**UNITED STATES**
**NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

February 6, 2018

EA-18-006

Mr. David R. Vineyard
Vice President
Southern Nuclear Operating Company, Inc.
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 05000321/2017004 AND 05000366/2017004: AND EXERCISE OF ENFORCEMENT DISCRETION

Dear Mr. Vineyard:

On December 31, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Edwin I. Hatch Nuclear Plant Units 1 and 2. On January 23, 2018, the NRC inspectors discussed the results of this inspection with David Vineyard and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. Both of these findings involved violations of NRC requirements. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the violations or significance of these 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 II; the Director, Office of Enforcement; and the NRC resident inspector at Hatch Nuclear Plant.

If you disagree with a cross-cutting aspect assignment 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 II; and the NRC resident inspector at Hatch Nuclear Plant.

In addition, there was one violation for which the NRC will exercise enforcement discretion. A violation of Technical Specification (TS) 3.4.3 was identified because two of eleven safety relief valves were found to be outside the tolerance allowed by TS Surveillance Requirement (SR) 3.4.3.1 for the opening set-point pressure. The inspectors concluded that the violation would normally be characterized as a Severity Level IV violation because it was of very low safety significance (Green).

However, the NRC is exercising enforcement discretion (EA-18-006) in accordance with Section 3.10, “Reactor Violations With No Performance Deficiencies,” of the NRC Enforcement Policy because the violation was not associated with a licensee performance deficiency.

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, Requests for Withholding.”

Sincerely,

***/RA/***

Joel T. Munday, Director
Division of Reactor Projects

Docket Nos.: 50-321, 50-366
License Nos.: DPR-57 and NPF-5

Enclosure:
IR 05000321/2017004, 05000366/2017004
w/Attachment: Supplemental Information

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SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 05000321/2017004 AND 05000366/2017004: AND EXERCISE OF ENFORCEMENT DISCRETION February 6, 2018

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**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

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| Docket Nos.: | 50-321, 50-366 |
| License Nos.: | DPR-57 and NPF-5 |
| Report Nos.: | 05000321/2017004 and 05000366/2017004 |
| Licensee: | Southern Nuclear Operating Company, Inc. |
| Facility: | Edwin I. Hatch Nuclear Plant |
| Location: | Baxley, Georgia 31513 |
| Dates: | October 1 – December 31, 2017 |
| Inspectors: | C. Jones, Senior Resident Inspector<br>A. Ruh, Senior Resident Inspector<br>D. Retterer, Resident Inspector<br>B. Caballero, Senior Operations Engineer (1R11)<br>P. Heher, Project Engineer |
| Approved by: | Joel T. Munday, Director<br>Division of Reactor Projects |

Enclosure

## SUMMARY

IR 05000321/2017004; and 05000366/2017004, October 1, 2017, through December 31, 2017; Edwin I. Hatch, Units 1 and 2, Operability Determinations and Functionality Assessments, Problem Identification and Resolution.

The report covered a 3-month period of inspection by resident inspectors and regional inspectors. There were two NRC-identified violations identified and 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 April 29, 2015. 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 November 1, 2016. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6. Documents reviewed by the inspectors which are not identified in the Report Details are identified in the List of Documents Reviewed section of the Attachment.

Cornerstone: Mitigating Systems

- Green. An NRC-identified non-cited violation (NCV) of Unit 2 License condition 2.C.(3)(a) Fire Protection was identified when on October 17, 2017, the licensee failed to establish a continuous fire watch or alternative compensatory measures required by Hatch's Fire Hazards Analysis (FHA), Appendix B, while the carbon dioxide fire protection system was nonfunctional during a routine maintenance outage for the 2C emergency diesel generator. Failure to establish a continuous fire watch or alternative compensatory actions as required by Hatch's Fire Hazards Analysis, Appendix B, when the low pressure carbon dioxide storage system became inoperable on October 17, 2017, was a performance deficiency. The licensee restored compliance on October 25, 2017, when the double fire door was shut, restoring functionality of the carbon dioxide system. The licensee entered this issue into the corrective action program as Condition Report (CR) 10423361.

