



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II

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

June 30, 2016

Mr. Mano Nazar
Executive Vice President and
Chief Nuclear Officer
Florida Power & Light Company
P.O. Box 14000
Juno Beach, FL 33408-0420

**SUBJECT: ST. LUCIE NUCLEAR PLANT – NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000335/2016007 AND
05000389/2016007**

Dear Mr. Nazar:

On May 27, 2016, the Nuclear Regulatory Commission (NRC) completed a Problem Identification and Resolution biennial inspection at your St. Lucie Nuclear Plant Units 1 and 2. The enclosed report documents the inspection results, which were discussed on May 27, 2016, with Mr. Costanzo 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 plant programs, processes, and procedures. The team determined that your staff's performance in each of these areas was adequate to support nuclear safety.

Additionally, 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 team did not identify any findings or violations of more than minor significance.

M. Nazar

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In accordance with Title 10 of the Code of Federal Regulations 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records 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/

Anthony D. Masters, Chief
Reactor Projects Branch 7
Division of Reactor Projects

Docket Nos.: 50-335, 50-389
License Nos.: DPR-67, NPF-16

Enclosure:
IR 05000335/2016007 and 05000389/2016007
w/Attachment: Supplemental Information

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M. Nazar

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Sincerely,

/RA/

Anthony D. Masters, Chief
Reactor Projects Branch 7
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M. Nazar

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Letter to Mano Nazar from Anthony D. Masters dated June 30, 2016

SUBJECT: ST. LUCIE NUCLEAR PLANT – NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000335/2016007 AND
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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-335, 50-389

License No.: DPR-67, NPF-16

Report No: 05000335/2016007, 05000389/2016007

Licensee: Florida Power & Light Company (FP&L)

Facility: St. Lucie Nuclear Plant, Units 1 & 2

Location: 6501 South Ocean Drive
Jensen Beach, FL 34957

Dates: May 9 – 13, 2016
May 13 – 27, 2016

Inspectors: C. Scott, Resident Inspector, Catawba, Team Leader
C. Jones, Resident Inspector, Surry
J. Reyes, Resident Inspector, St. Lucie
N. Staples, Senior Project Inspector, Region II
R. Taylor, Senior Project Inspector, Region II

Approved by: Anthony D. Masters, Branch Chief
Reactor Projects Branch 7
Division of Reactor Projects

Enclosure

SUMMARY

IR 05000335/2016007, 05000389/2016007; 05/09/2016 – 05/27/2016; St. Lucie Nuclear Plant, Units 1 and 2; Biennial Inspection of the Problem Identification and Resolution Program.

The inspection was conducted by three resident inspectors and two senior project inspectors. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Identification and Resolution of Problems

The inspectors concluded that, in general, problems were properly identified, evaluated, prioritized and corrected. The licensee effectively identified problems and entered them into the corrective action program (CAP) for resolution. Generally, prioritization and evaluation of issues were adequate, cause evaluations 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. The licensee appropriately evaluated industry operating experience for relevance to the facility and entered applicable items in the CAP. The licensee appropriately incorporated industry and internal operating experience in its cause evaluations.

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

No findings of more than minor significance were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

.1 Corrective Action Program Effectiveness

a. Inspection Scope

The team reviewed the licensee's CAP procedures which described the administrative process for initiating and resolving problems primarily through the use of condition reports. To verify that problems were being properly identified, appropriately characterized, and entered into the CAP, the team reviewed a sample of Condition Reports (CRs) that had been issued between February 2014 and April 2016, including a detailed review of selected CRs associated with the following risk-significant systems and components: Component Cooling Water (CCW), Intake Cooling Water (ICW), 120 Volt AC, High Pressure Safety Injection (HPSI) and Control Room Ventilation. To help ensure that samples were reviewed across all cornerstones of safety identified in the NRC's Reactor Oversight Process (ROP), the team selected a representative number of CRs that were identified and assigned to the major plant departments, including organizational effectiveness, 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 team 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 team 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 team reviewed CRs, maintenance history, 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 of time; however, 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. A sample of operator workarounds and operator burden screenings were reviewed and the verified compensatory measures were implemented for deficient equipment.

