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

March 9, 2023

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

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 – BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000237/2023010 AND 05000249/2023010

Dear David Rhoades:

On January 27, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed a problem identification and resolution inspection at your Dresden Nuclear Power Station, Units 2 and 3. On February 15, 2023, the NRC inspectors discussed the results of this inspection with Pat Boyle, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspection team reviewed the station's problem identification and resolution program and the station's implementation of the program to evaluate its effectiveness in identifying, prioritizing, evaluating, and correcting problems, and to confirm that the station was complying with NRC regulations and licensee standards for problem identification and resolution programs. Based on the samples reviewed, the team determined that your staff's performance in each of these areas adequately supported nuclear safety.

The team also evaluated the station's processes for use of industry and NRC operating experience information and the effectiveness of the station's audits and self-assessments. Based on the samples reviewed, the team determined that your staff's performance in each of these areas adequately supported nuclear safety.

Finally, the team reviewed the station's programs to establish and maintain a safety-conscious work environment, and interviewed station personnel to evaluate the effectiveness of these programs. Based on the team's observations and the results of these interviews the team found no evidence of challenges to your organization's safety-conscious work environment. Your employees appeared willing to raise nuclear safety concerns through at least one of the several means available.

Four findings of very low safety significance (Green) are documented in this report. Three of these findings involved violations of NRC requirements. 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.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; 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 03/09/23

Robert 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

cc w/ encl: Distribution via LISTSERV

Letter to David Rhoades from Robert Ruiz dated March 9, 2023.

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 – BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000237/2023010 AND 05000249/2023010

DISTRIBUTION:
Jessie Quichocho
Marc Ferdas
Paul Zurawski
RidsNrrDorlLpl3
RidsNrrPMDresden Resource
RidsNrrDroIrib Resource
John Giessner
Mohammed Shuaibi
Diana Betancourt-Roldan
Allan Barker
R3-DORS

ADAMS ACCESSION NUMBER: ML23068A150

☒ SUNSI Review		☒ Non-Sensitive ☐ Sensitive		☒ Publicly Available ☐ Non-Publicly Available	
OFFICE	RIII	RIII			
NAME	NShah:mb	RRuiz			
DATE	03/09/2023	03/09/2023			

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	05000237 and 05000249
License Numbers:	DPR-19 and DPR-25
Report Numbers:	05000237/2023010 and 05000249/2023010
Enterprise Identifier:	I-2023-010-0032
Licensee:	Constellation Nuclear
Facility:	Dresden Nuclear Power Station, Units 2 and 3
Location:	Morris, IL
Inspection Dates:	January 09, 2023 to January 27, 2023
Inspectors:	C. Hunt, Senior Resident Inspector M. Porfirio, Illinois Emergency Management Agency A. Shaikh, Senior Reactor Inspector M. Siddiqui, Reactor Inspector J. Steffes, Senior Resident Inspector
Approved By:	Robert 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 a biennial problem identification and resolution 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

Failure to Screen and Prioritize Work to Correct a Degraded Condition With the 2/3 Cribhouse Trash Rake			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000237,05000249/2023010-01 Open/Closed	[H.5] - Work Management	71152B
A self-revealed finding of very low safety significance (Green) was identified for the failure of the licensee to screen and process a degraded condition with the 2/3 cribhouse trash rake in accordance with licensee procedure WC-AA-106, "Work Screening and Processing," revision 19. As a result, the degraded condition was not corrected and led to the trash rake not being able to perform its design function during a significant grassing event on July 29, 2022.			

Failure to Perform an Analysis or Alternate Testing Method to Exempt As-Left Type C Testing on the Inboard MSIVs			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000237,05000249/2023010-02 Open/Closed	[H.6] - Design Margins	71152B
The inspectors identified a finding of very low safety significance (Green), and an associated non-cited violation of Technical Specification (TS) 5.5.12, "Primary Containment Leakage Rate Testing Program," for the licensee's failure to perform an analysis or alternate testing method to exempt as-left Type C local leakage rate tests (LLRTs) on the 3-0203-1A, 3-0203-1C, and 3-0203-1D inboard main steam isolation valves (MSIVs), prior to relying on the MSIVs for maintaining primary containment integrity. Specifically, the licensee waived as-left Type C LLRTs on the 3-0203-1A, 3-0203-1C, and 3-0203-1D MSIVs without performing an analysis, or alternate testing method, to provide reasonable assurance that the maintenance to replace the packing would not affect the leak tightness of the MSIVs and that the valves would still perform their intended safety functions.			

Failure to Perform Vendor-Required Maintenance Checks on Emergency Diesel Generator Air System Air Line Lubricators			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237,05000249/2023010-03 Open/Closed	[P.2] - Evaluation	71152B

The inspectors identified a finding of very low safety significance (Green) and associated non-cited violation of Title 10 of the *Code of Federal Regulations* (CFR), Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to incorporate vendor-required checks for the starting air lubricator into surveillance procedure DOS 6600-01, "Diesel Generator Surveillance Testing." As a result, a failure of the starting air system air line lubricator was not promptly identified. This condition caused the prolonged exposure of the upper air start motor to moisture without the benefit of proper lubrication for an extended period of time until it seized during surveillance testing.

Failure to Have Procedure Adequate for the Circumstances for External Events			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237,05000249/2023010-04 Open/Closed	[P.2] - Evaluation	71153
The inspectors identified a finding of very low safety significance (Green), and an associated non-cited violation of Technical Specification 5.4.1, “Procedures,” for the licensee’s failure to maintain procedures appropriate for the circumstances for combating emergencies and other significant events, such as acts of nature. Specifically, the licensee failed to incorporate into site procedures internal operating experience from grassing events which identified procedural inadequacies and predictive shortcomings to ensure mitigating systems would still perform their intended safety functions.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000237,05000249/ 2022-002-01	LER 2022-002-01 for Dresden Nuclear Power Station, Units 2 and 3, Ultimate Heat Sink Declared Inoperable due to River Grass Accumulation	71153	Closed
LER	05000237,05000249/ 2022-002-00	LER 2022-002-00 for Dresden Nuclear Power Station, Unit 2 and 3, Ultimate Heat Sink Declared Inoperable due to River Grass Accumulation	71153	Closed

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 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.

