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

April 30, 2009

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

SUBJECT: ST. LUCIE NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000335/2009002, 05000389/2009002

Dear Mr. Nazar:

On March 31, 2009, the US Nuclear Regulatory Commission (NRC) completed an inspection at your St. Lucie Plant. The enclosed integrated inspection report documents the inspection findings which were discussed on April 2, 2009, with Mr. Johnston and other members of your staff.

The inspection examined activities conducted under your license as they related 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 three NRC identified findings and one self-revealing finding, all of very low safety significance (Green). Additionally, one licensee-identified violation which was determined to be of very low safety significance is listed in Section 4OA7 of this report. These findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating the findings as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV or disagree with an assigned cross-cutting aspect in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial or disagreement, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the St. Lucie facility. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II, and the NRC Resident Inspector at the St. Lucie Nuclear Plant. The information you provide will be considered in accordance with Inspection Manual Chapter 0305

In accordance with 10 CFR 2.390 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 the 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/

Marvin D. Sykes, Chief
Rector Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 05000335/2009002, 05000389/2009002
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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Letter to Mano Nazar from Marvin D. Sykes dated April 30, 2009

SUBJECT: ST. LUCIE NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000335/2009002, 05000389/2009002

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-335, 50-389
License Nos:	DPR-67, NPF-16
Report No:	05000335/2009002, 05000389/2009002
Licensee:	Florida Power & Light Company (FP&L)
Facility:	St. Lucie Nuclear Plant, Units 1 & 2
Location:	6351 South Ocean Drive Jensen Beach, FL 34957
Dates:	January 1 to March 31, 2009
Inspectors:	T. Hoeg, Senior Resident Inspector S. Sanchez, Resident Inspector S. Ninh, Senior Project Engineer L. Miller, Senior Reactor Inspector R. Bernhard, Senior Reactor Analyst
Approved by:	M. Sykes, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000335/2009-002, 05000389/2009-002; 01/01/2009 - 3/31/2009; St. Lucie Nuclear Plant, Units 1 & 2; Event Follow-up, Other Activities, Surveillance Testing, Identification and Resolution of Problems.

The report covered a three month period of inspection by resident inspectors and several region based inspectors. 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", and Revision 4, dated December 2006.

A. Inspector Identified & Self-Revealing Findings

Cornerstone: Initiating Events

Green. A self-revealing finding was identified for failure to implement adequate process controls to minimize risk during maintenance on the Unit 2, 5B feedwater heater high level limit switch resulting in a manual reactor trip on June 4, 2008. No violations of NRC requirements were identified because the feedwater heater drain system is non-safety related. The licensee entered the issue into the corrective action program as condition report (CR) 2008-18858. Corrective actions included development of specific procedural direction for controlling and insulating energized control circuit leads during work evolutions using the risk management process, design modifications to address vulnerability when performing maintenance on level switches, and evaluation of industry best practices for training and handling of energized leads.

The finding was more than minor because it resulted in a manual reactor trip. The finding was associated with the human performance attribute and affected the Initiating Events cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as at power operations. Using the NRC Manual Chapter 0609, "Significance Determination Process," Attachment 609.04, Phase 1 screening worksheet, the finding was determined to be of very low safety significance because it was a transient initiator but did not increase the likelihood that mitigation equipment would not be available. The cause of the finding is related to the cross-cutting area of Human Performance, with a work control component. Specifically, the licensee did not adequately plan work activities to minimize the risk of grounding the energized leads (H.3(a)). (Section 4OA3).

Cornerstone: Mitigating Systems

Green. The inspectors identified a Green noncited violation of Technical Specifications 3.8.1, "AC Sources," for failure to perform a required monthly surveillance test in its entirety. Specifically, the inspectors identified that St. Lucie has not performed Unit 1 Emergency Diesel Generator (EDG) technical specification (TS) surveillance requirement 4.8.1.1.2 as written to verify the fuel oil transfer pumps will transfer fuel from

the storage tank to the engine mounted day tanks at least every 31 days to demonstrate operability. The licensee entered the finding in their CAP as CR 2009-4976.

The finding is more than minor in accordance with Inspection Manual Chapter (IMC) 0612, Power Reactor Inspection Reports, "Appendix B, Issue Screening." Specifically, it impacts the mitigating systems cornerstone objective in that it affects the operability, availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, this finding was determined to be of very low safety significance since it did not represent an actual loss of a safety function. The inspectors determined that the cause of this finding has a crosscutting aspect in the area of human performance associated with the resources attribute, in that the operators did not have adequate procedural guidance available to completely test the fuel oil transfer system as required by technical specifications. (IMC 0305 aspect H.2.c). (Section 1R22)

Green. The inspectors identified a NCV of TS 6.8.1.a and Regulatory Guide (RG) 1.33, for the licensee failing to specify and ensure an appropriate post maintenance test (PMT) was performed as required by administrative procedure ADM-78.01, "Post Maintenance Testing." Specifically, the inspectors identified that after replacement of an emergency diesel generator (EDG) fuel oil day tank low level instrument, an inadequate PMT was performed because the instrument switch mechanism was not demonstrated functional by actual lowering of the fuel oil level within the tank to actuate the float assembly. The licensee entered the finding in their CAP as CR 2008-32722.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone. The finding was determined to have very low safety significance because it did not result in an actual loss of safety system function. This finding was related to the coordination of work activities attribute of the human performance cross-cutting area in the aspect of work control (IMC 0305 aspect H.3.b). (Section 4OA5.3)

