - Maintenance of Emergency Preparedness

Inspection Review (IP Section 02.01 - 02.11) (1 Sample)

- (1) The inspectors evaluated the maintenance of the emergency preparedness program.

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

- (1) 2020-Out-of-Box Evolution-03B on January 28, 2020

RADIATION SAFETY

71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

Permanent Ventilation Systems (IP Section 03.01) (1 Sample)

The inspectors evaluated the configuration of the following permanently installed ventilation systems:

- (1) Unit-2/3 Standby Gas Treatment System and Control Room Emergency Ventilation System (CREVS) Diagram M-49.

Temporary Ventilation Systems (IP Section 03.02) (1 Sample)

The inspectors evaluated the configuration of the following temporary ventilation systems:

- (1) Temporary portable high-efficiency particulate air (HEPA) ventilation unit located in the Unit 3 reactor building 545' shutdown cooling heat exchanger room

Use of Respiratory Protection Devices (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated the licensee's use of respiratory protection devices.

Self-Contained Breathing Apparatus for Emergency Use (IP Section 03.04) (1 Sample)

- (1) The inspectors evaluated the licensee's use and maintenance of self-contained breathing apparatuses.

71124.04 - Occupational Dose Assessment

Source Term Characterization (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated licensee performance as it pertains to radioactive source term characterization.

External Dosimetry (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated licensee performance as it pertains to external dosimetry that is used to assign occupational dose.

Internal Dosimetry (IP Section 03.03) (1 Sample)

The inspectors evaluated the following internal dose assessments for actual internal exposures:

- (1) Dose assessment of individuals potentially exposed to airborne radioactivity during the clean up and inspection of Unit 2 steam jet ejector 2-300B valve on November 11, 2019, Doc: DR-02-19-00808

Special Dosimetric Situations (IP Section 03.04) (1 Sample)

The inspectors evaluated the following special dosimetric situations:

- (1) Dose assessment for two declared pregnant workers

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

EP01: Drill/Exercise Performance (IP Section 02.12) (1 Sample)

- (1) 3rd quarter 2019 through 4th quarter 2019

IE01: Unplanned Scrams per 7000 Critical Hours Sample (IP Section 02.01) (2 Samples)

- (1) Unit 2 1st quarter through 4th quarter 2019
- (2) Unit 3 1st quarter through 4th quarter 2019

EP02: ERO Drill Participation (IP Section 02.13) (1 Sample)

- (1) 3rd quarter 2019 through 4th quarter 2019

IE03: Unplanned Power Changes per 7000 Critical Hours Sample (IP Section 02.02) (2 Samples)

- (1) Unit 2 1st quarter through 4th quarter 2019
- (2) Unit 3 1st quarter through 4th quarter 2019

EP03: Alert & Notification System Reliability (IP Section 02.14) (1 Sample)

- (1) 3rd quarter 2019 through 4th quarter 2019

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 02.03) (2 Samples)

- (1) Unit 2 1st quarter through 4th quarter 2019
- (2) Unit 3 1st quarter through 4th quarter 2019

71153 - Follow Up of Events and Notices of Enforcement Discretion

Event Followup (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated Loss of Power to Non-Power Block Buildings and licensee's response on March 12, 2020.

Event Report (IP Section 03.02) (1 Sample)

The inspectors evaluated the following licensee event reports (LERs):

- (1) LER 05000249/2019-001, Unit 3, Degraded Differential Pressure Indicating Switch in the LPCI Loop Select Logic Caused by Water Damage Results in a Condition Prohibited by Technical Specifications (ADAMS Accession No. ML19325C091). The inspection conclusions associated with this LER are documented in this report under Inspection Results Section 71153.

INSPECTION RESULTS

Unit 2B Low Pressure Coolant Injection Valve Damaged Due To Inadequate Inspection			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237/2020001-01 Open/Closed	None (NPP)	71111.22
A self-revealed Green finding and associated Non-cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion V, was identified on October 23, 2019. During a performance of a surveillance test on October 23, 2019, the 2B low pressure coolant injection (LPCI) pump			

suction valve 2-1501-5B failed to reopen following closure resulting in the 2B LPCI pump being declared inoperable. The licensee's evaluation of this failure identified that an inspection was performed in 2015 with inadequate inspection guidance that should have identified corrosion of the valve motor limit switch that lead to the failure of the valve.

Description:

On October 23, 2019, the 2-1501-5B was closed during a surveillance test. The valve limit switch had corroded in position and did not remove the torque switch bypass during valve closure resulting in the actuator over thrusting the valve by 250 percent of the rated actuator thrust limit. The actuator springpack, limit switch, torque switch, motor, and operator bolts were replaced. The valve stem and yoke were inspected and were found to be satisfactory. Upon closure, the valve could not be reopened and the 2B LPCI pump was declared inoperable.

The licensee's evaluation of the event determined that this valve had experienced historical wetting on top of the actuator due to ground water intrusion from as early as 2006. The ground water leakage was eventually repaired in 2009. In 2010 Exelon operating experience required a review of risk-significant components that had experienced wetting from internal leakage. The station identified the 2-1501-5B as a component of interest even though it was not considered a risk-significant component. An inspection of the actuator was performed during the next 6-year preventive maintenance window for the valve in 2015.

On March 3, 2015, the licensee completed Work Order (WO) 01216146 which performed a PM inspection on the limit switch and torque switch of 2-1501-5B per MA-AA-723-301, Periodic Inspection of Limitorque Model SMB/SB/SBD-000 Through 5 Motor Operated Valves. During the PM, the limit switch cover and the torque switch were found degraded. The torque switch and limit switch cover gasket were replaced, and rust found on the limit switch cover was cleaned. Pictures taken during this inspection showed the limit switch rotor base showed signs of corrosion. The corrosion of the limit switch base was not identified, or at least not recorded, during the inspection. The licensee's evaluation stated that the procedure guidance was not clear as to what should have been done about the corrosion on the limit switch base. The inspectors reviewed the licensee's evaluation (which included pictures of the limit switch rotor in 2015) and the 2015 completed work order. Procedure MA-AA-723-301, Step 4.4.5 stated, "inspect limit switch compartment for moisture, corrosion, foreign materials leaking lubricant and casting irregularities. Record inspection results on Attachment 2." The inspectors determined that, based on the guidance given in the work order, corrosion found during the inspection was unsatisfactory and should have been addressed either by cleaning or replacement of the limit switch rotor at that time. The licensee's corrective actions were not complete at the time of the inspection.

Corrective Actions: The licensee replaced the actuator springpack, limit switch, torque switch, motor, and operator bolts. The valve stem and yoke were inspected and were found to be satisfactory. The licensee planned to train electrical maintenance personnel on the results of the equipment failure evaluation.