OTHER ACTIVITIES – BASELINE

71152B - Problem Identification and Resolution

Biennial Team Inspection (IP Section 03.04) (1 Sample)

(1) The inspectors performed a biennial assessment of the effectiveness of the licensee's Problem Identification and Resolution program, use of operating experience, self-assessments and audits, and safety conscious work environment.

- Problem Identification and Resolution Effectiveness: The inspectors assessed the effectiveness of the licensee's Problem Identification and Resolution program in identifying, prioritizing, evaluating, and correcting problems. The inspectors also conducted a 5-year review of the instrument air system.

- Operating Experience: The inspectors assessed the effectiveness of the licensee's processes for use of operating experience.

- Self-Assessments and Audits: The inspectors assessed the effectiveness of the licensee's identification and correction of problems identified through audits and self-assessments.

- Safety Conscious Work Environment: The inspectors assessed the effectiveness of the station's programs to establish and maintain a safety-conscious work environment.

71153 - Follow Up of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (2 Samples)

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

(1) LER 05000237/2022-002-00, "Ultimate Heat Sink Declared Inoperable due to River Grass Accumulation," (ADAMS Accession No. ML22269A513). The inspection conclusions associated with this LER are documented in this report under Inspection Results Section. This LER is closed.

(2) LER 05000237/2022-002-01, "Ultimate Heat Sink Declared Inoperable due to River Grass Accumulation," (ADAMS Accession No. ML22304A225). The inspection conclusions associated with this LER are documented in this report under Inspection Results Section. This LER is closed.

INSPECTION RESULTS

Assessment	71152B

Based on the samples reviewed, the team concluded that the licensee's implementation of the corrective action program (CAP) was generally effective and supported nuclear safety.

Effectiveness of Problem Identification

The inspectors reviewed a large sample of issue reports, causal evaluations, audits, and NRC-identified issues to assess the licensee's documentation of issues in the CAP. The inspectors ensured the issue reports were complete, accurate, and documented in a timely manner. The causal products were reviewed to ensure identification of root and contributing causes of the issues/events. The inspectors also evaluated the licensee's identification of negative trends associated with human performance or equipment performance that could potentially impact nuclear safety. Finally, the inspectors reviewed NRC-identified issues to determine if prior opportunities existed to identify the problems.

Based on the samples reviewed, the team concluded that generally the licensee identified issues at a low threshold and entered these issues into the CAP. The team determined that the licensee usually entered problems into the CAP completely and accurately.

The team also performed a 5-year review of the instrument air system. As part of this review, the team reviewed the system health and maintenance rule information and reviewed selected corrective actions and condition evaluation documents. The team concluded that issues with the instrument air system were identified and entered into the CAP at a low threshold and were resolved commensurate with their safety significance.

Effectiveness of Prioritization and Evaluation of Issues

The inspectors reviewed items in the CAP to ensure thorough and timely evaluation of identified issues, including disposition of operability and reportability issues. Causal products were evaluated for consideration of extent of condition and cause associated with identified root and contributing causes. These products were also reviewed for consideration of potential generic implications, common cause concerns, and evaluation of previous occurrences of issues. Based on the samples reviewed, the team determined that licensee performance was generally effective at prioritizing and evaluating issues commensurate with the safety significance of the identified problem with noted exceptions discussed below.

The inspectors reviewed Corrective Action Program Evaluation (CAPE) 04422420, "Grounded Cables Including 4KV Power Cables for Reactor Recirc Pump Motors Due to Water Submergence," which evaluated a packing leak from fire protection valve 2-4109-507 that dripped into a cable tray and led to the trip of the 2B reactor recirculation pump on May 8, 2021. The inspectors noted several opportunities for the licensee to have performed more holistic evaluations from previous packing leakage from 2-4109-507 and the associated effect on the cables in the tray below it.

The inspectors performed a search for other instances of wetted cables in cable trays occurring from repeated degraded conditions and identified one example where the licensee did not fully analyze the cause of a degraded condition following the loss of the 2/3 boiler house heating boilers. Specifically, the licensee documented the trip of both heating boilers in issue report (IR) 04215645 on January 30, 2019. The licensee's causal evaluation under IR 04215383 did not recognize that the temperature sensitive bulbs in the wet pipe fire protection system were susceptible to breaking in extreme cold temperatures, allowing water flow in the fire protection piping, which can cause the heating boilers to trip and water to spray into nearby cable trays. As such, no meaningful action was taken to address the vulnerability and a repeat trip of the heating boilers on December 24, 2022, occurred when a temperature sensitive bulb again broke due to extreme cold outside temperatures as documented in IR 04511613. The event documented in IR 04544613 resulted in a trip of the heating boilers, resulted in water spraying into cable trays, and required licensee action to dry out the wetted cables in response to an acrid odor as documented in IR 04544622. The inspectors did not identify any findings or violations associated with either occurrence.

Inspectors reviewed work group evaluation (WGE) 04317672, "Work Order Instructions Altered Outside Process," as documented in the CAP on February 13, 2020. The inspectors noted weaknesses with extent of condition directed by the WGE. As a result, a more thorough review of all post-maintenance testing performed during the D2R25 refueling outage was not conducted to identify any additional tests that were altered outside of process. Rather, the licensee performed a search in the CAP for any issues documented concerning work package revisions. The inspectors noted that issues already entered into the CAP would not detect a work order altered outside of process that hadn't already been recognized and therefore was not an effective extent of condition. The licensee documented the inspector's concerns in the CAP under IR 04549472.

Inspectors reviewed WGE 04454158, "U3 EDG Failure to Start," documented on October 20, 2021, and IR 04514560 which identified a non-functional starting air line lubricator on July 25, 2022. The inspectors determined that vendor recommendations for the starting air line lubricator state that the lubricator should be checked for proper operation before each start as specified in the vendor's scheduled maintenance program. The inspectors determined that licensee procedure DOS 6600-01, "Diesel Generator Surveillance Tests," does not include the recommended vendor checks and resulted in the licensee not identifying the lubricator being non-functional for a prolonged period of time, ultimately resulting in the seizing of the upper air start motor on the Unit 3 diesel generator. This issue was determined to be a finding and non-cited violation in this report.

The inspectors attended select station ownership and management review committee meetings and noted that the meetings were generally thorough and intrusive in reviewing issues and prioritizing actions. In addition, the team observed a healthy dialogue between the members of these committees and the members challenged each other when dispositioning issues.