Green. The inspectors identified a Non Cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for failure of the licensee to take timely and effective corrective actions to prevent recurrence of Unit 1 emergency diesel generator (EDG) day tank low level switch failures starting in 2007. Specifically, in June 2007, the licensee performed an apparent cause evaluation of "sticking" level switches and determined that a manufacturing defect associated with the packing gland of the float's pivot shaft caused some restricted movement. The licensee also determined that extended shelf life contributed to the failures of these level switches. However, other than replacing the switches with new ones, the only corrective action(s) that resulted from this evaluation were to ensure that switches manufactured before 2000 were not used for plant applications. Subsequently, in October 2008, the 1A-EDG day tank low level switch failed during the 24 hour EDG run and again failed during maintenance activities in February 2009.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone. The finding was determined to have very low safety significance because an SDP Phase 3 analysis determined that the risk was less than 1E-6/year. This finding was related to the corrective action attribute of the problem identification and resolution cross-cutting area in the aspect of appropriate and timely corrective actions (IMC 0305 aspect P.1.d). (Section 4OA2.3)

B. Licensee Identified Violations

One violation of very low safety significance was identified by the licensee and has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into their corrective action program. This violation and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status:

Unit 1 and Unit 2 began the period at full Rated Thermal Power (RTP) and operated at full power for most of the entire period. Unit 2 had an unplanned down power to 60 percent rated thermal power to repair a turbine building cooling water pump bearing on March 5, 2009. Unit 2 returned to full power operation on March 10, 2009. Unit 2 reduced power to 85 percent rated thermal power due to a traveling screen failure March 25, 2009. Unit 2 returned to full power operation on March 30, 2009.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity (Reactor-R)

1R01 Adverse Weather Protection

a. Inspection Scope

During the weeks of January 21 and February 2, 2009, the inspectors reviewed the status of licensee actions in accordance with ADM-04.03, Cold Weather Preparations. The inspectors verified conditions were met for entering the procedure and that equipment status was verified as directed by the procedure. The inspectors performed a walkdown of the following safety-related equipment on both units that are exposed to the outside weather conditions to identify any potential adverse conditions. Condition reports (CRs) were checked to assure that the licensee was identifying and resolving weather related issues.

- Unit 2 Emergency Diesel Generator (EDG) Rooms
- Unit 1 'C' Auxiliary Feedwater (AFW) Pump Area
- Unit 2 Main Feedwater Isolation Valve Area
- Unit 1 Condensate Storage Tank Area
- Unit 1 EDG Rooms
- Unit 1 Refueling Water Tank (RWT)
- Unit 2 RWT

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted four partial alignment verifications of the safety-related systems listed below. These inspections included reviews using plant lineup procedures, operating procedures, and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions of the systems were correctly aligned to support operability. The inspectors also verified that the licensee had identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers by entering them into the corrective action program (CAP).

- 1B EDG while the 1A EDG was Out of Service (OOS)
- 2A Component Cooling Water (CCW) System while the 2B CCW System OOS
- 2B Containment Spray (CS) System while the 2A CS System OOS
- 1B and 2B Startup Transformers while the 1A and 2A Startup Transformers OOS

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

.1 Fire Area Walkdowns

The inspectors toured the following five plant areas during this inspection period to evaluate conditions related to control of transient combustibles and ignition sources, the material condition and operational status of fire protection systems including fire barriers used to prevent fire damage or fire propagation. The inspectors reviewed these activities against provisions in the licensee's procedure ADM-1800022, Fire Protection Plan, and 10 CFR Part 50, Appendix R. The licensee's fire impairment lists, updated on an as-needed basis, were routinely reviewed. In addition, the inspectors reviewed the CR database to verify that fire protection problems were being identified and appropriately resolved. The following areas were inspected:

- Unit 1 Charging Pump Areas
- Unit 1 Elevation -0.5' Pipe Penetration Area
- Unit 2 Electrical Penetration Rooms
- Unit 2 Control Element Drive Mechanism Control System Room
- Unit 2 Emergency Core Cooling System (ECCS) Pumps Room

b. Findings

No findings of significance were identified.

.2 Fire Protection - Drill Observation

a. Inspection Scope

The inspectors observed a fire drill conducted in the Unit 1 Turbine Building 19.5' Elevation 1C AFW Pump Room on January 20, 2009. The drill was observed to evaluate the overall readiness of the plant fire brigade to respond to and extinguish fires. The inspectors verified that the licensee staff identified deficiencies, openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions as required. Specific attributes evaluated were: (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient fire fighting equipment brought to the scene; (5) effectiveness of command and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of pre-planned strategies; (9) adherence to the pre-planned drill scenario; and (10) drill objectives.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Training Program

