



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II**

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

January 19, 2018

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 – NRC PROBLEM IDENTIFICATION  
AND RESOLUTION INSPECTION REPORT 05000321/2017009 AND  
05000366/2017009**

Dear Mr. Vineyard:

On December 7, 2017, the U. S. Nuclear Regulatory Commission (NRC) completed a problem identification and resolution biennial inspection at your Hatch Nuclear Plant Units 1 and 2 and discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

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

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

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

NRC inspectors documented one finding of very low safety significance (Green) in this report which involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the violation or the significance of the violation, 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 Hatch Nuclear Plant.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC resident inspector at the Hatch Nuclear Plant.

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

Sincerely,

**/RA/**

Alan Blamey, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Docket No. 50-321, 50-366  
License No. DPR-57 and NPF-5

Enclosure:  
IR 05000321/2017009 and 05000366/2017009  
w/Attachment: Supplemental Information

Distribution via ListServ

D. Vineyard

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SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NRC PROBLEM IDENTIFICATION  
AND RESOLUTION INSPECTION REPORT 05000321/2017009 AND  
05000366/2017009 January 19, 2018

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 50-321, 50-366

License Nos.: DPR-57 and NPF-5

Report No.: 05000321/2017009 and 05000366/2017009

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, GA

Dates: November 13-17, 2017  
December 4-7, 2017

Inspectors: A. Ruh, Senior Resident Inspector, Acting  
C. Cheung, Construction Inspector  
G. Croon, Senior Resident Inspector  
S. Sanchez, Senior Emergency Preparedness Inspector

Approved by: Alan Blamey, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY

IR 05000321/2017009 and 05000366/2017009; 11/13/2017 – 12/7/2017; Hatch Nuclear Plant, Units 1 and 2; Biennial Inspection of the Problem Identification and Resolution Program.

The inspection was conducted by two senior resident inspectors, one senior emergency preparedness inspector, and a construction inspector. One Green NCV was identified. 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" dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within 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 operation 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.

### Identification and Resolution of Problems

The inspectors concluded that, in general, problems were properly identified, evaluated, prioritized, and corrected. The licensee was effective at identifying problems and entering them into the corrective action program (CAP) for resolution, as evidenced by the relatively few number of deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. Generally, prioritization and evaluation of issues were adequate, formal root cause evaluations for significant problems were adequate, and corrective actions specified for problems were acceptable. Overall, corrective actions developed and implemented for issues were generally effective and implemented in a timely manner.

The inspectors determined that overall, audits and self-assessments were adequate in identifying deficiencies and areas for improvement in the CAP, and appropriate corrective actions were developed to address the issues identified. Operating experience usage was found to be generally acceptable and integrated into the licensee's processes for performing and managing work, and plant operations.

Based on discussions and interviews conducted with plant employees from various departments, the inspectors determined that personnel at the site felt free to raise safety concerns to management and use the CAP to resolve those concerns.

### NRC-Identified and Self-Revealing Findings

#### Cornerstone: Mitigating Systems

- Green: A self-revealing non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the licensee's failure to establish measures to assure that corrective action was taken to preclude repetition of a significant condition adverse to quality (SCAQ). Specifically, the licensee failed to implement corrective actions that would have increased the reliability of the intermediate range monitoring (IRM) system and prevent repetitive reactor scrams for similar reasons. The licensee entered this issue in the CAP as CR 10356172.

The failure to ensure corrective actions were taken for a SCAQ to preclude repetition of reactor scrams due to IRM spiking caused by external electronic noise was a performance deficiency. This performance deficiency is more-than-minor because it is

associated with the equipment performance attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective because it resulted in a reactor scram, which upsets plant stability and challenges critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609 Appendix A, the inspectors determined that this finding is of very low safety significance (Green) because it did not involve the loss of mitigation equipment per Exhibit 1.B "Transient Initiators." The inspectors determined that the finding had a cross-cutting aspect of Conservative Bias (H.14) within the cross-cutting area of Human Performance because the licensee failed to use decision making-practices that emphasize prudent choices over those that are simply allowable.