Corrective Action References: Action Request 04290376, 2-1501-5B Valve Failure During DOS 1500-01

Performance Assessment:

Performance Deficiency: The failure to follow procedure MA-AA-723-301, Step 4.4.5, in part, to inspect the limit switch compartment for moisture, corrosion . . . Record inspection results

on Attachment 2, during the inspection of the actuator for 2-1501-5B was a performance deficiency. Valve 2-1501-5B was a safety-related valve and the inspection of the valve actuator was an activity that affected quality. Title 10 CFR Part 50, Appendix B, Criterion V, required that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The maintenance technicians that inspected that valve actuator for corrosion in 2015 failed to identify, document, and correct corrosion that existed on the 2-1501-5B limit switch actuator. This corrosion later resulted in the failure of the valve during surveillance testing. The inspectors determined that this example was similar to IMC 0612, Appendix E, January 1, 2020, examples 4.c and 4.k.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The finding was screened against the Mitigating Systems cornerstone and determined to be of very low safety significance (Green) because the inspectors answered all six questions in IMC 0609, Appendix A, Exhibit 2, dated December 13, 2019, no.

Cross-Cutting Aspect: Not Present Performance. No cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance. The cause of this valve failure was greater than 3 years old and not considered present performance.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented procedures of a type appropriate to the circumstances and be accomplished in accordance with these procedures. The licensee established MA-AA-723-301, Periodic Inspection of Limitorque Model SMB/SB/SBD-000 Through 5 Motor Operated Valves, Revision 10, as the implementing procedure for WO 01216146, D2 6Y MOV [motor operated valve] Diagnostic Testing & Limitorque Surv [surveillance] 2-1501-5B, an activity affecting quality.

Procedure MA-AA-723-301, Step 4.4.5 states, inspect limit switch compartment for moisture, corrosion, foreign materials leaking lubricant and casting irregularities. Record inspection results on Attachment 2.

Contrary to the above, on March 3, 2015, licensee personnel performed an inspection of the 2-1501-5B LPCI 2B pump suction valve, an activity that affected quality, but did not accomplish the inspection in accordance with procedures that were appropriate to the circumstances. Specifically, licensee personnel failed to follow Step 4.4.5, of procedure MA-AA-723-301 by inspecting the 2-1501-5B limit switch compartment with corrosion present on the limit switch rotor base and did not mark the presence of the corrosion in Attachment 2.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Account Instrument Uncertainties for Ultimate Heat Sink Maximum Temperature			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237,05000249/2020001-02 Open/Closed	None (NPP)	71111.22
<p>The inspectors identified a Green finding and associated Non-cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion XI, "Test Control," when the licensee failed to account for instrument uncertainty in surveillance procedures' acceptance criteria for Ultimate Heat Sink maximum temperature.</p> <p><u>Description:</u></p> <p>When using an instrument to measure a quantity, the recorded value will always have an amount of uncertainty. These uncertainties need to be accounted for to ensure that when a quality-related test is performed the results collected validate the associated SSCs remain within licensing and design bases values. During their review, the inspectors noted an Ultimate Heat Sink (UHS) surveillance test where the licensee failed to account for said instrument uncertainties.</p> <p>TS Surveillance Requirement 3.7.3.2 required the licensee to verify the average water temperature of the UHS was less than or equal to 95 degrees Fahrenheit (F). The UFSAR Section 6.2.1.3, Table 6.2-7 and Section 9.5.5 described 95 degrees F as the maximum inlet water temperature for the Diesel-Generator Cooling Water and the Containment Cooling Service Water systems. Both of these systems are supplied by the UHS. A sampling review of calculations related to the UHS and supplied systems also noted that 95 degrees F was the maximum UHS supplied water temperature assumed (Reference calculations ATD-0400, "Unit 2/3 Diesel Generator Jacket Water Capacity," Revision 0; and DRE98-0077, "Dresden HPCI Room Thermal Response with Reduced Room Cooler Capability," Revision 001C). Procedure Unit 2(3) Appendix B, "Assist NSO and Common Unit Daily Surveillance Log" Revision 90, was the implemented procedure to comply with TS SR 3.7.3.2. Attachment A to this procedure established acceptance criteria for the UHS average water temperature of less than or equal to 95 degrees F as measure by instrument TR 2/3-4441-16. The licensee informed the inspectors that instrument TR 2/3-4441-16 had an uncertainty of +/- 1 degree F when measuring temperatures between 90 and 100 degrees F.</p> <p>Based on the above, the inspectors were concerned that failure to account for said uncertainties could result in a situation where a surveillance test was declared satisfactory when in reality the structure, system or component (SSC) could be within the unacceptable results range once uncertainties were considered. Since these were safety-related and TS SSCs, a failed TS Surveillance would result in the SSC becoming inoperable and the associated LCO action statement must be entered. A review of the results from the last time the affected surveillances were performed showed results which were satisfactory even when accounting for uncertainties.</p> <p>Corrective Actions: The licensee has validated, currently, there are no challenges to meeting Technical Specifications Surveillance Requirements, and the affected equipment remains operable and able to perform their function. In addition, the licensee was recommending: 1) to revise procedures for UHS (Daily Surveillance Log Appendix B) to account for instrument</p>			

uncertainty; 2) Revise setpoint calculations output listings to designate the associated surveillance procedure; and 3) Perform extent of condition review.

Corrective Action References:

AR 04317369, NRC Ultimate Heat Sink (UHS) Inspection Question

AR 04318639, NRC UHS Open Question 011-2

AR 04331189, NRC: Procedures and Instrument Uncertainty

Performance Assessment:

Performance Deficiency: The licensee surveillance procedures' acceptance criteria for UHS maximum temperature failed to account for instrument uncertainty. This was contrary to Title 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," and was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, implementing the acceptance criteria as written, without accounting for the associated instruments' uncertainty, could result in a satisfactory test result, when in actuality the SSCs had failed the surveillance test. Since the acceptance criteria values used in the procedure are the same as those used in Technical Specifications and their associated analysis, this would have resulted in the licensee failing to declare the associated equipment inoperable, entering the required TS Limiting Condition of Operation (LCO) action, and potentially place the plant in an unanalyzed configuration. This is consistent with the guidance provided in IMC 0612, Appendix E, Example 3.g.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Specifically, the inspectors determined this finding is of very low safety significance (Green) because: the performance deficiency was not a design or qualification issue; it did not represent a loss of the system function; the associated trains were neither inoperable for greater than its allowed outage time nor was it inoperable for greater than 24 hours; and were not part of an external event mitigating system. The inspectors were unable to find an example where the deficient procedures resulted in an actual failed surveillance test.