The team conducted a detailed review of selected CRs to assess the adequacy of the root-cause, apparent-cause, and condition evaluations of the problems identified. The team reviewed these evaluations against the descriptions of the problem described in the CRs and the guidance in licensee procedure PI-AA-100-1006, Apparent Cause Evaluation, PI-AA-100-1005, Root Cause Analysis and PI-AA-100-1008, Condition

Evaluation the team 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 as required. The review also assessed if the licensee had appropriately identified and prioritized corrective actions to prevent recurrence for significant condition adverse to quality. The team 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 the Initial Screening Team meetings (IST), where NCRs were screened for significance, to determine whether the licensee was identifying, accurately characterizing, and entering problems into the CAP at an appropriate threshold. The team attended various plant meetings to observe management oversight functions of the corrective action process. These included Management Review Committee (MRC), Corrective Action Review Board (CARB), and Work Order Screening meetings. Documents reviewed are listed in the Attachment.

b. Assessment

Problem Identification

The team 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 PI-AA-204, Condition Identification and Screening Process, management's expectation that employees were encouraged to initiate CRs for any reason, and the relatively few number of deficiencies identified by the team 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 team 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 team 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 procedure PI-AA-204. Each CR was assigned a severity level at the IST meeting, and adequate consideration was given to system or component operability and associated plant risk.

The team determined that station personnel had conducted root cause and apparent cause analyses in compliance with the licensee's CAP procedures and the 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 PI-AA-100-1006 and PI-AA-100-1005.

Effectiveness of Corrective Actions

Based on a review of corrective action documents, interviews with licensee staff, and verification of completed corrective actions, the team determined that generally, 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 with the exception of those issues identified in this report. 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 CAPRs were sufficient to ensure corrective actions were properly implemented and were effective.

c. Findings

(Opened) Unresolved Item 05000335,389 / 2016007-01, Intake Cooling Water Pump House Transient Combustible Fire Loading Calculation

Introduction: The inspectors identified an unresolved item (URI) associated with the transient combustible heat load calculation for both Units ICW pump houses and the basis for exclusion of “treated or fire retardant” wood. The URI is being opened to review the licensee’s evaluation and determine if a performance deficiency exist.

Description: Three ICW pumps and motors are located in each house. Each pump motor is 600 horsepower. During a walkdown of both unit’s ICW pump houses, inspectors noted that the scaffolding around the ICW pumps consisted of metal and wood planks. The inspectors determined that the wood was not included in heat load calculation for the respective pump houses. The licensee stated that the wood was “treated or fire retardant” and did not need to be included in the site’s transient combustible heat load calculations. The inspectors questioned the licensee on the basis for not including the treated wood in the transient combustible heat load calculation. The licensee entered this issue into the CAP as 2133079 and 2134308, and initiated corrective actions to evaluate the basis for not performing a combustible heat loading calculation for fire retardant wood. The licensee also took corrective actions to replace the wood with a non-combustible material. Additional inspection time is required to review the licensee’s evaluation and determine if a performance deficiency exist. This issue will be tracked as URI 05000335,389 / 2016007-01, “Intake Cooling Water Pump House Transient Combustible Fire Loading Calculation.”

.2 Use of Operating Experience

a. Inspection Scope

The team examined licensee’s use of industry operating experience (OE) to assess the effectiveness of how external and internal operating experience information was used to prevent similar or recurring problems at the plant. In addition, the team 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.), issued since February 2014 to verify whether the licensee had appropriately evaluated each notification for applicability to the St. Lucie site, 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 documentation related to the review of operating experience issues, the team determined that the licensee was generally effective in screening operating experience for applicability to the plant. Industry OE was screened by the corporate OE coordinator and relevant information was then forwarded to the site's OE coordinator. OE issues requiring action were entered into the CAP for tracking and closure. In addition, operating experience was included in all root cause evaluations in accordance with licensee procedure PI-AA-100-1005.

c. Findings

No findings were identified.

.3 Self-Assessments and Audits

a. Inspection Scope

The team 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 PI-AA-101, Self-Assessment and Benchmarking Program. Documents reviewed are listed in the Attachment.

b. Assessment

The team 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 team verified that CRs were created to document all areas for improvement and findings resulting from the self-assessments, 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 Safety-Conscious Work Environment

a. Inspection Scope

During the course of the inspection, the team assessed the station's safety-conscious work environment (SCWE) through review of the stations Employee Concerns Program

(ECP) and interviews with various departmental personnel. The team 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 team 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 team determined that employees felt free to raise issues, and that management encouraged employees to place issues into the CAP for resolution. The team 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 May 27, 2016, the inspectors presented the inspection results to Mr. Costanzo 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: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