Resident Inspector Quarterly Review

a. Inspection Scope

On March 30, 2009, the inspectors observed and assessed licensed operator actions during a simulated steam generator tube leak and subsequent reactor trip with complications, to verify that operator performance was adequate and that evaluators were identifying and documenting crew performance problems. The exercise was performed in accordance with St. Lucie Plant Simulator Exercise Guide 0815018, Revision 14. The inspectors also reviewed simulator physical fidelity and specifically evaluated the following attributes related to the operating crews' 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 off-normal and emergency operation procedures; and emergency plan implementing procedures
- Control board operation and manipulation, including high-risk operator actions

- Oversight and direction provided by supervision, including ability to identify and implement appropriate technical specification actions, regulatory reporting requirements, and emergency plan classification and notification
- Crew overall performance and interactions
- Effectiveness of the post-evaluation critique.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed system performance data and associated CRs for the two systems listed below to verify that the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants) and licensee Administrative Procedure ADM-17-08, Implementation of 10CFR50.65, Maintenance Rule. The inspectors' efforts focused on maintenance rule scoping, characterization of maintenance problems and failed components, risk significance, determination of a(1) and a(2) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also interviewed responsible engineers and observed some of the corrective maintenance activities. The inspectors also attended applicable expert panel meetings and reviewed associated system health reports. The inspectors verified that equipment problems were being identified and entered into the CAP

- Unit 1 Emergency Diesel Generator System
- Unit 1 Intake Cooling Water System

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors completed in-office reviews, plant walkdowns, and control room inspections of the licensee's risk assessment of six emergent or planned maintenance activities. The inspectors verified the licensee's risk assessment and risk management activities using the requirements of 10 CFR 50.65(a)(4); the recommendations of Nuclear Management and Resource Council 93-01, Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 3; and procedure ADM-17.16, Implementation of the Configuration Risk Management Program. The inspectors also reviewed the effectiveness of the licensee's contingency actions to mitigate increased risk resulting from the degraded equipment. The inspectors

interviewed responsible Senior Reactor Operators on-shift, verified actual system configurations, and specifically evaluated results from the online risk monitor (OLRM) for the combinations of out of service (OOS) risk significant systems, structures, and components (SSCs) listed below:

- 1A HPSI Pump, Valve HCV-3627, and Fan HVS-5A OOS
- 1B LPSI Pump, Valve SB-37-2, and 1A AFW Pump OOS
- 2B Emergency Core Cooling System (ECCS) OOS
- 2A ECCS OOS
- 1A EDG, 1C Instrument Air Compressor, and Valve PCV-8805 OOS
- 1B EDG and Valve HCV-08-2B OOS

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 operability was properly supported and the affected SSCs remained available to perform its safety function with no increase in risk. The inspectors reviewed the applicable UFSAR, and associated supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim disposition.

- CR 2009-2369, 1A EDG Sump Oil Temperature
- CR 2009-1471, Unit 2 ECCS Piping Insulation Removed
- CR 2009-2825, CEA # 85 Placed on the Lower Gripper
- CR 2009-5595, 1A EDG Air Intake Screen Corroded
- CR 2009-6666, 1A LPSI System Piping Air Voiding
- CR 2009-2951, Unit 2 Safety Injection Tank Sample Valve Operation

b. Findings

No findings of significance were identified

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the documentation for a permanent modification affecting both units, plant change modification PCM 07127, ECCS Piping Insulation Modification to Support Void Inspections. The inspectors reviewed the 10 CFR 50.59 screening and evaluation, fire protection review, environmental review, As Low As Reasonably Achievable (ALARA) screening, and license renewal review, to verify that the modification had not affected system operability/availability. The inspectors reviewed

associated plant drawings and UFSAR documents impacted by this modification and discussed the changes with licensee personnel to verify that the installation was consistent with the modification documents. Additionally, the inspectors verified that problems associated with modifications were being identified and entered into the CAP.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the five post maintenance tests (PMTs) listed below, the inspectors reviewed the test procedures and either witnessed the testing and/or reviewed test records to determine whether the scope of testing adequately verified that the work performed was correctly completed and demonstrated that the affected equipment was functional and operable. The inspectors verified that the requirements of procedure ADM-78.01, Post Maintenance Testing, were incorporated into test requirements. The inspectors reviewed the following work orders (WOs) and/or work requests (WR):

- WO 38000129, Valve MV-07-2A Stroke Test and Dynamic Analysis
- WO 39002591, 1A EDG Day Tank Level Switch Replacement
- WO 37014539, 1B EDG Day Tank Level Switch Replacement
- WO 39002134, 1A EDG Lube Oil Line Replacement
- WO 38027005, Valve HCV-09-18 Oil Replacement

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following six surveillance tests to verify that the tests met the TS, the UFSAR, the licensee's procedural requirements, and demonstrated the systems were capable of performing their intended safety functions and their operational readiness. In addition, the inspectors evaluated the effect of the testing activities on the plant to ensure that conditions were adequately addressed by the licensee staff and that after completion of the testing activities, equipment was returned to the positions/status required for the system to perform its safety function. The tests reviewed included one in-service test and two containment isolation valve surveillances. The inspectors verified that surveillance issues were documented in the CAP.