Cross-Cutting Aspect: Not Present Performance. No cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," requires, in part, that a test program be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Procedure Unit 2(3) Appendix B, "Assist NSO and Common Unit Daily Surveillance Log," Revision 90, is the implemented procedure to comply with applicable UHS design documents. Attachment A to this procedure was a table which included the established acceptance criteria for the UHS average water temperature of less than or equal to 95 degrees F as required by TS SR 3.7.3.2.

Contrary to the above, as of March 11, 2020, the licensee failed to assure that the testing required to demonstrate that the safety-related UHS would perform satisfactorily in service was identified and performed in accordance with written test procedures which incorporated the requirements and acceptance limits contained in applicable design documents. Specifically, for the UHS system's procedure Appendix B, Revision 90, the licensee failed to account for instrument uncertainties when establishing the acceptance criteria to ensure successful completion of these tests would ensure the associated SSCs would remain operable and within the acceptable limits as determined by applicable design documents.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Verify Design Assumption Supporting HPCI Test Acceptance Criteria

Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237,05000249/2020001-03 Open/Closed	None (NPP)	71111.22

A finding of very low safety significance (Green) and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the licensee's failure to verify their design assumption that HPCI SR instrument uncertainty was implicitly incorporated in design margins, even after implementing facility changes and modifications like extended power uprates that reduced this margin.

Description:

UFSAR Table 6.3-20b stated that emergency core cooling system (ECCS) evaluation used a HPCI minimum rated flow value of 5,000 gpm. TS SR 3.5.1.6 required the licensee "to verify the HPCI pump can develop a flow rate greater than or equal to 5,000 gpm against a system head corresponding to reactor pressure." The licensee established procedure DOS 2300-03, "High Pressure Coolant Injection System Operability and Quarterly IST Verification Test," Revision 117, as the implementing procedure to comply with TS SR 3.5.1.6. Step H.5.a, and Data Sheet 2 of this procedure used a HPCI flow acceptance criteria of equal or greater than 5,000 gpm using flow controller FIC 2(3)-2340-1. Calculation NED-I-EIC-0109, Revision 6, concluded that the associated flow instrument uncertainties was +/- 255 gpm under normal plant conditions and +/- 846 gpm under accident conditions. As a result, the inspectors were concerned that the instrument uncertainties were not considered, potentially leading to surveillance tests incorrectly passing acceptance criteria while HPCI performance could fall within unacceptable ranges when considering uncertainties. A review of past surveillance results showed satisfactory outcomes even when accounting for uncertainties.

Further review revealed that the licensee elected to implicitly incorporate the ECCS SR instrument uncertainty within their ECCS evaluation model design margin. However, the licensee did not verify the adequacy of this design assumption. In addition, the licensee voluntarily made plant changes, such as changes among different fuel vendors and other modifications like extended power uprates, which reduced their ECCS evaluation model design margin. Again, the licensee did not review the impact of these changes to their assumption that the design margins accounted for SR instrument uncertainty.

Refer to NRC letter "Revised Non-Cited Violations – Dresden Nuclear Power Station Integrated Inspection Report 05000237, 05000249/2020001 (NCV 05000237,

05000249/2020001-02; Failure To Account Instrument Uncertainties) And Comprehensive Engineering Team Inspection Report 05000237, 05000249/2023011 (NCV 05000237, 05000249/2023011-01; Failure To Correct Condition Adverse To Quality After HPCI Test Control Violation),” dated July 24, 2024, ([ML24180A058](#)) for more details.

Corrective Actions: The licensee confirmed HPCI remained operable and able to perform its function at the time of the inspection. In addition, the licensee was considering: 1) to revise procedure DOS 2300-03 and to account for instrument uncertainty; 2) revise setpoint calculations output listings to designate the associated surveillance procedure; and 3) perform extent of condition review.

Corrective Action References:

AR 04315614, NRC Question on DOS 2300-03 Acceptance Criteria

AR 04331189, NRC: Procedures and Instrument Uncertainty

Performance Assessment:

Performance Deficiency: The failure to verify their design assumption that HPCI SR instrument uncertainty was implicitly incorporated in design margins was contrary to 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” and was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, implementing SR 3.5.1.6 without accounting for the associated instruments’ uncertainty has the potential to allow unacceptable HPCI performance to go undetected. This could result in the licensee failing to declare HPCI inoperable and potentially place the plant in an unanalyzed configuration.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” A review of past surveillance results showed satisfactory outcomes even when accounting for uncertainties.

Cross-Cutting Aspect: Not Present Performance. No cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” states, in part, that the design control measures shall provide for verifying or checking the adequacy of design. It also states that design control measures shall be applied to items such as the delineation of acceptance criteria for inspections and tests.

Contrary to the above, as of March 2020, the licensee’s design control measures failed to provide for verifying the adequacy of the design and were not applied to the delineation of test acceptance criteria for HPCI. Specifically, the licensee assumed the uncertainty of the HPCI flow instrument used in SR 3.1.5.6 was incorporated in the design margin of their ECCS evaluation model. However, the licensee did not verify the adequacy of this design assumption, even after implementing facility changes such as changes among different fuel vendors, and other modifications like extended power uprates that reduced this margin. As a result, the SR implementing procedure (i.e., DOS 2300-03, “High Pressure Coolant Injection

System Operability and Quarterly IST Verification Test,” Revision 117) was not assured to detect unsatisfactory HPCI performance because its acceptance criteria were based on this unverified design assumption.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Differential Pressure Indicating Switch Failure in Low Pressure Core Injection Loop Select Logic

Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000249/2020001-04 Open/Closed	Not Applicable	71153

A self-revealed Severity Level (SL) IV NCV of Technical Specifications (TS) 3.3.5.1, “Emergency Core Cooling System (ECCS) Instrumentation,” was identified when the licensee determined during routine surveillance testing that one of four (4) channels of the recirculation pump high differential pressure function was inoperable for longer than the 24 hour allowed outage time.

Description:

This LER is associated with a Differential Pressure Indicating Switch (DPIS) failure in the Low Pressure Coolant Injection (LPCI) Loop Select Logic that was inoperable for greater than the TS LCO 3.3.5.1. On September 20, 2019, while performing LPCI reactor recirculating pump A and B Differential Pressure Indication switch channel calibration and channel functional test (DIS 1500-09), it was determined that DPIS 3-0261-35C was inoperable. The licensee entered TS LCO 3.3.5.1 condition C, replaced DPIS 3-0261-35C and restored operability within 24 hours. Licensee operations staff requested a past operability evaluation of the Unit 3 LPCI Loop selection design function.

