



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, ILLINOIS 60532-4352

February 12, 2019

Mr. Scott Sharp
Site Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company, Minnesota
1717 Wakonade Drive East
Welch, MN 55089-9642

**SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2—NRC
INTEGRATED INSPECTION REPORT 05000282/2018004 AND
05000306/2018004**

Dear Mr. Sharp:

On December 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Prairie Island Nuclear Generating Plant, Units 1 and 2. On January 10 and 22, 2019, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

Based on the results of this inspection, the NRC has identified one issue that was evaluated under the risk significance determination process as having very low safety significance (Green). The NRC has also determined that one violation was associated with this issue. Because the licensee initiated condition reports to address this issue, this violation is being treated as a Non-Cited Violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy. The NCV is described in the subject inspection report. Further, the inspectors documented a licensee-identified violation which was determined to be of very low safety significance in this report. The NRC is treating this violation as a NCV consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or significance of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement; and the NRC Resident Inspector at the Prairie Island Nuclear Generating Plant.

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 the Prairie Island Nuclear Generating Plant.

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 10 CFR 2.390, "Public Inspections, Exemptions, and Requests for Withholding."

Sincerely,

/RA/

Hironori Peterson, Chief
Branch 3
Division of Reactor Projects

Docket Nos. 50-282; 50-306; 72-010
License Nos. DPR-42; DPR-60; SNM-2506

Enclosure:
IR 05000282/2018004; 05000306/2018004

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Letter to Scott Sharp from Hironori Peterson dated February 12, 2019

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2—NRC
INTEGRATED INSPECTION REPORT 05000282/2018004; AND
05000306/2018004

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-282; 50-306; 72-010

License Nos: DPR-42; DPR-60; SNM-2506

Report No: 05000282/2018004; 05000306/2018004

Enterprise Identifier: I-2018-002-0041

Licensee: Northern States Power Company, Minnesota

Facility: Prairie Island Nuclear Generating Plant, Units 1 and 2

Location: Welch, MN

Dates: October 1 through December 31, 2018

Inspectors: L. Haeg, Senior Resident Inspector
K. Pusateri, Resident Inspector
I. Hafeez, Reactor Inspector
M. Holmberg, Senior Reactor Inspector
J. Cassidy, Senior Health Physicist
S. Bell, Health Physicist
M. Garza, Emergency Preparedness Inspector
P. Zurawski, Senior Resident Inspector, Monticello
R. Baker, Senior Operations Engineer
J. Hanna, Senior Risk Analyst

Approved by: H. Peterson, Chief
Branch 3
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring licensee's performance by conducting an integrated quarterly inspection at Prairie Island Nuclear Generating Plant, Units 1 and 2 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. One self-revealed Green finding and Non-Cited Violation (NCV), and one licensee identified non-cited violation are documented in report section 71153.

List of Findings and Violations

Failure to Develop Appropriate Clearance Order Results in Loss of Power to 4kV Bus 25			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000306/2018004-01 Closed	H.2 – Field Presence	71153
A Green finding and associated NCV of Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when the licensee failed to properly develop a Clearance Order (C/O) for modification activities within 4kV safeguards Bus 25.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000306/2018-001-00	Automatic Actuation of Emergency Diesel Generator D5	71153	Closed
LER	05000306/2018-001-01	Automatic Actuation of Emergency Diesel Generator D5	71153	Closed
LER	05000306/2018-002-00	RHR Flood Barriers Compensatory Measures	71153	Closed

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PLANT STATUS

Unit 1 began the inspection period shut down for refueling outage activities. On October 30, 2018, Unit 1 returned to full power and remained at full power for the remainder of the inspection period with the exception of brief down-power maneuvers to support surveillance testing activities.

Unit 2 operated at full power for the entirety of the inspection period with the exception of brief down-power maneuvers to support surveillance testing activities and a flexible power operations demonstration on December 21, 2018.

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 plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." 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.

REACTOR SAFETY

71111.01—Adverse Weather Protection

Winter Seasonal Readiness Preparations (1 Sample)

The inspectors evaluated the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect mitigating systems from the effects of adverse weather.

71111.04—Equipment Alignment

Partial Walkdown (4 Samples)

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

- (1) Spent Fuel Pool Heat Exchangers and Pumps on October 3, 2018;
- (2) Buses 15, 112 and 113 on November 28, 2018;
- (3) No. 22 Diesel-Driven Cooling Water Pump on December 10, 2018; and
- (4) Buses 25, 26 and 27 on December 18, 2018.

71111.05QA—Fire Protection Quarterly/Annual

Quarterly Inspection (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Fire Zone 43: Buses 111 and 121 on November 28, 2018;
- (2) Fire Zones 1 and 35: 11, 12, 21 and 22 Battery rooms on October 31, 2018;
- (3) Fire Zone 31; 121 & 122 Control Room Chiller Rooms; Revision 41;
- (4) Fire Zone 97: D5 and D6 Emergency Diesel Generator (EDG) rooms on November 27, 2018; and
- (5) Fire Zones 26 and 50: A and B Event Monitoring Rooms on November 28, 2018.