Effectiveness of Corrective Actions

The inspectors reviewed issues in the CAP to ensure appropriate classification and prioritization of the problem's resolution commensurate with the safety significance of the issue. Corrective actions were assessed to ensure they were appropriately focused to correct the problem identified and to address the root and contributing causes of significant conditions adverse to quality and conditions adverse to quality. The inspectors reviewed

completion of corrective actions to validate they were completed according to the action plan, in a timely manner, and were effective at addressing the issue and preventing future issues. For NRC-identified issues, the inspectors evaluated whether prior attempts by the licensee to remedy the problems were adequate.

Based on the samples reviewed, the team determined that the licensee was generally effective in corrective action implementation. Problems identified using a root cause or other cause methodologies were resolved in accordance with CAP requirements. However, the team identified one example where the licensee failed to correct a degraded condition with the 2/3 cribhouse trash rake. Specifically, the inspectors reviewed IR 04511231, “Trash rake out of alignment,” documenting a degraded condition with the trash rake claw at the 2/3 cribouse on July 15, 2022. The inspectors noted that the issue report was improperly closed to a work order that did not address the issue. This condition was subsequently identified by the licensee in IR 04515399, “Trash rake out of alignment IR improperly closed,” on August 7, 2022, but after a severe grassing event beginning on July 29, 2022, resulted in the loss of the ultimate heat sink on two separate occasions. During the event, the trash rake was degraded in its ability to remove the debris from the cribhouse bar racks as designed. The inspectors determined that this condition directly challenged the safety function of the ultimate heat sink. This issue was determined to be a Finding in this report.

Additionally, the inspectors reviewed CAPE 04491749, “U3 DW Pressure step change up,” which evaluated the cause of a packing leak on the 3-0203-1B main steam isolation valve (MSIV) resulting in the licensee entering a forced outage to correct. Inspectors reviewed actions directed from the CAPE to repack the remaining inboard MSIVs during the next Unit 3 refueling outage in the Fall of 2022. The inspectors determined that although the valves were repacked, the licensee failed to perform an analysis for waiving the required local leak rate testing after the work was completed. The inspectors determined this issue was a finding and non-cited violation in this report.

Assessment	71152B

The inspectors reviewed a sample of completed self-assessments and audits conducted by licensee personnel, corporate personnel, the nuclear oversight group, and external organizations. The products reviewed included assessments of each of the cornerstone areas and the corrective action program (CAP) specific items.

Based on the samples reviewed, the team determined that the licensee's performance of self-assessments and audits was generally effective. The licensee performed department self-assessments and nuclear oversight audits throughout the organization on a periodic basis. These self-assessments and audits were generally effective at identifying issues and enhancement opportunities at an appropriate threshold. The self-assessments and audits reviewed by the team identified issues that were not previously known, including issues within the CAP itself. The team did not identify any concerns in this area.

Assessment	71152B

The team interviewed approximately 65 individuals that had varying roles and levels of responsibility within the organization. These interviews included a conversation with the site’s employee concerns program manager. The team also observed the most recent nuclear safety culture review meeting and reviewed minutes from prior meetings. Finally, the team reviewed the licensee's biennial safety culture self-assessment from 2021. The team focused their questions on individual’s willingness and ability to identify issues, freedom from potential

retaliation for raising safety concerns, effectiveness of the CAP at resolving issues, and individual involvement and drive to ensure proper resolution of issues.

The team did not identify any impediment to the establishment of a safety conscious work environment. Individuals felt free to raise safety concerns at all levels and through various avenues without fear of retaliation. If issues were not resolved appropriately, individuals would advocate for proper resolution as needed. The staff interviewed believed that operational issues and issues with high safety significance were being appropriately addressed in a timely manner.

Assessment	71152B

The inspectors reviewed the licensee's operating experience program to ensure items are adequately evaluated for applicability, and applicable lessons learned are communicated to appropriate organizations and implemented as appropriate. Based on the samples reviewed, the team determined that licensee's performance in the use of operating experience was generally effective with noted exceptions as discussed below:

> The licensee failed to effectively use both internal and external operating experience to identify and mitigate cable failures due to adverse environments. Specifically, fleet operating experience and corporate guidance in ER-AA-300-150, "Cable Condition Monitoring Program," was not being effectively incorporated by the site to prevent or mitigate cable failures. The licensee identified this issue as a contributing cause in Corrective Action Program Evaluation 4422420 following a trip of the 2B reactor recirculation pump on May 8, 2021.

The licensee failed to use both internal and external operating experience to develop an effective strategy to mitigate the effects of grassing events on the ultimate heat sink. This weakness manifested itself during the July 2022 grassing event in which the inspectors identified a finding and non-cited violation for the licensee failing to incorporate internal lessons learned during review of previous grassing events to ensure mitigating systems would still perform their intended safety functions. The finding and non-cited violation are documented in this inspection report. Additionally, the licensee identified in Root Cause Report 4520475 the holistic failure of the site to take meaningful action in response to internal and external operating experience to prevent or mitigate grassing events that challenge the ultimate heat sink.

Failure to Screen and Prioritize Work to Correct a Degraded Condition With the 2/3 Cribhouse Trash Rake			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000237,05000249/2023010-01 Open/Closed	[H.5] - Work Management	71152B

A self-revealed finding of very low safety significance (Green) was identified for the failure of the licensee to screen and process a degraded condition with the 2/3 cribhouse trash rake in accordance with licensee procedure WC-AA-106, "Work Screening and Processing," revision 19. As a result, the degraded condition was not corrected and led to the trash rake not being able to perform its design function during a significant grassing event on July 29, 2022.

Description:

In December of 2007, the Institute of Nuclear Power Operations distributed Significant Operating Experience Report (SOER) 07-2, “Intake Cooling Water Blockage,” which expected licensees to review their policies, procedures, and practices related to intake cooling water system design, maintenance, and operation to determine how the operating experience outlined in the report could be applied to improve the programs at their stations. The site responded to this operating experience through OPXR 712974 in the corrective action program (CAP).

In their response, the site identified several components leading to the intake of the cribhouse that work to mitigate the effects of debris accumulation. Specifically, the site identified the log boom at the intake of the canal which functions to prevent large floating objects, such as tree limbs and other debris, from the entering the intake canal; the bar racks, where water enters the cribhouse, which function to remove smaller debris from the water and are cleaned by manual operation of the trash rake; and traveling screens, which are located after the bar racks and function to remove additional debris not cleared by the bar rack and the trash rake. The traveling screens can be operated in automatic and manual to assist in debris removal.