- 2-OSP-59.01A, 2A EDG Monthly Test
- 2-OSP-69.25, Unit 2 Engineered Safeguards Testing
- 1-OSP-59.01A, 1A EDG Monthly Test
- OP-2-0010125A, Valve MV-07-2B Stroke Test
- 1-OSP-66.01, Unit 1 Control Element Assembly Exercise
- 1-OSP-9.01A, 1A AFW Pump Code Run

b. Findings

Introduction. The inspectors identified a Green noncited violation of Technical Specifications (TS) 3.8.1, "AC Sources," for failure to perform a required monthly surveillance test in its entirety. Specifically, the inspectors identified that St. Lucie has not performed Unit 1 EDG TS surveillance requirement 4.8.1.1.2 as written to verify the fuel oil transfer pumps will transfer fuel from the storage tank to the engine mounted day tanks at least every 31 days to demonstrate operability.

Description. During the month of January, 2009, the inspectors reviewed the Unit 1 EDG monthly surveillance test procedures 1-OSP-59.01A and 1-OSP-59.01B, "1A Emergency Diesel Generator Monthly Surveillance and 1B Emergency Diesel Generator Monthly Surveillance" prior to performing planned inspections. The inspectors determined that procedure section 7.1 started the fuel oil transfer pump while it was lined up in the recirculation mode to the fuel oil storage tank and did not transfer fuel to the engine mounted day tank. The inspector concluded a verification of the pumps ability to transfer fuel to the day tank had not been performed on a monthly basis as required by technical specifications. The St. Lucie TS surveillance section 4.8.1.1.2 is required to be performed as written to verify the fuel oil transfer pumps can be started and transfer fuel from the storage tank to the engine mounted day tanks at least every 31 days to demonstrate operability.

The inspector reviewed past Unit 1 EDG monthly surveillance tests to determine if the method of testing the fuel oil transfer pump for operability had been revised since the plant started commercial operation in 1976. The inspector found that before 1993, the Unit 1 EDG periodic test required by visual observation that the EDG fuel oil transfer pump runs and actually increases level in the generator mounted tanks. In 1993, the subject surveillance procedures were revised to run the fuel oil transfer pump in the recirculation mode and verifying the pump discharge pressure measured a minimum of 25 psig while the fuel oil is pumped from the storage tanks back to the storage tank versus the generator engine mounted day tanks as previously required. The practice of not transferring fuel with the transfer pump to the day tank on a monthly basis reduced the licensee's ability to identify pump degradation and/or capability, rendering the EDGs not fully reliable to meet a mission time of 24 hours. The inspectors determined that the test procedure revision and methodology of periodically testing the operation of the fuel oil transfer system was inadequate and may not verify full operability of the fuel oil transfer system.

The inspectors shared their findings with the licensee and informed them that their practice of testing the pump in the recirculation mode without verifying the transfer of fuel to the engine mounted tank did not meet technical specification monthly surveillance test requirements. The licensee entered the condition in their CAP as CR 2009-4976 and took prompt action to verify compliance with the TS requirements over a two week period. The Unit 1 EDG surveillance of the fuel oil transfer systems were tested satisfactorily and monthly surveillance test procedures 1-OSP-59.01A and 1-OSP-59.01B were revised to reflect the monthly TS surveillance requirement by returning to the method of testing used before 1993 to determine operability.

Analysis. The inspectors determined that failure to perform a required TS surveillance in its entirety is a performance deficiency. The finding is more than minor in accordance with Inspection Manual Chapter (IMC) 0612, Power Reactor Inspection Reports, Appendix B, "Issue Screening." Specifically, the finding impacts the mitigating systems cornerstone objective in that it affects the operability, availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, this finding was determined to be of very low safety significance since it did not represent an actual loss of a safety function. The inspectors determined that the cause of this finding has a crosscutting aspect in the area of human performance associated with the resources attribute, in that the operators did not have adequate procedural guidance available to completely test the fuel oil transfer system as required by technical specifications. (MC 0305 aspect H.2.c).

Enforcement. TS 3.8.1 requires surveillance requirement 4.8.1.1.2.3.a.3 to be performed for each diesel generator to demonstrate operability on a monthly basis. Contrary to this requirement, the licensee failed to perform TS surveillance requirement 4.8.1.1.2.3.a since 1993. The surveillance procedure was revised in 1993 and that method used to test the fuel oil transfer system remained in use for over 15 years and became an accepted practice by the licensee. Since the licensee entered the issue into their CAP as CR 2009-4976 and the finding is of very low safety significance (Green), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000335/2009002-01: Failure to Perform a Required TS Surveillance.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Testing

a. Inspection Scope

The inspector evaluated the adequacy of licensee's methods for testing the alert and notification system in accordance with NRC Inspection Procedure 71114, Attachment 02, "Alert and Notification System Evaluation". The applicable planning standard 10 CFR Part 50.47(b)(5) and its related 10 CFR Part 50, Appendix E, Section IV.D requirements were used as reference criteria. The criteria contained in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and

