



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II**

245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

May 13, 2016

Richard Michael Glover  
Site Vice President  
H. B. Robinson Steam Electric Plant  
Duke Energy  
3581 West Entrance Road, RNPA01  
Hartsville, SC 29550

**SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000261/2016001**

Dear Mr. Glover:

On March 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your H. B. Robinson Steam Electric Plant, Unit 2. On April 18, 2016, the NRC inspectors discussed the results of this inspection with Mr. Krakuszeski and other members of your staff. Additionally, on May 12, 2016, a re-exit meeting was conducted with you and other members of your staff to discuss the final results of the inspection. Inspectors documented the results of this inspection in the enclosed inspection report.

Five NRC-identified findings of very low safety significance (Green) were identified during this inspection. These findings were determined to involve violations of NRC requirements. The NRC is treating these violations as non-cited violations consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violations or the significance of the violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the H. B. Robinson Steam Electric Plant.

If you disagree with the cross-cutting aspect assignments in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II, and the NRC Resident Inspector at the H. B. Robinson Steam Electric Plant.

R. Glover

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

Sincerely,

**/RA/**

George T. Hopper, Chief  
Reactor Projects Branch 4  
Division of Reactor Projects

Docket No.: 50-261  
License No.: DPR-23

Enclosure:  
IR 05000261/2016001  
w/Attachment: Supplementary Information

cc Distribution via Listserv

R. Glover

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Sincerely,

*/RA/*

George T. Hopper, Chief  
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Letter to Richard Michael Glover from George T. Hopper dated May 13, 2016

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000261/2016001

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**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket No: 50-261

License No: DPR-23

Report No: 005000261/2016001

Licensee: Duke Energy Progress, Inc.

Facility: H. B. Robinson Steam Electric Plant, Unit 2

Location: 3581 West Entrance Road  
Hartsville, SC 29550

Dates: January 1, 2016 through March 31, 2016

Inspectors: K. Ellis, Senior Resident Inspector  
C. Scott, Senior Resident Inspector (Acting)  
J. Parent, Resident Inspector (Acting)  
W. Loo, Senior Health Physicist, 2RS6, 4OA1  
A. Nielsen, Senior Health Physicist, 2RS7, 4OA1  
D. Bacon, Senior Operations Engineer, 4OA5

Approved by: George T. Hopper, Chief  
Reactor Projects Branch 4  
Division of Reactor Projects

Enclosure

## SUMMARY

IR 05000261/2016001, January 1, 2016, through March 31, 2016; Duke Energy Progress, Inc., H.B. Robinson Steam Electric Plant, Unit 2, Adverse Weather Protection, Maintenance Effectiveness, Maintenance Risk Assessments and Emergent Work Control, Surveillance Testing, Other Activities.

The report covered a three-month period of inspection by resident inspectors and regional inspectors. There were five violations and associated findings documented in this report. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP) dated June 2, 2011. The cross-cutting aspects are determined using IMC 0310, "Aspects within the Cross-Cutting Areas" dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated January 28, 2013. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

### Cornerstone: Initiating Events

- Green. The inspectors identified a Green non-cited violation (NCV) of technical specification (TS) 5.4.1.a for the licensee's failure to adequately establish and implement procedure OMM-021, Operation During Adverse Weather Conditions. Specifically, the licensee failed to include requirements to tie down or remove loose material in the area of Unit 1 adjacent to the switchyard. Additionally, the licensee failed to implement the procedural requirements to tie down or remove material in the vicinity of the turbine building ground level and secure doors to the chemical treatment room and as required by procedure OMM-021. As corrective action, the licensee secured or removed the material in the vicinity of the turbine building and issued a procedure change request to change procedure OMM-021 to include an action to secure or remove potential missile hazards in the vicinity of the switchyard in the Unit 1 area. The licensee entered this issue into their corrective action program (CAP) as condition report (CR) 2005141.

The licensee's failure to include requirements to tie down or remove loose material in the area of Unit 1 adjacent to the switchyard in procedure OMM-021, and failure to implement the procedural requirements to tie down or remove material in the vicinity of the turbine building ground level and secure doors to the chemical treatment room as required by procedure OMM-021 during a tornado watch/warning was a performance deficiency. The performance deficiency was determined to be 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 those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to secure or remove potential missile hazards in the areas adjacent to the switchyard increased the likelihood of a unit trip and/or loss of offsite power event. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1, Section B and determined the finding to be of very low safety significance (Green) because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The performance deficiency had a cross-cutting aspect of Work Management in the area of Human Performance because the organization did not

implement a process of planning, controlling, and executing work activities associated with a tornado watch/warning such that nuclear safety was the overriding priority. [H.5] (Section 1R01)

- Green. The inspectors identified a Green NCV of TS 5.4.1.a, for the licensee's failure to adequately implement procedure OMM-001-11, Logkeeping, while performing maintenance. Specifically, the licensee replaced a local light indication for PCV-1716, a containment instrument air isolation valve, which resulted in a plant transient, without a senior reactor operator (SRO) being contacted, as required per procedure. As corrective action, the licensee replaced the blown fuse, issued a standing instruction to initiate a work request for all light bulb replacements, and submitted a procedure revision request to add more detailed guidance for lightbulb replacement. The licensee entered this issue into their CAP as CR 1991686.

The failure to contact an SRO prior to changing out a local light indication for PCV-1716 as required by procedure OMM-001-11 was a performance deficiency. The performance deficiency was more than minor because it was associated with the human performance 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 power operations. Specifically, because the SRO was not contacted, an assessment and management of risk associated with the replacement of the light indication was not performed, and resulted in a plant transient. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 1, Section B and determined the finding to be of very low safety significance (Green) because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The performance deficiency had a cross-cutting aspect of Avoid Complacency in the area of Human Performance because the individual performing the lightbulb replacement did not recognize and plan for the possibility of mistakes, latent issues, and inherent risk. [H.12] (Section 1R13)

#### Cornerstone: Mitigating Systems

- Green. The inspectors identified a Green NCV of 10 CFR 50.65(b)(1), for the licensee's failure to include safety-related structures, systems and components (SSCs) within the scope of the maintenance rule program. Specifically, the licensee failed to include auxiliary building ventilation fans, which are required to remain functional during and following a design bases event to mitigate the consequences of an accident, within the scope of the maintenance rule monitoring program. The licensee initiated corrective actions to include the auxiliary building ventilation exhaust fans within the maintenance rule monitoring program. The licensee entered this issue into their CAP as CR 1997952.

The failure to appropriately scope the safety-related auxiliary building ventilation fans within the maintenance rule was a performance deficiency. This performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance 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 include auxiliary building ventilation fans in the maintenance rule affects the licensee's ability to effectively monitor the performance or condition of the SSCs such

that SSCs remain capable of fulfilling their intended function. Using IMC 0609, Appendix A, issued June 19, 2012, SDP for Findings At-Power, the inspectors determined that this finding was of very low safety significance (Green) because the finding did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding does not have a cross-cutting aspect since the failure to scope this equipment into the maintenance rule was not recognized during the initial maintenance rule scoping activities in 1997 and, as a result, is not indicative of current licensee performance. (Section 1R12)

- Green. A self-revealing Green NCV of 10 CFR Part 50, Appendix B, Criterion III, Design Control, was identified for the licensee's failure to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled. Specifically, the failure to control a modification of the service water (SW) system led to the installation of a non-conforming valve and resulted in the inoperability of the motor-driven auxiliary feedwater (MDAFW) system. As corrective action, the licensee performed a modification to replace the SW-115 valve. The licensee entered this issue into their CAP as CR 1993790.