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA2 Problem Identification and Resolution

##### .1 Assessment of the Corrective Action Program

###### a. Inspection Scope

The inspectors reviewed the licensee's Corrective Action Program (CAP) procedures which described the administrative process for initiating and resolving problems primarily through the use of condition reports (CRs). To verify that problems were being properly identified, appropriately characterized, and entered into the CAP, the inspectors reviewed CRs that had been issued between December 2015 and October 2017, including a detailed review of selected CRs associated with the following risk-significant systems: Plant Service Water (PSW), Residual Heat Removal (RHR & RHRSW), and Emergency Diesel Generators (EDGs). Where possible, the inspectors independently verified that the corrective actions were implemented as intended. The inspectors also reviewed selected common causes and generic concerns associated with root cause evaluations (RCE) to determine if they had been appropriately addressed. To help ensure that samples were reviewed across all cornerstones of safety identified in the Reactor Oversight Process (ROP), the inspectors selected a representative number of CRs that were identified and assigned to the major plant departments, including operations, performance improvement, health physics, chemistry, emergency preparedness, and security. These CRs were reviewed to assess each department's threshold for identifying and documenting plant problems, thoroughness of evaluations, and adequacy of corrective actions. The inspectors reviewed selected CRs, verified corrective actions were implemented, and attended meetings where CRs were evaluated for significance to determine whether the licensee was identifying, accurately characterizing, and entering problems into the CAP at an appropriate threshold.

The inspectors conducted plant walkdowns within the selected systems listed above and other plant areas to assess the material condition and to identify any deficiencies that had not been previously entered into the CAP. The inspectors reviewed CRs, maintenance history, CAs, completed work orders (WOs) for the systems, and reviewed associated system health reports. These reviews were performed to verify that problems were being properly identified, appropriately characterized, and entered into the CAP. Items reviewed generally covered a two-year period; however, in accordance with the inspection procedure, a five-year review was performed for selected systems for age-dependent issues.

Control room walkdowns were also performed to assess the main control room (MCR) deficiency list and to ascertain if deficiencies were entered into the CAP and tracked to resolution. Operator workarounds (OWA) and operator burden screenings were reviewed, and the inspectors verified compensatory measures for deficient equipment which were being implemented in the field.

The inspectors conducted a detailed review of selected CRs to assess the adequacy of the root cause and apparent cause evaluations of the problems identified. The inspectors reviewed these evaluations against the descriptions of the problem described in the CRs and the guidance in licensee procedure NMP-GM-002-001, Corrective Action Program Instructions.

The inspectors assessed if the licensee had adequately determined the cause(s) of identified problems, and had adequately addressed operability, reportability, common cause, generic concerns, extent-of-condition, and extent-of-cause. The review also assessed if the licensee had appropriately identified and prioritized corrective actions to prevent recurrence.

The inspectors reviewed selected industry operating experience (OE) items, including NRC generic communications, to verify that they had been appropriately evaluated for applicability and that issues identified through these reviews had been entered into the CAP.

The inspectors reviewed site trend reports, to determine if the licensee effectively trended identified issues and initiated appropriate corrective actions when adverse trends were identified.

The inspectors reviewed licensee audits and self-assessments, including those which focused on problem identification and resolution programs and processes, to verify that findings were entered into the CAP and to verify that these audits and assessments were consistent with the NRC's assessment of the licensee's CAP. The inspectors attended various plant meetings to observe management oversight functions of the corrective action process. These included Performance Improvement Review Meetings and Management Review Committee (MRC) meetings.

Documents reviewed are listed in the Attachment.

b. Assessment

Problem Identification

The inspectors determined that the licensee was generally effective in identifying problems and entering them into the CAP and there was an appropriately low threshold for entering issues into the CAP. This conclusion was based on a review of the requirements for initiating CRs as described in licensee procedure NMP-GM-002-001, Corrective Action Program Instructions and management's expectation that employees were encouraged to initiate CRs for any reason. Trending was generally effective in monitoring equipment performance. Site management was actively involved in the CAP and focused appropriate attention on significant plant issues.