  This performance deficiency was more-than-minor because the failure to establish a continuous fire watch or alternative compensatory measures adversely affected the reliability of the carbon dioxide system and/or compensatory measures. The finding screened to green because the alternate train of safe shutdown remained operable. The inspectors determined this performance deficiency had a cross cutting aspect in the Human Performance Area "Training" attribute because of the observed weakness in the application of FHA applicability statements. [H.9] (Section 1R15)

Cornerstone: Barrier Integrity

- Green. An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when the licensee failed to ensure engineering evaluations were performed when scaffolding was constructed within 2 inches of safety-related piping. The failure to ensure procedure NMP-MA-010, "Erecting, Modifying, and Disassembling Scaffolding," required engineering

evaluations when scaffolding was constructed within 2 inches of safety-related piping was a performance deficiency. The violation was entered into the licensee's corrective action program as CR 10420643.

The performance deficiency was more-than-minor because the licensee's procedure, as written, would never require an engineering evaluation of any safety-related piping based on the exceptions granted in the procedure. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment. The inspectors determined that the finding did not have an associated cross-cutting aspect because the discrepancy was introduced during a transition to a fleet standardized procedure, which occurred more than three years ago and was therefore not reflective of current licensee performance. (Section 4OA2)

## REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent rated thermal power (RTP). On October 24, power was reduced to 80 percent RTP in order to make emergent repairs to the "C" condensate pump. The unit operated at or near 100 percent RTP for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent RTP. On October 18, the unit experienced a loss of feedwater heating, which resulted in operators reducing power to 78 percent RTP. The unit returned to 100 percent RTP on October 20 and operated at or near 100 percent RTP for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

.1 Seasonal Extreme Weather Conditions

The inspectors conducted a detailed review of the station's adverse weather procedures written for extreme low temperatures. The inspectors verified that weather-related equipment deficiencies identified during the previous year had been placed into the work control process and/or corrected before the onset of seasonal extremes. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures before the onset of seasonal extreme weather conditions. Documents reviewed are listed in the Attachment.

The inspectors evaluated the following risk-significant systems:

- Residual Heat Removal (RHR) Service Water at Intake Structure
- Plant Service Water (PSW) at Intake Structure Valve Pit
- Electric and Diesel Fire Pumps at Fire Pump House and outdoor Diesel Fuel Oil Storage Tanks

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

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 three systems or trains to inspect:

- Units 1 and 2, 4160kV AC Distribution system while 1C and 2C startup transformers were out of service for maintenance, October 4, 2017
- Unit 1, 1C Emergency Diesel Generator (EDG) while 1A EDG was out of service for maintenance, November 8, 2017
- Unit 1, A Train RHR while B Train RHR was out of service for maintenance, November 13, 2017

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

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

- Unit 2, diesel generator area, fire zones 2401/2401/2403/2405/2406/2407
- Unit 1, diesel generator building switchgear rooms, fire zones 1404/1408/1412
- Unit 1, diesel generator area, fire zones 1401/1403/1405/1407/1409/1411

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

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 1, PB1-U and PB1-V

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

a. Inspection Scope

Resident Inspector Quarterly Review of Licensed Operator Requalification

The inspectors observed a simulator scenario conducted for training of an operating crew and 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.

Resident Inspector Quarterly Review (Licensed Operator Performance):

The inspectors observed licensed operator performance in the main control room during performance of infrequently performed testing of the 1C and 2C startup transformers on October 4, 2017, and also during the operability run of B train RHR following a system outage.

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.

Annual Review of Licensee Requalification Examination Results:

On December 31, 2017, the licensee completed the comprehensive biennial requalification written examinations and the annual requalification operating examinations required to be administered to all licensed operators in accordance with Title 10 of the *Code of Federal Regulations* 55.59(a)(2), "Requalification Requirements," of the NRC's "Operator's Licenses." The inspectors performed an in-office review of the overall pass/fail results of the individual operating examinations and the crew simulator operating examinations in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." These results were compared to the thresholds established in Section 3.02, "Requalification Examination Results," of IP 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors assessed the licensee's treatment of the three 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. Documents reviewed are listed in the Attachment.

- Unit 1 and 2, Function Z41-03, Control Building Environmental Support, PSW leak in Computer Room
- Unit 2, C41, Standby liquid control, Gear box sight glass empty
- Unit 2, E11, RHR Service water, Low oil levels during condition-based monitoring quality control verifications were properly specified and were implemented as specified.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the five 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.