The failure to control deviations from design specifications for a modification to the SW system was the performance deficiency. The performance deficiency was more than minor because it was associated with the design control 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 (i.e. core damage). Specifically, the installation of a valve outside of design specifications for the SW system contributed to the failure of SW-115 and reduction of cooling water flow to the MDAFW system. This degraded condition rendered the "A" train of the MDAFW system inoperable for greater than its TS AOT from December 15, 2015, to January 19, 2016. In addition, both trains of MDAFW were inoperable for greater than the TS AOT from January 19, 2016, to January 22, 2016. The inspectors used NRC IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," to evaluate the significance of this issue and determined the finding required a Detailed Risk Evaluation because the finding represented an actual loss of function of at least a single train of MDAFW for greater than its TS AOT. A detailed risk evaluation was performed by a regional SRA in accordance with NRC IMC 0609 Appendix A using the NRC Robinson SPAR model and input from the licensee's Robinson Fire PRA model. The major analysis assumptions included exposure periods for loss of a single train of MDAFW for 38 days and loss of both trains of MDAFW for a period of three hours. No recovery was assumed. The SDAFW and "C" AFW trains were not affected. The dominant sequence was a loss of main feedwater initiator followed by failures of both trains of MDAFW due to the performance deficiency, the SDAFW pump, the "C" train of AFW, and failure of the operator to implement feed and bleed cooling. The risk associated with this performance deficiency was mitigated by the availability of alternate AFW trains. The detailed risk evaluation determined that the increase in core damage frequency due to the performance deficiency was less than  $1.0 \text{ E-6}$  per year and therefore the performance deficiency was characterized as a GREEN finding of very low safety significance. The finding does not have a cross-cutting aspect since the installation of a valve outside of design specifications into the SW system occurred prior to 1978 and, as a result, is not indicative of current licensee performance. (Section 1R22)



- Green. The NRC identified a Green NCV of TS 5.4.1.a for the licensee's failure to adequately maintain procedures EOP-ECA-0.0, Loss of All AC Power, and EOP-E-0, Reactor Trip or Safety Injection, as recommended in Regulatory Guide (RG) 1.33, "Quality Assurance Program Requirements (Operations)," Revision 2, dated February 1978. Specifically, both procedures contained inadequate procedure steps. Revision four of EOP-ECA-0.0, contained a step that could delay or prevent the restoration of a charging pump when electrical power was available to do so. This could have led to a loss of reactor coolant system (RCS) pressure control. Revision six of EOP-E-0, contained a step that could have led to the restoration of seal injection to overheated reactor coolant pump (RCP) seals with subsequent RCP seal damage and RCS leakage. The licensee submitted procedure revision requests (PRRs) 2009136 and 2009217 to correct the procedures. The licensee entered this issue into their CAP as CR 2009602.

The licensee's failure to adequately maintain the emergency operating procedures by having inadequate procedure steps, was a performance deficiency. The performance deficiency was determined to be more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, steps in EOP-ECA-0.0 and EOP-E-0 could lead to one or more of the following during an event: unnecessary reduction in core sub-cooling margin, loss of RCS pressure control, RCP seal damage, and/or excessive RCS leakage. The finding is 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 needed to respond to initiating events to prevent undesired consequences. Using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of a safety system and/or function; (3) did not represent an actual loss of function of at least a single train of a plant system for longer than its TS allowed outage time, or two separate safety systems out-of-service for longer than their TS allowed outage time; and (4) did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significance in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding has a cross-cutting aspect in the area of human performance associated with avoiding complacency because individuals did not recognize and plan for the possibility of mistakes and latent issues when performing EOP verification and validation. [H.12] (Section 4OA5)

## REPORT DETAILS

### Summary of Plant Status

The unit began the inspection period at 100 percent rated thermal power (RTP). On January 4, 2016, the unit was downpowered to 79 percent power following the loss of both heater drain pumps. The unit returned to 100 percent power on January 5, 2016, and remained there for the remainder of the inspection period.

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R01 Adverse Weather Protection (71111.01 – 1 sample)

##### a. Inspection Scope

##### .1 Impending Adverse Weather Conditions

The inspectors reviewed the licensee's preparations to protect risk-significant systems for a tornado warning on February 24, 2016. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures, including operator staffing, before the onset of the adverse weather conditions. The inspectors reviewed the licensee's plans to address the ramifications of potentially lasting effects that may result from heavy rainfall. The inspectors verified that operator actions specified in the licensee's adverse weather procedure maintain readiness of essential systems. The inspectors verified that required surveillances were current, or were scheduled and completed, if practical, before the onset of anticipated adverse weather conditions. The inspectors also verified that the licensee implemented periodic equipment walkdowns or other measures to ensure that the condition of plant equipment met operability requirements. Documents reviewed are listed in the Attachment.

##### b. Findings

Introduction: The inspectors identified a Green NCV of TS 5.4.1.a for the licensee's failure to adequately establish and implement procedure OMM-021, Operation During Adverse Weather Conditions. Specifically, the licensee failed to include requirements to tie down or remove loose material in the area of Unit 1 adjacent to the switchyard. Additionally, the licensee failed to implement the procedural requirements to tie down or remove material in the vicinity of the turbine building ground level and secure doors to the chemical treatment room as required by procedure OMM-021.

Description: On February 24, 2016, at 1116, Robinson Unit 2 was notified that Darlington County was under a tornado watch, and procedure OMM-021, Operation During Adverse Weather Conditions, was entered. At 1503 the licensee received a tornado warning, which then transitioned back to a tornado watch at 1545. The tornado watch was exited at 1900. The inspectors confirmed that the licensee implemented the applicable procedure, and subsequently performed a site walkdown to determine whether all potential missile hazards were secured or removed as directed in

procedure OMM-021. The inspectors completed the walkdown at approximately 1600 and identified unsecured signs, hoses, thin metal plates, and wooden pallets in the vicinity of the turbine building ground level and unsecured doors to the chemical treatment room. Per procedure OMM-21, the debris was required to be secured or removed and the doors were required to be secured. In addition, the inspectors noted a large quantity of debris directly adjacent to the switchyard in the Unit 1 area. This specific area was not mentioned in the procedure, however, it is directly adjacent to the covered areas and the switchyard itself. These items could have been blown into switchyard components, potentially affecting Unit 2 main transformers (unit trip risk) and/or offsite power availability. The inspectors identified these items of concern to the Control Room Supervisor for resolution. The licensee performed a walkdown and addressed all items as necessary. The licensee initiated CR 2005141 to document the issue.

Analysis: The licensee's failure to include requirements to tie down or remove loose material in the area of Unit 1 adjacent to the switchyard in procedure OMM-021, and failure to implement the procedural requirements to tie down or remove material in the vicinity of the turbine building ground level and secure doors to the chemical treatment room as required by procedure OMM-021 during a tornado watch/warning was a performance deficiency. The performance deficiency was determined to be 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 those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to secure or remove potential missile hazards in the areas adjacent to the switchyard increased the likelihood of a unit trip and/or loss of offsite power event. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1, Section B and determined the finding to be of very low safety significance (Green) because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The performance deficiency had a cross-cutting aspect of Work Management in the area of Human Performance because the organization did not implement a process of planning, controlling, and executing work activities associated with a tornado watch/warning such that nuclear safety was the overriding priority. [H.5]

Enforcement: TS 5.4.1.a required, in part, that written procedures be established, implemented, and maintained covering the activities specified in Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors," of RG 1.33, "Quality Assurance Program Requirements (Operations)," Revision 2, dated February 1978. RG 1.33 Appendix A Section 6, "Procedures for Combating Emergencies and Other Significant Events," required procedures for acts of nature, including tornados. Procedure OMM-021, Operation During Adverse Weather Conditions, was a plant procedure that implemented this requirement.

Contrary to the above, on February 24, 2016, the licensee failed to adequately establish and implement procedure OMM-021, Operation During Adverse Weather Conditions, written for acts of nature during a tornado watch or warning. As corrective action, the licensee secured or removed the material in the vicinity of the turbine building and issued a procedure change request to change procedure OMM-021 to include an action to secure or remove potential missile hazards in the vicinity of the switchyard in the Unit 1 area. Because the finding was of very low safety significance and has been

entered into the licensee's CAP as CR 2005141, this violation is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy:  
NCV 05000261/2016001-01, Failure to Adequately Establish and Implement Procedure During Tornado Watch/Warning

1R04 Equipment Alignment (71111.04 – 5 samples)

a. Inspection Scope

.1 Partial Walkdown

The inspectors verified that critical portions of the selected systems were correctly aligned by performing partial walkdowns. The inspectors selected systems for assessment because they were a redundant or backup system or train, were important for mitigating risk for the current plant conditions, had been recently realigned, or were a single-train system. The inspectors determined the correct system lineup by reviewing plant procedures and drawings. Documents reviewed are listed in the Attachment. The inspectors selected the following systems or trains to inspect:

- Component Cooling Water Pump (CCW) "B" when CCW "C" out of service for maintenance
- MDAFW Pump "A" while the MDAFW pump "B" is out of service for maintenance
- CV Spray "A" while "B" is out of service for maintenance
- Service Water Booster Pump "A" while "B" is out of service for maintenance

.2 Complete Walkdown

The inspectors verified the alignment of the auxiliary feedwater system. The inspectors selected this system for assessment because it is a risk-significant mitigating system. The inspectors determined the correct system lineup by reviewing plant procedures, drawings, the updated final safety analysis report, and other documents. The inspectors reviewed records related to the system's outstanding design issues, maintenance work requests, and deficiencies. The inspectors verified that the selected system was correctly aligned by performing a complete walkdown of accessible components.