M. Jones, Engineering Director
M. Snyder, Licensing Manager
T. Taylor, Licensing
L. Berry, Licensing
K. Stone, Performance Improvement Manager
H. Anderson, Performance Improvement
R. Wright, Plant General Manager

NRC personnel:

Tom Morrissey, Senior Resident Inspector
LaDonna Suggs, Chief, Branch 3, Division of Reactor Projects

LIST OF REPORT ITEMS

Opened

05000335, 389/2016007-01 URI Intake Cooling Water Pump House Transient Combustible
Fire Loading Calculation (Section 4OA2)

LIST OF DOCUMENTS REVIEWED

Procedures:

ADM-17.08, Implementation of 10 CFR 50.65, The Maintenance Rule, Rev. 27
ER-AA-100-2002, Maintenance Rule Program Administration, Rev. 2
0-PME-50.12, Periodic Battery Charger Component Replacement, Rev. 2
0-PME-50.15, Non-Appendix R Lighting Inspection and Maintenance, Rev. 4
0-NOP-67.05 Refueling Operations, Rev. 18
PI-AA-207-1003-10000, Performance Improvement Trend Codes and Keywords, Rev. 5
PSL-ENG-SENS-06-050 Evaluation of Plant Barriers, Rev. 5
EN-AA-202-1001, Engineering Change and Scope, Rev.7
ADM-17.32_MRULE Structure Monitoring, Rev 3
PI-AA-102-1001, Operating Experience Program Screening and Responding to Incoming Operating Experience, Rev.16
MSP-100.01, Protective Coating Surveillance Program, Rev. 10
1-OSP-99.08A, A Train Quarterly Non Check Valve Cycle Test, Rev.11

Condition Reports (CRs):

01825470, 01858358, 01881934, 01888977, 01928517, 01931754, 01931916, 01937201, 01938922, 01947531, 01947769, 01948274, 01964320, 01966329, 01967711, 01970741, 01971609, 01971897, 01981235, 01998302, 02000835, 02009066, 02011678, 02017413, 02019688, 02019694, 02020533, 02020536, 02023773, 02025648, 02033436, 02035185, 02035255, 02037800, 02044168, 02048371, 02056946, 02058222, 02058847, 02059911, 02065821, 02066772, 02069201, 02069468, 02072614, 02074338, 02074774, 02076800, 02078825, 02080126, 02085706, 02096061, 02097892, 02104515, 02106553, 02113113, 02114327, 02114584, 02119651, 02124612, 02130078, 02132113, 02133332, 02134005, 02134010, 02032286, 02067614, 02077507, 02029652, 02067887, 1829233, 1946351, 2110373, 2067614, 2029652, 1911660, 1941159, 2017730, 1812916, 1992091, 01980340, 01980978, 01966703, 02039830, 02053996, 02063115, 02081028, 02089924, 02049688, 02075951, 01969341, 01963057, 02050905, 02021774, 02021204, 01949346, 02100349, 02053856, 0205980, 02038041, 01960343, 02102777, 02020854, 01992091, 02056489, 02026661, 01931853, 01931483, 02023582, 01991781, 01973790, 01955280, 01932466, 02115835, 02067614, 01931864, 01933096, 02017730, 01952327, 01932648, 01993488, 02067614, 020376290, 1920696, 02022248, 01941159, 01943185, 01979389, 01860572, 00592584, 02083680, 02022248, 02112375, 96-2870, 2122733, 1935963, 1963369, 455460, 1609072, 1609066, 2072717, 2072686, 2027841, 2089161, 2092681, 2072686, 2092033, 2114023,

Self-Assessments:

1966524, Pre-NRC Problem Identification & Resolution (PI&R) Inspection Self Assessment

Work Orders:

40291617, 40297503, 40299899, 40301755, 40303405, 40306989, 40316415, 40317485, 40321728, 40322723, 40327300, 40331897, 40333771, 40340194, 40347394, 40353053, 40353054, 40359242, 40359243, 40360192, 40365018, 40365437, 40365438, 40398236, 40454409, 40454416, 94011628, 40051270, 40458771, 38026485-02, 39021349, 381026626, 40311432-05, 4006440201, 4006440001

Other Documents:

Must Know Operating Experience Reference Booklet

January 2015 - March 2016 PSL Ops Burden Review Board Meeting minutes

Drawings:

Iso Drawing 8770-G-125 SH CC-H-12

Iso Drawing 2998-G-125