Annual Inspection (1 Sample)

The inspectors evaluated fire brigade performance for a simulated fire in the No. 122 Diesel-Driven Fire Pump Fuel Oil Storage Tank berm area on October 30, 2018.

71111.07—Heat Sink Performance

Heat Sink (1 Sample)

The inspectors evaluated 11 Component Cooling Heat Exchanger performance on October 3, 2018.

71111.08—In-Service Inspection Activities (1 Sample)

The inspectors assessed the effectiveness of the licensee's programs for monitoring degradation of the Unit 1 reactor coolant system boundary, risk-significant piping system boundaries, and the containment boundary by reviewing the following activities from September 26, 2018 to October 11, 2018:

- (1) Ultrasonic examination of: volume control system welds W-1 and W-2, reactor coolant system drain line piping weld 2-RC10A; and the pressurizer shell welds W-2 and W-5.
- (2) Visual VT-3 examination of: the internal casing surfaces of the No. 12 Reactor Coolant Pump (RCP); and the Auxiliary Feedwater (AFW) system pipe support hanger H1 (Drawing ISI-69A).
- (3) Fabrication of welds 3 and 4 in the residual heat removal system under Work Order 00535854-01 "Install Vents/Valves for Voids."
- (4) Fabrication of welds 1 and 2 in the steam generator blowdown system under Work Order 00388028-01 "Replace MV 32040, 11 Steam Generator (SG) B Isolation Train B."
- (5) Bare metal visual examination of the Unit 1 vessel head penetration nozzles.
- (6) Boric acid evaluations and related corrective actions: Evaluation 5430 "VC-16-24 12-RCP Seal Water Injection Line Vent," Evaluation 5450 "MV-32077-Sump B to 11 Residual Heat Removal System Pump" and AR 01538861 "1FE-459 -Bolted Connection."
- (7) Eddy current examination of tubes in Unit 1 SGs 11 and 12.

71111.11 A and Q—Licensed Operator Regualification Program and Licensed Operator Performance

Operator Regualification (1 Sample)

- (1) The inspectors observed and evaluated a licensed operator regualification scenario (Cycle 18F) on November 27, 2018.

Operator Performance (1 Sample)

- (1) The inspectors observed and evaluated operator response to an unexpected control rod withdrawal of 3 steps on Unit 1 on November 13, 2018.

Operator Exams (1 Sample)

The inspectors reviewed and evaluated regualification examination results on December 19, 2018.

71111.12—Maintenance Effectiveness

Routine Maintenance Effectiveness (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Valve gland follower issues on October 31, 2018; and
- (2) Balance of plant controller issues on December 10, 2018.

71111.13—Maintenance Risk Assessments and Emergent Work Control (2 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Motor-operated valve disconnected conduit issue on October 30, 2018; and
- (2) No. 12 Diesel-Driven Cooling Water pump leaking anode on December 11, 2018.

71111.15—Operability Determinations and Functionality Assessments (6 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) AR 501000016536: Unacceptable Void Found in 2RH-01 on October 24, 2018;
- (2) AR 501000017940: Equipment Environment Qualification—Flood Level Elevation Incorrect on October 26, 2018;
- (3) AR 501000019966: Gas Accumulation Management Program: 12 RHR Discharge Void Locations on November 15, 2018;
- (4) AR 501000020578: Refueling Water Storage Tank Leaking into Sump B on December 6, 2018;
- (5) AR 501000020995: Equipment Environment Qualification—Cable Noncompliance—X2 Compartment on December 14, 2018; and
- (6) AR 501000020132: D6 E2 LO Press Switch Leak, 2PSL-6673 on December 26, 2018.

71111.18—Plant Modifications (1 Sample)

The inspectors evaluated the following permanent modification:

- (1) EC 25124 D1 Breaker 15–2 NFPA 805 Modification on November 29, 2018.

71111.19—Post Maintenance Testing (4 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) SP 1106B; 22 Diesel Cooling Water Pump Monthly Test; Revision 95 following leak identified from a jacket water hose on October 17, 2018;
- (2) SP 1103B; Unit 1 Train B AFW Cold Shutdown Testing; Revision 1 on October 27, 2018;
- (3) SP 1003; Analog Protection Functional Test; Revision 78 following variable gain unit emergent work on November 15, 2018; and
- (4) SP 1295; D1 Diesel Generator 6 Month Fast Start Test; Revision 63 following 2–Year Preventative Maintenance on December 8, 2018.

71111.20—Refueling and Other Outage Activities (1 Sample)

The inspectors evaluated Refueling Outage 1R31 activities from September 23 through October 30, 2018.

71111.22—Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (4 Samples)

- (1) SP 1083A; Unit 1 Integrated Safety Injection (SI) Test with a Simulated Loss of Offsite Power Train A; Revision 10, and SP 1083B; Unit 1 Integrated SI Test with a Simulated Loss of Offsite Power Train B; Revision 10 on October 16, 2018;
- (2) SP 11106B; 22 Diesel Cooling Water Pump Monthly Test; Revision 95 on October 18, 2018;
- (3) SP 2855; Monthly 4kV Bus 25 Undervoltage Relay Test (OMICRON); Revision 7 on November 6, 2018; and
- (4) SP 2015; 4kV Bus 21/22 Under-Voltage & Under-Frequency Test; Revision 33 on November 27, 2018.

Containment Isolation Valve (1 Sample)

- (1) SP 1072.29B; Local Leak Rate Test of Penetration 29B (Containment Spray); Revision 31 on October 4, 2018.

71114.04—Emergency Action Level and Emergency Plan Changes (1 Sample)

The inspectors completed the evaluation of submitted Emergency Action Level and Emergency Plan changes on December 18, 2018. This evaluation does not constitute NRC approval.

RADIATION SAFETY

71124.01—Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (1 Sample)

The inspectors evaluated radiological hazards assessments and controls.

Instructions to Workers (1 Sample)

The inspectors evaluated worker instructions.

Contamination and Radioactive Material Control (1 Sample)

The inspectors evaluated contamination and radioactive material controls.

Radiological Hazards Control and Work Coverage (1 Sample)

The inspectors evaluated radiological hazards control and work coverage.

High Radiation Area and Very High Radiation Area Controls (1 Sample)

The inspectors evaluated risk-significant high radiation area and very high radiation area controls.

Radiation Worker Performance and Radiation Protection Technician Proficiency (1 Sample)

The inspectors evaluated radiation worker performance and radiation protection technician proficiency.

71124.02—Occupational As Low As Reasonably Achievable Planning and Controls

The inspectors evaluated the licensee's radiological work planning by reviewing the following activities:

- (1) Radiation Work Permit (RWP) 181031; 1R31—Sump C Inspection; Revision 00;
- (2) RWP 181013; 1R31—Residual Heat Removal (RHR) Pit Work; Revision 01;
- (3) RWP 181040; 1R31—Refuel Work; Revision 00; and
- (4) RWP 181071; 1R31—Steam Generator (SG) Primary Side Work; Revision 00.

Verification of Dose Estimates and Exposure Tracking Systems (1 Sample)

The inspectors evaluated dose estimates and exposure tracking.

Implementation of As Low As Reasonably Achievable and Radiological Work Controls (Partial Sample)

The inspectors reviewed As Low As Reasonably Achievable (ALARA) practices and radiological work controls by reviewing the following activities:

- (1) RWP 181031; 1R31—Sump C Inspection; Revision 00;

- (2) RWP 181013; 1R31—Residual Heat Removal Pit Work; Revision 01;
- (3) RWP 181040; 1R31—Refuel Work; Revision 00; and
- (4) RWP 181071; 1R31—SG Primary Side Work; Revision 00.

Radiation Worker Performance (1 Sample)

The inspectors evaluated radiation worker and radiation protection technician performance.

No findings or violations were identified.

OTHER ACTIVITIES – BASELINE

71151—Performance Indicator Verification (6 Samples)

The inspectors verified licensee performance indicators submittals listed below:

- (1) MS06: Emergency AC Power Systems (2 Samples)
(October 1, 2017–September 30, 2018);
- (2) MS09: RHR Systems (2 Samples)
(October 1, 2017–September 30, 2018); and
- (3) MS10: Cooling Water Support Systems (2 Samples)
(October 1, 2017–September 30, 2018).

71152—Problem Identification and Resolution

Semiannual Trend Review (1 Sample)

The inspectors reviewed the licensee's corrective action program for trends that might be indicative of a more significant safety issue. See Inspection Results below for more details.

71153—Follow-Up of Events and Notices of Enforcement Discretion

Licensee Event Reports (2 Samples)

The inspectors evaluated the following licensee event reports which can be accessed at <https://lersearch.inl.gov/LERSearchCriteria.aspx>:

- (1) (Closed) Licensee Event Report (LER) 05000306/2018–001–00 & 05000306/2018–001–01; Automatic Actuation of Emergency Diesel Generator D5; issued July 16 and September 17, 2018, respectively. See Inspection Results below for more details.
- (2) (Closed) LER 05000306/2018–002–00; RHR Flood Barriers Compensatory Measures; issued July 18, 2018. See Inspection Results below for more details.

INSPECTION RESULTS

71152—Problem Identification and Resolution

Observation	71152—Semi Annual Trend Review
<p>During the inspection period, the licensee identified several trends. Notably, the licensee identified potential trends in gas accumulation in the Unit 1 RHR system (no impact to safety function), and a potential trend in minor jacket water leaks identified following the performance of maintenance on EDGs at the site. The inspectors reviewed the inputs, evaluations, and planned actions associated with these trends, and also performed their own search of the corrective action program to validate that all inputs were considered. Although some of the evaluations were ongoing at the end of the inspection period, the inspectors held discussions with licensee management to understand interim actions taken to mitigate the trends until final corrective actions were taken.</p> <p>The inspectors did not identify any concerns with the licensee's interim actions and determined that the scope of each evaluation was appropriate.</p>	

71153—Follow-Up of Events and Notices of Enforcement Discretion

Licensee Identified Non-Cited Violation	71153
<p>This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a NCV, consistent with Section 2.3.2 of the Enforcement Policy.</p>	
<p><u>Enforcement:</u></p> <p>Violation: Prairie Island Technical Specification (TS) Limiting Condition for Operation 3.9.5 states, in part, one RHR loop shall be operable and in operation while in Mode 6 with water level greater than, or equal to, above the top of the reactor vessel flange.</p> <p>Contrary to the above, on October 19, 2017, the licensee removed a flood barrier floor plug that rendered the No. 22 RHR pump inoperable for 28 hours and 40 minutes (greater than the Immediate and 4-hour TS-Required Action Completion Times of TS 3.9.5, Condition A). Because the No. 21 RHR pump was out-of-service while the flood barrier was removed, a condition existed where the RHR safety function could have been impacted if a postulated internal flood event had occurred.</p> <p>Significance/Severity Level: The failure to restore the flood barrier floor plug prior to the expiration of the TS Action Completion time was considered a performance deficiency. The inspectors determined the performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of configuration control. The inspectors attempted to screen the finding using IMC 0609, Appendix G, Attachment 1 "Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings." The inspectors answered "Yes" to Question 2 of Exhibit 3 because the condition represented a loss of safety function for 28 hours and 40 minutes, and thus required further review using IMC 0609, Appendix G, Attachment 2, "Phase 2 SDP Template for PWR During Shutdown." An NRC Region III senior risk analyst reviewed the finding and confirmed it to be very low safety significance (Green) based on the condition</p>	

existing while the refueling cavity was flooded-up (aka Plant Operating State–3), where a potential Loss of Residual Heat Removal would have negligible impact.

Corrective Action Reference: AR 501000012293

This Licensee Identified NCV closes LER 05000306/2018–002–00.

Failure to Develop Appropriate Clearance Order Results in Loss of Power to 4kV Bus 25			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000306/2018004–01 Closed	H.2—Field Presence	71153
<p><u>Introduction:</u></p> <p>A Green finding and associated NCV of Title 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was self-revealed when the licensee failed to properly develop a Clearance Order (C/O) for modification activities within 4kV safeguards Bus 25. This resulted in the de-energization of the bus, the automatic actuation, loading and unloading of the D5 EDG, and a loss of available power to Unit 2 A train safeguards equipment for 52 minutes.</p> <p>This issue was documented in LERs 05000306/2018001–001–00 and–01, “Automatic Actuation of Emergency Diesel Generator D5.”</p>			
<p><u>Description:</u></p> <p>On May 17, 2018, with Unit 2 operating at full power, a complete loss of power occurred to 4kV Bus 25 with a subsequent valid actuation of the D5 EDG during the performance of modification activities within Bus 25. The D5 supply breaker closed onto Bus 25 as designed, but immediately tripped open. Operators responded to the event and restored power to Bus 25 within 52 minutes. The inspectors observed operator response to this event and reviewed the event timeline, use of response procedures, and immediate corrective actions. The event response and inspector activities were documented in Section 71153 of Prairie Island Inspection Report 2018002.</p> <p>Following the event, the licensee conducted a root cause evaluation (RCE) to identify root and contributing causes, as well as corrective actions. The licensee also submitted an 8–hour Event Notification for the valid actuation of the D5 EDG, and also submitted a LER. The inspectors reviewed the RCE and LER that identified an overall lack of risk recognition as part of the modification preparation/planning, development of tagging and clearances, and also oversight of supplemental personnel for the physical work that was being conducted on May 17, 2018. The licensee determined that several programmatic deficiencies and inappropriate decisions were made that led to workers inappropriately manipulating a potential transformer drawer for the energized Bus 25 causing the event.</p> <p>The licensee determined that C/O development was inappropriate, in that, C/O 2–EA 7000282–0150, “TD Install Conduit Cable for PT to Breaker 25–16,” for the</p>			

modification was not properly screened on December 14, 2017 as an Exceptional C/O per station procedure FP-OP-TAG-01, "Fleet Tagging," Revision 34. Had the C/O been properly developed, the site would have altered the work instructions to avoid work in the proximity to an energized potential transformer drawer, or the work would have been scheduled to coincide with a Bus 25 outage window.