On June 20, 2019, water from the Unit 3 East LPCI corner room cooler was leaking (AR 04258407) onto the instrument rack that contained the DPIS 3-0262-35C. The licensee installed a deflector to prevent water from dripping onto the instrument rack. On July 6, 2019, a ground was identified (AR 04262209) on the Unit 3 125 VDC battery. The licensee entered DOP 6900-07 (125 VDC Ground Detection) to try and locate and eliminate the ground. The ground alarm cleared, and it was determined that the ground did not affect operability of the 125 VDC system. There were two subsequent grounds identified on July 28, 2019, (AR 04267550) and August 15, 2019, (AR 04272156) on the Unit 3 125 VDC battery system which were determined not to affect the operability of the 125 VDC system. The 125 VDC battery ground issue was resolved when DPIS 3-0262-35C, which was not qualified for spray or submergence, was replaced on September 20, 2019.

On July 30, 2019, during the reactor recirculation pump running differential pressure switch functional test, the results for all DPISs were satisfactory, therefore it was reasonable to conclude that DPIS 3-0262-35C failed and was inoperable between July 30, 2019, and September 20, 2019. Failure of DPIS 3-0262-35C did not impact the ability of the LPCI system to perform its safety function in the event of an accident. Failure of one DPIS impacts one division of LPCI Loop Select Logic, however the unaffected division remains capable of performing the designed safety function.

Corrective Actions: The DPIS 3-0262-35C was replaced, tested, and the channel of recirculation pump high differential pressure function was restored to an operable status. The licensee performed a past operability evaluation for all DPISs that were used to support LPCI system Loop selection design function and all remained functional with the exception of DPIS 3-0262-35C. The licensee also performed a corrective action program evaluation to identify programmatic factors. Service water was isolated to the Unit 3 East LPCI room cooler until the leak was repaired.

Corrective Action References:

AR 04290427, Historical Operability Review for DPIS 3-0261-35C and AR04280928, DPIS Will Not Trip

Performance Assessment:

The NRC determined this violation was not reasonably foreseeable and preventable by the licensee and therefore is not a performance deficiency. The inspectors determined that because the licensee initially took actions to protect the DPIS from the leaking water and successfully completed the surveillance requirement that specifically tested the DPIS post leakage, the failure was not reasonably foreseeable and preventable.

Enforcement:

The ROP's significance determination process does not specifically consider the regulatory process impact in its assessment of licensee performance. Therefore, it is necessary to address this violation which impedes the NRC's ability to regulate using traditional enforcement to adequately deter non-compliance. Traditional Enforcement is being used because a violation existed; however, there was no performance deficiency. The inspectors used the Interim Guidance for Dispositioning Severity Level IV Violations with No Associated Performance Deficiencies, issued June 15, 2018 (ML18158A220).

Severity: This violation is characterized as a Severity Level IV NCV based on its similarity to SL IV example 6.1.d.1 in the Enforcement Policy.

Violation: Dresden Nuclear Power Station, Unit 3 TS 3.3.5.1, "Emergency Core Cooling System Instrumentation," Condition C requires, in part, that if one or more channels are inoperable, the channel must be restored to operable status within 24 hours.

