



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

Report Nos.: 50-335/90-04 and 50-389/90-04

Licensee: Florida Power and Light Company
 9250 West Flagler Street
 Miami, FL 33102

Docket Nos.: 50-335 and 50-389

License Nos.: DPR-67 and NPF-16

Facility Name: St. Lucie 1 and 2

Inspection Conducted: February 5-9, 1990

Inspectors:	<u><i>J. A. Parker for</i></u>	<u>3-1-90</u>
	R. Moore	Date Signed
	<u><i>J. A. Parker for</i></u>	<u>3-1-90</u>
	M. Thomas	Date Signed
Approved by:	<u><i>F. Jape</i></u>	<u>3/1/90</u>
	<i>for</i> F. Jape, Section Chief	Date Signed
	Quality Performance Section	
	Operations Branch	
	Division of Reactor Safety	

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of design control and corrective action.

Results:

In the areas inspected, violations or deviations were not identified. Design controls at St. Lucie were adequate as demonstrated by a sample review of plant modification packages and physical walkdown of a portion of a safety related system. Plant support provided by engineering was adequate as demonstrated by effective engineering involvement in the plant nonconformance reporting program.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

R. Ball, Mechanical Maintenance Planning Supervisor
*J. Adams, ISEG
*G. Boissy, Plant Manager
G. Crowley, Mechanical Lead Equipment Supervisor, Juno Engineering
*D. Culpepper, Site Engineering Supervisor
*J. Harper, Superintendent of QA
*T. Kilroy, Technical Staff
R. Kulavich, System Engineer
A. DeRoy, Procurement Engineering Supervisor
*L. McLaughlin, Supervisor, Licensing
*N. Maclead, Nuclear Lead Engineer
A. Menocal, Mechanical Supervisor, Juno Engineering
*D. Sager, Site Vice President
T. Roberts, Nuclear Engineering Project Manager, Juno Engineering
S. Valdez, Lead Engineer, Design Control
H. Woodrum, Supervising Engineer, Reliability Group

Other licensee employees contacted during this inspection included engineers, mechanics, technicians, and administrative personnel.

Other Organizations

S. Marshall, Site Project Manager, Ebasco Services Inc.

NRC Resident Inspectors

*S. Elrod, Senior Resident Inspector
*M. Scott, Resident Inspector

*Attended exit interview

2. Design, Design Changes, and Modifications (37700)-Units 1 and 2

The inspectors reviewed the PC/Ms listed below to determine the adequacy of the safety evaluations performed to meet 10 CFR 50.59 requirements; verify that the design changes were prepared and installed in accordance with licensee requirements and industry codes and standards; verify that the PC/Ms were reviewed and approved in accordance with TS and administrative controls; ensure that the subject PC/Ms were installed (for those physically inspectable) in accordance with the applicable PC/M package; applicable plant operating documents (drawings, plant procedures, FSAR, TS, etc.) were revised to reflect the subject design changes; and modification acceptance criteria and post maintenance/modification testing requirements were specified. The PC/Ms listed for Unit 1 are scheduled to be implemented during the Unit 1 refueling outage which is currently in progress.

- (a) PC/M 333-188D, D/G 1A & 1B Ground Fault Relay Wiring Change, Unit 1. This PC/M involved reversing the terminal connections across the coil of the ground fault relays for D/G 1A&1B. The wiring is being changed to match the General Electric Instructions GEK-45404. This PC/M was processed as a DEEP.
- (b) PC/M 114-189D, Floor Penetration Fire Seal Support, Unit 1. This PC/M was processed as a DEEP in response to NCR 1-287 and involved installation of fire seal supports at various floor penetrations in the RAB. The existing fire seals at several locations are gradually sliding out of position. A root cause evaluation determined that the seal slippage was most likely a result of inadequate adhesion of the seal to the side of the opening.
- (c) PC/M 158-189, Containment Evacuation Alarm, Unit 1. This PC/M will modify the containment evacuation alarm so that the alarm will continue in the containment but will be silenced in the general plant including the MCR after a 30 second delay. This PC/M also provides the capability for the operator to activate the fire or site evacuation alarm and override the containment evacuation alarm. This PC/M resulted from REA 89-007.
- (d) PC/M 243-189, Steam Generator Blowdown Valves Isolation Signal Override Modification, Unit 1. This PC/M resulted from REA 89-006 and will provide the capability for the steam generator blowdown containment isolation valve control switches to override a containment isolation signal or high radiation signal and allow reopening of each of the isolation valves. This modification will allow blowdown and sampling of the S/Gs during certain design basis events (i.e. S/G tube rupture).
- (e) PC/M 339-189D, 480V Switchgear Overcurrent Device Replacement, Unit 1. This PC/M was processed as a DEEP and involves replacement of the overcurrent devices from the present electro-mechanical type to solid state type in all the 480V breakers in switchgears 1A1, 1A2, 1B1, 1B2, and 1AB. This change is being made because the existing equipment is obsolete. The new trip device will provide for ease of setting and calibration.
- (f) PC/M 050-288D, Reactor Head O-Ring Retaining Ring Modification, Unit 2. This modification was processed as a DEEP and involved replacing the existing retaining rings with a new type that require no special tools and allows for ease of maintenance. The new retaining rings were determined to be non-safety related and were designated as a commercial grade item in the DEEP. The procurement requirements for the retaining rings were also specified in the DEEP. The inspectors discussed this item with licensee personnel who stated that they follow the EPRI guidelines for commercial grade procurement.