Preparedness in Support of Nuclear Power Plants," Revision 1, was also used as a reference.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the alert and notification system on a biennial basis.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation

a. Inspection Scope

The inspector reviewed the licensee's Emergency Response Organization (ERO) augmentation staffing requirements and process for notifying the ERO to ensure the readiness of key staff for responding to an event and timely facility activation. The qualification records of key position ERO personnel were reviewed to ensure all ERO qualifications were current. A sample of problems identified from augmentation drills or system tests performed since the last inspection were reviewed to assess the effectiveness of corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, "Emergency Response Organization Staffing and Augmentation System." The applicable planning standard, 10 CFR 50.47(b)(2) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the ERO staffing and augmentation system on a biennial basis.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, Revisions 52, 53 and 54 of the Emergency Plan was implemented based on the licensee's determination, in accordance with 10 CFR 50.54(q), that the changes resulted in no decrease in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The inspector conducted a sampling review of the Plan changes and implementing procedure changes made between January 1, 2008 and January, 2009 to evaluate for potential decreases in effectiveness of the Plan. However, this review was not documented in a Safety Evaluation Report

and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 04, "Emergency Action Level and Emergency Plan Changes." The applicable planning standard (PS), 10 CFR 50.47(b)(4) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the emergency action level and emergency plan changes on an annual basis.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector reviewed the corrective actions identified through the Emergency Preparedness program to determine the significance of the issues and to determine if repeat problems were occurring. The facility's self-assessments and audits were reviewed to assess the licensee's ability to be self-critical, thus avoiding complacency and degradation of their emergency preparedness program. In addition, the inspector reviewed licensee self-assessments and audits to assess the completeness and effectiveness of all emergency preparedness related corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 05, "Correction of Emergency Preparedness Weaknesses." The applicable planning standard, 10 CFR 50.47(b)(14) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the correction of emergency preparedness weaknesses on a biennial basis.

b. Findings

No findings of significance were identified.

OTHER ACTIVITIES

4OA1 Performance Indicator Verification

.1 Initiating Events and Mitigating Systems Cornerstones

a. Inspection Scope

The inspectors checked licensee submittals for the performance indicators (PIs) listed below for the period January 2008 through December 2008, to verify the accuracy of the PI data reported during that period. Performance indicator definitions and guidance contained in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, and licensee procedures ADM-25.02, NRC Performance Indicators, and NAP-206, NRC Performance Indicators, were used to check the reporting for each data element. The inspectors checked operator logs, plant status reports, CRs, system health reports, and PI data sheets to verify that the licensee had identified the required data, as applicable. The inspectors interviewed licensee personnel associated with performance indicator data collection, evaluation, and distribution.

- Unit 1 Unplanned Scrams per 7000 Critical Hours
- Unit 2 Unplanned Scrams per 7000 Critical Hours
- Unit 1 Unplanned Scrams With Loss of Normal Heat Removal
- Unit 2 Unplanned Scrams With Loss of Normal Heat Removal
- Unit 1 Unplanned Transients per 7000 Critical Hours
- Unit 2 Unplanned Transients per 7000 Critical Hours

b. Findings

No findings of significance were identified.

.2 Emergency Preparedness Cornerstones

a. Inspection Scope

The inspector sampled licensee submittals relative to the PIs listed below for the period January 2008 through December 2008. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used to confirm the reporting basis for each data element.

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

For the specified review period, the inspector examined data reported to the NRC, procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspector verified the accuracy of the PI for ERO

drill and exercise performance through review of a sample of drill and event records. The inspector reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspector verified the accuracy of the PI for alert and notification system reliability through review of a sample of the licensee's records of periodic system tests. The inspector also interviewed the licensee personnel who were responsible for collecting and evaluating the PI data. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

.1 Daily Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a screening of items entered daily into the licensee's CAP. This review was accomplished by reviewing daily printed summaries of CRs and by reviewing the licensee's electronic CR database. Additionally, reactor coolant system unidentified leakage was checked on a daily basis to verify no substantive or unexplained changes.

b. Findings

No findings of significance were identified.

.2 Annual Sample. 1B1 Reactor Coolant Pump Seal Flanges Found Removed With Danger Tags Still Attached

a. Inspection Scope

The inspectors selected CR 2008-35071, "1B1 Reactor Coolant Pump Seal Flanges Found Removed With Danger Tags Still Attached," for a more in-depth review of the circumstances that led up to the equipment clearance order (ECO) mishap and the corrective actions that followed.

The inspectors reviewed the licensee's evaluation of the event and the associated corrective actions. The inspectors reviewed the apparent cause evaluation and interviewed plant personnel. The inspectors evaluated the licensee's administration of this selected condition report in accordance with their CAP as specified in licensee procedures PI-AA-204, "Condition Identification and Screening Process", and PI-AA-205, "Condition Evaluation and Corrective Actions."

b. Findings and Observations

On November 11, 2008, while Unit 1 was defueled during a refueling outage a maintenance crew entered containment to begin work on installing new reactor coolant pump (RCP) seal injection piping. The equipment clearance order (ECO) tags were still hanging on the blank flanges that were in place to provide system boundary protection while the new piping was being fabricated. In preparation of installing the new piping, the workers proceeded to remove the flanges with the danger tags still attached. This was in contrast to licensee procedure ADM-09.04, "In-Plant Equipment Clearance Orders" Section 6.2, step 3.a which required at no time shall an ECO tag be removed or ignored. The inspectors determined the apparent cause analysis of this event was thorough and provided additional details of contributing causes. The corrective actions taken by the licensee or planned were in accordance with their above referenced procedures. This licensee identified finding involved a violation of TS 6.8.1, Procedures and Programs. The enforcement aspects of this violation are discussed in Section 4OA7 of this report.