Corrective Actions: Corrective actions to address the root and contributing causes included implementation of a nuclear risk mitigation program, revision to supplemental oversight procedures, and the study and development of rigorous walk-down expectations for the Design, Maintenance, and Operations planning departments. Also, the site revised FP-OP-TAG-01 to ensure that all tagging and clearances associated with modifications were designated as complex and exceptional. Corrective actions were also planned to install locking devices for Bus potential transformer drawers during the next planned bus outages. Interim actions were taken to preclude opening of the drawers until locking devices are installed.

Corrective Action Reference: AR 501000012089

Performance Assessment:

Performance Deficiency: The inspectors determined that the failure to accomplish FP-OP-TAG-01, "Fleet Tagging," Revision 34 in the development of a C/O for modification activities within 4kV safeguards Bus 25, was a performance deficiency. The cause of the issue of concern was reasonably within the licensee's ability to foresee and correct and the issue of concern should have been prevented. Specifically, by failing to accomplish FP-OP-TAG-01, an inadequate C/O was created that led to Bus 25 to be de-energized.

Screening: The inspectors determined the performance deficiency was more than minor, and a finding, because it adversely affected the Mitigating Systems Cornerstone Attribute of Configuration Control to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to properly develop a C/O for modification activities within 4kV Bus 25 (a Mitigating System) led to the unavailability of Bus 25 for approximately 52 minutes.

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 screened as very low safety significance (Green) because the inspectors answered No to Questions A.1 to A.4 under Exhibit 2—Mitigating Systems Screening Questions due to the finding not representing an actual loss of function of a single train for greater than its Technical Specification-allowed outage time.

Cross-cutting Aspect: The finding had a cross-cutting aspect in the Field Presence component of the Human Performance cross-cutting area that states that leaders are commonly seen in the work areas of the plant observing, coaching, and reinforcing standards and expectations. Deviations from standards and expectations are corrected promptly. Senior managers ensure supervisory and management oversight of work activities, including contractors and supplemental personnel. Specifically, several standards and expectations were not reinforced during the development of the open phase modification, and oversight was lacking on several occasions during the work control process. (H.2)

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 prescribed procedure FP-OP-TAG-01, "Fleet Tagging," Revision 34, as the implementing procedure for establishing a safe tagging boundary for C/O 2-EA 700007282-0150: TD INSTALL CONDUIT CABLE FOR PT TO BKR25-16 (EC 26784), an activity affecting quality for safety-related Bus 25 modifications.

Procedure FP-OP-TAG-01, Step 5.3.1 stated, in part, "The Clearance Order Preparer SHALL screen for Exceptional C/Os." Additionally, Step 4.15 stated, in part, that "Examples of [Exceptional C/Os] would include: All stored energy cannot be relieved from within a blocking boundary."

Contrary to the above, on December 14, 2017, the licensee failed to accomplish Step 5.3.1 of procedure FP-OP-TAG-01. Specifically, the Clearance Order Preparer did not screen C/O 2-EA 700007282-0150 as an Exceptional C/O as evidenced by answering NO to the question, "Is this an EXCEPTIONAL Tagout?" in the Attributes Section of the Electronic Tagout system. In fact, this C/O was an EXCEPTIONAL Tagout due to the inability to relieve all stored energy within the Bus 25 BKR 25-16 blocking boundary for the activity affecting quality.

This self-revealed Green NCV closes LER 05000306/2018-001-00 and-01.

EXIT MEETINGS AND DEBRIEFS

The inspectors confirmed that proprietary information was controlled to protect from public disclosure. No proprietary information was documented in this report.

- On October 4, 2018, the inspectors presented the radiation protection program inspection results to Mr. J. Boesch, acting General Manager-Maintain, and other members of the licensee staff.
- On October 11, 2018, the inspector presented the inservice inspection activities results to Mr. T. Conboy, Director of Site Operations, and other members of the licensee staff.
- On December 19, 2018, the inspector presented the completed 2018 Licensed Operator Requalification Program annual operating test inspection results with Mr. S. Sarrasin, Operations Training Program Supervisor.
- On December 19, 2018, the inspector presented the emergency preparedness inspection results to Mr. B. Carberry, Emergency Preparedness Manager, and other members of the licensee staff.
- On January 10 and 22, 2019, the inspectors presented the quarterly integrated inspection results to Mr. S. Sharp, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

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

71111.01—Adverse Weather

- TP 1637; Winter Plant Operation; Revision 54

71111.04—Equipment Alignment

- C1.1.20.6–1; Unit 1 480V System Switches and Indication Checklist; Revision 39
- C1.1.20.5–1; Unit 1 4.6kV System Switches and Indication Checklist; Revision 28
- F5 Appendix A; Fire Detection Zone 43—Fire Areas 22 & 80; Revision 43
- F5 Appendix A; Fire Strategies Symbols Legend; Revision 39
- C1.1.20.5–2; Unit 2 4.16 kV System Switches and Indication Checklist; Revision 30
- AR 501000021170; Missing Brass Plug on Breaker 26–16; 12/16/2018