The inspectors identified one performance deficiency associated with the licensee's problem identification. This issue was screened in accordance with Inspection Manual Chapter 0612, "Issue Screening," and was determined to be of minor significance and not subject to enforcement action in accordance with the NRC's Enforcement Policy.



- Aging Management Review Report AMR064M, “Carbon Steel, Fuel Oil, Buried” stated that galvanic corrosion was not detrimental at Plant Hatch because contact between carbon steel and stainless steel did not exist. Contrary to the report, inspectors identified portions of the vent line for the diesel fuel oil storage tank that contained carbon steel to stainless steel connections. The failure to identify galvanic corrosion as a plausible and detrimental aging effect for the diesel fuel oil storage tank vent lines was a performance deficiency. Once identified by the team, the licensee evaluated the buried connections and determined they had a low susceptibility to galvanic corrosion. Because of the low susceptibility, the inspectors determined the inaccuracy in the report had no safety impact and was therefore of minor significance. The licensee generated CR 10436787 to address this issue.

#### Problem Prioritization and Evaluation

Based on the review of CRs sampled by the inspectors during the onsite period, the inspectors concluded that problems were generally prioritized and evaluated in accordance with the licensee’s CAP procedures as described in the CR significance determination guidance in NMP-GM-002-GL03, Cause Analysis and Corrective Action Guidelines. Each CR was assigned a priority level at the CR screening meeting, and adequate consideration was given to system or component operability and associated plant risk.

The inspectors determined that station personnel had conducted root cause and apparent cause analyses in compliance with the licensee’s CAP procedures and assigned cause determinations were appropriate, considering the significance of the issues being evaluated. A variety of formal causal-analysis techniques were used depending on the type and complexity of the issue consistent with procedure NMP-GM-002-GL03.

The inspectors identified one performance deficiency associated with the licensee’s prioritization and evaluation of issues. This issue was screened in accordance with Inspection Manual Chapter 0612, “Issue Screening,” and was determined to be of minor significance and not subject to enforcement action in accordance with the NRC’s Enforcement Policy.

- CR 10330502 was written following receipt of a Severity Level III NRC violation documented in NRC inspection report 05000321/2016011. Licensee procedure NMP-GM-002-001, Attachment 1 required that CRs for Severity Level III violations receive a priority of 1, which would require root cause analysis. Contrary to this requirement, the CR was assigned a lower priority of 3 and closed to actions and lower-tier analyses previously completed. The failure to assign the correct priority per NMP-GM-002-001 was a performance deficiency. Once identified by the team, the licensee obtained MRC approval to downgrade the CR from priority 1 to priority 3. The inspectors determined that this was a failure to implement a procedural requirement that had no safety impact and was therefore of minor significance. The licensee generated CR 10431489 to address this issue.

### Effectiveness of Corrective Actions

Based on a review of corrective action documents, interviews with licensee staff, and verification of completed corrective actions, the inspectors determined that overall, corrective actions were timely, commensurate with the safety significance of the issues, and effective, in that conditions adverse to quality were corrected and non-recurring. For one of the two significant conditions adverse to quality reviewed by the team, the corrective actions directly addressed the cause and effectively prevented recurrence in that a review of performance indicators, CRs, and effectiveness reviews demonstrated that the significant conditions adverse to quality had not recurred. Effectiveness reviews for corrective actions taken to preclude repetition were sufficient to ensure corrective actions were properly implemented and were effective. However, there was a self-revealed performance deficiency identified with one significant condition adverse to quality reviewed by the team documented below.

#### c. Findings

Introduction: A Green self-revealing non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the licensee's failure to establish measures to assure that corrective action was taken to preclude repetition of a significant condition adverse to quality (SCAQ). Specifically, the licensee failed to implement corrective actions that would have increased the reliability of the intermediate range monitoring (IRM) system and prevent repetitive reactor scrams for similar reasons.