.3 Semi-Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors reviewed the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors selected Murphy® switch failures for trending due to a number of recent failures associated with the Unit 1 EDG fuel oil transfer system. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CR item screening discussed in Section 4OA2.1 above, plant status reviews, plant tours, document reviews, and licensee trending efforts. The inspectors' review nominally considered the six month period of July through December 2008. Corrective actions associated with a sample of the issues identified in the licensee's CAP were reviewed for adequacy.

b. Assessment and Observations

Introduction. The inspectors identified an Non Cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for the licensee failing to take timely and effective corrective actions to prevent recurrence of Unit 1 emergency diesel generator (EDG) day tank low level switch failures resulting in the 1A EDG being unreliable to meet its continuous operational mission time of 24 hours. Specifically, multiple repeat switch failures occurred over a two year period where the cause of the failure was not identified and corrected to prevent recurrence.

Description. The St. Lucie Unit 1 EDGs have engine skid mounted day tanks supplied by a larger external storage tank for fuel supply during extended periods of operation. The day tank fuel oil inventory is controlled by use of several Murphy® level switches. The switch design consists of a reservoir and float mechanism assembly that moves with level changes in the day tank to actuate a micro switch which in turn controls alarms,

pumps, and valve operation to maintain an adequate fuel oil inventory in the day tank. On June 11, 2007, CR 2007-17693 was written identifying a condition where the 1A EDG day tank high level switch LS-59-007A failed to actuate on an increasing level following maintenance activities. The licensee documented the cause of this failure to be a manufacturing defect causing the switch to stick. The corrective action replaced the switch with a new one. On October 22, 2008, CR 2008-32418 was written identifying a condition where the 1A EDG day tank low level switch LS-59-008A failed to actuate on a lowering level during the 24-hour run of the diesel. The licensee documented the cause of this failure to be the float mechanism lever arm binding and not actuating the micro switch. The corrective action replaced the switch with a new one. On February 9, 2009, CR 2009-3756 was written identifying a condition where the 1A EDG low level switch LS-59-008A again failed to actuate on a lowering level, this time following online maintenance activities. On February 16, 2009, CR 2009-4456 was written identifying a condition where the 1B EDG low-low level switch LS-59-010B failed to actuate on a lowering level following maintenance activities. Following this last failure, the licensee acknowledged a trend and established a root cause team to evaluate the failures.

In the June 2007 failure, the 1A EDG day tank high level switch (LS-59-007A) failed and the low level switch (LS-59-008A) was thought to have been sticking. The licensee performed an apparent cause evaluation of “sticking” level switches and determined that a manufacturing defect associated with the packing gland of the float’s pivot shaft caused some restricted movement. The licensee also determined that extended shelf life contributed to the failures of these level switches. However, other than replacing the switches with new ones, the only corrective action(s) that resulted from this evaluation were to ensure that switches manufactured before 2000 were not used for plant applications. In the October 2008 failure, the 1A EDG day tank low level switch (LS-59-008A) failed during the 24-hour EDG run. Unit 1 was in a refuel outage at the time and only one EDG was required to be operable in accordance with TS. The failed level switch was sent out for a third-party evaluation but the immediate corrective action was to replace with a new switch and perform an adequate post maintenance test. The third-party evaluation subsequently came back indeterminate for root cause. In the February 2009 failure, the 1A EDG day tank low level switch (LS-59-008A) again failed following maintenance activities and a week later the 1B EDG day tank low-low level switch (LS-59-010B) failed following its maintenance. At the conclusion of this inspection period, the licensee was completing a root cause evaluation for Murphy® level switch failures.

Analysis. The finding was determined to be more than minor because it affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capacity of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated in accordance with NRC Inspection Manual Chapter 0609.04, Significance Determination Process (SDP) Phase 1 screening worksheets. Because it represented an actual loss of the EDG system safety function of a single train for greater than its Technical Specification (TS) allowed outage time, SDP Phase 2 worksheets were evaluated. The finding was determined to be potentially greater than Green because the 1A EDG was inoperable since June 2007 and no operator recovery credit was allowed. An SDP Phase 3 analysis was performed for the deficiency. The NRC's risk model was modified to increase the EDG failure rate on Unit 1 to reflect the decrease in reliability of the switches. The resulting analysis, including

the risk contribution due to external sources, was slightly less than 1E-6/year and the finding is GREEN. The analysis showed the plant is very sensitive to changes in reliability of the switches. Insights gained from the review of the performance deficiency by the licensee resulted in recommended changes to the type of switches used, and corrections to the alarm response procedure used to respond to fuel related diesel issues. The inspectors determined that the cause of this finding was related to the appropriate and timely corrective actions aspect of the corrective action program component in the problem identification and resolution cross-cutting area (P.1 (d)).

Enforcement. Criterion XVI of 10 CFR 50, Appendix B, states in part, that "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." Contrary to this requirement, the licensee failed to take timely and effective corrective actions to prevent recurrence of Unit 1 EDG day tank low level switch failures resulting in the 1A-EDG being inoperable since 2007. Because the licensee entered the issue into their CAP as CR 2009-3756 and the finding is Green, this violation is being treated as a NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000335/2009002-02: Failure to Take Timely and Effective Corrective Actions for EDG Day Tank Level Switch Failure.

4OA3 Event Follow-up

.1 (Closed) LER 05000389/2008-002-00, Unit 2 Manually Tripped As A Result of Maintenance.

a. Inspection Scope

The inspectors reviewed the root cause evaluation associated with LER 05000589/2008-002-00 to determine whether a performance deficiency was involved, corrective actions were adequate and to determine the safety significance. The inspectors also reviewed the LER to verify its accuracy and completeness.

b. Findings

Introduction. A Green self-revealing finding was identified for failure to implement adequate process controls to minimize risk during maintenance on the Unit 2, 5B feedwater heater high level limit switch which resulted in a manual reactor trip on June 4, 2008. No violations of NRC requirements were identified because the feedwater heater drain system is non-safety related.

Description. On June 4, 2008, Unit 2 was in Mode 1 at 100% power, while instrument and control (I &C) personnel were performing maintenance on the 5B Feedwater (FW) Heater High Level Limit Switch LS-11-26B, when two taped energized leads were being routed through a conduit elbow came in contact with the conduit and grounded. The ground resulted in the 2B Heater Drain Pump being tripped on low level and the 2A Main Feedwater Pump tripping on low suction pressure 50 seconds after the heater drain pump tripped. The reactor was manually tripped in anticipation of a low steam generator level auto-trip. All safe shutdown equipment operated as designed.

The licensee determined the root cause of the event was a failure to implement adequate process controls to minimize risk during level switch replacement and drifting of the pressure switch set point causing a premature actuation of the switch during a feed water transient. Corrective actions included a development of specific procedural direction for controlling energized leads during work evolutions using the risk management process, design modifications to address vulnerability when performing maintenance on level switches, and evaluation of industry best practices for training and handling of energized leads.

Analysis. The inspectors determined that failure to implement adequate process controls to minimize risk during maintenance on the Unit 2, 5B feedwater heater high level limit switch resulting in a manual reactor trip was a performance deficiency. Specifically, the licensee did not adequately plan work activities to minimize the risk of grounding the energized leads. The existing plant processes for assessment of such risk are contained in ADM 00110432, Control of Plant Work Orders and WW-AA-1000, Work Activity Risk Assessment Process. Since the original work scope was to correct a steam leak, the ADM 0010432, Red Sheet did not apply. The Red Sheet is a stand alone work control checklist used by plant personnel to determine if proposed power block and switchyard work activities have potential to cause an actuation of an Engineered Safeguards Feature (EFS), plant transient or a unit trip. However, when the scope of the work order was expanded to include the feedwater heater level switch replacement, the package was not revised and a formal risk assessment was not performed.

The finding was more than minor because it resulted in a manual reactor trip. The finding was associated with the human performance attribute and affected the Initiating Events cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as at power operations. Using the NRC Manual Chapter 0609, “Significance Determination Process,” Attachment 609.04, Phase 1 screening worksheet, the finding was determined to be of very low safety significance because it was a transient initiator but did not increase the likelihood that mitigation equipment would not be available. The cause of the finding is related to the cross-cutting area of Human Performance, with a work control component. Specifically, the licensee did not adequately plan work activities to minimize the risk of grounding the energized leads (H.3(a)).

Enforcement. No violation of NRC regulatory requirements occurred. The inspectors determined that the finding did not represent a noncompliance because the performance deficiency involved non-safety related equipment. This finding was determined to be of very low safety significance (Green) and was entered into the corrective action program as CR 2008-18858. This finding is identified as FIN 05000389/2009-02-04, Failure to Implement Adequate Process Controls during Maintenance Activities Resulted in a Manual Reactor Trip.

.2 (Closed) LER 05000389/2008-003-00: Unit 2 Condensate Pump Failure Resulting in Manual Reactor Trip

The LER documented that while Unit 2 at 100 percent power, the 2B condensate pump motor lead lugs overheated and melted due to high resistance at the lug crimp connections which resulted in a manual reactor trip on June 7, 2008. The licensee determined that the high resistance was caused by undetected epoxy resin in the motor lead cables. The motor lead lugs were installed with undetected epoxy resin because a vendor inadvertently impregnated the motor lead cables with epoxy resin during the vacuum pressure impregnation (VIP) process. Corrective action included revising motor rewinding specification to ensure that epoxy is not applied to the motor lead during the vendor's VIP process. The inspectors reviewed the LER and CR 2008-19114 documenting the event. The inspectors checked the accuracy and completeness of the LER and the appropriateness of the licensee's corrective actions. No findings of significance or violations of NRC requirements were identified. This LER is closed.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observation of Security Personnel and Activities

a. Inspection Scope

During the inspection period the inspectors conducted observations of security force personnel activities to ensure that the activities were consistent with the licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings of significance were identified.

.2 (Closed) NRC Temporary Instruction (TI) 2525/175, Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review

The inspector completed Temporary Instruction TI 2515/175, Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review. Appropriate documentation of the results was provided to NRC, HQ, as required by the TI. This completes the Region II inspection requirements for this TI for St. Lucie Plant.