To verify the licensee was identifying and resolving equipment alignment discrepancies, the inspectors reviewed corrective action documents, including condition reports and outstanding work orders. The inspectors also reviewed periodic reports containing information on the status of risk-significant systems, including maintenance rule reports and system health reports. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05A/Q – 6 samples)

a. Inspection Scope

1. Quarterly Inspection

The inspectors evaluated the adequacy of selected fire plans by comparing the fire plans to the defined hazards and defense-in-depth features specified in the fire protection program. In evaluating the fire plans, the inspectors assessed the following items:

- control of transient combustibles and ignition sources
- fire detection systems
- water-based fire suppression systems
- gaseous fire suppression systems
- manual firefighting equipment and capability
- passive fire protection features
- compensatory measures and fire watches
- issues related to fire protection contained in the licensee's corrective action program

The inspectors toured the following fire areas to assess material condition and operational status of fire protection equipment. Documents reviewed are listed in the Attachment.

- Charging Pump Room, fire zone 4
- Rod Control Room, fire zone 21
- "A" Emergency Diesel Generator Room, fire zone 2
- North Cable Vault, fire zone 9
- South Cable Vault, fire zone 10

.2 Annual Inspection

The inspectors evaluated the licensee's fire brigade performance during a drill on February 23, 2016, and assessed the brigade's capability to meet fire protection licensing basis requirements. The inspectors observed the following aspects of fire brigade performance:

- capability of fire brigade members
- leadership ability of the brigade leader
- use of turnout gear and fire-fighting equipment
- team effectiveness
- compliance with site procedures

The inspectors also assessed the ability of control room operators to combat potential fires, including identifying the location of the fire, dispatching the fire brigade, and sounding alarms. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

a. Inspection Scope

.1 Underground Cables

The inspectors reviewed related flood analysis documents and inspected the areas listed below containing cables whose failure could disable risk-significant equipment. The inspector directly observed the condition of cables and cable support structures and, as applicable, verified that dewatering devices and drainage systems were functioning properly. In addition, the inspectors verified the licensee was identifying and properly addressing issues using the corrective action program. Documents reviewed are listed in the attachment.

- Unit 2, H568-SA, "A" EDG Fuel Oil Transfer Pump Electrical Handhole
- Unit 2, H569-SA, "A" EDG Fuel Oil Transfer Pump Electrical Handhole
- Unit 2, H574-SB, "B" EDG Fuel Oil Transfer Pump Electrical Handhole
- Unit 2, H575-SB, "B" EDG Fuel Oil Transfer Pump Electrical Handhole

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program and Licensed Operator Performance (71111.11 – 2 samples)

a. Inspection Scope

.1 Resident Inspector Quarterly Review of Licensed Operator Regualification

The inspectors observed a simulator scenario administered to an operating crew conducted in accordance with the licensee's accredited regualification training program. The scenario on February 18, 2016, evaluated the operators' ability to respond to a loss of bus duct cooling, the failure of an instrument bus and a reactor trip initiated by a loss of offsite power. The inspectors assessed the following:

- licensed operator performance
- the ability of the licensee to administer the scenario and evaluate the operators
- the quality of the post-scenario critique
- simulator performance

Documents reviewed are listed in the Attachment.

.2 Resident Inspector Quarterly Review of Licensed Operator Performance in the Actual Plant/Main Control Room

The inspectors observed licensed operator performance in the main control room during an emergent downpower from 100 percent power to less than 80 percent power following the loss of both heater drain pumps on January 4, 2016. The inspectors reviewed the operator performance and adherence to the operating procedures.

The inspectors assessed the following:

- use of plant procedures
- control board manipulations
- communications between crew members
- use and interpretation of instruments, indications, and alarms
- use of human error prevention techniques
- documentation of activities
- management and supervision

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12 – 2 samples)

a. Inspection Scope

The inspectors assessed the licensee's treatment of the issues listed below to verify the licensee appropriately addressed equipment problems within the scope of the maintenance rule (10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants"). The inspectors reviewed procedures and records to evaluate the licensee's identification, assessment, and characterization of the problems as well as their corrective actions for returning the equipment to a satisfactory condition. The inspectors also interviewed system engineers and the maintenance rule coordinator to assess the accuracy of performance deficiencies and extent of condition. Documents reviewed are listed in the Attachment.

- CR 1998012, Non-Safety Service Water valves installed on Safety Related Equipment
- CR 1997952, HVE-2A, HVE-2B, HVE-5A and HVE-5B Safety Related Classification

b. Findings

Introduction: The inspectors identified a Green NCV of 10 CFR 50.65(b)(1), for the licensee's failure to include safety-related SSCs within the scope of the maintenance rule program. Specifically, the licensee failed to include auxiliary building ventilation fans, which are required to remain functional during and following a design bases event to mitigate the consequences of an accident, within the scope of the maintenance rule monitoring program.

Description: The inspectors reviewed the performance and maintenance history of the auxiliary building ventilation supply and exhaust system. Several condition reports and work orders were written to address the inability to maintain the auxiliary building at negative pressure. The inspectors noted that auxiliary ventilation fans HVE-2A, HVE-2B, HVE-5A and HVE-5B were classified as safety-related in the licensee equipment database. The licensee's design bases document states that the fans have a safety-related function to control air flow throughout the areas served such that radioactive effluent accountability is maintained during normal plant operation and transient and accident conditions. Updated final safety analysis report (UFSAR)

Section 9.4.1-2 states that auxiliary building exhaust and ventilation (HVE-2A, HVE-2B, HVE-5A and HVE-5B) must remain operable on emergency power following an accident.

The inspectors reviewed the licensee's performance monitoring guidelines and identified that the auxiliary building ventilation fans were not included in the maintenance rule monitoring program as required by 10 CFR 50.65(b)(1). The licensee entered this issue in the CAP as CR 1997952 and initiated actions to include the auxiliary building ventilation exhaust fans into the maintenance rule.

Analysis: The failure to appropriately scope the safety-related auxiliary building ventilation fans within the maintenance rule was a performance deficiency. This performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance 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 include auxiliary building ventilation fans in the maintenance rule affects the licensee's ability to effectively monitor the performance or condition of the SSCs such that SSCs remain capable of fulfilling their intended function. Using IMC 0609, Appendix A, issued June 19, 2012, SDP for Findings At-Power, the inspectors determined that this finding was of very low safety significance (Green) because the finding did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding does not have a crosscutting aspect since the failure to scope this equipment into the maintenance rule was not recognized during the initial maintenance rule scoping activities in 1997 and, as a result, is not indicative of current licensee performance.

Enforcement: 10 CFR 50.65(b)(1) requires, in part, that the holders of an operating license shall include within the scope of the monitoring program, specified in 10 CFR 50.65(a)(1), SSCs that are relied upon to remain functional during and following design basis events.

Contrary to the above, since the initial maintenance rule scoping in 1997, the licensee failed to include within the scope of the monitoring program specified in 10 CFR 50.65(a)(1), the safety-related auxiliary building ventilation fans. These SSCs are relied upon during and after design basis events to mitigate the consequences of an accident. The licensee initiated corrective actions to include these SSCs within the maintenance rule monitoring program. Because this violation was of very low safety significance and because this issue was entered into the licensee's CAP as CR 1997952, this violation is being treated as a NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV05000261/2016001-02, Failure to Scope Safety-Related Auxiliary Building Ventilation Fans into the Maintenance Rule

#### 1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 7 samples)

##### a. Inspection Scope

The inspectors reviewed the maintenance activities listed below to verify that the licensee assessed and managed plant risk as required by 10 CFR 50.65(a)(4) and licensee procedures. The inspectors assessed the adequacy of the licensee's risk assessments and implementation of risk management actions. The inspectors also verified that the licensee was identifying and resolving problems with assessing and



managing maintenance-related risk using the corrective action program. Additionally, for maintenance resulting from unforeseen situations, the inspectors assessed the effectiveness of the licensee's planning and control of emergent work activities. Documents reviewed are listed in the Attachment.