Recommendation 4 of SOER 07-2 provided guidance to implement maintenance strategies and work control processes to maintain the functional capability of intake cooling water structures, equipment, and associated systems. Additionally, it recommended that the station work control processes provide appropriate priority for the timely repair of intake cooling water structures, equipment, and associated systems deficiencies that affect equipment operability.

Through site specific operating experience, the site also recognized that a period of heightened vulnerability for grass build up at the intake system is during the summer months between June 15 and September 30, when the site typically operates in an indirect open cycle cooling mode, where water is pulled straight from the Kankakee River. Specifically, operation in indirect-open cooling mode during a period of drought coinciding with low river flow, which is subsequently followed by heavy rains, is known to be a precursor to a grassing event.
On May 25, 2022, while performing activities to prepare for summer readiness, the site documented a degraded condition with the cribhouse trash rake claws not engaging into the bar racks in issue report (IR) 04502018. Specifically, "*While ops were performing WO#05258972-01, DOP 4400-14 (Operate Trash Rake to Clean Bar Racks), and MMD were performing inspection, ops observed that the rake claws were not going into the bar racks. This resulted in the debris not being able to be removed from the bar racks. The debris on the racks are SAT at this given time, but this may impact intake flow/level in near future."*

The issue was prioritized as a ‘B3’ priority in accordance with licensee procedure WC-AA-106, “Work Screening and Processing,” revision 19, which directs work to be scheduled and started within 9 weeks in an expedited manner. Subsequently, work request (WR) 1517655 was created and the condition was corrected on May 27, 2022.

On July 15, 2022, while in the seasonal window of increased vulnerability to a grassing event, the licensee documented another degraded condition with the trash rake claws not engaging into the bar racks in IR 4511231. Specifically, "*While attempting to clear the 2/3 Cribhouse screens it was noticed that the trash rake claw seems to be misaligned, while pulling it, the*

claw wasn't resting down in the racks and would be a few inches off the racks, allowing for more than normal debris to be dropped while pulling up to dump into the Honeywagon."

Unlike the previous issue with the trash rake claw documented in IR 4502018, the degraded condition documented in IR 4511231 was incorrectly screened and closed to Work Order (WO) 5265087, which did not contain specific activities to address the degraded condition. Additionally, WO 5265087 was given a 'C' priority for routine work which normally follows a 15 week or greater work scheduling process per WC-AA-106.

Ultimately, the inspectors determined that IR 4511231 was effectively closed to no actions taken and, as such, no longer being tracked by the CAP or the work control process. As a result, the degraded condition associated with the trash rake claws not engaging into the bar racks identified in IR 4511231 was left uncorrected and led to the trash rake not being able to perform its design function during the significant grassing event of July 29, 2022.

Corrective Actions: On July 31, 2022, the condition noted in IR 4511231 was corrected.

Corrective Action References: IR 4502018, "Crib House Trash Rake Claws Not Engaging into Bar Rack"; IR 4515399, "Trash Rake Out of Alignment IR Improperly Closed"; IR 4511231, "Trash Rake Out of Alignment"

Performance Assessment:

Performance Deficiency: The licensee failed to screen and process a degraded condition concerning the 2/3 cribhouse trash rake claws not engaging into the bar racks in accordance with WC-AA-106, "Work Screening and Processing," revision 19. Specifically, the licensee failed to perform a detailed review of the equipment deficiency and failed to gain a detailed understanding of the issue per the requirements of WC-AA-106, Section 4.3, prior to closing IR 04511231 to a work order that did not address the condition. As a result, the degraded condition was not corrected and led to the trash rake not being able to perform its design function during a grassing event on July 29, 2022.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Protection Against External Factors attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the inability to effectively remove debris from the bar racks with the trash rake prolonged the recovery of the ultimate heat sink on July 29, 2022, and contributed to the subsequent level drop below the Technical Specification limit on July 30, 2022.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors screened the issue using IMC 0609, Appendix A, Exhibit 1, "Initiating Events." The issue screened to very low safety significance (Green).

Cross-Cutting Aspect: H.5 - Work Management: The organization implements a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. The work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. Specifically, the licensee failed to identify and manage the risk associated with a degraded condition

associated with the 2/3 cribhouse trash rake during a time where the site was known to be vulnerable to grassing on the Kankakee River.

Enforcement:

Inspectors did not identify a violation of regulatory requirements associated with this finding.

Failure to Perform an Analysis or Alternate Testing Method to Exempt As-Left Type C Testing on the Inboard MSIVs			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000237,05000249/2023010-02 Open/Closed	[H.6] - Design Margins	71152B

The inspectors identified a finding of very low safety significance (Green), and an associated non-cited violation of Technical Specification (TS) 5.5.12, "Primary Containment Leakage Rate Testing Program," for the licensee's failure to perform an analysis or alternate testing method to exempt as-left Type C local leakage rate tests (LLRTs) on the 3-0203-1A, 3-0203-1C, and 3-0203-1D inboard main steam isolation valves (MSIVs), prior to relying on the MSIVs for maintaining primary containment integrity. Specifically, the licensee waived as-left Type C LLRTs on the 3-0203-1A, 3-0203-1C, and 3-0203-1D MSIVs without performing an analysis, or alternate testing method, to provide reasonable assurance that the maintenance to replace the packing would not affect the leak tightness of the MSIVs and that the valves would still perform their intended safety functions.

Description:

The MSIVs at Dresden Station have a closed safety function to provide reactor containment and reactor coolant system isolation on a Group 1 primary containment isolation signal. The primary containment isolation valves minimize the loss of reactor coolant inventory and establish the primary containment boundary during major accidents. The design basis accident analysis assumes containment isolates and leakage terminates, except for the maximum allowable leakage rate, L_a, prior to fuel damage.

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors" states, in part, "the requirements in either or both Option B, III.A, and Option B, III.B for Type C tests, may be adopted on a voluntary basis by an operating nuclear reactor licensee as specified in 50.54 in substitution of the requirements contained in Option A of this appendix."

Dresden TS 5.5.12, "Primary Containment Leakage Rate Testing Program," states, in part, a "program shall establish the leakage testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in NEI 94-01, 'Industry Guidelines for Implementing Performance-Based Option of 10 CFR Appendix J,' Rev 3-A dated July 2012."