Description: On April 20, 2017, with Unit 1 at approximately 1% rated thermal power, an automatic reactor scram occurred due to the "A" and "B" IRMs spiking upscale high simultaneously. The IRM system is capable of generating a trip signal that can be used to prevent fuel damage resulting from anticipated operational occurrences that occur while operating in the intermediate power range. The licensee determined that the cause of the event was due to degradation of the under-vessel connectors within the IRM instrument loop between the detector and the drywell penetration. Degraded cable shielding at jumper connections allowed electronic noise from control rod movement to affect the signal cables for the "A" and "B" IRMs. The induced noise caused a false reading which produced a scram signal.

Two other similar events previously occurred. In 2011, Unit 2 was manually scrambled after having all IRMs declared inoperable in the same reactor core quadrant due to erratic signals/electronic noise. In 2009, with Unit 1 at 8% power, an automatic scram occurred because of electronic noise induced in IRM signal cables when the reactor mode switch was taken to RUN. The licensee classified each of the above described events as SCAQs requiring a root cause evaluation and corrective actions to preclude repetition (CAPRs) per Procedure NMP-GM-002-001, "Corrective Action Program Instructions."

Per Corrective Action Report 269621, Root Cause Determination Report, dated July 6, 2017, modifications intended to increase the reliability of the IRM system were not implemented in a timely manner. Actions from the two root cause reports associated with the above mentioned reactor scrams of 2009 and 2011, recommended changing the time delay on the upper range IRMs so that spurious spikes caused by electromagnetic interference (EMI) would not result in a spurious IRM instrument trip. This modification was proposed in 2009, as a CAPR, but was assigned a low risk

ranking and subsequently voided. Then in 2012, the same modification proposal was presented to the Plant Health Committee (PHC) as a CAPR due to the EMI noise induced scram that occurred on Unit 2 in 2011. The PHC approved the modification and actions were placed on a short-term list (outside the CAP), however the design was never started or implemented. The inspectors concluded that the licensee's processes did not ensure the CAPR was tracked to completion.

Procedure changes were also made to the plant startup procedure following the 2011 scram, but this CAPR was subsequently weakened by other procedure additions and changes. The original CAPR action required performance of Characterization testing during each mid-cycle outage to detect degraded conditions with IRM cables prior to resuming power operations. The procedure and root cause report were later revised, in accordance with approved plant processes, to reduce the frequency of the testing to every second mid-cycle outage. This frequency reduction was based on a trend of satisfactory results. Subsequent procedure changes, however, were made in 2014, 2015, 2016, and 2017, without revising the root cause report or CAPR. These changes allowed an engineering evaluation in place of performing the Characterization testing. As a result, Unit 1 went through four mid-cycle outages without executing the intended CAPR action. Because the testing was not performed and the engineering evaluations did not recognize the existence of degraded conditions, the plant was restarted with the IRMs in a degraded state.

Inspectors identified that a contributing factor to the event was that an effectiveness review had not been completed. A review was scheduled to be completed in June 2016 to verify the effectiveness of the 2011 root cause actions. This review was deferred from June 2016 to October 2016, and then from October 2016 to October 2018. Licensee procedure NMP-GM-002-002 allowed reviews to be extended when the associated outstanding corrective actions were extended with proper management approval. In this case, the outstanding corrective actions had not received an extension or management approval since they were not being tracked in the CAP with due dates. The effectiveness review extension request process should have identified the lack of corrective action.