- January 4, 2016, Qualitative Yellow Risk for downpower following loss of heater drain pumps
- January 14, 2016, Qualitative Yellow Risk for FCV-478, feedwater regulating valve "C" in manual
- January 19 - 24, 2016, "B" Work Train, MDAFW pump "B" out of service for maintenance
- January 25, 2016, Qualitative Yellow Risk for MDAFW check valve and piping inspections
- February 21, 2016, Quantitative Yellow Risk for Motor-Driven Fire Pump out of service for maintenance.
- March 17, 2016 Qualitative Yellow Risk while "C" AFW Pump and SDAFW Pump out of service for maintenance
- January 15, 2016, Emergent work control associated with replacement of the light indication for the isolation valve to instrument air in containment

b. Findings

Introduction: The inspectors identified a Green NCV of TS 5.4.1.a, for the licensee's failure to adequately implement procedure OMM-001-11, Logkeeping, while performing maintenance. Specifically, the licensee replaced a local light indication for a containment instrument air isolation valve, which resulted in a plant transient, without a SRO being contacted, as required per procedure.

Description: On January 15, 2016, a local light indication for PCV-1716, Instrument Air Isolation to Containment, was found extinguished. The Auxiliary Operator (AO) replaced a light bulb without contacting an SRO or writing a work request as required by procedure OMM-001-11, to determine if the light bulb warranted immediate replacement. Consequently, a work request was not generated and a risk assessment was not performed.

During reinstallation of the light bulb, a spark was noted. The spark event blew a fuse for PCV-1716 and caused the valve to close, which isolated instrument air to containment. Since there was no control board annunciator for this condition, it was not readily apparent that PCV-1716 had closed. Twelve minutes later, the control room received an alarm indicating that the air-operated letdown line isolation valves were drifting closed. As a response to the pressurizer level rising, the charging pump speed was reduced to minimum, resulting in less than adequate cooling flow to the RCP seals. Operators took action to recover RCP seal injection. Five minutes later, RCP Sprinkler low annunciator illuminated, at which point it was discovered that instrument air to containment had been isolated.

Since operations had suspected a blown fuse they dispatched an operator to replace the blown fuse with a like-in-kind fuse from another non-needed component in the same fuse rack. This course of action was performed due to the time constraints associated with pressurizer level reaching the high level trip setpoint. Upon replacement of the fuse, instrument air was restored to containment which also allowed restoration of

normal letdown. During this transient, pressurizer level increased from approximately 53 percent to 75 percent with the high level trip setpoint of 91 percent.

Analysis: The failure to contact an SRO prior to changing out a local light indication for PCV-1716 as required by procedure OMM-001-11 was a performance deficiency. The performance deficiency was more than minor because it was associated with the human performance 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 power operations. Specifically, because the SRO was not contacted, an assessment and management of risk associated with the replacement of the light indication was not performed, and resulted in a plant transient. The inspectors evaluated the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 1, Section B and determined the finding to be of very low safety significance (Green) because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The performance deficiency had a cross-cutting aspect of Avoid Complacency in the area of Human Performance because the individual performing the lightbulb replacement did not recognize and plan for the possibility of mistakes, latent issues, and inherent risk. [H.12]

Enforcement: TS 5.4.1.a required, in part, that written procedures be established, implemented, and maintained covering the applicable procedures recommended in RG 1.33, Revision 2, Appendix A, dated February 1978. RG 1.33 Appendix A, Section 9, "Procedures for Performing Maintenance," required procedures for proper preplanning and performing maintenance in accordance with written procedures. Additionally, procedures for control of maintenance, repair, replacement, and modification work, including information on the method for obtaining permission and clearance for operation personnel to work, and for logging such work is required. Procedure OMM-001-11 was a plant procedure that implemented this requirement for light indication replacement.

Contrary to the above, on January 15, 2016, the licensee failed to adequately implement procedures for performing maintenance as required by Section 9 of RG 1.33. Specifically, the licensee replaced a local light indication on a containment instrument air isolation valve without contacting the SRO as required per procedure. This maintenance activity resulted in the isolation of instrument air, loss of normal letdown, and a loss of adequate cooling to the RCP seals. As corrective action, the licensee replaced the blown fuse, issued a standing instruction to initiate a work request for all light bulb replacements, and submitted a procedure revision request to add more detailed guidance for lightbulb replacement. Because this violation was of very low safety significance and was entered into the licensee's CAP as CR 1991686, this violation is being treated as a NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV05000261/2016001-03, Failure to Follow Procedure for a Light Indication Replacement

#### 1R15 Operability Determinations and Functionality Assessments (71111.15 – 6 samples)

##### a. Inspection Scope

The inspectors selected the operability determinations or functionality evaluations listed below for review based on the risk-significance of the associated components and

systems. The inspectors reviewed the technical adequacy of the determinations to ensure that TS operability was properly justified and the components or systems remained capable of performing their design functions. To verify whether components or systems were operable, the inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to the licensee's evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment.

- CR 759789, Leak on AFW-84, SDAFW Pump Discharge Check Valve
- CR 1987998, Reactor Power Rise after Heater Drain Pump Trip
- CR 2015447, Charging Pump Lowering Flow Rate
- CR 2012120, Diesel Room CO2 System out of service
- CR 2014936, 52/31A breaker arc chutes need to be retorqued
- CR 2013574, MS-162, Steam leak increased

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 2 samples)

a. Inspection Scope

The inspectors verified that the plant modifications listed below did not affect the safety functions of important safety systems. The inspectors confirmed the modifications did not degrade the design bases, licensing bases, and performance capability of risk significant structures, systems and components. The inspectors also verified modifications performed during plant configurations involving increased risk did not place the plant in an unsafe condition. Additionally, the inspectors evaluated whether system operability and availability, configuration control, post-installation test activities, and changes to documents, such as drawings, procedures, and operator training materials, complied with licensee standards and NRC requirements. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with modifications. Documents reviewed are listed in the attachment.

- EC 402602, Alternative Service Water Flowpath for MDAFW Pump "B" Oil Cooler
- EC 299154, Increase Overall Actuator Ratio of SDAFW steam admission valves

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 6 samples)a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the maintenance activities listed below to verify the work performed was completed correctly and the test activities were adequate to verify system operability and functional capability.

- WO 13535621-08, OST-908-4, Component Cooling Water Pump “C” Test following replacement of outboard mechanical seal
- WO 20028288, OST-201-2, MDAFW System Component Test-Train “B” following replacement breaker inspection and obtaining lube oil samples
- WO 12283336, MST-904, Seismic Recorder Operation, following replacement of “A” seismic accelerometer
- WO 13339061, OP-801, Fire Water System Operations Alignments, following inspection of the Motor Driven Fire Pump circuit breaker
- WO 13460092, OST-202, Steam Driven Auxiliary Feedwater System Component Test
- WO 13470481, PM-402, Inspection and Testing of DB-50 Circuit Breakers for 480 Volt Bus E1

The inspectors evaluated these activities for the following:

- Acceptance criteria were clear and demonstrated operational readiness.
- Effects of testing on the plant were adequately addressed.
- Test instrumentation was appropriate.
- Tests were performed in accordance with approved procedures.
- Equipment was returned to its operational status following testing.
- Test documentation was properly evaluated.

Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with post-maintenance testing. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 6 samples)a. Inspection Scope

The inspectors reviewed the surveillance tests listed below and either observed the test or reviewed test results to verify testing adequately demonstrated equipment operability and met TS and licensee procedural requirements. The inspectors evaluated the test activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. Additionally, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with surveillance testing. Documents reviewed are listed in the Attachment.