71111.05AQ—Fire Protection

- Fire Drill Critique Report; 122 DDFP Day Tank Berm Area; 11/26/2018
- Fire Detection Zone 74; Screenhouse Ground Floor; Revision 34
- Fire Detection Zone 43; Bus 111 and 121 Switchgear Rooms; Revision 43
- Fire Detection Zone 1; 695' Level Turbine Building, Battery Room 11 & 12; Revision 27
- Fire Detection Zone 35; Battery Room 21 and 22; Revision 30
- Fire Zone 31; 121 and 122 Control Room Chiller Rooms; Revision 41
- Fire Detection Zone 26; Bus 112 and Train A Event Monitoring Rooms; Revision 34
- Fire Detection Zone 50; Bus 122 and Train B Event Monitoring Rooms; Revision 11
- Fire Detection Zone 97; D5/D6 Building; Revision 34

71111.07—Heat Sink Performance

- NF–39245–1; Component Cooling System Unit 1 Flow Diagram; Revision 84
- NF–39245–2; Component Cooling System Unit 1 Flow Diagram; Revision 81

71111.08—Inservice Inspection Activities

- 51–9200443–001; Prairie Island Unit 1 Condition Monitoring for EOC27 and Final Operational Assessment for Cycles 28, 29, and 30; Revision 1
- ACTS NSP–18–OXP–10041; X-Probe Array 41 IPS; Revision 0
- ACTS NSP–18–OXP–10022; X-Probe Array 22 IPS; Revision 0
- ACTS NSP–18–O–BOB–A; Bobbin 48 IPS; Revision 0
- ACTS NSP–18–O–BOB–B; Bobbin 24 IPS; Revision 1
- ACTS NSP–18–O–BOB–C; Bobbin 12 IPS; Revision 1
- AR 501000017818; 1R31 SP 1403 Relevant Indications; 10/01/2018
- AR 501000017733; NRC Observation 2018 ISI Inspection; 09/28/2018
- AR 501000012442; LTR NRC 18–34; CRDM Thermal Sleeve Part 21; 07/19/2018
- AR 501000011605; Risk Failure to Perform Pressure Test; 05/03/2018

- AR 500001555855; Valve VC-15-56 Diaphragm Failed; 07/14/2017
- AR 500001542542; Water Found on Flange and Fitting VC-16-24; 11/18/2016
- AR 500001540887; SP 1168.13 Active Leak SI-145-2; 11/17/2016
- AR 500001540890; MV-32068 1SAF Injection Loop B Leak; 11/07/2016
- AR 500001539956; 12 RCP NDE Non-Relevant Indications; 10/29/2016
- AR 500001539574; 1R30 Foreign Material Found in 11 SG LPTS; 10/27/2016
- AR 500001538861; SP 1392 Bolted Connections ISI Indications; 10/21/2016
- AR 500001452005; Preliminary Flaw Indications in U1 Baffle Assembly; 10/24/2014
- EVAL 5430; VC-16-24 12 RCP Seal Water Injection Line Vent; 12/19/2016
- EVAL 5450; MV-32077 Sump B to 11 RCP Pump; 02/07/2017
- MRJ-TRC-2354; Site Validated Inspection Techniques Fall 2018 SG Inspection; Revision 0
- Personnel Certification Record; E. Fennern-UT Level II; 08/07/2018
- Personnel Certification Record; A. Jensen-UT Level III; 08/07/2018
- Personnel Certification Record; A. Jensen-VT-2 Level III; 08/07/2018
- Personnel Certification Record; K. Wickenheiser-VT-2 Level II; 07/19/2018
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- PQR DAEC-PrQR-W-12; Revision 1
- PQR NSP-PQR-1270/1271; Revision 0
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- H2; Boric Acid Corrosion Control Program; Revision 28
- H25.0 SG Program; Revision 23
- H25.3 SG Tube Repair Criteria; Revision 11
- 54-ISI-366-012; VT-1 and VT-3 Examinations; 06/19/2014
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- FP-PE-NDE-406; Ultrasonic Examination of Reactor Pressure Vessel Welds; Revision 3
- FP-PE-NDE-530; Visual Examination VT-3; Revision 8
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- SWI NDE-ET-1; Bobbin Data Analysis; Revision 9
- SWI NDE-ET-3; Rotating Coil Data Analysis; Revision 8
- SWI NDE-ET-6; Array Coil Data Analysis; Revision 4
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- Report 2018U020; UT Calibration/Examination-Pressurizer Top Head/Shell Weld W-5; 10/02/2018
- Report 2018U021; UT Calibration/Examination-Pressurizer Vertical Shell Weld W-2; 10/02/2018
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- WPS FP-PE-B31-P8P8-GTSM-03; Revision 5
- WPS FP-PE-B31-P1P1-GTSM-001; Revision 3

71111.11Q—Licensed Operator Regualification

- Simulator Exercise Guide P9118ST-0605; Cycle 18F Simulator Session #2; Revision 0

71111.12—Maintenance Effectiveness

- AR 501000019081; Indications of Cracked Gland Follower; 10/24/2018
- AR 501000019059; 1R31 EOC VC-16-24 Gland Follower; 10/24/2018
- Type 2—Operational Decision Making Issue Evaluation; Operational Maintenance Strategy for Manual Valve Gland Flange IGSCC-related Issues; Revision 0
- AR 501000018720; Re-Evaluate SI-15-9 Gland Follower EOC; 10/17/2018
- EC Number: 27070; Two-Piece Gland Follower (XH-1-84-1); Revision 0
- EC Number: 0000027166; Rockwell Edward 3/4" Model #3624F316J Two-Piece Gland Follower; Revision 000
- EC Number: 27167; Two-Piece Gland Follower (XH-1-82-1, Alternate Follower Detail); Revision 0
- EC Number: 27408; Valve Variable Spacer Generic Modification; Revision 0
- AR 501000020830; Roll-Up for Secondary Level Controllers; 12/07/2018

71111.13—Maintenance Risk Assessment and Emergent Work

- AR 501000020904; Active Jacket Water Leak on 12 DDCLP; 12/10/2018

71111.15—Operability Evaluations

- AR 501000016536; Unacceptable Void Found in 2RH-01; 09/15/2018
- AR 501000017940; EEQ—Flood Level Elevation Incorrect; 10/02/2018
- AR 501000019966; GAMP: 12 RHR Discharge Void Locations; 11/14/2018
- AR 501000020578; RWST Leaking into Sump B; 12/02/2018
- AR 501000020995; EEQ Cable Non-Compliance—X2 Compartment; 12/12/2018
- AR 501000020132; D6 E2 LO Press Switch Leak, 2PSL-6673; 11/19/2018

71111.18—Plant Modifications

- EC 25124; D1 Breaker 1502 NFPA 805 Modification

71111.19—Post Maintenance Testing

- PM 3001-2-D1; D1 Diesel Generator Inspection (034-011); Revision 38
- WO 700045998; Troubleshoot and Repair 1TM-401L; 11/13/2018
- SP 1003; Analog Protection Functional Test; Revision 78

71111.20—Refueling Outage

- 1R31 Prairie Island Refueling Outage September 2018 Shutdown Safety Assessment
- 1C1.3-M3; Unit 1 Shutdown to Mode 3; Revision 2
- 1C1.3-M2; Unit 1 Shutdown to Mode 2; Revision 2
- SP 1036; Turbine Overspeed Trip Exercise; Revision 32
- 1C1.2-M1; Unit 1 Startup to Mode 1; Revision 9
- C1-B; Unit Startup Checklist; Revision 23
- C1.M2; Surveillance Requirements—Mode 2, Startup; Revision 18

71111.22—Surveillance Test

- SP 1072.29B; Local Leakage Rate Test of Penetration 29B (Containment Spray); Revision 31
- AR 501000018753; CV-31019 + CV-31092 Closed in SP-10838; 10/17/2018
- NE-40009-172; (FP-R-LIC-06 Pertaining to QIM 501000018657; 10/22/2018
- NF-86186-3; Interlock Logic Diagrams—Containment and Auxiliary Building Chilled Water System
- WO 700044590; SV-37460 Did Not Vent Properly (No Date)
- WO 700044590-0030; SV-37460, PMT/RTS; 10/18/2018
- AR 501000018658; SP-1083A Table 20-D1 Data Point OOT; 10/15/2018
- SP 1083A; Unit 1 Integrated SI Test With a Simulated Loss of Offsite Power Train A; Revision 10
- SP 2015; 4kV Bus 21/22 Undervoltage and Under Frequency Relay Test; Revision 33
- NF-40524-3; 4.16 kV Bus 22 Undervoltage Relay Test Point Cabinets (No Date)
- NF-40524-1; Wiring Diagram 4.16 kV SWGR Normal Relay Cabinet (No Date)
- NF-40524-2; Wiring Diagram 4.16 kV SWGR Normal Transducer CA6 (No Date)
- NE-40405-Sheet 3; Revision 77
- NE-40405-Sheet 18; Revision L
- NF-40002-1; Single Line-Metering and Relaying 1 and 2 Generator and Normal Incoming 4.16kV Switchgear Unit 1 and 2 (No Date)
- XH-1001-1407; Prairie Island Nuclear Generating Plant No. 2 Reactor Protection System; 08/22/1990
- WO 700036282; SP 2090B 22 Containment Spray Pump; 11/21/2018
- SP 2090B; 22 Containment Spray Pump Quarterly Test; Revision 27

