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

December 30, 2015

Cheryl A. Gayheart, Vice President
Southern Nuclear Operating
Company, Inc.
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia, AL 36319

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – NRC PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000348/2015007 AND 05000364/2015007

Dear Ms. Gayheart:

On November 19, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed a problem identification and resolution biennial inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. The NRC inspection team discussed the results of this inspection with you and other members of your staff. The inspection team documented the results of this inspection in the enclosed inspection report.

Based on the inspection sample, the inspection team determined that your staff's implementation of the corrective action program supported nuclear safety. In reviewing your corrective action program, the team assessed how well your staff identified problems at a low threshold, your staff's implementation of the station's process for prioritizing and evaluating these problems, and the effectiveness of corrective actions taken by the station to resolve these problems. In each of these areas, the team determined that your staff's performance was adequate to support nuclear safety.

The team also evaluated other processes your staff used to identify issues for resolution. These included your use of audits and self-assessments to identify latent problems and your incorporation of lessons learned from industry operating experience into station programs, processes, and procedures. The team determined that your station's performance in each of these areas supported nuclear safety.

Finally, the team determined that your station's management maintains a safety-conscious work environment adequate to support nuclear safety. Based on the team's observations, your employees are willing to raise concerns related to nuclear safety through at least one of the several means available.

The NRC inspectors did not identify any findings or violations of more than minor significance.

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/

Kevin M. Ellis, Branch Chief
Reactor Projects Branch 7
Division of Reactor Projects

Docket No. 50-348, 50-364
License No. NPF-2 and NPF-8

Enclosure:
IR 05000348/2015007, 05000364/2015007
w/Attachment: Supplementary Information

cc Distribution via ListServ

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/

Kevin M. Ellis, Branch Chief
Reactor Projects Branch 7
Division of Reactor Projects

Docket No. 50-348, 50-364
License No. NPF-2 and NPF-8

Enclosure:
IR 05000348/2015007, 05000364/2015007
w/Attachment: Supplementary Information

cc Distribution via ListServ

☒ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE ☒ NON-SENSITIVE

ADAMS: ☒ Yes ACCESSION NUMBER ML15364A523 ☒ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

OFFICE	RII:DRP	RII:DRP	NRR/DIRS	RII:DRP	RII:DRP	
SIGNATURE	RCT1 via email	DLM4 via email	DXM2 via email	AMR4 via email	KME	
NAME	R. Taylor	D. Mas	D. Merzke	A. Ruh	K. Ellis	
DATE	12/29/2015	12/29/2015	12/29/2015	12/29/2015	12/30/2015	
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	

OFFICIAL RECORD COPY DOCUMENT NAME: S:\DRP\RPB7\PI&R\INSPECTION REPORTS\FARLEY\FARLEY PIR INSPECTION REPORT 2015 007.DOCX

Letter to Cheryl A. Gayheart from Kevin Ellis dated December 30, 2015.

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – NRC PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000348/2015007 AND 05000364/2015007

DISTRIBUTION:
D. Gamberoni, RII
L. Gibson, RII
OE Mail
RIDSNRRDIRS
PUBLIC
RidsNrrPMFarley Resource

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-348, 50-364
License No.:	NPF-2 and NPF-8
Report No.:	05000348/2015007 and 05000364/2015007
Licensee:	Southern Nuclear Operating Company, Inc
Facility:	Joseph M. Farley Nuclear Plant
Location:	Columbia, AL
Dates:	November 2 – 6, 2015 November 16 – 19, 2015
Inspectors:	R. Taylor, Senior Projects Inspector, Team Leader D. Mas, Project Engineer D. Merzke, Senior Reactor Operations Engineer A. Ruh, Resident Inspector, Browns Ferry
Approved by:	Kevin Ellis, Branch Chief Reactor Projects Branch 7 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000348/2015007, 05000364/2015007; November 2 – 19, 2015; Joseph M. Farley Nuclear Plant, Units 1 and 2; Biennial Inspection of the Problem Identification and Resolution Program.

The inspection was conducted by a senior project inspector, a senior reactor operations engineer, a project engineer, and a resident inspector. No findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

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.

The NRC inspectors did not identify any findings.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

.1 Corrective Action Program Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's 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 November 2013 and November 2015, including a detailed review of selected CRs associated with the following risk-significant systems: Residual Heat Removal (RHR), Containment Coolers, Fire Protection, and Emergency Diesel Generators (EDG). 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 to determine if they had been appropriately addressed. To help ensure that samples were reviewed across all cornerstones of safety identified in the NRC's Reactor Oversight Process, the inspectors selected a representative number of CRs that were identified and assigned to the major plant departments, including operations, maintenance, engineering, 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 screened 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 of equipment associated with the selected systems and other plant areas to assess the material condition and to look for any deficiencies that had not been previously entered into the CAP. The inspectors reviewed CRs, maintenance history, completed work orders 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 of time; 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 deficiency list and to ascertain if deficiencies were entered into the CAP. Operator workarounds 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-002-006, "Root Cause Analysis Instruction," and NMP-GM-002-007, "Apparent Cause Determination Instruction." 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 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 attended various plant meetings to observe management oversight functions of the corrective action process. These included CR screening meetings and Management Review Committee 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 a 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, "Corrective Action Program," management's expectation that employees were encouraged to initiate CRs for any reason, and the relatively few number of deficiencies identified by inspectors during plant walkdowns not already entered into the CAP. Trending was generally effective in monitoring equipment performance. Site management was actively involved in the CAP and focused appropriate attention on significant plant issues.