On April 9, 2022, Dresden Unit 3 operators identified a significant increase in Unit 3 drywell leakage rate over a 24-hour period, and observed a corresponding step change in drywell pressure, activity, and temperature. Unit 3 operators commenced an emergent downpower to determine the cause and identified a leak around the 1B MSIV valve stem. Subsequently, the licensee shutdown to conduct repairs to the valve on April 10, 2022. The licensee conducted

causal evaluation under issue report (IR) 4491749 and determined the apparent cause to be less than adequate packing stress causing in-service relaxation of the packing. As part of the extent of condition, the licensee identified the issue to be applicable to the remaining Unit 3 inboard MSIVs (3-0203-1A, 3-0203-1C, and 3-0203-1D). As a result, the licensee planned to replace the packing sets on the remaining inboard MSIVs during the D3R27 refueling outage.

On November 6, 2022, during refueling outage D3R27, the licensee changed the packing sets on the 3-0203-1A, 3-0203-1C, and 3-0203-1D MSIVs under Work Orders (WOs) 05261627, 05261625, and 05261623, respectively. The WOs removed the old packing sets that were installed in the valves and replaced them with a new style packing set.

The inspectors reviewed WOs 05261623, 05261625, and 05261627 and noted Step G.1.e states that a pre-maintenance LLRT and a post-maintenance LLRT are required following packing replacement maintenance. However, the inspectors noted that Step G 6.n, which verified that the post-maintenance LLRT was listed in the post-maintenance section of the WO was marked as N/A. Additionally, the inspectors reviewed the licensee's primary containment leakage program as described in TS 5.5.12. During the inspectors' review they noted Section 10.2.3.3 of NEI 94-01, Revision 3-A, states "an as-left Type C test shall be performed following maintenance, repair, modification, or adjustment activity unless an alternate testing method or analysis is used to provide reasonable assurance that such work does not affect a valve's leak tightness and a valve will still perform its intended function." Station procedure ER-AA-380, "Primary Containment Leakrate Testing Program," Rev 17, Step 4.3.10, "As-left Testing", states "Perform an As-Left Type B or Type C Test whenever maintenance, repairs, modifications, or adjustments are performed on a Type B or Type C component prior to it being relied upon for establishing or maintaining primary containment integrity."

On January 10, 2023, the inspectors requested the as-left Type C LLRTs required after the completion of the MSIV packing set replacement. On January 11, 2023, in response to the inspectors' question, the licensee stated they had not performed as-left Type C tests, and the tests were not required due to the configuration of the valves. The inspectors questioned the licensee's response, and because of the inspectors' questions, the licensee planned to provide an engineering position paper to justify the exemption of the LLRTs.

On January 18, 2023, the licensee provided the MSIV inboard valve packing position paper, which stated "any leakage past the inboard packing would be contained inside containment and is not a potential Appendix J leakage pathway barrier." The inspectors once again questioned the licensee response, since the licensee had failed to provide an analysis or alternate testing method to provide reasonable assurance that the maintenance activity had not affected the seat tightness of the MSIVs, and the MSIVs would still perform their intended functions.

As a result of the inspectors' follow-up questions, on January 23, 2023, the licensee performed a technical analysis to justify waiving the as-left Type C testing on the MSIVs. The analysis was based on a comparison of the valve packing design datasheets and evaluated the change in seating forces between the two different packing sets. The licensee concluded that the final valve seating forces with the new packing installed, remained greater than or equal to the previous valve seating forces. Therefore, there was reasonable assurance that the valve seat tightness was not affected and would justify waiving the as-left Type C testing.

Corrective Actions: The licensee entered this issue into their corrective action program and generated IR 4550338, to document the lack of a prior analysis.

Corrective Action References: IR 4550338, "NRC ID WO Lacked Eval for LLRT PMT on MSIV Packing Replaced"

Performance Assessment:

Performance Deficiency: The licensee's failure to perform an analysis or alternate testing method to exempt as-left Type C LLRTs on the 3-0203-1A, 3-0203-1C, and 3-0203-1D MSIVs, prior to relying on the MSIVs for maintaining primary containment integrity, was a performance deficiency and contrary to TS 5.5.12. Specifically, the licensee waived as-left Type C LLRTs, without performing an analysis or an alternate testing method to provide reasonable assurance that the packing replacements would not affect the leak tightness on the MSIVs, and that the valves would still perform their intended functions.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the RCS Equipment and Barrier Performance attribute of the Barrier Integrity cornerstone 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. Specifically, the licensee waived the required as-left LLRTs without performing an alternate testing method or analysis to provide reasonable assurance that the valves would still perform their intended safety function following maintenance that could affect the leak tightness of the valves.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors determined the finding was of very low safety significance (Green) because they answered "No" to all the questions in Exhibit 3, "Barrier Integrity Screening Questions."

Cross-Cutting Aspect: H.6 - Design Margins: The organization operates and maintains equipment within design margins. Margins are carefully guarded and changed only through a systematic and rigorous process. Special attention is placed on maintaining fission product barriers, defense-in-depth, and safety related equipment. Specifically, following the maintenance to replace the packing on the MSIVs, the license failed to verify that the maintenance would not adversely affect the final valve seating forces to ensure the valves would operate within design leakage margins.

Enforcement:

Violation: TS 5.5.12, "Primary Containment Leakage Rate Testing Program," states, in part, a "program shall establish the leakage testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in NEI 94-01, 'Industry Guidelines for Implementing Performance-Based Option of 10 CFR Appendix J,' Rev 3-A dated July 2012."

NEI 94-01, Rev 3-A, Section 10.2.3.3, states "an as-left Type C test shall be performed following maintenance, repair, modification, or adjustment activity unless an alternate testing method or analysis is used to provide reasonable assurance that such work does not affect a valve's leak tightness and a valve will still perform its intended function."

Licensee established Procedure ER-AA-380, "Primary Containment Leakrate Testing

Program," Revision 17, which identifies the requirements for implementation and administration of the Appendix J program. Step 4.3.10, "As-left Testing", states "Perform an As-Left Type B or Type C Test whenever maintenance, repairs, modifications, or adjustments are performed on a Type B or Type C component prior to it being relied upon for establishing or maintaining primary containment integrity."