### Routine Surveillance Tests

- OST-910, Dedicated Shutdown Diesel Generator (Monthly)
- OST-908-3, Component Cooling Water Pump “B” Test
- MST-003, TAVG and Delta-T Protection Channel Testing
- OST-201-2, MDAFW System Component Test – Train “B”

### RCS Leakrate

- OST-051, Reactor Coolant System Leakage Evaluation

### In-Service Tests

- OST-151-6, Comprehensive Flow Test for Safety Injection Pump “C”

## b. Findings

Introduction: A self-revealing Green NCV of 10 CFR Part 50, Appendix B, Criterion III, Design Control, was identified for the licensee’s failure to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled. Specifically, the failure to control a modification of the SW system led to the installation of a non-conforming valve and resulted in the inoperability of the MDAFW System.

Description: On January 19, 2016, the MDAFW pump “B” was removed from service and declared inoperable for scheduled maintenance. Following the completion of maintenance, operators performed surveillance test OST-201-2, “MDAFW System Component Test – Train B,” and observed that service water flow to the MDAFW oil cooler was less than the minimum required flow rate of 10 gallons per minute (gpm) per the surveillance test. Operations declared the surveillance test unsatisfactory and began troubleshooting. Troubleshooting revealed that the low flow condition was caused by a stem/disc separation failure of manual isolation valve, SW-115, on the common service water return line. The flow restriction resulted in an actual flow rate of approximately 2.2 gpm. Since this line is a common return line the reduction in cooling water flow adversely affected both MDAFW pumps “A” and “B”.

With flow rates so low, the differential pressure between the “A” SW header and the “B” SW header would hold a check valve closed in the “A” SW oil cooler piping if both trains were to actuate, allowing no flow to the “A” oil cooler and allow all flow through the “B” oil cooler. With no service water flow through an oil cooler the MDAFW pump would be unavailable.

SW-115, a 1-inch bronze rising stem globe valve, was installed in the SW system prior to 1978. The design change documents associated with SW-115 could not be retrieved. It was determined that the valve composition did not meet the design specifications CPL-HBR2-M-047 for the SW line which required the valve to be stainless steel. Also, based on indications of a weld repair and cracks on the valve, the valve was determined to have been in a poor condition at time of installation. The stem disk separation that occurred on the SW-115 valve had existed for an extended period of time. Due to the wear pattern of corrosion, it was evident that this issue had existed for multiple years. Although the disk was separated for years, previous surveillance tests all passed. The

last instance in which flow was checked through the oil cooler was December 15, 2015, by procedure OP-402, Auxiliary Feedwater System.

From the period of January 19, 2016, through January 22, 2016, this condition rendered both trains inoperable because the "B" train was declared inoperable and the "A" train oil cooler would have received no flow due to the SW header pressure differential. However, at least one pump would have received adequate flow and been able to perform its function. During this time, there were approximately three hours when neither train would have received flow. Specifically, this condition existed following manipulation of the vent valves.

Analysis: The failure to control deviations from design specifications for a modification to the SW system was the performance deficiency. The performance deficiency was more than minor because it was associated with the design control 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 (i.e. core damage). Specifically, the installation of a valve outside of design specifications for the SW system contributed to the failure of SW-115 and reduction of cooling water flow to the MDAFW system. This degraded condition rendered the "A" train of the MDAFW system inoperable for greater than its TS AOT from December 15, 2015, to January 19, 2016. In addition, both trains of MDAFW were inoperable for greater than the TS AOT from January 19, 2016, to January 22, 2016. The inspectors used NRC IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," to evaluate the significance of this issue and determined the finding required a Detailed Risk Evaluation because the finding represented an actual loss of function of at least a single train of MDAFW for greater than its TS AOT. A detailed risk evaluation was performed by a regional SRA in accordance with NRC IMC 0609 Appendix A using the NRC Robinson SPAR model and input from the licensee's Robinson Fire PRA model. The major analysis assumptions included exposure periods for loss of a single train of MDAFW for 38 days and loss of both trains of MDAFW for a period of three hours. No recovery was assumed. The SDAFW and "C" AFW trains were not affected. The dominant sequence was a loss of main feedwater initiator followed by failures of both trains of MDAFW due to the performance deficiency, the SDAFW pump, the "C" train of AFW, and failure of the operator to implement feed and bleed cooling. The risk associated with this performance deficiency was mitigated by the availability of alternate AFW trains. The detailed risk evaluation determined that the increase in core damage frequency due to the performance deficiency was less than  $1.0 \text{ E-6}$  per year and therefore the performance deficiency was characterized as a GREEN finding of very low safety significance. The finding does not have a cross-cutting aspect since the installation of a valve outside of design specifications into the SW system occurred prior to 1978 and, as a result, is not indicative of current licensee performance.

Enforcement: 10 CFR Part 50, Appendix B, Criterion III, Design Control, requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis for structures, systems, and components are correctly translated into specifications, drawings, procedures, and instructions. These measures shall include provisions to assure that appropriate quality standards are specified that deviations from such standards are controlled.

Contrary to the above, since prior to 1978, the licensee failed to control deviations from design specifications for a modification to the SW system. Specifically, installation of a

valve outside of design specifications into the SW system led to the failure of SW-115 and a reduction of cooling water flow to the MDAFW oil coolers. This resulted in inoperability of a train of MDAFW for greater than its TS 3.7.4 AOT from December 15, 2015, to January 19, 2016. In addition, both trains of MDAFW were inoperable for greater than the TS 3.7.4 AOT from January 19, 2016, to January 22, 2016. As corrective action, the licensee replaced the SW-115 valve with a conforming valve. Because this violation was of very low safety significance and because this issue was entered into the licensee's CAP as CR 1993790, this violation is being treated as a NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000261/2016001-04, Failure to Control Deviations from Design Specifications for the Service Water System

## Cornerstone: Emergency Preparedness

### 1EP6 Drill Evaluation (71114.06 – 1 sample)

#### a. Inspection Scope

The inspectors observed the emergency preparedness drill conducted on February 24, 2016. The inspectors observed licensee activities in the simulator to evaluate implementation of the emergency plan, including event classification, notification, and protective action recommendations. The inspectors evaluated the licensee's performance against criteria established in the licensee's procedures. Additionally, the inspectors reviewed the post-exercise critique to assess the licensee's effectiveness in identifying emergency preparedness weaknesses and verified the identified weaknesses were entered in the corrective action program. Documents reviewed are listed in the Attachment.

#### b. Findings

No findings were identified.

### 2. RADIATION SAFETY

#### 2RS6 Radioactive Gaseous and Liquid Effluent Treatment (1 sample)

#### a. Inspection Scope

##### Program Reviews

The inspectors reviewed the 2014 Annual Radioactive Effluent Release Report for consistency with the requirements in the Offsite Dose Calculation Manual (ODCM) and TSs. Radioactive effluent monitor inoperability periods and compensatory sampling were reviewed and discussed with cognizant plant staff. 2014 and planned 2015 ODCM changes were discussed with cognizant licensee staff.

##### Walk-Downs and Observations

The inspectors walked-down selected components of the gaseous and liquid discharge systems to ascertain material condition, configuration and alignment. To the extent practical, the inspectors observed the material condition of abandoned in place liquid waste processing equipment for indications of degradation or leakage that could

constitute a possible release pathway to the environment. The inspectors observed collection and analysis of gaseous effluent samples (noble gas, iodine, particulates) from several release points and preparation of gaseous effluent release permits. The inspectors walked-down portions of the containment and auxiliary building ventilation systems, to ascertain material condition, configuration, and alignment. In addition, the inspectors reviewed the most recent air cleaning surveillance testing results for the auxiliary building ventilation system.

#### Sampling and Analyses

In addition to observing collection of gaseous effluent samples, the inspectors observed a chemistry technician verifying plant stack flow rates and performing daily verification checks of effluent radiation monitors. The results of the chemistry count room's inter-laboratory comparison program were reviewed and discussed with cognizant licensee personnel.

#### Dose Calculations

The inspectors reviewed several liquid and gaseous release permits, and monthly gaseous/liquid effluent dose calculation summaries. The inspectors reviewed the contributions to public dose from reported abnormal releases. The site's 10 CFR Part 61 analysis was reviewed for expected nuclide distribution from the aspects of quantifying effluents, the treatment of hard to detect nuclides, and determining appropriate calibration nuclides for instrument counting libraries. The inspectors also reviewed the licensee's most recent Land Use Census results.

#### Ground Water Protection

The inspectors reviewed the licensee's continued implementation of the industry's Ground Water Protection Initiative (Nuclear Energy Institute 07-07). Groundwater sampling results obtained since the last inspection were reviewed. Licensee response, evaluation, and follow-up to spills and leaks since the last inspection were reviewed in detail. In addition, entries made into the 10 CFR 50.75(g) records for identified leakage and spills were reviewed.

#### Problem Identification and Resolution

Selected CAP documents associated with the effluent monitoring and control program, including condition reports and audits, were reviewed and assessed. The inspectors verified that problems were being identified at an appropriate threshold and resolved in accordance with licensee procedures. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.



## 2RS7 Radiological Environmental Monitoring Program (REMP) (1 sample)

### a. Inspection Scope

#### REMP Implementation

The inspectors observed routine sample collection and surveillance activities as required by the licensee's environmental monitoring program. The inspectors noted the material condition and operability of airborne particulate filter and iodine cartridge sample stations and observed collection of weekly air samples at selected monitoring locations. The inspectors also observed operation of automated composite water samplers and the collection of surface water samples. In addition, the inspectors reviewed and evaluated land use census results, changes to the ODCM, and monitoring for hard-to-detect radionuclides. The inspectors reviewed recent calibration and maintenance records for selected environmental air samplers. The inspectors also reviewed the 2014 Radiological Environmental Operating Report and the 2014 Annual Radioactive Effluent Report. The inspectors reviewed recent interlaboratory comparison results for the offsite laboratory used to process environmental samples. Selected environmental measurements were reviewed for consistency with licensee effluent data, evaluated for radionuclide concentration trends, and compared with detection level sensitivity requirements.

#### Ground Water Protection

The inspectors reviewed the licensee's groundwater protection program and recent sampling results as part of Inspection Procedure 71124.06.

#### Meteorological Monitoring Program

The inspectors observed the physical condition of the tower and its instrumentation and discussed equipment operability and maintenance history with licensee staff. The inspectors evaluated transmission of locally generated meteorological data to other licensee groups such as main control room operators. For the meteorological measurements of wind speed, wind direction, and temperature, the inspectors reviewed the last two calibration records for applicable tower instrumentation. The inspectors also evaluated measurement data recovery for 2015.

#### Problem Identification and Resolution

The inspectors reviewed CAP documents in the areas of radiological environmental monitoring and meteorological tower maintenance. The inspectors evaluated the licensee's ability to identify and resolve the identified issues. The inspectors also reviewed recent self-assessment results.

REMP implementation and meteorological monitoring activities were reviewed against the guidance and requirements of 10 CFR Part 20; Appendices E and I to 10 CFR Part 50; TS Section 5.0; UFSAR Chapter 2; ODCM; RG 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment"; Safety Guide 23, "Onsite Meteorological Programs"; Branch Technical Position, "An Acceptable Radiological Environmental Monitoring Program" – 1979; and approved licensee procedures. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 5 samples)

a. Inspection Scope

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for Unit 2 PIs listed below. The inspectors reviewed plant records compiled between January 1, 2015, and December 31, 2015, to verify the accuracy and completeness of the data reported for the station. The inspectors verified that the PI data complied with guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee procedures. The inspectors verified the accuracy of reported data that were used to calculate the value of each PI. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with PI data. Documents reviewed are listed in the Attachment.

Cornerstone: Mitigating Systems

- MSPI Residual Heat Removal
- MSPI Cooling Water Systems
- Reactor Coolant Leakage

Occupational Radiation Safety Cornerstone

The inspectors reviewed recent Occupational Exposure Control Effectiveness PI results for the Occupational Radiation Safety Cornerstone and reviewed PI records generated between May – December 2015. For the assessment period, the inspectors reviewed Electronic Dosimeter alarm logs and procedural guidance for identifying PI issues. Documents reviewed are listed in the Attachment.

Public Radiation Safety Cornerstone

The inspectors reviewed the Radiological Control Effluent Release Occurrences PI results for the Public Radiation Safety Cornerstone from May - December 2015. For the assessment period, the inspectors reviewed cumulative and projected doses to the public contained in liquid and gaseous release permits and corrective actions related to Radiological Effluent Technical Specifications/ODCM issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

#### 4OA2 Problem Identification and Resolution (71152 – 1 sample)

##### .1 Routine Review

The inspectors screened items entered into the licensee's CAP to identify repetitive equipment failures or specific human performance issues for follow-up. The inspectors reviewed condition reports, attended screening meetings, or accessed the licensee's computerized corrective action database.

##### .2 Annual Follow-up of Selected Issues

###### a. Inspection Scope

The inspectors conducted a detailed review of CR 752912, "C" SW pump failed to start. The inspectors evaluated the following attributes of the licensee's actions:

- complete and accurate identification of the problem in a timely manner
- evaluation and disposition of operability and reportability issues
- consideration of extent of condition, generic implications, common cause, and previous occurrences
- classification and prioritization of the problem
- identification of any additional condition reports
- completion of corrective actions in a timely manner

Documents reviewed are listed in the Attachment.

###### b. Findings

No findings were identified.

#### 4OA3 Follow-up of Events and Notices of Enforcement Discretion (2 samples)

##### .1 (Closed) Licensee Event Report 2016-001-00, Inoperability of Motor Driven Auxiliary Feedwater Pump Due to Insufficient Lube Oil Cooling.

###### a. Inspection Scope

On January 19, 2016, it was discovered during a surveillance test that service water flow to the MDAFW pumps was blocked due to stem and disc separation on the MDAFW pumps "A" and "B" cooling flow return isolation valve, SW-115. This blockage rendered both MDAFW trains inoperable for a period longer than allowed by plant TS 3.7.4. The licensee determined the cause of the valve degradation was due to the SW-115 valve being installed in poor condition, without documentation, and outside of the design specifications. This issue was entered into the corrective action program as CR 1992738 and a modification was performed to replace SW-115. The inspectors reviewed the licensee event report (LER) and related documents regarding the accuracy of the LER, appropriateness of corrective actions, violations of requirements, and generic issues (including the applicability of 10 CFR Part 21 reporting requirements).

b. Findings

The enforcement aspects of this LER were documented in Section 1R22, Surveillance Testing, of this report. This LER is closed.

2. Instrument Air Isolation to Containment

a. Inspection Scope

The inspectors responded to isolation of instrument air to containment on January 15, 2016. As appropriate, the inspectors observed plant parameters and status; determined alarms/conditions preceding or indicating the event; and evaluated the actions of the operations crew in response to the event. The cause of the isolation was a blown fuse during replacement of the local light indication to PCV-1716, Instrument Air Isolation Valve. This event was documented in CR 1991686. Documents reviewed are listed in the Attachment.

b. Findings

The enforcement aspects associated with this transient were documented in Section 1R13, Maintenance Risk Assessments and Emergent Work Control, of this report.

4OA5 Other Activities

.1 Emergency Operating Procedures

a. Inspection Scope

The inspectors conducted an in-office review of EOP-ECA-0.0, "Loss of All AC Power," and EOP-E-0, "Reactor Trip or Safety Injection," on March 9, 2016, while evaluating operator actions taken on the plant reference simulator during an operator licensing examination operating test completed on February 11, 2016. The inspectors referenced the licensee's TSs, EOPs, EOP basis documents, and EOP program procedure to complete the review. This inspection did not represent an inspection sample.

b. Findings

Introduction: The NRC identified a Green NCV of TS 5.4.1.a for the licensee's failure to adequately maintain procedures EOP-ECA-0.0, Loss of All AC Power, and EOP-E-0, Reactor Trip or Safety Injection, as recommended in RG 1.33, Revision 2, Appendix A, dated February 1978. Specifically, both procedures contained inadequate procedure steps.

Description: On March 9, 2016, while reviewing an operating test for an initial operator licensing exam, NRC inspectors identified errors associated with steps contained in revision four of EOP-ECA-0.0 and revision six of EOP-E-0. The inspectors contacted the licensee's Operations training staff to inform them of the problems with the procedures. The training staff initiated a CR and PRRs to evaluate and initiate the process to correct the procedure errors.

Step 7.c.2)a)3 in the response not obtained (RNO) column of EOP-ECA-0.0 stated, "START Charging Pump A." This step did not take into account that power may not be available to start charging pump 'A', but may be available to start either charging pump 'B' or 'C' as a result of operator actions taken earlier in step 7. As written, this could prevent or delay the start of an available charging pump and result in the unnecessary reduction in core sub-cooling margin and loss of RCS pressure control during an event. Step 10 in the RNO column of EOP-E-0 contains instructions to start a charging pump and establish seal injection if component cooling water flow to the RCPs is not normal or seal injection flow is not adequate. Later in the same step, but on the next page, instructions are provided to isolate the RCP seal water flow control valves, close the thermal barrier flow control valve, and close the seal water return isolation valve if all seal cooling is lost to any RCP and cannot be restored within 15 minutes. If all seal cooling to any RCP had been lost for 15 minutes prior to reaching step 10 in EOP-E-0, seal injection could be initiated to an overheated RCP seal if the procedure were followed verbatim. This could result in damage to the RCP seals and subsequently increase RCS leakage from the damaged seals.

Analysis: The inspectors determined that the licensee's failure to adequately maintain the emergency operating procedures by having inadequate procedure steps, was a performance deficiency. The performance deficiency was determined to be more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, steps in EOP-ECA-0.0 and EOP-E-0 could lead to one or more of the following during an event: unnecessary reduction in core sub-cooling margin, loss of RCS pressure control, RCP seal damage, and/or excessive RCS leakage. The finding is associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems needed to respond to initiating events to prevent undesired consequences. Using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of a safety system and/or function; (3) did not represent an actual loss of function of at least a single train of a plant system for longer than its TS allowed outage time, or two separate safety systems out-of-service for longer than their TS allowed outage time; and (4) did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significance in accordance with the licensee's maintenance rule program for greater than 24 hours. The finding has a cross-cutting aspect in the area of human performance associated with avoiding complacency because individuals did not recognize and plan for the possibility of mistakes and latent issues when performing EOP verification and validation. [H.12]

Enforcement: TS 5.4.1.a states in part that, written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in RG 1.33, Revision 2, Appendix A, February, 1978. RG 1.33, Appendix A, Section 6, Procedures for Combating Emergencies and Other Significant Events, required procedures for loss of electrical power and reactor trips. Procedure EOP-ECA-0.0, Loss of All AC Power, and EOP-E-0, Reactor Trip or Safety Injection, implemented these requirements, respectively.

Contrary to this requirement, on March 9, 2016, NRC inspectors identified that EOP-ECA-0.0, Rev. 4, step 7, and EOP-E-0, Rev. 6, step 10, were not adequately maintained because the procedure steps did not ensure that potential safety consequences would not occur. Specifically, these steps could lead to one or more of the following during an event: unnecessary reduction in core sub-cooling margin, loss of RCS pressure control, RCP seal damage, and/or excessive RCS leakage. Because this violation was of very low safety significance and because this issue was entered into the licensee's CAP as CR 2009602, this violation is being treated as a NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000261/2016001-05, Failure to Adequately Maintain Emergency Operating Procedures EOP-ECA-0.0 and EOP-E-0

4OA6 Meetings, Including Exit

On April 18, 2016, the resident inspectors presented the inspection results to Mr. Krakuszeski and other members of the licensee's staff. The inspectors confirmed that proprietary information was not retained by the inspectors or documented in this report.

On May 12, 2016, the resident inspectors conducted a re-exit meeting with Mr. Glover, and other members of the licensee's staff to discuss the final results of the inspection.

ATTACHMENT: SUPPLEMENTARY INFORMATION

## **SUPPLEMENTARY INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee personnel

C. Caudell, Regulatory Affairs  
J. Conder, Assistant Operations Training Manager  
S. Connelly, Regulatory Affairs Manager  
F. Giannone, Training Manager  
M. Glover, Site Vice President  
D. Hall, Nuclear Oversight Manager  
E. Hedderman, Chemistry Manager  
D. Hoffman, Organizational Effectiveness Director  
K. Holbrook, Operations Manager  
J. Krakuszeski, Plant General Manager  
M. Pastva, Jr., Nuclear Regulatory Affairs  
J. Rackley, Training Supervisor  
C. Sherman, Radiation Protection Superintendent  
D. Thompson, Corporate Functional Area Manager – Radiation Protection  
J. Wild, Regulatory Affairs

#### NRC personnel

G. Hopper, Chief, Reactor Projects Branch 4  
K. Ellis, Sr. Resident Inspector  
C. Scott, Resident Inspector

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened and Closed

05000261/2016001-01	NCV	Failure to Adequately Establish and Implement Procedure During Tornado Watch/Warning (Section 1R01)
05000261/2016001-02	NCV	Failure to Scope Safety-Related Auxiliary Building Ventilation Fans into the Maintenance Rule (Section 1R12)
05000261/2016001-03	NCV	Failure to Follow Procedure for a Light Indication Replacement (Section 1R013)
05000261/2016001-04	NCV	Failure to Control Deviations from Design Specifications for the Service Water System (Section 1R22)
05000261/2016001-05	NCV	Failure to Adequately Maintain Emergency Operating Procedures EOP-ECA-0.0 and EOP-E-0 (Section 4OA5)

### Closed

05000261/2016-01	LER	Inoperability of Motor Driven Auxiliary Feedwater Pump Due to Insufficient Lube Oil Cooling (Section 4OA3.1)
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## **LIST OF DOCUMENTS REVIEWED**

### **Section 1R01: Adverse Weather Protection**

#### Procedures

OMM-021, Operations During Adverse Weather Conditions, Rev.48  
AP-053, Severe Weather Response, Rev.5

#### Condition Reports

2011869  
2006504  
2004790  
2004725  
2004634  
2004685  
2005306  
2005141

### **Section 1R04: Equipment Alignment**

#### Procedures

OP-306, Component Cooling Water System, Rev. 74  
OP-402, Auxiliary Feedwater System, Rev. 97  
APP-006, S/G Systems, Rev. 35  
APP-007, Condensate & Feedwater, Rev. 44  
AOP-010, Main Feedwater/Condensate Malfunction, Rev. 34  
Auxiliary Feedwater System, Rev. 4 (RNP Student Text)

#### Drawings

G-190197, Feedwater Condensate and Air Evacuation System Flow Diagram, Rev. 69, Sheet 4 of 5  
AFW-1, Auxiliary Feedwater System, Rev. 0

### **Section 1R05: Fire Protection**

#### Procedures

OMM-003, Fire Pre-Plans, Rev.71  
PLP-076, Portable Transceiver Usage, Rev.11

#### Drawings

HBR2-11937, Fire Pre-Plan Charging Pump Room, Rev.2  
HBR2-11937, Fire Pre-Plan Rod Control Room, Rev.1  
HBR2-11937, Fire Pre-Plan A Diesel Generator Room, Rev.4  
HBR2-11937, Fire Pre-Plan North Cable Vault, Rev. 0  
HBR2-11937, Fire Pre-Plan South Cable Vault, Rev. 1

#### Other

Fire Drill Critique 16-1Q-03U, DSDG Scenario 16, Rev.3

### **Section 1R06: Flood Protection Measures**

#### WO

20027056  
20027058

**Section 1R11: Licensed Operator Requalification**Procedures

AOP-010, Main Feedwater/Condensate Malfunction, Rev. 34

Scenario Packages

LOC1604R-N-S4, LOCT Simulator Exercise Guide: LOCT 1604-4, Rev. 3

Action Requests

2008568

Other documents

Operating Crew Transient Response Evaluation for 1/4/16

**Section 1R12: Maintenance Effectiveness**Other documents

DBD/R87038/SD36, Reactor Auxiliary Building Normal Ventilation, Rev. 16

Expert Panel Meeting Minutes, HVAC Auxiliary Building (HVAC)