- Unit 2, October 18, 2017, Emergent feedwater heater level control valve repairs
- Unit 2, October 24, 2017, 2C EDG system outage
- Unit 1, November 7, 2017, 1A EDG system outage
- Unit 1, November 13, 2017, B Train RHR system outage
- Unit 1, November 28, 2017, A Train RHR system outage

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors selected the four 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 technical specification 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 technical specification and updated final safety analysis report (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.

- Unit 2, 2C EDG room $CO_2$ ingestion vulnerability, CR10423170
- Unit 1, 1B Standby Liquid Control (SBLC) pump gear-pac low oil level, CR10430729
- Unit 1, Diesel Fuel Oil Storage Tank reached vacuum during fuel oil transfer, CR10422288
- Unit 2, 2C EDG Jacket water drain valve out of position, CR10434345

b. Findings

Introduction: The NRC identified a Green non-cited violation of Unit 2 License condition 2.C.(3)(a) Fire Protection. On October 17, 2017, the licensee failed to establish a continuous fire watch or alternative compensatory measures required by Hatch's Fire Hazards Analysis, Appendix B, while the carbon dioxide fire protection system was nonfunctional for the 2C emergency diesel generator.

Description: On October 17, 2017, at 2054 the licensee declared the double fire door and carbon dioxide suppression system nonfunctional due to the double fire door being blocked open for maintenance on the 2C diesel generator. The licensee established a continuous fire watch, an hourly fire watch and verified fire detection was functional for the fire area. On October 17, 2017, at 2141 the licensee declared 2C diesel generator inoperable for planned system maintenance and subsequently secured the continuous fire watch. Hatch's Fire Hazards Analysis Appendix B, section 1.5.1 requires, in part, "The low pressure carbon dioxide ($CO_2$) storage system shall be FUNCTIONAL, and that with a $CO_2$ system nonfunctional that a continuous fire watch or alternative compensatory measures be established for the affected area." The licensee restored compliance on October 25, 2017, when the double fire door was shut, restoring functionality of the carbon dioxide system. The licensee was out of compliance from October 17, 2017, at 2141 when they canceled the continuous fire watch until October 25, 2017, when they shut the fire doors. The licensee entered this issue into the corrective action program as CR 10423361.

Analysis: Failure to establish a continuous fire watch or alternative compensatory actions as required by Hatch's Fire Hazards Analysis, Appendix B, when the low pressure carbon dioxide storage system became inoperable on October 17, 2017, was a performance deficiency. This performance deficiency was more-than-minor because the performance deficiency is associated with the Mitigating Systems Protection Against External Factors (Fire) attribute and adversely affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to establish a continuous fire watch or alternative compensatory measures adversely affected the reliability of the carbon dioxide system and/or compensatory measures. The inspectors screened this finding using IMC 0609, Appendix F, Attachment 1, dated 09/20/2013. Inspectors concluded that this violation affected the "Fixed Fire Protection Systems" category in section 1.2. The finding screened to green using section 1.3.1 "Is the reactor able to reach and maintain safe shutdown condition?" Question 1.3.1 "A" was answered "Yes" because the alternate train of safe shutdown remained operable.

The inspectors determined this performance deficiency had a cross-cutting aspect in the Human Performance Area "Training" attribute because of the observed weakness in the application of FHA applicability statements. [H.9]

Enforcement: Hatch's Unit 2 License condition 2.C.(3)(a) Fire Protection required, in part, that the licensee shall implement and maintain in effect all provisions of the fire protection program, which is referenced in the UFSAR for the facility, as contained in the updated Fire Hazards Analysis and Fire Protection Program. Hatch's Fire Hazards

Analysis Appendix B, section 1.5.1 requires, in part, "The low pressure $CO_2$ storage system shall be FUNCTIONAL, and that with a $CO_2$ system nonfunctional that a continuous fire watch or alternative compensatory measures be established for the affected area."

Contrary to the above, on October 17, 2017, the licensee failed to implement the provision in the fire protection program contained in the Fire Hazards Analysis, Appendix B, which required the licensee to establish continuous fire watches or alternative compensatory measures. Specifically, the licensee did not have a continuous fire watch stationed in the 2C EDG area from October 17, 2017, until the fire doors were closed on October 25, 2017, to restore compliance. This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. The violation was entered into the licensee's corrective action program as CR 10423361.
(NCV 05000366/2017004-01, Failure to take required actions for inoperable equipment in accordance with Hatch's Fire Hazards Analysis, Appendix B)

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the three 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.