Based on reviews and walkdowns of accessible portions of the selected systems, the inspectors determined that system deficiencies were being identified and placed in the CAP.

Problem Prioritization and Evaluation

Based on the review of CRs sampled by the inspection team 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 severity level determination guidance in NMP-GM-002-001, "Corrective Action Program Instructions." Each CR was assigned a severity level at the CAP coordinator (CAPCO) 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 NMP-GM-002-006 and NMP-GM-002-007.

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 significant conditions adverse to quality, 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 to prevent recurrence (CAPRs) were sufficient to ensure corrective actions were properly implemented and were effective.

c. Findings

No findings were identified.

.2 Use of Operating Experience

a. Inspection Scope

The inspectors examined licensee programs for reviewing industry operating experience, reviewed licensee procedure NMP-GM-008, "Operating Experience Program," and reviewed the licensee's operating experience database to assess the effectiveness of how external and internal operating experience data was handled at the plant. In addition, the inspectors selected operating experience documents (e.g., NRC generic communications, 10 CFR Part 21 reports, licensee event reports, vendor notifications, and plant internal operating experience items, etc.), which had been issued since September 2011 to verify whether the licensee had appropriately evaluated each notification for applicability to Joseph M. Farley Nuclear plant, and whether issues

identified through these reviews were entered into the CAP. Procedure NMP-GM-008, "Operating Experience Program," was reviewed to verify that the requirements delineated in the program were implemented at the station.

Documents reviewed are listed in the Attachment.

b. Assessment

Based on a review of documentation related to the review of operating experience issues, the inspectors determined that the licensee was generally effective in screening operating experience for applicability to the plant. Industry operating experience (OE) was evaluated by plant OE Coordinators and 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, operating experience was included in root cause evaluations in accordance with licensee procedure NMP-GM-002-006, "Root Cause Analysis Instruction."

c. Findings

No findings were identified.

.3 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 Procedure."

Documents reviewed are listed in the Attachment.

b. Assessment

The inspectors determined that the scopes of assessments and audits were adequate. Self-assessments 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 all areas for improvement and findings resulting from the self-assessments and verified that actions were completed consistently with those recommendations. Generally, the licensee performed evaluations that were technically accurate. Site trend reports were thorough and a low threshold was established for evaluation of potential trends, as evidenced by the CRs reviewed that were initiated as a result of adverse trends.

c. Findings

No findings were identified.

.4 Safety-Conscious Work Environment

a. Inspection Scope

The inspectors randomly interviewed 21 on-site workers regarding their knowledge of the corrective action program at Joseph M. Farley Nuclear Plant and their willingness to write CRs or raise safety concerns. During technical discussions with members of the plant staff, the inspectors conducted interviews to develop a general perspective of the safety-conscious work environment at the site. The interviews were also conducted to determine if any conditions existed that would cause employees to be reluctant to raise safety concerns. The inspectors reviewed the licensee's Employee Concerns Program (ECP) and interviewed the ECP manager. Additionally, the inspectors reviewed a sample of ECP issues to verify that concerns were properly reviewed and that identified deficiencies were resolved and entered into the CAP when appropriate.

b. Assessment

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. 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.

4OA6 Meetings, Including Exit

On November 19, 2015, the inspectors presented the inspection results to you and other members of the site staff. The inspectors confirmed that all proprietary information examined during the inspection had been returned to the licensee.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:
B. Reed Training Manager
D. Lawton, Security Engineer
C. Gayheart, Site Vice President
G. Bell, Licensing Supervisor
J. Hershman – System Engineer, RHR
J. McLean, Licensing Engineer
L. McKay, Engineer
J. Purcell – OpE Coordinator
M. Ludlam, Performance Improvement Engineer
B. Taylor, Regulatory Affairs Manager
R. Fletcher, FIN Manager
R. Wells, NOS Manager
S. D'Souza – System Engineer, Containment Coolers
S. Gard, Operations Manager
S. Wilson, Maintenance CAPCO
W.Simmons, Site Projects Supervisor
V. Locke, Performance Improvement Manager

NRC personnel:
A. Thomas, Resident Inspector Trainee
K. Ellis, Chief, Branch 7, Division of Reactor Projects
K. Miller, Resident Inspector
P. Niebaum, Senior Resident Inspector