Maintenance Rule Function Scoping for HVAC Auxiliary Building

Action Requests

CR 1996345, HVE-2B has history of not maintaining sufficient flow

CR 757210, When HVE-2B Runs Aux Building is at Positive Pressure

Procedures

TMM-003, Q-List Control Procedure, Rev. 70

EST-017, Auxiliary Building Ventilation System Fans

**Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation**Procedures

16W01 Risk Profile, Rev.1

16W013-07 Risk Profile, Rev.5

OMM-48, Work Coordination and Risk Assessment, Rev. 61

Action Requests

1991686

1991677

**Section 1R15: Operability Evaluations**Procedures

OPS-NGGC-1000, Fleet Conduct of Operations, Rev 3

AD-EG-ALL-1311, Failure Investigation Process (FIP), Rev.0

OST-201-2, MDAFW System Component Test-Train B, Rev. 32

AD-OP-ALL-0105, Operability Determinations and Functionality Assessments, Rev.2

Work OrdersAction Requests

2014943

Other documents

Engineering Evaluation 89-022, Service Water Flow Test Results

Drawings

G-190199, Service and Cooling Water Flow Diagram, Rev. 60, Sheet 9-10 of 13

G-190197, Feedwater Condensate and Air Evacuation System Flow Diagram, Rev. 73, Sheet 4 of 5

**Section 1R18: Plant Modifications**ProceduresWork Orders

WO 2232691, Disassemble MS-V18B and Replace Stem

WO13480477, SDAFW System Valve Strokes

**Section 1R19: Post Maintenance Testing**Other documents

RNP-M/MECH-1802, Safety Related Pump Minimum Performance Requirements, Rev. 4

**Section 1R22: Surveillance Testing**Procedures

APP-025, Dedicated Shutdown Diesel Generator Annunciator Panel, Rev 11

AD-OP-ALL-0105, Operability Determinations and Functionality Assessments, Rev. 2

Action Requests

1993790

Other Documents

SR-1668, Reduced Cooling Water Flow Analysis Report of the AFW Pumps, Rev. 0

EC 403023, Support for reportability evaluation for MDAFW pumps cooling

**Section 1EP6: Drill Evaluation**Action Requests

2005043

**Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment**Procedures, Guidance Documents, and Manuals

CP-EMP-713, Operation of R-22 Monitor, Rev. 1

CP-EMP-717, Operation of R-23, Radwaste Building Effluent Monitor, Rev. 0

EMP-008, Groundwater Monitoring, Rev. 2

EMP-022, Gaseous Waste Release Permits, Rev. No. 56

EMP-023, Liquid Waste Release and Sampling, Rev. 61

EMP-024, ODCM Surveillance, Rev. 63

EMP-025, Gaseous Effluent Sampling and Analysis Requirements, Rev. 57

EST-017, Auxiliary Building and Emergency Diesel Ventilation Systems Fans HVE-2A, HVE-2B, HVS-5, HVS-6, HVE-17 and HVE-18 (Once Each Operating Cycle and Filter Change), Revs. 13 and 14

EST-019, Auxiliary Building Emergency Exhaust System Fans HVE-5A and HVE-5B (Once Each Operating Cycle and Filter Change), Rev. 15

Ground Water Protection Initiative Tritium Summary Report, Robinson Ground Water, 11/23/15

H.B. Robinson Steam Electric Plant, Unit No 2, Off-Site Dose Calculation Manual (ODCM), Rev. 34

Records and Data Reviewed

CP-EMP-713, Operation of R-22 Monitor, Rev. 1, Pages 7, 8, 27, 28, and 29 of 46, 01/26/16

CP-EMP-717, Operation of R-23, Radwaste Building Effluent Monitor, Rev. 0, Pages 6 and 7 of 14, 01/26/16

EMP-022, Gaseous Waste Release Permits, Rev. No. 56, Attachment 10.5, Gaseous Waste Release Permit – Continuous Release, Release No. G-2016-0014, 01/26/16

EMP-023, Liquid Waste Release and Sampling, Rev. 61, Attachment 10.4, Liquid Waste Release Permit (Continuous Release), Release No. L-2016-0015, 01/27/16

EMP-024, ODCM Surveillance, Rev. 63, Attachment 10.1, Environmental and Chemistry ODCM Surveillance Log, 01/25/16

EST-017, Auxiliary Building and Emergency Diesel Ventilation Systems Fans HVE-2A, HVE-2B, HVS-5, HVS-6, HVE-17 and HVE-18 (Once Each Operating Cycle and Filter Change), Rev. 14, Dated 09/11/14

EST-019, Auxiliary Building Emergency Exhaust System Fans HVE-5A and HVE-5B (Once Each Operating Cycle and Filter Change), Rev. 15, Dated 03/05/15

Gas Permit Post-Release Data, Permit Nos.: G-2015-0236, 12/07/15; and G-2015-0239, 12/12/15

GEL Laboratories, LLC, H. B. Robinson Nuclear Plant, Part 61 Analysis, Client IDs: DAW Part 61 Smears #256240 and RCS Part 61 Smears #256239, 09/17/15; and WWDS Filter Smears (RNP 286766), 11/21/15

Ground Water Protection Initiative Report: Robinson, Radiological Data for Job: RNP-18-DEC-2015-1, 01/25/16

Ground Water Protection Initiative Tritium Summary Report: Robinson Ground Water, 11/23/15

H.B. Robinson Steam Electric Plant, Unit No 2, 2014 Annual Radioactive Effluent Release Report, 04/28/15

Impact of Tritium Release from Lake Robinson at the Robinson Nuclear Plant for 2014 Report

Liquid Permit Post-Release Data, Permit Nos.: L-2015-0282, 12/10/15; and L-2015-0283, 12/11/15

List of Decommissioning File Record Entries [50.75(g)], 08/01/14 through 01/29/16

Memorandum, 2014 Land Use Census, 04/16/15

RADMAN Database Report for Robinson Nuclear Power Report, Change 78, 01/14/16

RNP Radiochemistry Cross Check Summary, 1<sup>st</sup> – 4<sup>th</sup> Quarter, 2014

RNP Record Search Report, Decommissioning [50.75(g)], 08/01/14 through 01/29/16

CAP Documents

AR 00716761

AR 00717051

AR 00721048

AR 00724786

AR 00725651

AR 00736085

CR 608280

**Section 2RS7: Radiological Environmental Monitoring Program (REMP)**Procedures and Guidance Documents

EMP-001, Environmental Sampling Program, Rev. 65

EMP-003, Meteorological Tower Inspection, Rev. 10

EnRad Laboratories Procedure 759, Preparation of Robinson Nuclear Plant Environmental Sampling Supply Kits, Rev. 0

EnRad Laboratories Procedure 318, Receiving and Logging of Samples Using the Sample Manager Laboratory Information Management System, Rev. 12

PM-180, Meteorological Tower Equipment Calibration, Rev. 8  
 AD-PI-ALL-0100, Corrective Action Program, Rev. 3

#### Records and Data

2014 Annual Radiological Environmental Operating Report  
 Air Sampler Calibration Work Sheets, Sample Locations 1, 2, 3, 4, 5, 6, 7, 55, 60, 61; 3/12/14 – 4/14/15  
 Work Order 13368023, Calibration of Met Tower Equipment, 10/2/14  
 Work Order 13437054, Calibration of Met Tower Equipment, 4/23/15  
 Work Order 13515313, Calibration of Met Tower Equipment, 10/6/15  
 2014 Annual XOQDOQ Modeling and Meteorological Evaluation for Robinson Nuclear Station  
 2015 Annual Meteorological Data Recovery  
 2014 EnRad Cross Check Performance Summary  
 2015 EnRad Cross Check Performance Summary

#### CAP Documents

AR 01964921  
 NCR 00712356  
 NCR 01972211  
 NCR 00713660  
 NCR 00728144  
 NCR 01978192

### **Section 40A1: Performance Indicator (PI) Verification**

#### Procedures and Guidance Documents

AD-LS-ALL-0004, NRC Performance Indicators and Monthly Operating Report, Rev. 1

#### Records and Data

Gas Permit Post-Release Data, Permit No. G-2015-0239, 12/12/15  
 Liquid Permit Post-Release No. L-2015-0283, 12/11/15  
 REG-NGGC-0009, NRC Performance Indicators and Monthly Operating Report Data, Rev. 12  
 RETS/ODCM Radiological Effluent Quarterly Summary, 2nd quarter – 4th quarter 2015

### **Section 40A3: Follow-up of Events and Notices of Enforcement Discretion**

#### Procedures

AOP-017, Loss of Instrument Air, Rev. 43