Contrary to the above, from November 4, 2022, to January 23, 2023, the licensee failed to implement the requirements of the primary containment leakage testing program in accordance with the guidelines contained in NEI 94-01 and site Procedure ER-AA-380. Specifically, the licensee waived as-left Type C LLRTs without performing an analysis or an alternate testing method to provide reasonable assurance the packing replacements on the 3-0203-1A, 3-0203-1C, and 3-0203-1D MSIVs would not affect the leak tightness on the valves and that the valves would still perform their intended functions.

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

Failure to Perform Vendor-Required Maintenance Checks on Emergency Diesel Generator Air System Air Line Lubricators			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237,05000249/2023010-03 Open/Closed	[P.2] - Evaluation	71152B

The inspectors identified a finding of very low safety significance (Green) and associated non-cited violation of Title 10 of the *Code of Federal Regulations* (10 CFR), Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to incorporate vendor-required checks for the starting air lubricator into surveillance procedure DOS 6600-01, "Diesel Generator Surveillance Testing." As a result, a failure of the starting air system air line lubricator was not promptly identified. This condition caused the prolonged exposure of the upper air start motor to moisture without the benefit of proper lubrication for an extended period of time until it seized during surveillance testing.

Description:

Per the licensee's preventive maintenance program, the Unit 3 emergency diesel generator (EDG) upper air start motor is replaced at a 12-year frequency under PMID 6658. This preventive maintenance was last performed on April 22, 2020, under Work Orders (WO) 4765443. On October 20, 2021, the Unit 3 EDG failed to start during surveillance testing. The licensee documented the issue in the corrective action program (CAP) under issue report (IR) 4454158. The licensee determined that the cause of the failure to start was that the upper air start motor had mechanically seized. The licensee sent the motor offsite to PowerLabs for failure analysis and the conclusion of the analysis stated that,

"The cause of the motor seizing was the thick layer of rust between the rotor (#15) and the cylinder (#12). The amount of rust on the parts suggests that the motor had been exposed to water over an extended period. The remainder of the components were in good condition and all four bearing were free spinning."

Actions from IR 4454158 included a system engineering review of the amount of moisture observed from all three EDG air receivers during blowdown evolutions and the identification

of any improvements for either how the evolution is performed or the frequency at which the air receivers are blown down. The licensee noted that there were no differences in the amount of moisture that was displaced during the observed air receiver blowdown evolutions or in the way the evolution was performed on any of the three EDGs. As such, the licensee concluded that no changes to the blowdown activities were warranted. Longer term actions included assessing the feasibility of adding a moisture removal device, such as an air dryer, or moisture indicating device in the air start system to limit the accumulation of moisture.

On July 25, 2022, the licensee documented a degraded condition with the Unit 3 air start system air line lubricator in IR 4514560. Specifically, the licensee noted that observations of the 2/3 EDG and Unit 2 EDG indicated the lubricators were operating as expected during monthly surveillances. However, an observation of the Unit 3 EDG air line lubricator during the monthly EDG surveillance on July 25, 2022, concluded that the lubricator did not appear to be providing any lubrication. The lubricator was subsequently replaced under WO 5281939 on September 21, 2022. No additional actions were taken out of IR 4514560.

On September 20, 2022, the licensee documented a concern from inspectors regarding the lack of pre-start checks on the air line lubricators during EDG surveillances in IR 4523625. Specifically, at the time of the inquiry, there were no actions to verify the level and operation of the lubricators in the air start system while running the EDGs. Proposed changes to surveillance procedure DOS 6600-01, “Diesel Generator Surveillance Tests,” were submitted as an action from IR 4523625, with a due date to incorporate those changes by February 28, 2023.

The inspectors reviewed the work group evaluation performed under IR 4454158 and the EDG vendor manual controlled under the licensee’s vendor equipment technical information program (VETIP). The vendor description of the air line lubricator states that the function of the lubricator is to emit an oil-air mist into the starting air system to provide lubrication for the starting motor. Specifically, the manual states, in part,

> *“As air enters the lubricator, the oil bowl is pressurized by way of the reversible venturi tube. The air flow creates a reduced pressure area as it passes through the venturi section causing the oil in the bowl to go up the siphon tube into the chamber above the drip gland. At this point, the quantity of oil entering the air line is controlled by a needle valve. As oil enters the air line it is diffused into a mist which is carried into the air starting motor. A sight glass below the needle valve gives visual indication of the flow rate of oil into the air line.”*

The vendor manual description of the required maintenance of the air start system states,

> "*The air starting system requires very little maintenance other than cleaning and lubrication. The air line lubricator is the only component of the system which requires maintenance at intervals specified in the Schedule Maintenance Program. Oil level in the bowl should be checked and the needle valve should be adjusted for an oil flow rate of three drops per minute. This can be visually checked through the sight glass in the front of the lubricator."*

The EDG vendor scheduled maintenance program states that the air system air line lubricator oil supply should be checked before each start.

The inspectors reviewed licensee procedure DOS 6600-01, “Diesel Generator Surveillance

Tests," and determined that there were no checks on the air line lubricator as required by the vendor's scheduled maintenance program. Absent any difference in water accumulation and blowdown practices between the three EDGs at the site, the inspectors determined that the proximate cause of the failure of the upper air start motor failure noted in IR 4454158 on October 20, 2021, was the failure of the air line lubricator to provide lubrication eventually discovered in IR 4523625 on July 25, 2022. Because the required vendor checks on the air line lubricator were not being performed during EDG surveillances, the failure of the air line lubricator in the Unit 3 EDG went unnoticed and resulted in the prolonged exposure of the upper air start motor to moisture without the benefit of proper lubrication for an extended period of time as noted in the PowerLabs failure analysis. Ultimately, this condition resulted in the motor mechanically seizing approximately one year and four months after being replaced which is significantly shorter than the recommended preventive maintenance replacement frequency of 12 years.

Corrective Action References: IR 4514560, "Inspect / Replace the U3 D/G Starting Air Lubricator"; IR 4523625, "IEMA / NRC ID - DOS 6600-01 Prestart Evaluation Needed"; IR 4454158, "U3 EDG Failure to Start"

Performance Assessment:

Performance Deficiency: The failure to incorporate checks for the starting air lubricator per vendor requirements into licensee procedure DOS 6601-01, "Diesel Generator Surveillance Tests," is a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment 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. Specifically, the failure to incorporate vendor-required checks for the starting air lubricator into licensee procedure DOS 6601-01 resulted in a failure of the Unit 3 air line lubricator going unnoticed. This condition led to the prolonged exposure of the upper air start motor to moisture without the benefit of proper lubrication for an extended period of time until it mechanically seized and prevented the start of the Unit 3 EDG during surveillance testing.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors screened the finding in accordance with IMC 0609, Appendix A, Exhibit 2, and answered "No" to all six screening questions. Therefore, the finding screens to very low safety significance (Green).

Cross-Cutting Aspect: P.2 - Evaluation: The organization thoroughly evaluates issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. Specifically, the original failure of the Unit 3 EDG to start was October 20, 2021. The licensee identified the failure of the air line lubricator on July 25, 2022. The licensee was questioned about pre-start checks on the air line lubricators by the inspectors on September 20, 2022. Despite this, DOS 6600-01 has still not been revised to perform the vendor-required checks on the air line lubricators.

Enforcement:

Violation: Title 10 CFR Appendix B, Criterion V, states, in part, activities affecting quality shall be prescribed by documented instructions or procedures, of a type appropriate to the

circumstances, and shall be accomplished in accordance with these instructions or procedures. Instructions and procedures shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

The licensee has established DOS 6600-01, "Diesel Generator Surveillance Tests," as the written procedure for performing surveillance testing on the Unit 3 EDG, an activity affecting quality.

Contrary to the above, the licensee failed to incorporate vendor-required checks for the starting air lubricator into surveillance procedure DOS 6600-01, or in DOP 6600-01, "Diesel Generator 2(3) Preparation for Standby Operation," as incorporated by reference. As a result, between April 22, 2020, to October 20, 2021, a failure of the air start system air line lubricator was not identified. This condition caused the upper air start motor to be subjected to a prolonged exposure to moisture resulting from inadequate lubrication until it seized during surveillance testing.
Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Have Procedure Adequate for the Circumstances for External Events			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000237,05000249/2023010-04 Open/Closed	[P.2] - Evaluation	71153

The inspectors identified a finding of very low safety significance (Green), and an associated non-cited violation of Technical Specification (TS) 5.4.1, “Procedures,” for the licensee’s failure to maintain procedures appropriate for the circumstances for combating emergencies and other significant events, such as acts of nature. Specifically, the licensee failed to incorporate into site procedures internal operating experience from grassing events which identified procedural inadequacies and predictive shortcomings to ensure mitigating systems would still perform their intended safety functions.

Description:

On July 29, 2022, the licensee noted during routine operator rounds that Bay 13 level was below the TS 3.7.3 value of 501 feet and 5 inches. The licensee declared the ultimate heat sink inoperable, entered the associated limiting condition for operation action A to restore operability within 12 hours or be in Mode 3, and be in Mode 4 within 36 hours. The licensee also entered abnormal operating procedure DOA 4400-06, “2/3 Cribhouse Screen Plugging,” Revision 8. The inspectors determined that during licensee response to the lowered Bay 13 level the licensee noted large amounts of debris had built up on the bar racks. Licensee procedures directed operators to use the trash rake system to clear debris for the bar racks so that water could flow into the cribhouse.

During the event the licensee noted that the trash rake was not performing its intended function because the trash rake was not correctly engaging in the bar racks. The inspectors' review determined that since the trash rake was not functioning properly, the licensee decided that breaking up the debris and allowing it to pass through the bar racks to be cleaned up by the traveling screens would address the issue. After several instances of

Bay 13 level recovery and loss, the inspectors determined that the licensee was able to fully recover bay level and exit the event once contractors reported to the site and began alternate operations than those prescribed in DOA 4400-06. Specifically, the contractor used high-pressure water spray, or lancing, to break up the debris clogging the bar racks and the licensee removed the broken-up debris using the traveling screens. This process was conducted until Bay 13 level had been recovered and TS 3.7.3 Condition A exited on July 30, 2022.

The inspector's reviewed DOA 4400-06 and noted symptoms, and therefore criteria used to enter the off normal procedure, included:

- large buildup of debris or ice on the inlet side of bar racks;
- Unit 2(3) Traveling Screen Differential Pressure Recorders indicate an increasing trend;
- Unit 2, 2/3, or Unit 3 Service Water Strainer Differential Pressure shows increasing trend or a sharp increase in the daily differential pressure recordings;
- water level across the traveling screens is greater than or equal to 10-inch drop; or
- control room annunciator 902(3)-7 B15, screen wash control panel trouble is alarming.

Inspector review of the event determined that alarms or remote indications did not alert the licensee to the ongoing grassing event and the subsequent Bay 13 impact until after the Ultimate Heat Sink exceeded the TS limit. Specifically, the inspectors noted that Bay 13 level had lowered from nominal to below TS requirements between day and night operator rounds which occur approximately 12 hours apart. The inspectors further reviewed IR 4434461, "Critique for Debris at the Bar Rack with Trash Rake Issues," and IR 2518599, "Entry into DOA 4400-06," and noted both condition reports documented that debris build up at the bar racks decreased Bay 13 levels without triggering DOA 4400-06 entry criteria outside of visual inspection by operators during rounds.

Corrective Actions: The licensee took immediate action to break up and remove the debris on the bar racks and restore the ultimate heat sink to an operable condition. Additionally, the licensee performed root cause evaluation of the event under Root Cause Report 4510475.

Corrective Action References: IR 4513848, "Grassing Blockage of Unit 2/3 Intake Leading to Shutdown LCO Entries."

Performance Assessment:

Performance Deficiency: The inspectors determined that the failure to establish appropriate grassing event entry conditions for DOA 4400-06, "2/3 Crib House Screen Plugging," was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Procedure Quality 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. Specifically, the licensee's failure to establish and maintain adequate entry criteria in DOA 4400-06 resulted in the loss of the ultimate heat sink prior to initiation of mitigating actions.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "Significance

Determination Process for Findings at-Power." The inspectors determined that the finding was of very low safety significance, or Green, because the inspectors answered "No" to all of the screening questions. Cross-Cutting Aspect: P.2 - Evaluation: The organization thoroughly evaluates issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. Specifically, the licensee failed to thoroughly evaluate multiple near miss incidents resultant from similar external events and did not identify procedural and analytical inadequacies for correction.
Enforcement: Violation: TS 5.4.1, "Procedures," requires, in part, that written procedures shall be established, implemented and maintained covering the following activities…[T]he applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Regulatory Guide 1.33, Revision 2, Appendix A, Section 6.w. includes procedures for combating emergencies and other significant events, including acts of nature. Dresden procedure DOA 4400-06, "2/3 Crib House Screen Plugging," revision 8, was a procedure under the purview of Regulatory Guide 1.33, Revision 2, Section 6, for combating significant events of grassing at the crib house, an act of nature. Contrary to the above, on July 29, 2022, DOA 4400-06, "2/3 Crib House Screen Plugging," Revision 8, failed to include adequate entry criteria and appropriate steps to combat the event to prevent the loss of the ultimate heat sink even after the station had experienced similar events. Specifically, the licensee failed to incorporate internal lessons learned during reviews of previous grassing events which identified procedural inadequacies and predictive shortcomings regarding site actions. As a result, Bay 13 water level was already below the TS 3.7.3 value of 501 feet and 5 inches before operators discovered the condition during routine operator rounds checks on July 29, 2022. 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 January 27, 2023, the inspectors presented the biennial problem identification and resolution inspection results to Pat Boyle, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71152B	Corrective Action Documents	AR 1675650	Nuclear Event Report (NER) NC-14-010-Y (xref 2581571)	06/26/2014
		AR 2518599	Entry into DOA 4400-06	06/23/2015
		AR 2695024	Grassing at 2/3 Cribhouse Intake	07/20/2016
		AR 3978244	U2 Inst Air Pressure Low, Enter DOA 4700-01	02/24/2017
		AR 3978311	DOP 4700-01 Needs a Rev Change	02/25/2017
		AR 4050104	After Maintenance the 3C IAC Tripped on Start	09/08/2017
		AR 4172574	2B IAC Secured After Start	12/07/2018
		AR 4198610	Relay Did Not Respond as Expected	08/19/2021
		AR 4215383	Reduction in Secondary Containment Differential Pressure Following Trip of Operating Heating Boiler	01/30/2019
		AR 4215645	UNEXPECTED XL3 ALARM AND HEATING BOILER TRIPS	01/30/2019
		AR 4231765	Unexpected Alarm 923-1 B-5, U2 or U3 Inst Air Compressor Trip	08/19/2019
		AR 4285123	DOA 4700-01 Loss of IA on U2	12/17/2019
		AR 4292469	U2 RBEDT Door Left Unsecured	10/29/2019
		AR 4292642	FME: RTD Thermocouple and Shackle Become Dislodged in RPV	10/30/2019
		AR 4299223	NDE-UT Results Below Minimum Required Thickness	11/15/2019
		AR 4301000	3Q19 Report Showed Fe Disagreement	12/02/2019
		AR 4309330	Incorrect Sources Used for RBCCW Rad Monitor Calibration	01/10/2020
		AR 4315603	Improper Crediting of NEIL Required Halon Surveillance	02/05/2020
		AR 4317672	HPCI Work Order Instructions Altered Outside Process	02/13/2020
		AR 4321713	Trend IR: Fire Protection Non-Compliance	02/26/2020
		AR 4327030	Loose Bearing Bracket Bolts 3A RB CCW Pump	03/16/2020
		AR 4331189	NRC: Procedures and Instrument Uncertainty	03/31/2020
		AR 4337771	Oil Samples Not Being Processed in a Timely Manner	04/23/2020
		AR 4338616	Trip of 2B Reactor Recirculation Pump	04/26/2020
		AR 4339677	NOS IS: Past SBLC Surveillance Credited Inappropriately	04/30/2020
		AR 4363686	3B RR Seal Causal Investigation D3M20	08/17/2020
		AR 4365128	Elevated Temperatures on 2/3 EDG Cooling Water System	08/24/2020
		AR 4380424	Rupture Disk Failure During Install	10/29/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		AR 4406307	Cable Aging Program Procedure Adherence Needs Improvement	01/01/2021
		AR 4422420	Grounded Cables Including 4KV Power Cables for Reactor Recirc Pump Motors Due to Water Submergence	05/08/2021
		AR 4433352	Large Debris at Bar Racks	07/04/2021
		AR 4433529	Broken Cable on 2/3 Trash Rake	07/06/2021
		AR 4433670	Logs Too Large for Trash Rake on Intake Bar Racks	07/07/2021
		AR 4434461	Critique for Debris at the Bar Rack with Trash Rake Issues	07/11/2021
		AR 4445302	3B LPCI Heat Exchanger Thermal Performance Test	09/08/2021
		AR 4453378	U3 Auto Scram Due to TR3 Failure and Fire	10/16/2021
		AR 4455836	Fire Protection Self-Assessment for NOS Inspection	09/13/2022
		AR 4467228	Groundwater Well Sample Damaged During Shipment	12/17/2021
		AR 4491749	U3 DW Pressure Step Change Up	04/09/2022
		AR 4494159	Broken Gasket 3-4735 3C IAC Receiver Leaking Air	04/19/2022
		AR 4501417	50.59/MOD Screening 2021-016 Enhancement	06/30/2022
		AR 4502018	Crib House Trash Rake Claws Not Engaging into Bar Rack	05/25/2022
		AR 4507782	Trend: U3 Service Air CO Monitor OOS	06/27/2022
		AR 4510475	2A FRV Failed Open	07/20/2022
		AR 4511231	Trash Rake Out of Alignment	07/15/2022
		AR 4515399	Trash Rake Out of Alignment IR Improperly Closed	08/07/2022
		AR 4544613	UNEXPECTED XL3 ALARM AND HEATING BOILER TRIPS	12/24/2022
		AR 4544622	Cables to Bus 37 Have an Acrid Odor	12/24/2022
	Corrective Action Documents Resulting from Inspection	AR 04549472	2023 PIR Question on WGE 4317672 Extent of Condition	01/20/2023
		AR 04550338	NRC ID WO Lacked Eval for LLRT PMT on MSIV Packing Replaced	01/25/2023
	Miscellaneous	ACE 662913	Unit 2/3 Cribhouse Screen Plugging	08/21/2007
		DRE-46019	Failure Analysis of MOTOR, STARTER, AIR, FOR EMERGENCY DIESEL ENGINE	10/28/2021
	Procedures	ER-AA-380	Primary Containment Leakrate Testing Program	17
		MA-AA-723-301	Periodic Inspection of Limitorque Model SMB/SB/SBD-000 Through 5 Motor Operated Valves	15
		PI-AA-115	Operating Experience Program	5