Analysis: The failure to ensure corrective actions were taken for a SCAQ to preclude repetition of reactor scrams due to IRM spiking caused by external electronic noise was a performance deficiency. This performance deficiency is more-than-minor because it is associated with the equipment performance attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective because it resulted in a reactor scram, which upsets plant stability and challenges critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609 Appendix A, the inspectors determined that this finding is of very low safety significance (Green) because it did not involve the loss of mitigation equipment per Exhibit 1.B "Transient Initiators." The inspectors determined that the finding had a cross-cutting aspect of Conservative Bias (H.14) within the cross-cutting area of Human Performance because the licensee failed to use decision-making practices that emphasized prudent choices over those that were simply allowable when the decision was made to proceed with the plant startup rather than conduct IRM system/cable Characterization testing. Additionally, the decision to extend an effectiveness review created a missed opportunity to identify problems with corrective action implementation.

Enforcement: 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that for SCAQs, the licensee establish measures to assure that corrective action is taken to preclude repetition. Contrary to the above, from 2009, to April 20, 2017, the licensee failed to establish measures to ensure that corrective action was taken for a SCAQ to preclude repetition. Specifically, the licensee failed to implement corrective actions to address a SCAQ and preclude repetition of plant scrams due to electronic noise affecting IRMs. As an immediate corrective action, the licensee performed Characterization testing and corrected degraded conditions with the IRM system cabling and connections. The licensee entered this issue into their CAP as CR 10356172. Because the finding is of very low safety significance (Green) and has been entered into the licensee's CAP, this violation is being treated as a NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000321/2017009-01, Failure to Implement Corrective Actions to Preclude Repetition of Reactor Scrams Due to IRM Spiking).

2. Assessment of the Use of Operating Experience

a. Inspection Scope

The inspectors examined the licensee's use of industry OE to assess the effectiveness of how external and internal operating experience data was handled at the plant. In addition, the inspectors selected OE documents (e.g., NRC generic communications, 10 CFR Part 21 reports, licensee event reports, vendor notifications, and plant internal OE items, etc.) which had been issued since August 2015, to verify whether the licensee had appropriately evaluated each notification for applicability to the Hatch Nuclear Plant, and whether issues identified through these reviews were entered into the CAP. Documents reviewed are listed in the Attachment.

b. Assessment

Based on a review of selected documentation related to OE issues, the inspectors determined that the licensee was generally effective in screening OE for applicability to the plant. Industry OE was evaluated at either the corporate or plant level depending on the source and type of the document. Relevant information was then forwarded to the applicable department for further action or informational purposes. OE issues requiring action were entered into the CAP for tracking and closure. In addition, OE was included in all apparent cause and root cause evaluations in accordance with licensee procedure NMP-GM-008-GL01, Guideline for Searching for Relevant OE.

c. Findings

No findings were identified.

3. Assessment of Self-Assessments and Audits

a. Inspection Scope

The inspectors reviewed audit reports and self-assessment reports, including those which focused on problem identification and resolution, to assess the thoroughness and self-criticism of the licensee's audits and self-assessments, and to verify that problems

identified through those activities were appropriately prioritized and entered into the CAP for resolution in accordance with licensee procedure NMP-GM-003, Self-Assessment and Benchmark Procedure and NOS-104, Audit Planning and Scheduling.

b. Assessment

The inspectors determined that the scopes of assessments and audits were adequate. Self-assessments and audits were generally detailed and critical, as evidenced by findings consistent with the inspector's independent review. The inspectors verified that CRs were created to document areas for improvement and findings resulting from the self-assessments and audits, and verified that actions had been completed consistent with those recommendations. Generally, the licensee performed evaluations that were technically accurate.

c. Findings

No findings were identified.

4. Assessment of Safety-Conscious Work Environment

a. Inspection Scope

During the course of the inspection, the inspectors assessed the station's safety-conscious work environment (SCWE) through review of the station's Employee Concerns Program (ECP) and interviews with various departmental personnel. The inspectors reviewed a sample of ECP issues to verify that concerns were being properly reviewed and identified deficiencies were being resolved and entered into the CAP when appropriate.

b. Assessment

Based on the interviews conducted and the CRs reviewed, the inspectors determined that licensee management emphasized the need for all employees to identify and report problems using the appropriate methods established within the administrative programs, including the CAP and ECP. These methods were readily accessible to all employees. Based on discussions conducted with a sample of plant employees from various departments, the inspectors determined that employees felt free to raise issues, and that management encouraged employees to place issues into the CAP for resolution. The inspectors did not identify any reluctance on the part of the licensee staff to report safety concerns.

c. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (CLOSED) LER 05000321/2017-005-00 Automatic Scram Due to Intermediate Range Monitors Spiking Upscale

a. Inspection Scope

This Licensee Event Report (LER) was associated with the automatic reactor scram that occurred with Unit 1 at approximately 1% rated thermal power on April 20, 2017. The inspectors reviewed the root cause report and discussed the issue with members of the plant staff. The cause of the scram was attributed to IRM signal cable connectors being in a degraded condition and susceptible to external electronic noise. This condition was documented in the licensee's CAP as CR 10356172. The inspectors reviewed the CR, other associated CAP documents, and the licensee's corrective actions.

b. Findings

One finding was identified. The enforcement aspects of this issue are discussed in Section 4OA2.1 of this report.

4OA6 Exit

Exit Meeting Summary

On December 7, 2017, the inspectors presented the inspection results to Mr. David Vineyard, Vice President and other members of the site staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee personnel**

L. Capeles, Maintenance Engineer  
J. Crumpton, Radiation Protection Supervisor  
B. Edkin, System Engineer  
A. Elliott, System Engineer  
D. Negron, System & Program Engineer  
D. Gilbert, Chemistry Supervisor  
J. Harley, Senior Radiation Protection Technician  
K. Johnson, Senior Chemistry Technician  
D. Moore, Emergency Preparedness Specialist  
N. Ramos, Engineer  
R. Reddick, Emergency Preparedness Supervisor  
J. Reddy, Mechanical Systems Supervisor  
J. Bailey, Licensing Engineer  
R. Outler, PI Manager  
J. Collins, Regulatory Affairs Manager  
B. Coleman, Causal Analyst

#### **NRC personnel**

D. Retterer, Resident Inspector

### **LIST OF REPORT ITEMS**

#### **Opened and Closed**

05000321/2017009-01	NCV	Failure to Implement Corrective Actions to Preclude Repetition of Reactor Scrams Due to IRM Spiking (Section 4OA2.1)
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#### **Closed**

05000321/2017-005-00	LER	Automatic Scram Due to Intermediate Range Monitors Spiking Upscale (Section 4OA3.1)
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## LIST OF DOCUMENTS REVIEWED

### Procedures

NMP-ES-002, System Monitoring and Health Reporting, Ver. 21.1  
NMP-ES-002-003, System Health Reporting Instructions, Ver. 7.6  
NMP-ES-027, Maintenance Rule Program, Version 6.0  
NMP-ES-027-001, Maintenance Rule Implementation, Version 8.0  
NMP-GM-002, Corrective Action Program, Version 14.4  
NMP-GM-002-001, Corrective Action Program Instructions, Version 36.1  
NMP-GM-002-002-Effectiveness Review Instructions, Version 5.1  
NMP-GM-002-GL03, Cause Analysis and Corrective Actions Guideline, Version 28.0  
NMP-GM-003, Self-Assessment and Benchmark Procedure, Version 23.1  
NMP-GM-008, Operating Experience Program, Ver. 17.3  
NMP-GM-013, Performance Improvement Model, Ver. 8.3  
NMP-GM-013-001, Performance Improvement Toolbox, Ver. 6.0  
NMP-GM-013-002, Performance Assessment and Trending, Ver. 5.0  
NMP-GM-024, Nuclear Safety Culture Program, Version 6.1  
NMP-GM-027, Plant Health Process, Ver. 11.1  
NMP-ES-074-005, Fleet Vibration Instruction, Ver. 3.0  
52PM-P41-036-1, Unit 1 PSW Pump & Motor Major Inspection/Overhaul, Ver. 8.1  
42IT-QCX-009-0, One-Time Inspection for Selective Leaching, Ver. 2.0