71114.04—Emergency Action Level and Emergency Plan Changes

- Emergency Plan; Revision 55
- F3-2.1; Emergency Action Level Technical Bases; Revision 14
- PI-2017-584; 10 CFR 50.54(q) Review Form; 11/03/2017
- PI-2018-594; 10 CFR 50.54(q) Review Form; 03/19/2018
- PI-2018-600; 10 CFR 50.54(q) Review Form; 03/21/2018
- PI-2018-601; 10 CFR 50.54(q) Review Form; 05/16/2018
- PI-2018-602; 10 CFR 50.54(q) Review Form; 05/15/2018
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- AR 501000007938; NOS Finding: 50.54(q) Eval of EP EAL Chg; 04/06/2018
- AR 501000012092; Rev.6 EAL Bases Change Recommended; 07/13/2018

71124.01—Radiological Hazard Assessment and Exposure Controls

- SnapShot Report; AR Number 607000000190; RP Program Readiness Review for NRC Inspection; 07/17/2018 through 07/25/2018
- Radiation Work Permit and Associated ALARA Files; RWP 181031; 1R31—Sump C Work; Revision 00
- Radiation Work Permit and Associated ALARA Files; RWP 181013; 1R31—Residual Heat Removal Pit Work; Revision 01
- Radiation Work Permit and Associated ALARA Files; RWP 181040; 1R31—Refuel Work; Revision 00
- Radiation Work Permit and Associated ALARA Files; RWP 181042; 1R31—Reactor (RX) Head Disassembly / Reassembly Work; Revision 00
- Radiation Work Permit and Associated ALARA Files; RWP 181070; 1R31—11 & 12 Steam Generator (SG) Secondary Side Work; Revision 00
- Radiation Work Permit and Associated ALARA Files; RWP 181071; 1R31—11 & 12 Steam Generator (SG) Primary Side Work; Revision 00
- AR 501000018036; RP to Review the Adequacy of the Equipment Hatch Shield Blocks Free Release Policy; 10/04/2018
- AR 501000018054; Monitoring the Equipment Hatch Opening Observations; 10/04/2018
- AR 501000007328; Apparent Cause Evaluation; Poor HRA Rad Worker Practice Trend; 03/12/2018
- AR 501000007162; Pre-job Brief Delta; 01/11/18
- AR 501000017776; RP Staffing for Outages Gets Less and Less; 09/29/2018
- AR 501000017871; 1R31 I-131 Quantified in Air Samples; 10/01/2018
- Alpha Characterization Study; 08/17/18
- Radioactive Source Inventory/Leak Check; 08/21/2018
- Technical Document 17-003; Ni-63 Detection Capability of the Protean WPC-9550-FC for Source Leakage Tests; Revision 1
- Radiation Surveys Unit 1 Containment; 10/1/2018 through 10/04/2018
- Radiological Air Samples Unit 1 Containment; 1R31 Outage (No Date)
- Electronic Dosimeter Alarm Logs; Various Records (No Date)
- National Source Tracking System Annual Reconciliation; 01/2018
- Personnel Contamination Monitor Alarm Setpoint Information; Current Data (No Date)
- RPIP 1302; Unconditional Release of Materials; Revision 30
- SSA 606000000562; 2018 Prairie Island Isotopic Mix Evaluation (No Date)

71124.02—Occupational As Low As Reasonably Achievable Planning and Controls

- Radiation Work Permit and Associated ALARA Files; RWP 181031; 1R31—Sump C Work; Revision 00
- Radiation Work Permit and Associated ALARA Files; RWP 181013; 1R31—Residual Heat Removal Pit Work; Revision 01
- Radiation Work Permit and Associated ALARA Files; RWP 181040; 1R31—Refuel Work; Revision 00
- Radiation Work Permit and Associated ALARA Files; RWP 181042; 1R31—Reactor (RX) Head Disassembly / Reassembly Work; Revision 00
- Radiation Work Permit and Associated ALARA Files; RWP 181070; 1R31—11 & 12 Steam Generator (SG) Secondary Side Work; Revision 00

- Radiation Work Permit and Associated ALARA Files; RWP 181071; 1R31–11 & 12 Steam Generator (SG) Primary Side Work; Revision 00

71151—Performance Indicator Verification

- Prairie Island MSPI Basis Document; Revision 25
- Units 1 & 2 MSPI Margin Reports; 09/2018
- MSPI Tracking Table; 11/2018
- H33.2; Mitigating Systems Performance Index (MSPI) Reporting Instructions; Revision 10
- FP–PA–PI–02; NRC/INPO/WANO Performance Indicator Reporting; Revision 14

71152—Problem Identification and Resolution

- AR 501000015715; GAMP: SP 2082A Void Tracking; 08/16/2018
- AR 501000020043; GAMP: SP 1468.1 Trend RHR Suction; 11/15/2018
- AR 501000016523; 12 DDCLP Low Jacket Water Temperature; 09/06/2018
- AR 501000016583; Thermocouple Leads Appear to be Swapped; 09/06/2018
- AR 501000016757; Thermocouple Wire for 16280 Broken; 09/06/2018
- AR 501000019523; 12 and 22 DDCLP Trend; 11/12/2018