- SNC810012, Work order to repair valve 2T48F085, February 15, 2017
- SNC854125, Work order to repair incorrect piping configuration on 1R43S001B, October 3, 2017
- SNC430048/SNC437502, Work orders to inspect system valves during B RHR train outage, November 16, 2017

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)

a. Inspection Scope

The inspectors reviewed the four surveillance tests listed below and either observed the test or reviewed test results to verify testing adequately demonstrated equipment operability and met technical specification 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

- 42SV-TET-001-0, "LLRT Testing Methodology," Ver. 11.2
- 52SV-R43-001-0, "Inspection and cleaning of EDG Heat Exchangers," Ver. 30.3
- 34SV-C41-002-1, "SBLC Operability test," Ver. 17.1
- 34SV-X43-001-1, "Fire Pump Test," Ver. 3.4

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the Unit 1 and Unit 2 PIs listed below. The inspectors reviewed plant records compiled between October 2016 and September 2017 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

- safety system functional failures (2)
- heat removal system (2)
- cooling water system (2)

b. Findings

No findings were identified.

## 4OA2 Problem Identification and Resolution (71152)

### .1 Routine Review

The inspectors screened items entered into the licensee's corrective action program in order to identify repetitive equipment failures or specific human performance issues for followup. The inspectors reviewed CRs, attended screening meetings, or accessed the licensee's computerized corrective action database.

### .2 Semi-Annual Trend Review

#### a. Inspection Scope

The inspectors reviewed issues entered in the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on fire protection equipment issues, but also considered the results of inspector daily CR screenings, licensee trending efforts, and licensee human performance results. The review nominally considered the 6-month period of July 2017 thru December 2017, although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared their results with the licensee's analysis of trends. Additionally, the inspectors reviewed the adequacy of corrective actions associated with a sample of the issues identified in the licensee's trend reports. The inspectors also reviewed corrective action documents that were processed by the licensee to identify potential adverse trends in the condition of structures, systems, and/or components as evidenced by acceptance of long-standing non-conforming or degraded conditions. Documents reviewed are listed in the Attachment.

#### b. Findings and Observations

No findings were identified.

### .3 Annual Followup of Selected Issues

#### a. Inspection Scope

The inspectors conducted a detailed review of CR 10412572 regarding a temporary scaffold that was built with inadequate clearance around a 2-inch diameter drywell vent pipe. This issue was selected for review because this pipe formed part of the pressure boundary for primary containment integrity and also because scaffolding clearances were the subject of a previous NRC-identified non-cited violation documented in NRC Inspection Report 2013005. Inspectors reviewed the corrective actions from the previous occurrences to assess their effectiveness. Documents reviewed are listed in the Attachment.

b. Observations and Findings

Inspectors reviewed the apparent cause determination report for corrective action report (CAR) 209139 stemming from the previous NRC violation from 2013. Corrective actions included issuing a fleet event alert, shop bulletins, and performing a shop standdown and training. During the time period of the cause determination, the previous site procedure 50AC-MNT-003-0, "Scaffold Control," was superseded by a fleet standard procedure NMP-MA-010, "Erecting, Modifying, and Disassembling Scaffolding." This procedure change included an Attachment that granted exceptions to establishing a 2-inch clearance from all safety-related piping.

One finding was identified:

Introduction: An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when the licensee failed to ensure engineering evaluations were performed when scaffolding was constructed within 2 inches of safety-related piping. The failure to ensure procedure NMP-MA-010, "Erecting, Modifying, and Disassembling Scaffolding," required engineering evaluations when scaffolding was constructed within 2 inches of safety-related piping was a performance deficiency.

Description: Inspectors identified a scaffold erected in the Unit 2 reactor building that was built in such a manner that it surrounded a 2-inch diameter drywell vent pipe with minimal clearances. The scaffold was erected during a recent refueling outage but was not removed prior to the Unit returning to power operation. The pipe was of particular concern to the inspectors because the pipe formed part of the pressure boundary for primary containment. If the pipe were to fail during a seismic event or other accident, it could result in an unisolable direct release pathway from the drywell. Following an engineering evaluation, documented in technical evaluation (TE) 997061, engineers determined that the safety-related piping would have maintained its structural integrity. The licensee immediately disassembled the scaffolding, but also initially assessed that the scaffolding met procedural requirements and allowances. Procedure NMP-MA-010, "Erecting, Modifying, and Disassembling Scaffolding," prohibited scaffolding to be built within 2 inches of safety-related equipment without an engineering evaluation; however, Attachment 3 of the procedure made an exception for "Low Vulnerability Components," which included "piping." Inspectors asked the licensee whether the procedure was intending to waive engineering evaluations for all installations near any safety-related piping. Of particular concern to the inspectors was piping connected to primary containment and specially engineered "Torus Attached Piping" described in Supplement 3.8B.3 of the Unit 2 FSAR. The licensee subsequently determined that the procedure was incorrect and needed clarification to ensure that engineering evaluations were performed when built within 2 inches of safety-related components.

Analysis: The failure to ensure procedure NMP-MA-010, "Erecting, Modifying, and Disassembling Scaffolding," required engineering evaluations when scaffolding was constructed within 2 inches of safety-related piping was a performance deficiency. The performance deficiency was more-than-minor because if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern.

Specifically, this issue was similar to IMC 0612 Appendix E, Section 4 Example (a) of a more-than-minor issue, because the licensee's procedure, as written, would never require an engineering evaluation of any safety-related piping based on the exceptions granted in the procedure. Inspectors screened this finding using IMC 0609 Attachment 4, "Initial Characterization of Findings," issued October 7, 2016, and IMC 0612, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012. The finding screened as very low safety significance (Green) using Exhibit 3 "Barrier Integrity Screening Questions," because the finding did not represent an actual open pathway in the physical integrity of reactor containment. The inspectors determined that the finding did not have an associated cross-cutting aspect because the discrepancy was introduced during a transition to a fleet standardized procedure, which occurred more than three years ago, and was therefore not reflective of current licensee performance.

Enforcement: 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," requires, in part, that procedures shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Contrary to the above, since January 6, 2014, licensee procedure NMP-MA-010 did not include appropriate quantitative or qualitative acceptance criteria for determining that scaffolding was satisfactorily constructed in such a manner that plant safety and design features were not compromised through inadvertent interaction of the scaffold with plant safety systems or equipment. Specifically, scaffolding was erected with less than a two-inch minimum clearance from the safety-related equipment, but no engineering evaluation had been performed. The licensee disassembled the subject scaffold and created a procedure change request to clarify the procedure. This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. The violation was entered into the licensee's corrective action program as CR 10420643. (NCV 05000321, 366/2017004-02, "Lack of Requirement for Engineering Evaluation of Scaffolding Near Safety-related Piping")

.4 Annual Followup of Selected Issues

a. Inspection Scope

The inspectors conducted a detailed review of CR 10430983 and CR 10430729 regarding the Unit 1 "B" Standby Liquid Control (SBLC) pump gear-pac oil level falling to at or near low out of sight during the operability run. This issue was selected for review because the standby liquid control pump is safety-related equipment required by technical specifications. Inspectors reviewed the corrective actions from the previous occurrence to assess their effectiveness. Documents reviewed are listed in the Attachment.

b. Observations and Findings

Inspectors reviewed a similar issue documented in CR 377421, in which the "A" SBLC gear-pac sight glass dropped below minimum level band on the sight glass and was subsequently declared inoperable. Corrective actions included adding a precaution to the standard operating procedure to maintain the oil level at or near the high level mark on the sight glass. Contrary to this standard, the licensee did not maintain the Unit 1 "B"

SBLC pump gear-pac at or near the high level mark causing the oil level to fall at or near low out of sight during the operability run on November 14, 2017. Additionally, the licensee failed to implement the surveillance procedure 34SV-C41-002-1, "Standby Liquid Control Pump Operability Test," requirement 7.3.1.12 and declare the pump inoperable. Discussion with the gear-pac vendor revealed that the static level observed for the gear-pac would have enabled the pump to meet its design basis mission time. Inspectors determined that these performance deficiencies were minor because, even though the licensee was procedurally driven to declare the pump inoperable, the static oil level of the gear-pac was sufficient to maintain pump operability and did not adversely affect the Mitigating Systems cornerstone. Corrective actions going forward include establishing an appropriate design basis static oil level for the SBLC pump gear-pac and a procedural change to verify proper static oil levels prior to pump start per CR10430983. This failure to comply with 34SV-C41-002-1 constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy.

## 4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

### .1 (CLOSED) Licensee Event Report (LER) 05000366/2017-004-00 Safety Relief Valves' As Found Settings Resulted in Not Meeting Tech Spec Surveillance Criteria

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. Additionally, discussions were held with Operations, Engineering and Licensing staff members to understand the details surrounding this issue. This condition was documented in the licensee's corrective action program as CR 10382586. LER 05000366/2017-004-00 is closed.

b. Findings

Description: During the February 2017 Unit 2 refueling outage, all eleven 3-stage safety relief valves (SRVs) were removed and replaced. The SRVs were Target Rock model 0867F, a 3-stage valve design which was in its first use on Unit 2. This design was adopted as a corrective action to address corrosion bonding experienced by 2-stage SRV model 7687F valves which were previously in use at Hatch. "As-found" testing results indicated two of the eleven SRVs had experienced a setpoint drift during the previous operating cycle which resulted in their failure to meet the Technical Specification (TS) opening setpoint pressure as required by TS Surveillance Requirement (SR) 3.4.3.1. The SRV pilot valves were disassembled and inspected to determine the reason for the drift. The licensee determined that the abutment gap closed pre-maturely most likely due to loose manufacturing tolerances. For the 3-stage design, the pilot disc seating stresses should increase proportionally as reactor pressure increases to where a mechanical gap within the valve stem mechanism, referred to as the "abutment gap," is closed. Additional pressure increases will cause the valve stem mechanism to reduce the disc seat pressure until the valve eventually opens. This same cause was previously identified in 2016 (CAR 264544) after two of eleven SRVs removed from Unit 1 also experienced setpoint drift. Because the Unit 2 valves were already installed when the cause was initially identified, there was no opportunity for the licensee to take corrective actions for the valves that are the subject of this LER.

Additionally, there were no symptoms available to operators or maintenance personnel to indicate the potential for the set point drift prior to post-service testing. As a corrective action, when the eleven valves were removed for post-service testing, the licensee installed eleven refurbished pilot valves that underwent the corrective actions identified by CAR 264544 which included the vendor's usage of revised tolerances.

Enforcement: Hatch Unit 2 TS limiting condition for operation 3.4.3, "Safety/Relief Valves," required 10 of 11 SRVs be operable in MODES 1, 2 and 3. With two or more SRVs inoperable, the required TS action must be taken by the applicable completion time. Contrary to the above, Unit 2 operated from the initiation of the degraded condition until February 6, 2017, with two SRVs inoperable. The inspectors concluded that the violation would normally be characterized as a Severity Level IV violation because it was of very low safety significance (Green). However, the NRC is exercising enforcement discretion (EA-18-006) in accordance with Section 3.10 of the Enforcement Policy because the violation was not associated with a licensee performance deficiency. This issue was documented in the licensee's corrective action program as CR 10382586.

## 4OA5 Other Activities

### .1 Operation of an Independent Spent Fuel Storage Installation (ISFSI) (60855.1)

a. Inspection Scope

The inspectors performed a walkdown of the onsite ISFSI. The inspectors reviewed changes made to the ISFSI programs and procedures, including associated 10 CFR 72.48, "Changes, Tests, and Experiments," screens and evaluations to verify that changes made were consistent with the license or certificate of compliance. The inspectors also reviewed surveillance records to verify that daily surveillance requirements were performed as required by technical specifications.

b. Findings

No findings were identified.

## 4OA6 Meetings, Including Exit

On January 23, 2018, the resident inspectors presented the inspection results to Mr. David Vineyard and other members of the licensee's staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection period.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

## KEY POINTS OF CONTACT

Licensee personnel
B. Anderson, Radiation Protection Manager
J. Bailey, Licensing Supervisor
H. Betsill, Emergency Preparedness Specialist
G. Brinson, Maintenance Director
J. Major, Licensing Manager
B. Deen, Training Director
B. Hulett, Engineering Director
C. Collins, Regulatory Affairs Manager
R. Lewis, Operations Support Manager
J. Henry, Operations Director
A. Manning, Work Management Director
J. Merritt, Security Manager
R. Reddick, Emergency Preparedness Supervisor
C. Rush, Nuclear Oversight Manager
R. Spring, Plant Manager
M. Todd, Engineering Programs Supervisor
M. Torrance, Design Engineering Manager
D. Vineyard, Site Vice President
B. Wainwright, Operations Training Manager

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

| | | |
|---|---|---|
| 05000366/2017-004-01 | NCV | Continuous Fire Watch or Compensatory Measures Not Established per FHA (Section 1R15) |
| 05000321, 366/2017-004-02 | NCV | Lack of Requirement for Engineering Evaluation of Scaffolding Near Safety-related Piping (Section 4OA2) |

Closed

| | | |
|---|---|---|
| 05000366/2017-004-00 | LER | Safety Relief Valves' As Found Settings Resulted in Not Meeting Tech Spec Surveillance Criteria (Section 4OA3.1) |

## LIST OF DOCUMENTS REVIEWED

### Section 1R01: Adverse Weather

Procedures

DI-OPS-36-0989, "Cold Weather Checks," Ver. 23.4
NMP-CH-401, "Diesel Fuel Oil Program," Ver. 5.0
52PM-MEL-005-0, "Cold Weather Checks," Ver. 18.1

Drawings

S50041, "Diesel Driven Fire Protection Pumps Operation and Maintenance Manual," Ver. 2.0

Other

NRC Information Notice 94-19, "Emergency Diesel Generator Vulnerability to Failure from Cold Fuel Oil," dated March 16, 1994
ENG-94-107, "Dedication of Commercial Grade Diesel Fuel Oil," dated September 1, 1994
ENG-98-39c, "DFO Purchase Specifications," dated November 13, 1998
Cummins Engine Service Bulletin Number 3379001-13
ASTM D975-07, "Standard Specification for Diesel Fuel Oils"

### Section 1R04: Equipment Alignment

Procedures

52IT-MEL-009-0, "Trip Test of Startup Transformer 1C and 2C Protective Relays," Ver. 7.1
34SO-R22-001-1, "4160 VAC System," Ver. 23.5
34SO-R43-001-1, "EDG Standby AC System," Ver. 28.0
34SO-E11-010-1, "RHR System," Ver. 44.13

Drawings

H-13412, H-13350, H-13352, H-13356

Other

SNC662260, SNC690847

### Section 1R05: Fire Protection

Procedures

E.I. Hatch Fire Protection Fire Hazards Analysis
42FP-FPX-018-0, Use, Control and Storage of Flammable/Combustible Materials, Version 1.2
34AB-X43-001-1, Fire Procedure, Version 10.25
42SV-FPX-024-0, Fire Hose Stations – Appendix B Areas, Version 3.2
E.I. Hatch Fire Protection Fire Hazards Analysis
52SV-FPX-001-0, "Fire Extinguisher Inspection," Ver. 3.5
52SV-FPX-010-0. "Low Pressure $CO_2$ System Surveillance", Ver. 7.3

Drawings

A-43966 sheet 6A/B, Unit 1 Pre-Fire Plan 1401
A-43966 sheet 8A/B, Unit 1 Pre-Fire Plan 1403
A-43966 sheet 9A/B, Unit 1 Pre-Fire Plan 1404
A-43966 sheet 10A/B, Unit 1 Pre-Fire Plan 1405
A-43966 sheet 12A/B, Unit 1 Pre-Fire Plan 1407
A-43966 sheet 13A/B, Unit 1 Pre-Fire Plan 1408
A-43966 sheet 14A/B, Unit 1 Pre-Fire Plan 1409

A-43966 sheet 16A/B, Unit 1 Pre-Fire Plan 1411
A-43966 sheet 17A/B, Unit 1 Pre-Fire Plan 1412
A-43966 sheet 18A/B, Unit 2 Pre-Fire Plan 2401
A-43966 sheet 19A/B, Unit 2 Pre-Fire Plan 2402
A-43966 sheet 20A/B, Unit 2 Pre-Fire Plan 2403
A-43966 sheet 22A/B, Unit 2 Pre-Fire Plan 2405
A-43966 sheet 23A/B, Unit 2 Pre-Fire Plan 2406
A-43966 sheet 24A/B, Unit 2 Pre-Fire Plan 2407

**Section 1R06: Flood Protection Measures**

Procedures

NMP-ES-051-004, "Pull box Inspection Procedures," Ver. 5.1

**Section 1R11: Licensed Operator Requalification**

52IT-MEL-009-0, "Trip Test of Startup Transformer 1C and 2C Protective Relays," Ver. 7.1
34SO-R22-001-1, "4160 VAC System," Ver. 23.5
LT-SG-51069, "Trip 2A 600V / ASD Runback / PSW Leak in Secondary Containment / Trip SSAC / RCP-A / LOCA," Ver. 6.1