Contrary to the above, from July 30, 2019, to September 20, 2019, one or more channels associated with TS 3.3.5.1, Condition C, was inoperable and was not restored to an operable status within 24 hours. Specifically, the 3A reactor recirculation pump DPIS 3-0261-35C was inoperable due to water intrusion on June 20, 2019, which eventually caused the DPIS to fail.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On April 8, 2020, the inspectors presented the integrated inspection results to Mr. P. Karaba, Site Vice President, and other members of the licensee staff.
- On February 28, 2020, the inspectors presented the Radiation Protection inspection results to Mr. P. Boyle, Plant Manager, and other members of the licensee staff.
- On March 12, 2020, the inspectors presented the Triennial Heat Sink inspection results to Mr. P. Boyle, Plant Manager, and other members of the licensee staff.
- On March 27, 2020, the inspectors presented the Emergency Preparedness Program inspection results to Mr. P. Karaba, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Procedures	OP-DR-108-111-1004	Cold Weather Strategy	00
71111.04	Corrective Action Documents	04190166	3-1105-B 3B SBLC Pmp Relief Valve did not Lift at Set Point	10/31/2018
		04296647	2A SBLC Heat Trace Not Working Properly	11/12/2019
		04304584	3B SBLC RV Failed Testing	12/17/2019
		04313364	Evaluate Ops SBLC Tank Level Surv Acceptance Criteria	01/28/2020
		2693730	2/3-5748-2B Indicating Short	07/18/2016
		4272885	2/3 B ISO Cond M/U Pump Failed to Start Initially	08/19/2019
		4318748	2-1301-607 Has a 1 Drop Per 10 Second Packing Leak	02/17/2020
		4319355	Fuel Leak on 2/3 B ISO Cond Make Up Pump	02/19/2020
		4321473	NRC Question	02/25/2020
	4321772	Loose Handwheel Found	02/26/2020	
	Drawings	20600-001	High Pressure Coolant Injection (HPCI) System and Instrumentation	05
		20700LN001-001	Unit 2 Isolation Condenser System	03
		DOP 1300-M1/E1	Unit 3 Isolation Condenser System Checklist	26
	Miscellaneous		Dresden UFSAR	13
	Procedures	DOP 1100-M1/E1	Unit 3 Standby Liquid Control (SBLC) System Checklist	16
		DOP 1300-M2	Isolation Condenser Makeup Pump Fuel Oil System	03
		DOP 2300-01	High Pressure Coolant Injection (HPCI) System Standby Operation	59
		DOP 2300-M1/E	Unit 2 HPCI System Checklist	39
		DOP 2300-MI/E1	Unit 2 HPCI System Checklist	39
		DOP 2300-MI/E1	Unit 2 HPCI System Checklist	39
		DOP 6600-01	Diesel Generator 2(3) Preparation for Standby Operation	34
DOP 6600-E1		Unit 3 Standby Diesel Generator	06	
DOP 6600-E1		Unit 2 Standby Diesel Generator	04	
DOS 1100-02	Standby Liquid Control Tank Heater Surveillance Test	17		
71111.05	Corrective Action Documents	4290524	Fire Door #67 on 545' Elevation Degraded but Functional	10/23/2019
		4290768	Fire Door 67 Inoperable	10/24/2019
		4318345	Operations 4.0 Critique for Fire Drill (Crew 4, 2-15-2020)	02/15/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
	Corrective Action Documents Resulting from Inspection	4309021	U2 EDG Fire Door 17A Inoperable	01/09/2020	
		4309433	NRC Questions Regarding EDG Fire Doors & U2 DW O2 Analyzer	01/10/2020	
		4311928	NRC Question Regarding EDG Fire Door Failure Mechanism	01/22/2020	
		4313138	NRC Identified Issues	01/27/2020	
	Drawings	12-2350B	Schematic Diagram Diesel Generator 2 Auxiliaries and Start Relays	AP	
		12E-2311	Key Diagram Turbine Building 480V Motor Control Centers 28-2 and 29-2	AV	
		12E-2595	Schematic Diagram Fire Protection Co2 System Part 2	W	
		M-974	Diagram of Diesel Generator Room Ventilation	L	
	Fire Plans	117 U3RB-20	Dresden Generation Station Pre-Fire Plan FZ 11.1.1	3	
		173 U3TB-84	Dresden Generation Station Pre-Fire Plan FZ 8.2.8A	4	
	Miscellaneous	D1620	Kinnear (Division of HARSCO Corporation) Automatic Closing Atler Doors	000	
		TRM	Gaseous Suppression System B 3.7.k	65	
	Procedures	88-4-26	Checklist No. 1; Acceptance Criteria	0	
		DFPP 4175-01	Fire Barrier	24	
		DFPS 4145-01	Cardox System Operability Test	35	
		OP-AA-201-003	Fire Drill Performance	17	
		OP-AA-201-003, Attachment 1	"Sample" - Fire Drill Record	17	
		71111.07T	Calculations	87-0870/915	Unit 3 Diesel Cooling Water Pump NPSH, Fuel Oil Line Pressure Head and Air Start Receiver Valve Pressure Rating Evaluation
		ATD-0400		Unit 2/3 Diesel-Generator Jacket Water Cooler Capacity	0D
		ATD-0400		Unit 2/3 Diesel-Generator Jacket Water Cooler Capacity	0
	ATD-0400	Unit 2/3 Diesel-Generator Jacket Water Cooler Capacity		0B	
	CMED-057604	Evaluation of the Functional Capability of Components Located in Dresden Unit 3 EQ Zones 4, 5, 6, for Elevated Temperature due to Loss of Room Coolers		1	
	DRE03-0026	Analysis of the Intake Canal, CCSW Heat Exchanger, and Temporary Pumps Following a Dam Failure and 1 Inch LOCA		1	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		DRE16-0011	Required Ultimate Heat Sink (UHS) Capacity	0A
		DRE16-0011	Required Ultimate Heat Sink (UHS) Capacity	0
		DRE98-0077	Dresden HPCI Room Thermal Response with Reduced Room Cooler Capability	1C
		RSA-D-92-06	HPCI Room Thermal Response with Loss of HPCI Room Cooler at Dresden Station	0
	Corrective Action Documents	0770694	Enhance Accuracy for Intake Temperature Monitoring	05/01/2008
		1021725	U3 DGCW Flanges Less Than B16.5 Minimum Thickness	01/26/2010
		1084166	DTP 09: Small Steam Leak	06/24/2010
		2532555	UHS Insp. - Calc for DGCW Pumps Based at 501 Elevation	07/24/2015
		2532734	UHS NRC Insp. - Basis for UHS Vol. (2 Million Gallons)	07/25/2015
		2533713	Further Information for IR 02532555	07/28/2015
		3949714	U3 HPCI Room Cooler Fan Degraded	12/06/2016
		3984974	Unit 3 HPCI Room Cooler Eddy Current Results	03/14/2017
		4058405	DTP 09: Small Steam Leak on HPCI Turbine Poppet Valves	10/02/2017
		4093842	Small U3 HPCI Room Cooler Leak Identified by NLO on Rounds	01/16/2018
		4109028	HPCI Room Cooler Tube Plugging	02/27/2018
		4110057	Unit 3 HPCI Turbine-CV Rack Steam Leak at Flange Mating Surf.	03/01/2018
		4204847	Leak Identified During VT-2 Inspection of CREVS Cooling	12/20/2018
		4206201	Bathymetric Survey Results for 2018	12/27/2018
		4206210	U2 HPCI Room Cooler Leak Identified	12/27/2018
		4206439	UFSAR Update Required to Address UHS Related Issue	12/28/2018
		4227793	Strategic Engineering Review of 2018 UHS Survey Results	03/08/2019
		4297362	Bolted Connection 20 DPM Leak on 2B LPCI Room Cooler	11/14/2019
		4309911	DTP 09 - Steam Leak on HPCI Turbine	01/13/2020
		Corrective Action Documents Resulting from Inspection	4316968	U3 Diesel Generator Cooling Water Pump
	4316989		NRC - Scaffolding Left Past Due Date Near 3D CCSW Pump	02/11/2020
	4317210		NRC Identified Corrosion on SW Elbow in U3 HPCI Room	02/12/2020
	4317369		NRC Ultimate Heat Sink (UHS) Inspection Question	02/12/2020
4317374	NRC Question on U3 EDG CWP Motor Cooler Inspection		02/12/2020	
4317695	DOS 6600-08 Opportunity to Improve Writers References		02/13/2020	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		4318541	NRC UHS Inspection - Basis for HPCI Operability in UFSAR	02/17/2020
		4318639	NRC UHS Open Question 011-2	02/17/2020
		4318708	NRC Question of 50.59 Screening	02/17/2020
		4322212	2020 UHS Inspection: DRE16-0011 UFSAR Timely Update	02/28/2020
		4322375	2020 NRC UHS Inspection: UFSAR Revision UHS Volume	02/28/2020
		4322395	2020 UHS Inspection - NRC Calculation Question	02/28/2020
		4323025	2020 UHS Inspection - IR 2533713 Action not Complete	03/02/2020
		4325402	Timber Mat Contact	03/10/2020
	Engineering Changes	363202	ENGR Review Material Change and EDG Thermal Report for EDG Heat Exchangers	0
		382082	Licensing Basis of the Ultimate Heat Sink (UHS) and the Impact of Silting	0
		403120	Computation of DGCW Pumps NPSHA During Dam Failure	0
		629625	Licensing Basis of the Ultimate Heat Sink (UHS) Credited Volume and UFSAR Update	0
	Engineering Evaluations	2020-02-001	Update to UFSAR Description of the Ultimate Heat Sink (UHS) Credited Volume	0
	Miscellaneous	23218036.00	2018 Bathymetric/Volume Survey of the Intake/UHS Canal	10/25/2018
		23219026.00	2019 Bathymetric/Volume Survey of the 2/3 Intake/UHS Canal	10/23/2019
		50384	BEM Condition Assessment of 24" Carbon Steel Piping CCSW Unit 2 - 2-1505-24"	12/03/2019
		AH1406-40656587	Long Range Guided Wave Ultrasonic Pipe Screening Results	06/18/2019
		AH1406-40656587PIMS	Long Range Guided Wave Ultrasonic Pipe Screening Results	06/24/2019
		EA Project No. 1500411	2017 Bathymetric Survey of the Intake Canal at Exelon Generation Company's Dresden Generating Station	1
		SL-013900	Field Surveillance Report Annual Lake Monitoring and Examination of Circulating Water Canals August 2017	0
		SL-014493	Field Surveillance Report Annual Lake Monitoring and Examination of Circulating Water Canals June 2018	0
SL-015035		Field Surveillance Report Annual Lake Monitoring and Examination of Circulating Water Canals June 2019	0	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Operability Evaluations	08-005	U3 EDG Cooling Water (DGCW) Heat Exchanger (HX) Flex Hoses	2
		10-006	U3 EDG Jacket Water Inlet Temperature Running Higher Than Normal	2
	Procedures	DIP 3900-01	Diesel Generator Cooling Water Flow Indicator and Pump Suction and Discharge Gauge Preparation for In-Service Testing	9
		DIS 3900-03	Diesel Generator Cooling Water Pump Suction and Discharge Pressure Indicator Calibration	13
		DOA 0010-01	Dresden Lock and Dam Failure	36
		DOA 0010-01	Dresden Lock and Dam Failure	35
		DOA 0010-S1	Key Phone Numbers for DOA 0010 Block Procedures	16
		DOS 0010-01	Dresden Dam Failure Equipment Test	23
		DOS 6600-08	Diesel Generator Cooling Water Pump Quarterly and Comprehensive/Preservice Test for Operational Readiness and In-Service Test (IST) Program	65
		ER-AA-2002	System and Equipment Health Monitoring	22
		ER-AA-340-1002	Service Water Heat Exchanger Inspection Guide	8
		ER-AA-700-1003	Screening and Evaluation of Potential Aging Issues	4
		Work Orders	01102337	D3 2Y PM Standby Diesel Generator Inspection
	01545660		D3 6Y PM Standby Diesel Generator Inspection	02/23/2018
	01592255		D3 8Y PM Replace HPCI Room Cooler Cooling Coil	05/03/2019
	01640181		D3 2Y TS D/G CLG WTR PMP Comprehensive Test for IST Program	07/29/2015
	01709946		D3 6Y PM D/G Conduct Eddy Current Test 3-6669-A	02/26/2016
	01709947		D3 6Y PM D/G Conduct Eddy Current Test 3-6669-B	02/26/2016
	01711473		D3 2Y PM Standby Diesel Generator Inspection	02/25/2016
	01711473(SUP)		Supplemental - 00006645-10, PMSR, D3 2Y PM Standby Diesel Generator Inspection, E: 3-6601, DGNA, E15	02/22/2016
	01837703		D3 4Y PM D/G CLG WTR Pump Press. Gauge CAL	09/18/2019
04706728	D3 2Y TS D/G CLG WTR PMP Comprehensive Test for IST Program		09/16/2019	
04797971	U3 HPCI Room Cooler Degrading	05/03/2019		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		04799354	D3 AN COM Inspections of Buried Piping	05/29/2019
		04799356	D2/3 AN COM Inspections of Buried Piping	05/29/2019
		04870742	D1/2/3 AN PM River Temp Recorder Cal.	01/09/2020
		04962726	D3 QTR TS (IST) EDG CLG WTR PMP Test for IST Program Surviel	12/19/2019
		99207934	D3 6Y PM Standby Diesel Generator Inspection	11/13/2006
71111.11Q	Miscellaneous	2020-OBE-03B	LORT OBE	Jan 2020
71111.12	Corrective Action Documents	4323125	U3 RBM 7 Iprm Input Downscale Trip Ref out of Tolerance	03/02/2020
	Miscellaneous	Maintenance Rule System Basis Document	Dresden, Unit 3, Rod Block Monitor (RBM)	02/26/2020
		Maintenance Rule System Basis Document	Dresden, Unit 3, Reactor Protection System (RPS)	02/26/2020
		MR Function Evaluation	Dresden, Unit 3, Reactor Protection System	01/03/2020
		MR Function Evaluation	Dresden, Unit 3, U3 0708-2-N	01/03/2020
	Procedures	Inspection Procedure 71111.12	Maintenance Effectiveness	01/01/2020
71111.13	Corrective Action Documents	4318369	Momentary Loss of Half the Core RPIS Indications	02/16/2020
	Drawings	274LN001-001	Turbine Building Closed Cooling Water (TBCCW)	1
	Miscellaneous		Protected Equipment Lists for Unit 2 and Unit 3 Risk Significant Systems	
		ER-AA-600-1042	On-Line Risk Management	11
		OP-AA-108-117	Protected Equipment List - ADS	02/23/2020
	Procedures	DOP 6400-13	Electrical Yard Switching	55
		DOP 6400-13	Electrical Yard Switching	55
		DOS 1100-04	Standby Liquid Control System Quarterly/Comprehensive Pump Test for the Inservice Test (IST) Program	53
DOS 1100-04		Standby Liquid Control System Quaterly/Comprehensive	53	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Pump Test for the Inservice Testing (IST) Program	
		DOS 5750-04	Control Room Train B HVAC and Air Filtration Unit Surveillance	55
		DOS 5750-04	Control Room Train B HVAC and Air Filtration Unit Surveillance	55
		MA-DR-771-403	Unit 3 - 4 KV Tech Spec Undervoltage and Degraded Voltage Relay Routines	15
		OP-AA-108-117	Protected Equipment Program	5
	Work Orders	04982736-01	D2/3 Qtr Com 'B' Iso Cond Make-up Pump Operability	02/19/2020
		050008840	IMD TS&R RPIS Power Supply (PSX6)	02/17/2020
71111.15	Calculations	ATD-0400	Unit 2/3 DG Jacket Water Cooler Capacity	0
		ATD-0400	Unit 2/3 Diesel Generator Jacket Water Cooler Capacity	000A
	Calibration Records	127-1-B33-1	Relay Routine for 4 KV Buss 33-1 Undervoltage Relays	02/10/2020
		127-2-B33-1	Relay Routine for 4 KV Buss 33-1 Undervoltage Relays	02/10/2020
	Corrective Action Documents	347338	DG Ventilation Calculation Weaknesses	06/24/2005
		4162726	High Vibes on U3 HPCI Room Cooler	08/08/2018
		4244414	Unexptected Alarm 903-4 C-22 due to 3-2301 Opening	04/29/2019
		4262603	IEMA Question Related to IR 4244414 3-2301-14 Valve Opening	07/08/2019
		4312803	Integrated Risk Mitigation	01/26/2020
		4315913	NRC Question Regarding DOP 7500-01 Limitations and Actions	02/06/2020
		4315913	NRC Question Regarding DOP 7500-01 Limitations and Actions	02/06/2020
		4316185	NRC SRI Question on Procedural Guidance	02/07/2020
		4316185	NRC SRI Question on Procedural Guidance	02/07/2020
		4316185-02	NRC SRI Question on Procerdural Guidance	02/25/2020
	4316326	Review of STI-16-011	02/08/2020	
	Corrective Action Documents Resulting from Inspection	04329174	NRC DOP 7500-01 Limitations	03/24/2020
	Drawings	12E-3530	Schematic Diagram High Pressure Coolant Injection	X