LIST OF REPORT ITEMS

Opened and Closed

None

Closed

None

Discussed

None

Attachment

LIST OF DOCUMENTS REVIEWED

Procedures:
NMP-GM-002, Corrective Action Program, Version 13.2
NMP-GM-002-001, Corrective Action Program Instructions, Version 34.0
NMP-GM-002-006, Root Cause Analysis Instruction, Version 9.1
NMP-GM-002-007, Apparent Cause Determination instruction, Version 10.1
NMP-GM-002-008, Common Cause Analysis Instruction, Version 4.0
NMP-GM-008, Operating Experience Program, Version 16.1
NMP-GM-008-GL02, Guideline for Creating and Screening Internal OE, Version 5.0
NMP-AD-012, Operability Determinations and Functionality Assessments, Version 12.6
NMP-AD-012-GL03, Immediate Determination of Operability Guideline, Version 2.3

Condition Reports (CR):
792227, 795798, 797340, 10032061, 10066407, 10068472, 10072000, 10079198, 10144189, 10003461, 10038126, 615907, 722220, 760108, 760108, 879240, 892730, 727859, 866977, 10105674, 10057483, 840832, 10104980, 727861, 851329, 792227, 795798, 797340, 798185, 799402, 799403, 10000818, 874338, 10084054, 898798, 10031027, 884829, 10113417, 902216, 799072, 904164, 665831, 10098784, 10003268,10020879, 10058417, 10065039, 10087473, 10125209, 10000210, 1000499, 1000581, 702827, 710153, 711351, 715623, 718669, 722555, 741001, 748834, 761164, 780695, 781354, 881938, 886581, 889552, 868450, 712809, 744577, 1006127, 10052305, 10059005,10063999, 10064603, 10064610, 10064771, 10082898, 10135083, 10000981, 10024289, 704996, 10050529, 698489, 687940, 777181, 10041921, 10135083, 10104207, 10087558, 10098822, 10121480, 702657, 709793, 715647, 721338, 734248, 737323, 738976, 750378, 750482, 766592, 766940, 786320, 796381, 806581, 836044, 847251, 847360, 850332, 850428, 850695, 850697, 850846, 850847, 863044, 880508, 881913, 882647, 888634, 897986, 901342, 10006325, 10006347, 10012849, 10014642, 10014930, 10017532, 10022251, 10047341, 10050529, 10056140, 10079240, 10087008, 10087881, 10096308, 10099149, 10103604, 10103606, 10104539, 10122905, 10148796

Corrective Action Records (CAR):
208955, 209332, 209437, 209845, 210057, 210192, 210681, 211524, 211526,192763, 207400, 208430, 208478, 209161, 209269, 213485, 219727, 249068, 256826

Technical Evaluations (TE): 852644, 874447, 872871, 897271, 908637, 921147, 938022

Work Orders (WO):
515130, 517067, 517520, 523109, 523166, 531789, 536268, 704383, 633347, 622721, 624841, 624832, 627253, 539290, 530880, 520926, 520923, 520924, 516452, 509772, 518433, 521303, 529704, 312035, 312324, 403065, 429962, 520800, 524750, 525763, 527016, 540752, 556771, 615036, 622376, 626372, 662868

Audits and Self-Assessments:
C-EPRO-2013, Nuclear Oversight Audit of Engineering Programs
Fleet-ENG-2014, Nuclear Oversight Audit of Engineering
C-EPRO-2015, Nuclear Oversight Audit of Fleet Engineering Programs
C-CAP-2015, Nuclear Oversight Audit of Corrective Action Program
Focused self-assessment, 2015 Problem Identification and Resolution Inspection Preparations

Miscellaneous Documents:
OD 1-13-04, Unit 1 'B' Train Residual Heat Removal, Rev. 2
OD 1-14-01, Unit 1 'B' Train Residual Heat Removal
OD 2-15-02, Unit 2 Containment Coolers A, B, C - Containment Structural Integrity
10 CFR Part 21 Evaluation 13-007, Curtis Wright Dual Alarm Modules
10 CFR Part 21 Evaluation 15-017, NAMCO Model EA170 & EA180 Limit Switches
System Health Report, Unit 1 and Unit 2 Residual Heat Removal System, 2Q2015
C-ES-CALCULATION, Design Bases - Calculations
Q2-2015, Unit 1 and 2 Emergency Diesel Generator System Health Report
Q2-2015, Unit 1 and 2 Auxiliary Feedwater System Health Report
SM-92-2216-03, Determine the Expected Average Room Temp Inside Diesel Generator Building During Normal & LOSP Operating Conditions
SM-C060538801-001, Minimum Acceptable Lube Oil and Jacket Water Keep-Warm Temperatures for Emergency Diesel Generators
Plant Farley OAI Dashboard for Control Room Deficiencies and Operator Workarounds
Unit 1 and 2 MCB DOT Reports
OPS-62102H-40201D, Auxiliary Feedwater System Lesson Plan, Rev 2
OPS-62102I-40102C, Diesel Generators and Auxiliaries Lesson Plan, Rev 2
Diesel Generator Lube Oil Trending Analyses: