UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

April 29, 2003

Florida Power and Light Company
ATTN: Mr. J. A. Stall, Senior Vice President
Nuclear and Chief Nuclear Officer
P. O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: ST. LUCIE NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 50-335/03-04 AND 50-389/03-04

Dear Mr. Stall:

On April 5, 2003, the US Nuclear Regulatory Commission (NRC) completed an inspection at your St. Lucie Units 1 and 2. The enclosed integrated inspection report documents the inspection findings which were discussed on April 8, 2003, with Mr. Jefferson and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one NRC identified finding which was determined to involve a violation of NRC requirements. This finding was evaluated in accordance with Section IV of the NRC's Enforcement Policy and determined to be a Severity Level IV violation. This violation was also determined by NRC management to be of very low safety significance (Green). Because this finding is of very low safety significance and because it was entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV), consistent with Section VI.A of the NRC's Enforcement Policy. If you contest this NCV, 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 Senior Resident Inspector at the St. Lucie facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document

Room or from the Publicly Available Records (PARS) component of NRC's document 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/

Joel T. Munday, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 50-335/03-04, 50-389/03-04
w/Attachment - Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-335, 50-389
License Nos.:	DPR-67, NPF-16
Report Nos.:	50-335/03-04, 50-389/03-04
Licensee:	Florida Power & Light Company (FPL)
Facility:	St. Lucie Nuclear Plant, Units 1 & 2
Location:	6351 South Ocean Drive Jensen Beach, FL 34957
Dates:	January 5 - April 5, 2003
Inspectors:	T. Ross, Senior Resident Inspector S. Sanchez, Resident Inspector W. Sartor, Senior Emergency Preparedness Inspector (Sections 1EP2, 1EP3, 1EP4, 1EP5 and 4OA1.1)
Approved by:	Joel Munday, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000335/2003-004, 05000389/2003-004; Florida Power & Light; 01/05/2003 - 04/05/2003; St. Lucie Nuclear Plant, Units 1 & 2; Emergency Action Level and Emergency Plan Changes.

The report covered a three month period of inspection by resident inspectors and a senior emergency preparedness inspector from Region II. One green non-cited violation (NCV) was identified. The significance of most findings is identified by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector Identified Findings and Self-revealing Findings

Cornerstone: Emergency Preparedness

- Green. A change made to the Emergency Action Limit (EAL) for Reactor Coolant System (RCS) leakage requiring an Unusual Event declaration resulted in a decrease in the effectiveness of the Emergency Plan.

  A non-cited violation of 10 CFR 50.54(q) was identified by the NRC inspector. This finding is greater than minor because changing commitments in the Radiological Emergency Plan (REP) which decrease its effectiveness without prior approval potentially impacts the NRC's ability to perform its regulatory function, and potentially creates an ineffective response to a radiological emergency. The safety significance of the finding is very low because, although the Unusual Event declaration could be delayed as a result of the change made to the EAL, criteria for declaration of an Alert and subsequent response, remained unchanged.

B. Licensee Identified Violations

None

Report Details

Summary of Plant Status

Unit 1 operated at essentially full power for the entire period.

Unit 2 operated at essentially full power for the entire period, until April 1, 2003, when operators manually tripped the Unit 2 reactor due to a loss of condenser vacuum. The unit was in Mode 1 and increasing power on April 5.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

On January 17 and again on January 23, an inspector evaluated licensee implementation of their preparations for severe cold weather. The inspector reviewed the status of ADM 04.03, Cold Weather Preparations, including applicable checklists. The inspector also discussed the licensee's efforts to prepare for the onset of severe cold weather with the Nuclear Plant Supervisor (NPS), Work Week Manager, and Plant General Manager (PGM). Furthermore, the inspector walked down selected risk-significant systems that were especially vulnerable to the effects of cold weather. The inspector verified that appropriate compensatory measures (e.g., temporary space heaters, heat lamps, insulation, herculite wind screens) were in place to protect the Unit 1 and 2 Auxiliary Feedwater (AFW) systems and Emergency Diesel Generators (EDG).

The inspector reviewed condition report 03-0142 that was initiated to address specific deficiencies with the licensee's implementation of ADM 04.03. The inspector also met with the Quality Assurance (QA) manager and responsible QA auditor to discuss the effectiveness of QA surveillances related to cold weather preparations.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial Equipment Walkdowns

The inspectors conducted three partial alignment verifications of the safety related systems listed below during the inspection period to review the operability of required redundant trains or backup systems while the other trains were inoperable or out of service. These inspections included reviews of plant lineup procedures, operating procedures, and piping and instrumentation drawings which were compared with

observed equipment configurations to identify any discrepancies that could affect operability of the redundant train or backup system.

- 2A and 2B AFW trains
- 2A and 2C AFW trains
- 2B and 2C AFW trains

b. Findings

No findings of significance were identified.

1R05 Fire Protection

Routine Inspections

a. Inspection Scope

The inspectors conducted tours of the following fire areas and/or witnessed associated activities listed below during the inspection period to verify if they conformed with Administrative Procedure AP-1800022, Fire Protection Plan. The inspectors specifically examined any transient combustibles in the areas and any ongoing hot work or other potential ignition sources. The inspectors also assessed whether the material condition, operational status, and operational lineup of fire protection systems, equipment and features were in accordance with the Fire Protection Plan. Furthermore, the inspectors evaluated the use of any compensatory measures being performed in accordance with the licensee's procedures and Fire Protection Plan.

- Unit 2 Reactor Auxiliary Building (RAB) 43' Fire Zone 39
- Unit 2 Fuel Handling Building
- Unit 1 Cable Spreading Room and Vital Switchgear Rooms
- 1C AFW Area
- Hot Work in Unit 2 Cable Spreading Room
- Unit 2 Cable Spreading Room
- Compensatory Measures For Unit 2 Turbine Building (TB) Fire Hose Stations

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On February 26, 2003, the inspector observed and assessed licensed operator actions during two simulator evaluations. During these simulator evaluations the operating crews responded to numerous failures of critical safety equipment along with a steam generator tube rupture in one scenario and a loss of coolant accident in another. The inspector specifically evaluated the following attributes related to operating crew performance:

- Clarity and formality of communication
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms
- Correct use and implementation of Emergency Operating Procedures (EOP) and Emergency Plan Implementing Procedures (EPIP)
- Timely and appropriate Emergency Action Level declarations per the EPIPs
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by Operations supervision, including ability to identify and implement appropriate Technical Specifications (TS) actions, regulatory reporting requirements, and emergency plan actions and notifications
- Effectiveness of the post training critique

The inspector also reviewed CRs 03-0530 and 0538 that were initiated to address operator performance issues identified during the simulator scenarios.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

An inspector reviewed the reliability problems associated with the Unit 1 and 2 480 Volt Alternating current (VAC) breakers, including associated CRs 02-1309, 02-2047, and 03-0094 to verify the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (the Maintenance Rule) and Administrative Procedure ADM-17.08. The inspector's efforts focused on maintenance rule scoping, characterization of the failed components, risk significance, determination of a(1) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspector also attended applicable expert panel meetings, interviewed responsible engineers, and observed some of the corrective maintenance activities. Furthermore, the inspectors verified that equipment problems were being identified at the appropriate level and entered into the corrective action program.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the following five risk significant system configurations due to planned maintenance and/or emergent work activities to evaluate the effectiveness of licensee scheduling, configuration control, and management of online risk in accordance with 10 CFR 50.65(a)(4) and applicable program procedures such as ADM 17.16, Implementation of the Configuration Risk Management Program. The inspectors also

examined whether appropriate contingencies were taken to reduce risk and minimize unavailability, and that emergent work activities were properly planned per ADM-10.03, Work Week Management. The inspectors also reviewed CR 03-0665 to verify that identified problems with online risk assessments for emergent work were appropriately addressed by the corrective action program.

- 2A AFW Critical Maintenance Management (CMM) with 2C Intake Cooling Water (ICW) Pump out-of-service (OOS)
- 2A EDG, 2B Battery Charger, and 2B ICW Pump OOS
- 2A EDG Immersion Heater Relay Failure
- 2B AFW CMM
- Unit 1 A/B Instrument Air Compressors, 1B EDG, 1AB Battery Charger, and 1B Battery Charger OOS

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events

a. Inspection Scope

For the non-routine evolutions and events, the inspectors evaluated operator performance by interviews, observations and reviewing available information (e.g.,operator logs, plant computer data, and strip charts) to determine what occurred and how the operators responded, and to verify that the response was in accordance with plant procedures (e.g., normal and abnormal operating procedures, EOPs, etc.). As described below:

- On January 17, 2003, an inspector attended the pre-evolution briefing and observed operator performance during the conduct of OP-3200051, Determination of At Power Moderator Temperature Coefficient, an infrequent evolution on Unit 2. The inspector focused particular attention to monitoring operator actions, communications, and teamwork during this infrequent evolution due to the multiple reactivity manipulations required by the procedure. The inspector evaluated Operations personnel performance in accordance with applicable procedures, training, and management expectations. The inspector also verified operator compliance with applicable TS.

- On February 17, 2003, an inspector witnessed the implementation of a special, one time evolution per procedure 1-LOI-09.05, 1B3 4.16 VAC Bus Undervoltage Relay Replacement. The inspector reviewed the procedure, walked down the main control boards, and interviewed Operations supervision to verify all procedure prerequisites were in place. As the electricians attempted to remove the relay, the 1B3 bus unexpectedly stripped all its loads, including its offsite power supply, which caused the 1B EDG to start and load. The inspector was in the control room and witnessed operator response in accordance with ONP 1-0910054, Loss of Safety-related AC Bus and verified Unit 1 plant conditions were stabilized and power restored in a controlled manner. The inspector also

confirmed that the licensee fulfilled their reporting responsibility pursuant to 10CFR50.72 due to a valid actuation of a safeguards feature.

- On April 1, 2003, the inspectors observed operator actions and plant conditions following a manual reactor trip of Unit 2 due to a loss of condenser vacuum. The inspectors also interviewed responsible operators and Event Review Team members. Furthermore, the inspectors reviewed the licensee's post-trip report, CR 02-2765, and subsequent licensee event report (LER) 50-335/2002-002, Unit 1 Reactor Trip (see also section 4OA3). Although the root cause(s) were attributed to secondary-side equipment problems, and certain latent procedural deficiencies related to resetting the 15% MFW bypass valve controllers, the CR also identified specific crew performance problems that contributed to the event.

  Several aspects of weak crew performance were identified in CR 02-2765 (e.g., communications, crew dynamics, command and control), along with inadequate "just in time" training as contributing factors to the trip. The inspectors evaluated these contributing factors, and associated corrective actions. The inspectors also verified completion of the various corrective actions identified to improve operator performance. Furthermore, the inspectors interviewed Operations supervision regarding the effectiveness of these actions.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following six CR interim dispositions and operability determinations to ensure that Technical Specifications (TS) operability was properly supported and the affected safety structure, system and component (SSC) remained available to perform its safety function with no unrecognized increase in risk. As applicable, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), and associated supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim CR disposition.

- CR 03-0739, 1B-EDG Jacket Water Temperature Switches
- CR 03-0978, Unit 2 480VAC Vital Load Center Transformers
- CR 03-0672, Unit 1 Trip Circuit Breaker (TCB-5)
- CR 03-0609, Component Cooling Water Pipe Penetrations Seismicity
- CR 03-0322, Unit 2 RPS Bistable Light
- CR 03-0082, and Supplement 1, Unit 2 Reactor Cavity Sump Level Channels

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors witnessed and/or reviewed six post maintenance test (PMT) activities following maintenance of the risk significant SSCs listed below. The following aspects were specifically inspected: (1) Effect of testing on the plant recognized and addressed by control room and/or engineering personnel; (2) Testing consistent with maintenance performed; (3) Acceptance criteria demonstrated operational readiness consistent with design and licensing basis documents such as TS, UFSAR, and others; (4) Range, accuracy and calibration of test equipment; (5) Step by step compliance with test procedures, and applicable prerequisites satisfied; (6) Control of installed jumpers or lifted leads; (7) Removal of test equipment; and, (8) Restoration of SSCs to operable status. The inspectors also reviewed problems associated with the PMTs to ensure that they were correctly identified and appropriately entered into the corrective action program.

- 2C AFW Pump Trip Mechanism Replacement
- U2 HVE-6A Motor Replacement
- MSIV and Main Feedwater Isolation Valve Repack
- 1C AFW Pump Speed Controller Repair
- 2C Charging Pump Overhaul
- 2A AFW Pump Routine Maintenance

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

Following the unplanned Unit 2 manual reactor trip on April 1, 2003, the licensee entered a short notice outage (SNO) that lasted several days. During this SNO, the inspectors observed shutdown activities and unit status to verify compliance with applicable Mode 3 TS and operating procedures. The inspectors also monitored licensee processes for controlling SNO-related work activities in accordance with their administrative procedures. The inspectors focused some of their efforts on the licensee's resolution of the secondary plant problems that had initiated the manual reactor trip, and on the necessary repairs to return the 2C AFW pump and the 6A shield building ventilation system back to service prior to restart. Lastly, the inspectors observed unit startup and power ascension in accordance with applicable TS and operating procedures. Licensee identification and resolution of problems that occurred during the SNO were also examined by the inspectors.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed portions of the following six surveillance tests and monitored test personnel conduct and equipment performance, to verify that testing was being accomplished in accordance with applicable operating procedures (OP), and operations surveillance procedures (OSP). The actual test data was reviewed to verify it met TS, UFSAR, and/or licensee procedure requirements. The inspectors also verified that the testing effectively demonstrated the systems were operationally ready, capable of performing their intended safety functions, and that identified problems were entered into the corrective action program for resolution.

- 2-OSP-24.01, Reactor Auxiliary Building Fluids Periodic Leak Test
- OP 2-0700050, 2C AFW Periodic Surveillance Test
- OP 2-0010125A, Data sheet 8A, Inservice Test - Valve Strokes; including actual stroke test of the Containment Vacuum Relief Valve (FCV 25-07)
- OP 2-200050A, 2A EDG Periodic Surveillance Test
- OP 2-0700050, 2C AFW Periodic Surveillance Test
- OP-0360050, Emergency Cooling Water Canal Periodic Test

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

1EP2 Alert Notification System Testing

a. Inspection Scope

The inspector reviewed the commitments for the alert (siren) and notification system (ANS) described in Section 5.2.8 of the Radiological Emergency Plan (REP). The inspector also reviewed the inspection test and maintenance program for the ANS as submitted by FPL in the FEMA-43 Report dated February, 1985. As of December 27, 2002, with an additional siren added, the ANS consisted of 89 pole mounted sirens that are tested silently every two weeks, a quarterly maintenance check, and an annual full cycle test. The inspector reviewed inspection results, assessed the failure rate of individual sirens and the effectiveness of repairs, and reviewed any changes related to the siren system.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing

a. Inspection Scope

The inspector reviewed Section 2.4, table 2-1, of the REP to determine the licensee's commitment for staffing/activation of the emergency response facilities and shift staffing augmentation. The results of after-hours augmentation tests (telephone call-in drills conducted on March 13 and December 4, 2002) were evaluated against the above commitments. The inspector also reviewed the augmentation system for any changes and evaluated the effectiveness of a manual call-out surveillance conducted on June 20, 2002. The effectiveness of corrective actions taken in response to minor staffing issues from the December 4, 2002, drill were evaluated.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed the changes implemented by revision 40 to the REP on June 28, 2002. The inspectors also reviewed Attachment 1 to the July 11, 2002, letter which submitted the revision to NRC. The attachment included a summary of the changes to the plan and the documentation of Florida Power and Light Company's conclusion that the revisions did not represent a decrease in the effectiveness of the plan.

b. Findings

Introduction: A Green non-cited violation (NCV) of 10 CFR 50.54(q) was identified for making changes to the REP which decreased the effectiveness of the plan without obtaining prior NRC approval.

Description: The inspectors identified that on June 28, 2002, the licensee implemented revision 40 to the REP which changed the classification requirements to the Initiating Condition for Reactor Coolant System (RCS) Leakage. Prior to the revision, an Unusual Event would have been declared when RCS leakage exceeded 10 gallons per minute (gpm). However, after the revision was implemented the Unusual Event declaration was not required until RCS leakage exceeded 10 gpm "AND" there was an "Inability to reduce the leak rate to technical specification limits within the time frame of the action statement." The licensee also added a note to describe when the declaration should be made. The note stated, "For RCS leakage in Section 1 above, the (Notification of) Unusual Event should be declared upon commencing a load reduction/mode change."

Analysis: The inspector noted that with the addition of the "AND" statement to the EAL for RCS leakage, a new condition could exist where RCS leakage was greater than 10 gpm but less than the 50 gpm unisolable leak requiring the declaration of an Alert, and the licensee would not be required to declare an Unusual Event until a load reduction or

mode change was commenced. This change in reporting criteria was determined to be a decrease in the effectiveness of the REP as it extends the window for declaring an Unusual Event for an initiating condition that may be a precursor of more serious conditions and, as a result, is considered to be a potential degradation in the level of safety of the plant. The finding was not assessed through the SDP but was reviewed by NRC management and determined to be greater than minor because making changes to the REP which decrease its effectiveness without prior NRC approval potentially impacts the NRC's ability to perform its regulatory function and potentially creates an ineffective response to a radiological emergency. The safety significance of the finding was very low because, although the Unusual Event declaration could be delayed as a result of the change made to the EAL, the criteria for declaration of an Alert, and subsequent response, remained unchanged.

Enforcement: 10 CFR 50.54(q), Conditions of licenses, states that the licensee may make changes to its emergency plan without Commission approval only if the changes do not decrease the effectiveness of the plan. Contrary to the above, by implementation of revision 40 to the Radiological Emergency Plan, the licensee made a change to the emergency plan which resulted in a decrease in its effectiveness. Specifically, additional criteria used in the determination of the Unusual Event IC for Reactor Coolant System (RCS) Leakage EAL, was added to the Emergency Plan which could result in the delay of the Unusual Event declaration. Because this Severity Level IV violation is of very low safety significance and has been entered into the corrective action program, it is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy. This violation is identified as NCV 50-335, 389/03-04-01, Failure to Meet 10 CFR 50.54(q) Change Requirements Which Resulted in a Decrease of Emergency Plan Effectiveness and is in the licensee's corrective action program as CR No. 03-0226.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector evaluated the licensee programs that addressed weaknesses and deficiencies in emergency preparedness. Inspection requirements from 10CFR50, Appendix E, paragraph III.F.2.g include that all training provide for formal critiques in order to identify weak or deficient areas that need correction and any weaknesses or deficiencies identified shall be corrected. The inspector reviewed the licensee's corrective action program, a sampling of drill scenarios and related critiques, the adequacy of corrective actions taken as a result of drill critiques, and the audit report performed in accordance with 10CFR50.54(t).

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (Simulator)

a. Inspection Scope

On, February 25, 2003, the inspectors monitored the participation of an operating crew in the simulator during the first quarter EP drill of the site emergency response organization. During this drill the inspectors assessed operator actions in the control room simulator to verify that emergency classification, notification, and protective action recommendations were made in accordance with implementing procedures. Additionally, the inspectors evaluated the adequacy of the post drill critiques conducted in the simulator and Technical Support Center.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

.1 Emergency Preparedness Cornerstone

a. Inspection Scope

On January 28-29, 2003, licensee records were reviewed to determine whether the submitted PI values through the fourth quarter of 2002 were calculated in accordance with the guidance contained in Section 2.4 (Emergency Preparedness Cornerstone) of NEI 99-02, Revision 2, "Regulatory Assessment Performance Indicator Guideline."

- Emergency Response Organization (ERO) Drill/Exercise Performance
- ERO Drill Participation
- Alert and Notification System Reliability

The inspector reviewed records used by the licensee to identify the number of opportunities to classify, notify, and develop protective action recommendations during the previous 8 quarters. Independent verification of the timeliness and accuracy of selected opportunities were reviewed. Training records for selected members of the 75 key ERO personnel were reviewed for participation in the drills for which they received credit. The accuracy of the PI for the ANS reliability was verified through review of a sample of the licensee's records of siren tests conducted during the previous 12 months. The review included a determination of the number of siren opportunities that should have occurred as well as verification of the number of failures reported.

b. Findings

No findings of significance were identified.

.2 Mitigating Systems Cornerstone

a. Inspection Scope

The inspectors verified the accuracy of the following three performance indicators (PIs) listed below for all four quarters of 2002 in accordance with the PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2, and ADM-25.02, NRC Performance Indicators.

- Unit 1 and 2 Safety System Functional Failures
- Unit 1 and 2 AFW Safety System Unavailability
- Unit 1 and 2 Emergency AC Power System Unavailability

The inspectors reviewed the PI data of both Units 1 and 2 for all four quarters of 2002. Applicable operator logs, condition reports, Maintenance Rule history, and Licensee Events Reports were reviewed to verify the reported PI data was complete and accurate. Furthermore, the inspectors interviewed the responsible system engineers, engineering supervision, and licensing engineer.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

Annual Sample Review

a. Inspection Scope

The inspectors reviewed the licensee's corrective actions involving inadequate labeling of fuses in the main control room Reactor/Turbine Generator Boards (RTGB). Condition Reports 02-1973 and 02-2927 were examined to verify that problem identification was timely, complete and accurate; safety concerns were properly classified and prioritized for resolution; technical issues were evaluated and dispositioned to address operability and reportability; root cause or apparent cause determinations were sufficiently thorough; extent of condition, generic implications, common causes, and previous history were adequately considered; and appropriate corrective actions (short and long term) were implemented or planned in a manner consistent with safety and TS compliance. The inspectors evaluated the CRs against the requirements of the licensee's corrective action program as delineated in Administrative Procedures ADM-07.02, Condition Reports, ADM-08.04, Root Cause Evaluations, and 10 CFR 50, Appendix B. The inspectors reviewed the licensee's procedures related to placement of equipment clearances involving fuses to assess their adequacy. In particular CR 02-1973, specifically mentioned the difficulties operators were experiencing in correctly identifying fuses for hanging clearances in RTGB-201 due to confusing labels. In addition, the inspectors independently performed visual verification of fuse labeling in several of the RTGB panels.

b. Findings and Observations

There was one minor finding associated with hanging tags on the RTGB fuses. The inspector determined that the vast majority of fuses in the Unit 1 and 2 RTGBs were adequately labeled. However, there were several cases where the labeling was not well placed, informal (e.g., black marker instead of lamacoid), or confusing. The resolution of CR 02-1973, did not adequately address the operator's concern to correct the identified problems.

Additionally, the inspector determined that Operations personnel were not independently verifying the removal/reinstallation of fuses, as directed by the equipment clearance orders (ECO), but rather were using a concurrence dual verification method. The inspector noted that there was no specific guidance or instructions in the administrative procedures relating to clearances involving fuses. This inconsistency was identified by CR 02-2927 which specifically questioned whether the method used by operators for removing fuses was appropriate. The resolution of CR 02-2927 did not adequately address the lack of administrative guidance for hanging tags on RTGB fuses and the concurrent verification methods used by operators. Licensee management subsequently determined that concurrent verification was the preferred verification method when removing or reinstalling fuses and initiated action to revise the appropriate procedures. This finding constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy. The licensee documented the problem in CR 03-0264.

4OA3 Event Follow-up

.1 (Closed) LER 50-335/2002-002, Manual Reactor Trip on Low Steam Generator Water Level

This LER documented a Unit 1 manual reactor trip from 7% power due to low steam generator level caused by a loss of all main feedwater. The LER was reviewed and determined to be accurate and consistent with NRC observations following the reactor trip (see IR 50-335, 389/02-04). The reactor trip event was addressed in the licensee's corrective action program as CR 02-2765. No significant findings were identified and the trip was considered to be of very low safety significance. This LER is closed.

.2 Unit 2 Unplanned Manual Reactor Trip

a. Inspection Scope

On April 1, 2003, the Unit 2 reactor was manually tripped from full power due to a loss of main condenser vacuum. An inspector promptly responded to the control room and verified the unit was stable in Mode 3, and confirmed that all safety-related mitigating systems had operated properly. The inspectors examined operator and plant response by reviewing plant parameters, strip charts, and the Sequence of Events Recorder; and discussing the event with Operations personnel and members of the licensee's Event Review Team. The event was initiated by main condenser in-leakage that was greatly exacerbated by a malfunction of the 2A hogger. The only risk significant equipment failure was an overspeed trip of the 2C AFW pump which did not adversely affect the operators ability to safely shutdown the unit. The inspectors also discussed the risk

significance with Region II personnel and verified that appropriate notifications were made in accordance with 10 CFR 50.72. Furthermore, the inspector reviewed the post-trip report and attended the initial Facility Review Group meeting for restart.

b. Findings

No finding of significance were identified

4OA6 Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. Bill Jefferson and other members of licensee management on April 11, 2003. An interim exit by an EP regional inspector was conducted on January 30, 2003. The licensee acknowledged the findings presented. No proprietary information was identified.

.2 Annual Assessment Meeting Summary

On April 8, 2003, the NRC's Chief of Reactor Projects Branch 3, Senior Project Engineer, Public Affairs Officer, and Resident staff assigned to the St. Lucie Nuclear Plant met with Florida Power and Light to discuss the NRC's Reactor Oversight Process (ROP) and the St. Lucie annual assessment of safety performance for the period of January 1, 2002 - December 31, 2002. The major topics addressed were: the NRC's assessment program, the results of the St. Lucie assessment, and NRC security activities. Attendees included St. Lucie site management, members of site staff, and one local official.

This meeting was open to the public. The NRC's presentation material used for the discussion is available from the NRC's document system (ADAMS) as accession number ML031000162. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Supplemental Information

A. PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Calabrese, Emergency Planning Supervisor
R. Coleman, Instrumentation and Controls Department Supervisor
R. De La Espriella, Site Quality Manager
B. Dunn, Site Engineering Manager
R. Hughes, Systems & Component Engineering Manager
W. Jefferson, Site Vice President
J. Kirkpatrick, Maintenance Manager
K. Korth, Operations Manager
R. McDaniel, Fire Protection Supervisor
D. Mohre, Maintenance Rule Administrator
D. Mothena, Corporate Emergency Planning Manager
T. Patterson, Licensing Manager
J. Porter, Operations Support Engineering Manager
A. Pell, Training Manager
R. Rose, Plant General Manager
W. Parks, Acting Operations Supervisor
G. Varnes, Security Supervisor
J. Voorhees, Corrective Action Group Supervisor
S. Wisla, Health Physics Manager

Other licensee employees contacted include office, operations, engineering, maintenance, chemistry/radiation, and corporate personnel.

NRC

E. Brown, NRR Project Manager

B. ITEMS CLOSED

Opened and Closed

50-335,389/03-04-01	NCV	Failure to Meet 10 CFR 50.54(q) Change Requirements Which Resulted in a Decrease of Emergency Plan Effectiveness (Section 1EP4)

Closed

50-335/2002-002	LER	Manual Reactor Trip on Low Steam Generator Water Level (4OA3.1)