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Auxiliary Valves	
		12E-3684D	Wiring Diagram Reactor Building 250V DC Motor Control Center 3 Part 1 (3-83250-3B)	V
		13524-DGI-N102	Environmental Zone Map (Basement Floor Plan) Elev. 476'6" Figure 1	5
		277LN001-001	CCSW Subsystem 1	05
		M-374	Diagram of High Pressure Coolant Injection Piping	CX
	Miscellaneous		Dresden UFAR	4
			Operations Log	01/22/2020 - 01/29/2020
		Design Engineering 0006216498	Dresden Unit 2, HPCI Room Cooler Operability System Code 1500, 2300, 3900	07/07/2000
		Dresden Internal Flood Evaluation Summary and Notebook	Table 3.3.1 Isolation of Standby Systems	4
		Letter from Commonwealth Edison to A. Giambusso, U.S. Atomic Energy Commission	Dresden Station Units 2 and 3 - Special Report No. 37 - Analysis of Pipe Breaks Outside Containment - AEC Dockets 50-237 and 50-249	01/23/1974
		Procedures	DES 8300-14	Security UPS, Computer UPS, Lake Lift Station, Unit 1, HCVS SBO 125VDC, 345KV Switchyard, 138KV Switchyard and 34.5KV Switchyard Batteries Maintenance
	DIS 2300-06		Unit 3 HPCI Room Temperature Switch Layout	18
	DOP 1500-02		Torus Water Cooling Mode of Low Pressure Coolant Injection System	70
	DOP 1500-02		LPCI/CCSW Operation During Transient Situations	70
	DOP 6600-05		Diesel Generator 2/3 Startup	42
	DOP-1500-03		Containment Spray Cooling Mode of Low Pressure Coolant Injection System	37
	DOS 8300-14		Non-Safety Related 125 VDC and 250 VDC Battery	30

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Surveillance	
		ER-AA-425-1001	Surveillance Test Interval (STI) Change Request DRE-16-011	0
		WC-AA-101	Dedicated Operator - Proprietary	29
71111.19	Corrective Action Documents	4313545	Air Leak on 2A SBO Eng Start Air LB Supply AOV Iso Vlv	01/29/2020
		4313609	U2 SBO 'A' Engine Low Oil Temp	01/29/2020
		4313832	U2 SBO D/G Lube Oil Temp Proc Enhancement to DOP 6620-16	01/30/2020
		4313837	Ops U2 SBO 'A' Diesel Low Jacket Water and Lube Oil T/S	01/30/2020
	Drawings	12E-6870A	Schematic Diagram Engine A/B 125V DC Starting/Auxiliary Equipment Station Blackout	A
		20600-001	High Pressure Coolant Injection (HPCI) System and Instrumentation	05
		M-4308A	Diesel Generator Starting Air Piping and Instrument Diagram Station Blackout	B
	Miscellaneous		Operations Log	01/29/2020
			Dresden 7 Day Schedule	01/27/2020
	Procedures	DOS 2300-03	Initial HPCI Standby Lineup	117
		DOS 2300-03	High Pressure Coolant Injection System Operability and Quarterly IST Verification Test	117
		DOS 6600-01	Diesel Generator Surveillance Tests	143
		DOS 6600-08	Diesel Generator Cooling Water Pump Quarterly and Comprehensive/Preservice Test for Operation Readiness and In-Service Test (IST) Program	66
		DOS 6620-07	SBO 2 (3) Diesel Generator Surveillance Tests	48
		DOS 6620-07	SBO 2(3) Diesel Generator Surveillance Tests	48
		ER-AA-321	Administrative Requirements for Inservice Testing	13
		MA-DR-MM-5- 66001	Diesel Generator Post Maintenance Testing Run	19
		Work Orders	01002305	D2 12Y PM Diesel Cooling Water Pump Motor Replacement
	01573090		D2 8Y EQ Replace ASCO SOL on DW Purge Valve 1601-56	01/21/2020
04774873	D2 AN COM Replacement Air Start Regulating Valve on EDG		02/03/2020	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		04829226	Proactive replacement of U2 EDG Potential Transformer	03/10/2020
		04987753	Proactive Replacement of 2-6699-114 Swing Check Valve	03/10/2020
		05001931	D3 QTR TS (IST) HPCI Pump Operability Test and IST Surveillance	02/07/2020
		05008145	D2 1M TS (IST) Unit Diesel Generator Operability	03/01/2020
71111.20	Corrective Action Documents	4308111	DOA 6100-01 Entry for TR2 Cooling	01/05/2020
		4308854	4.0 Critique for D2F59 Startup	01/05/2020
	Procedures	DOA 5600-01	Turbine Trip	35
		DOA 6100-01	Main Transformer Trouble	37
		DOS 1600-10	Drywell Closeout Inspection Plan	51
		OP-AA-108-108	Start-Up Checklist	20
71111.22	Calculations	NED-I-EIC-0109	HPCI Pump Discharge Flow Loop Accuracy and Minimum Flow Setpoints Essential Calc	6
		NED-I-EIC-0109	Instrument Uncertainty Calculation for FIC-2(3)-2340-I	6
	Corrective Action Documents	04290376-09	2-1501-5B Valve Failure During DOS 1500-01	12/12/2019
		4310164	4.0 Critique U3 HPCI Fast Start Surveillance	01/13/2020
		4319355	Fuel Leak on 2/3 B ISO Cond Makeup Pump	02/19/2020
	Drawings	M-4203	Flow Diagram Isolation Condenser Make Up System	G
	Procedures	DIS 0202-05	Recirc Pump dP Indication and Setpoint Calibration	06
		DOS 1300-03	2/3A(B) Isolation Condenser Makeup Pump Quarterly Operability	26
		DOS 2300-03	High Pressure Coolant Injection System Operability and Quarterly IST Verification Test	117
		DOS 2300-07	High Pressure Coolant Injection Fast Initiation Test	45
		Unit 2(3) Appendix B	Assist NSO and Common Unit Daily Surveillance Log	90
	Work Orders	01216146	D2 6Y MOV [motor operated valve] Diagnostic Testing & Limitorque Surv [surveillance] 2-1501-5B, an activity affecting quality	03/03/2015
		04795477	D3 8Y PM Recirc Pump DP Indication & Setpoint Cal	03/20/2020
		04966573-01	OP D3 QTR TS HPCI Pump Oper Test and IST Surv	01/13/2020
		04966573-01	D3 QTR TS (IST) HPCI Pump Oper Test and IST Surv	01/13/2020
04983344-01		D3 QTR [quarterly] TS [Technical Specification] CS [core	02/03/2020	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
			spray] pump test with torus available for IST [in-service test] Data Surv [surveillance]		
		04985748-01	D2/3 1 M TS Unit Diesel Generator Operability	01/06/2020	
71114.02	Corrective Action Documents	04116367	EP-Siren Failure (DR02)	03/19/2018	
		04145905	EP-Siren Failure (BD10)	06/11/2018	
		04154129	Siren Failures (DR01, DR06)	07/09/2018	
		04167408	EP-Siren Failure (BD02)	08/27/2018	
		04208595	EP-Siren Failure (DR27)	01/07/2019	
		04223376	EP-Siren Failure (DR09)	02/25/2019	
		04229307	EP-Siren Failure (BD18)	03/14/2019	
		04269606	EP-Siren Failure (BD05)	08/05/2019	
		04292284	Inadvertent Siren Activation of Will County Sirens	10/29/2019	
		04294339	EP-Siren Failure (DR01)	11/04/2019	
		04295174	EP-Will County Siren Controller Failure	11/05/2019	
		04300920	EP-Siren Failure BD11	12/02/2019	
		04309736	EP-Siren Failure (DR15, DR22)	02/20/2020	
		Miscellaneous		Braidwood/Dresden 2018 Warning System Maintenance and Operational Reports	
				Braidwood/Dresden 2019 Warning System Maintenance and Operational Reports	
			Dresden Generating Station Alert and Notification System (ANS) Design Report		
71114.03	Corrective Action Documents	04176439	EP Drive-In Drill/Off Hours Drill Program Administration	09/24/2018	
		04176441	EP Drive-In Drill/Off Hours Drill Facilities and Equipment	09/24/2018	
		04176442	EP Drive-In Drill/Off Hours Drill Combined FAC. Comments	09/24/2018	
		04198974	Individual's ERO FMT Qualification Expiring	11/29/2018	
		04270502	3rd Quarter TSC inventory Issues	08/08/2019	
		04271572	3rd quarter EP Mazon Relocation Center Inventory Issues	08/09/2019	
		04327348	Field Team Inventory 1Q2020 Items	03/17/2020	
		Miscellaneous		4th Quarter 2019 Call-In Augmentation Drill Results	12/17/2019
				3rd Quarter 2019 Call-In Augmentation Drill Results	09/16/2019
				4th Quarter 2018 Call-In Augmentation Drill Results	12/03/2018
			Dresden 2018 Drive-In and Off Hours Drill Evaluation Report	08/29/2018	

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		EP-AA-112	Emergency Response Organization (ERO) - Emergency Response Facility (ERF) Activation and Operation	22	
71114.05	Corrective Action Documents	AR04263019	DR-EP-2019-PEX-MCR-FAILED-DCS	06/25/2019	
		AR04263022	DR-EP-2019-PEX-TSC-FAILED-DCS	06/25/2019	
		AR04263026	DR-EP-2019-PEX-OSC-FAILED-DCS	06/25/2019	
		AR04268534	DR-EP-2019-NRC-MCR-FAILED-DCS	07/30/2019	
		AR04268535	DR-EP-2019-NRC-TSC-FAILED-DCS	07/30/2019	
		AR04268537	DR-EP-2019-NRC-OSC-FAILED-DCS	07/30/2019	
		AR04316875	Documentation of Completing hh2/155b Requirement	02/11/2020	
	Miscellaneous			Dresden Letters of Agreement Annual Review List 2019	
		EP-AA-1000		Standardized Radiological Emergency Plan	33
		EP-AA-1004		Radiologically Emergency Plan Annex for Dresden Station	38
	Self-Assessments	NOSA-DRE-18-03		Emergency Preparedness Audit Report for Dresden Station	04/18/2018
		NOSA-DRE-19-03		Emergency Preparedness Audit Report for Dresden Station	04/24/2019
	71124.03	Calibration Records	DTS-7500-07	Standby Gas Treatment System Air Filter Unit Performance Requirements (Methyl Iodide Removal and Charcoal Leak Test)	04/23/2018
MSA Posi3 #L04480			Posi3 USB Test Results; Facepiece/Airline Apparatus Test	06/06/2019	
RP-AA-825-101			MSA SCBA FireHawk Monthly Inspection list	11/06/2019	
Corrective Action Documents		AR-04219788		Unexpected Condition during SCBA Air Compressor Preventive Maintenance	02/13/2019
		AR-04245762		Precautionary Measure for SCBA Bottle from Surveillance	05/02/2019
Drawings		M-49 Critical Control Room Drawing		Diagram of Standby Gas Treatment (SBGT)	12
Miscellaneous		NCS Corporation #0040599		Radioiodine Penetration/Efficiency Test Records SBGT	03/20/2019
		PSI #00473572		Quarterly Service Air and Self-Contained Breathing Apparatus	10/25/2019
		RP-AA-825		Respiratory Inspection and Certification Log (monthly inspection)	12/04/2019

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71124.04	Calculations	RP-AA-220	Intake Investigation Form #4513	11/07/2019
		RP-AA-220	Intake Investigation Form #9316	01/09/2019
		RP-AA-220	Intake Investigation Form #023119	01/09/2019
		RP-AA-220	Intake Investigation Form #040479	01/09/2019
	Calibration Records	NVLAP Lab Code: 100518	NVLAP Certificate of Accreditation; Landauer, Inc	01/01/2020
	Miscellaneous	RP-AA-270	Declaration of Pregnancy Form #SEGAT6114	09/17/2019
RP-AA-270		Declaration of Pregnancy Form #027354	03/27/2019	
71152	Corrective Action Documents Resulting from Inspection	4317754	NRC ID: Cables Running Into Plant by U3 Trackway	02/13/2020
71153	Corrective Action Documents	04280928	CAPE DPIS Will not Trip	02/20/2020
		04290427	Historical Operability Review for DPIS 3-0261-35C	10/23/2019
		04326046	Security - Loss of Power Affects EWS Zones/Cameras	03/12/2020
	Corrective Action Documents Resulting from Inspection	04319675	The NRC Resident Question of LER -2019-001-00	03/21/2020
	Procedures	DOA 0040-03	Loss of Power to Non-Power Block Buildings	18