### Condition Reports Reviewed

10169313	10389423	10389426	10215294	10221298	10193615
10172123	10177307	10195578	10201613	10273142	10274101
10241982	10260866	10279745	10146119	10148511	10148556
10259060	10296145	10357128	10363781	10187404	10211502
10271667	10145091	10180623	10187919	10146704	10154279
10277608	10256610	10194243	10348994	10282474	10333839
10294753	10260325	10330502	10294755	10298740	10298740
10298033	10305205	10330658	10331678	10364758	10366093
10307937	10317545	10334310	10368316	10375108	10391089
10324982	10394347	10262630	10361571	10394379	10356172
10347711	10178406	10185612	10207751	10363763	10363781
10352880	10285988	10189493	10192772	10199727	10225628
10372874	10405169	10402509	10304052	10328642	10346459
10398613	10322327	10409922	10367722	10337387	10282783

### Condition Reports Generated

10431039, "1C PSW Upper Bearing Oil Sight glass Needs Cleaning"  
10431083, "Exposed Kaowool"  
10431052, "Housekeeping Observations"  
10430729, "NRC Concern"  
10430983, "NRC observation regarding SBLC pump oil levels"  
10431093, "Safety Concern in Accessing 2D RHR Pump Motor Oil Sight Glass"  
10431489, "MRC Approval to Close CR 10330502 Not Documented Appropriately"  
10436787, "Revise License Renewal Aging Management Review Report AMR064M"



Technical Evaluations (TE)

941904	969506	969618	984887	984888	960131
954642	632476	980182	988888	954310	913520

Work Orders

SNC850579	SNC855272	SNC857348	SNC864538	SNC855272	SNC864538
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Corrective Action Records (CAR)

266519	266670	268836	268971	269621	269380
263827	264134	265309	266519	267857	263813
270680	249616	261121	263115	263280	264930
265394	265574	268650			

Audits and Self-Assessments

Chemistry Comprehensive Performance Assessment Report, dated 9/7/16  
 Chemistry Comprehensive Performance Assessment Report, dated 10/3/17  
 Fleet Environmental Affairs/Chemistry Audit Plan, dated 9/15/16  
 Fleet-ENG-2016 Report, Nuclear Oversight Audit of Engineering, dated 12/19/16  
 Fleet-EP-2016 Report, Nuclear Oversight Audit of Emergency Preparedness, dated 2/17/16  
 Fleet-EP-2017 Report, Nuclear Oversight Audit of Emergency Preparedness, dated 2/8/17  
 Fleet-RP-2017 Report, Nuclear Oversight Audit of Radiation Protection, dated 7/10/17  
 Fleet-DCM-2017 Report, Nuclear Oversight Audit of Engineering Design, dated 3/23/17  
 Fleet-ENG-2016 Report, Nuclear Oversight Audit of Engineering, dated 1/4/17  
 Fleet-LIC-2017 Report, Nuclear Oversight Audit of Licensing, dated 5/25/17  
 Fleet-FP-2016 Report, Nuclear Oversight Audit of Fire Protection, dated 10/3/16  
 Fleet-MF-MRO-2017 Report, Nuclear Oversight Audit of Managing Fatigue Program, MRO and SAE, dated 5/10/2017  
 Fleet-FFD-2016, Nuclear Oversight Audit of Fitness for Duty, dated 4/22/16  
 Fleet-AA-2016, Nuclear Oversight Audit of Access Authorization Log, dated 6/24/2016  
 Fleet-SEC-2016, Nuclear Oversight Audit of Security, dated 8/26/16  
 NOSCPA-ENG-2016-05, Engineering and Site Projects Comprehensive Performance Assessment Report, dated 10/5/16  
 NOSCPA-ENG-2017-05, Engineering Comprehensive Performance Assessment Report, dated 9/6/17  
 NOSCPA-WM-2017-02, Work Management Comprehensive Performance Assessment Report, dated 6/22/17  
 NOSCPA-MNT-2017-04, Maintenance Comprehensive Performance Assessment Report, dated 8/17/17  
 C-RIE-2015 Report, Nuclear Oversight Audit of Risk Informed Engineering, dated 12/28/15  
 Fleet-DC-2015 Report, Nuclear Oversight Audit of Document Control, dated 12/9/15  
 Fleet-EA/CHEM-2016 Report, Nuclear Oversight Audit of Environmental Affairs/Chemistry, dated 11/18/16  
 Fleet-MNT-2017 Report, Nuclear Oversight Audit of Maintenance, dated 11/6/17  
 Fleet-SCM-2017 Report, Nuclear Oversight Audit of Supply Chain Management, dated 9/13/17  
 Plant Hatch NSRB Meeting Minutes 2015-07, 2016-03, 2016-07, 2017-02  
 Check-in Self-Assessment, Follow up to Quality of PIIM Gap Action Plans, dated 8/12/16  
 Check-in Self-Assessment, CAP Effectiveness Post DNP, dated 4/13/17  
 Fleet-Special CAP-2016 Report, Nuclear Oversight Audit of the Corrective Action Program, dated 1/9/17  
 Check-in Self-Assessment, Nuclear Safety Culture Biennial Assessment, dated 7/24/16  
 Check-in Self-Assessment, Biennial Nuclear Safety Culture Assessment, dated 1/14/16  
 Check-in Self-Assessment, Human Performance Clock Resets, dated 5/18/16