- (g) PC/M 151-288D, Generator Retaining Rings Seal Replacement, Unit 2. This PC/M involved replacing the existing generator retaining rings fabricated from ASTM A289 Class B material with rings fabricated from ASTM A289 Class C material. The modification was made to resolve the stress corrosion problem of the previous rings.

Some of the above PC/Ms which involved component changes were processed as DEEPs, where design equivalent evaluations were performed to demonstrate conformance to existing design bases or criteria by evaluating the components for form, fit, and function.

The inspectors observed that the 10 CFR 50.59 safety evaluations and design equivalent evaluations applicable to the PC/Ms reviewed were detailed, thorough, and technically adequate.

Design control was also examined by physical walkdown of a portion of a safety related system (CVCS) and review of associated design changes. Chemical and volume control system flow diagram, Drawing 8770-G-078, sheet 121, revision 8, was utilized for the configuration verification. Design changes referenced on the drawing and reviewed were PC/M 38-82 and PC/M 466-78. Modification PC/M 38-82 was to provide a charging pump recirculation flowpath to the VCT to reduce the thermal shock to the Regenerative Heat Exchanger on Unit 1. This modification was discontinued prior to completion with portions of the piping installed. The flow diagram reflects that this modification has not been released. Without physical walkdown it was not clear which portions of piping were actually installed in the plant. The recirculation flow path was installed on Unit 2 during construction and discontinued on Unit 1 until the operational effectiveness of this modification could be evaluated.

Discussion with licensee engineering personnel indicated that the modification would not be completed as initially described in the PC/M package. The partially completed modification did not provide any apparent system operability or seismic concerns. Minor discrepancies with respect to drawing control were noted. The flow diagram did not accurately reflect which portions of piping were installed, five years after the modification was discontinued and the applicable Unit 1 FSAR drawing (figure 9.3-5) indicated the modification was complete. There was no apparent impact on design control activities due to these discrepancies. Modification PC/M 466-78 on the Boric Acid Make-up Station was adequately developed and implemented.

In conclusion, design control activities were adequate as reflected in this limited configuration verification. The as-built configuration conformed to plant drawings and modifications were implemented as described in design change documentation.

3. Plant Engineering Support

Review of the nonconformance reporting program provided an indication of real time plant support by engineering. The review focussed on the timeliness and thoroughness of engineering involvement in the on-site problem identification and resolution process.

Engineering involvement in this activity was specified in engineering procedures, JPN-QI 15.1, Requirements for Processing Non-conformance Reports, Revision 2, and JPN-QI Supplement 15.1-1, Guide for Performing Initial Assessments of Operability, Revision 0. Engineering personnel review all plant initiated NCRs, perform an operability evaluation and develop a problem resolution.

The procedures provided adequate guidance for these responsibilities and conservatively require that operability assessments be completed in three days. A review of NCR activity since January 1989, demonstrated engineering response was effective. Although there were some exceptions, operability assessments were performed within program requirements and adequately documented. Proposed resolutions on NCRs reviewed were adequate to resolve the identified problem and sufficiently detailed to facilitate corrective action. Overall, real time engineering support of the plant as demonstrated by performance in the NCR program was timely and effective.

4. Licensee Action on Previous Inspection Findings (92701)-Units 1 and 2
 - a. (Closed) IFI 335,389/88-15-01, Inconsistent and Inaccurate Information on the Instrument Air System. This IFI concerned a number of discrepancies that existed among various documents which described the performance of the instrument air system. Subsequent to this IFI, modifications to the instrument air system have been implemented for both Units 1 and 2. The Unit 1 FSAR has been updated to describe the instrument air system as it is currently configured. The Unit 2 FSAR update which reflects the current instrument air configuration subsequent to the modifications is scheduled to be issued in April 1990. Emergency Procedure 1-0030140, Blackout Operation, has been incorporated into Emergency Operating Procedure 1-EOP-09, Revision 0, Loss of Offsite Power. The actions for restoring instrument air to operation following a loss of offsite power have been corrected. This item is closed.
 - b. (Closed) IFI 335,389/88-15-02, Inconsistent Failure Root Cause Analysis and Lack of Formalized Failure Trending. This item involved the licensee's inconsistency in addressing valve failure root causes and taking sufficient corrective actions to preclude repetition. The licensee's Reliability and Support Department reviews the NPWOs issued daily and tracks the maintenance history for components by component tag ID. The Reliability Group issues a maintenance root cause tracking matrix on a monthly basis which identifies components that have three or more failures over the last 12 month period. In addition to the tracking done by the Reliability Group, Administrative Procedure NO. 0010432, Nuclear Plant Work Orders, Revision 40, requires maintenance planners to search the maintenance history for the effected component by tag number to identify repetitive failures prior to planning the maintenance activity. This item is closed.

5. Exit Interview

The inspection scope and results were summarized on February 9, 1990, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

6. Acronyms and Initialisms

CVCS	Chemical Volume Control System
DEEP	Design Equivalent Engineering Package
FSAR	Final Safety Analysis Report
IFI	Inspector Follow-up Item
MCR	Main Control Room
NCR	Non-Conformance Report
NPWO	Nuclear Plant Work Order
PC/M	Plant Change/Modification
RAB	Reactor Auxiliary Building
REA	Request for Engineering Assistance
S/G	Steam Generator
TS	Technical Specification
VCT	Volume Control Tank