**Section 1R12: Maintenance Effectiveness**

Unit 1 FSAR Section 10.9.3.6.3
Unit 2 FSAR Section 9.4.7
System Evaluation Document, Volume 3, Safety Component List, Ver. 32
CR 10438099, 10397556
Maintenance Rule Scoping for Function Z41-03
System Health Report –E11 System – 3rd quarter 2017
E11 Maintenance Rule (MR) Scoping Manual Documents
E11 MR Performance Criteria
System Health Report –C41 System – 3rd quarter 2017
C41 Maintenance Rule (MR) Scoping Manual Documents
C41 MR Performance Criteria
NMP-ES-002, "System Monitoring and Health Reporting," Ver. 21.22

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

Procedures

34AB-N21-001-2, "Loss of Feedwater Heating," Ver. 8.0
34GO-OPS-042-2, "MSR, Extraction Steam and Heater Shell Drain System," Ver. 23.0
NMP-OS-010-002, "Hatch Protected Equipment Logs," Ver. 11.0

Drawings

H-21023, H-21024, H-21025,

Other

CR 10420506, 10420907, 10420910, 10420969
WO SNC901839
Equipment Out of Service calculations 10/14/2017-10/28/2017
Equipment Out of Service calculations 11/11/2017-11/25/2017
Equipment Out of Service calculations 11/25/2017-12/9/2017

**Section 1R15: Operability Evaluations**

Procedures

34SO-R43-001-1, "Diesel Generator Standby AC System," Ver. 28.0
Procedure Processing Form for 34SO-R43-001-1, Ver. 23.3
Procedure Processing Form for 34SO-R43-001-2, Ver. 24.4

Other

Control room logs dated X/X/2017
SMNH-16-023, "Emergency Diesel Generator Fuel Oil Tank Vent Lines," Ver. 1.0
SMNH-72-003, "Seismic Calculations Emergency Diesel Fuel Oil Tanks," Rev. 0

**Section 1R19: Post Maintenance Testing**

Procedures

42SV-TET-001-2, "Primary Containment Periodic Type B & Type C Leakage Tests," Ver. 37.0
NEI 13-02, "Industry Guidance for Compliance with Order EA-13-109," Rev. 1
52SV-R43-001-0, "Diesel, Alternator, and Accessories inspection," Ver. 28.2
34SV-E11-001-1, "RHR Pump Operability," Ver. 26.2

Drawings

H-26084

Other

WO SNC810012

**Section 1R22: Surveillance Testing**

Procedures

NMP-OS-019-286, "Hatch Unit 2 SIG-6, Containment Integrity," Ver. 3.0
31EO-TSG-002-0, "Technical Support Appendix J," Ver. 1.4
42SV-TET-001-0, "LLRT Testing Methodology," Ver. 11.2
42SV-TET-001-2, "Primary Containment Periodic Type B & Type C Leakage Tests," Ver. 37.0
52SV-R43-001-0, "Diesel, Alternator, and Accessories Inspection," Ver. 30.2
34SV-C41-002-1, "SBLC Operability Test," Ver. 17.1

Drawings

H-53210, 26084

Other

CR 10329606
DCP 598056
WO SNC814076, SNC556050, SNC826168, SNC867222, SNC867223, SNC867224

**Section 4OA1: Performance Indicator Verification**

Procedures

MSPI Derivation Reports for Heat Removal System for period through December 2017
MSPI Derivation Reports for Cooling Water System for period through December 2017

Other

LERs reported between October 1, 2016 and September 30, 2017

**Section 4OA2: Identification and Resolution of Problems**

Procedures

NMP-MA-010, ""Erecting, Modifying, and Disassembling Scaffolding," Ver. 1.0 and 6.0
50AC-MNT-003-0, "Scaffold Control," Ver. 9.0
34SV-C41-002-1, "SBLC Pump Operability Test," Ver. 17.1

Other

CR 10412572, 10420643, 764387, 731564, 764342, 10418836, 10418834, 1039199, 10384320, 10384316, 10384314, 10384313, 10384311, 10384308, 10384206, 10384302, 10384301
Fleet Event Alert H-14-02
CAR 209139
ACD for CAR 209139
TE 775601, 731564, 733303, 997061
SNC 843309

**Section 4OA3: Event Followup**

Other

CR 10382586, 10204045
CAR 264236, 264766, 264544
ACD for CAR 264544