Check-in Self-Assessment, Site Key Performance Indicators, dated 4/27/17  
 Check-in Self-Assessment, PI&R, dated 8/11/17

#### Other Documents

System Health Report, Unit 1 System: 1P41 Plant Service Water, Q4-2015  
 System Health Report, Unit 1 System: 1P41 Plant Service Water, Q1-2016  
 System Health Report, Unit 1 System: 1P41 Plant Service Water, Q2-2016  
 System Health Report, Unit 1 System: 1P41 Plant Service Water, Q1-2017  
 System Health Report, Unit 1 System: 1P41 Plant Service Water, Q3-2017  
 System Health Report, Unit 2 System: 2P41 Plant Service Water, Q4-2015  
 System Health Report, Unit 2 System: 2P41 Plant Service Water, Q1-2016  
 System Health Report, Unit 2 System: 2P41 Plant Service Water, Q2-2016  
 System Health Report, Unit 2 System: 2P41 Plant Service Water, Q1-2017  
 System Health Report, Unit 2 System: 2P41 Plant Service Water, Q3-2017  
 SNC-1, Quality Assurance Topical Report, Ver. 18.0  
 Performance Improvement Monthly CFAM Scorecard  
 Plant Review Board Meeting Minutes for 4/21/17, dated 8/22/17  
 Plant Review Board Meeting Minutes for 6/13/17, dated 7/24/17  
 Radiation Protection Comprehensive Performance Assessment Report, dated 11/28/16  
 Root Cause Report for Unit 1 Scram When Mode Switch Placed in RUN, Version 1.0, dated 8/6/09  
 Root Cause Report for Unit 2 Intermediate Range Monitor Erratic Indications Resulted in Manual Scram, Version 3.0, dated 4/30/15  
 Root Cause Report for Unit 1 Intermediate Range Monitor Automatic Scram, Version 1.0, dated 7/6/17  
 SNC Corporate Guideline 730-002 – Employee Concerns Guideline, dated 3/13/17  
 Plant Review Board Meeting Minutes 2016-040 through -044, 2017-001 through -031  
 Equipment Reliability Index Action Plan, dated September 2017  
 A-11015, Drawing Seismic Restraints for Plant Service Water Unit 1, Ver. 5.0  
 SCNH-10-086, Evaluation of PSW Pump with Seismic Restraints Considered Ineffective, Ver. 1.0  
 Plant Health Committee Meeting Minutes dated from 12/5/16 to 11/20/17  
 Plant Health Committee Top Ten List, June 2017