.3 (Closed) URI 05000335/2008005-02: Failure of the Automatic Diesel Fuel Oil Transfer System Could Potentially Result in the 1A EDG Being Inoperable

During the fourth quarter of 2008, the inspectors selected CR 2008-32418, "1A EDG Fuel Oil Transfer Pump Did Not Start When Required," for a more in depth review. An

URI was identified by the inspectors relating to past operability of the EDG, adequacy of post maintenance testing, and the capability to manually operate the fuel oil transfer system as necessary to maintain system design functions. This review was completed by the licensee during this inspection period and further reviewed and evaluated by the inspectors as discussed in more detail in section 4OA2.3 of this report. This URI was documented in NRC Report No. 05000335, 335/2008005 dated January 30, 2009.

Introduction. The inspectors identified a Green non-cited violation (NCV) of TS 6.8.1.a and Regulatory Guide (RG) 1.33, for the licensee failing to properly plan and specify an adequate post maintenance test (PMT) as required by safety related administrative procedure ADM-78.01, "Post Maintenance Testing." Specifically, the inspectors identified that the 1A EDG fuel oil day tank low level Murphy® switch was not demonstrated fully functional prior to returning the EDG to service following maintenance which is in contrast to PMT completion criteria required by ADM-78.01.

Description. In October, 2008, while reviewing CR 2008-32418, "1A-EDG Fuel Oil Transfer Pump Did Not Start When Required," the inspectors determined that during the TS required 24-hour surveillance run of the 1A EDG performed on October 22, 2008, the licensee had to mechanically agitate the day tank low level switch LS-59-008A for the fuel oil transfer pump to automatically start. The day tank low level switch in designed to start the transfer pump and begin refilling the day tanks automatically. Design Basis Document section 7.14.1 states, in part, that the EDG day tanks shall be provided with level switches to automatically operate the transfer pumps and the solenoid isolation valves.

Upon further review of the licensee's CAP program, the inspectors discovered that LS-59-008A had failed previously during a routine calibration in June of 2007, and was replaced under WO 37012672. When the inspectors reviewed WO 37012672, it was determined that the specified PMT did not completely test the level switch functionality. The only test performed on the level switch was a resistance measurement taken to ensure the electrical contacts on the micro switch worked properly when it was manually opened and closed with a thumb screw by the maintenance technician. The mechanical float assembly was not tested to ensure it actuates in response to a lowering tank level as designed during normal operation. The inspectors determined that if the float mechanism was defective or not responding properly, the specified PMT would not identify the new switch as unreliable or defective. The licensee documented this issue in their CAP as CR 2008-32722 to ensured that prior to returning the 1A EDG to service, the day tank low level switch would be demonstrated functional by lowering the actual level in the day tank and testing the entire switch assembly including the float mechanism.

Analysis. The inspectors determined that the licensee's failure to perform an adequate 1A EDG day tank level switch PMT as required by procedure ADM-78.01was a performance deficiency creating an inability to identify a degraded switch which could fail to actuate on an actual lowering level in the tank and not being able to perform its design function. The inspectors concluded that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening. The finding is associated with the equipment performance attribute of the

mitigating systems cornerstone. Using Manual Chapter 0609, Appendix A, Attachment 1, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to have very low safety significance because it did not result in an actual loss of a safety system function. The inspectors found that the cause of this finding was related to the coordination of work activities aspect of the work controls component in the human performance cross-cutting area (IMC 0305 aspect H.3.b).

Enforcement. TS 6.8.1.a requires that written procedures shall be established, implemented, and maintained covering the activities specified in RG 1.33, Revision 2, February 1978. RG 1.33, Appendix A, Item 9.a, requires maintenance that can affect safety related equipment be properly preplanned and performed in accordance with written instructions appropriate to the circumstances. Contrary to the above, PMT requirements on the EDG fuel oil day tank low level switch were not adequately specified and performed prior to returning the system to operable status in accordance with safety related procedure ADM-78.01, "Post Maintenance Testing." Because the failure to implement the subject procedure was of very low safety significance and has been entered in the licensee's CAP, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000389/2009005-03, Failure to Perform an Adequate Post Maintenance Test on the 1A-EDG Fuel Oil Day Tank Low Level Switch.

3. Closed) Temporary Instruction (TI) 2515/176, EDG TS Surveillance Requirements Regarding Endurance and Margin Testing

a. Inspection Scope

Inspection activities for TI 2515/176 were previously completed and documented in inspection report 05000335, 389/2008004, and this TI is considered closed at St. Lucie Nuclear Plant; however, TI 2515/176 will not expire until August 31, 2009. The information gathered while completing this temporary instruction was forwarded to the Office of Nuclear Reactor Regulation for review and evaluation.

b. Inspection Findings

No findings of significance were identified.

4OA6 Exit

.1 Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Johnston and other members of licensee management on April 2, 2009. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary information. The licensee did not identify any proprietary information.

.2 Annual Assessment Meeting Summary

On April 23, 2009, the Senior Resident Inspector met with Chris Costanzo and other members of the licensee staff to discuss the NRC's annual assessment of the St. Lucie Nuclear Plant's safety performance for the period of January 1 through December 31, 2008. The annual assessment results were previously provided to Florida Power and Light Company (FP&L) via letter dated March 4, 2009.

On April 29, 2009, the Chief of Reactor Projects Branch 3, the Resident Inspectors, and Region II Public Affairs Officer held a Category 3 meeting for members of the public and local officials. This Category 3 public meeting provided an open house public forum to fully engage the public in a discussion of regulatory issues related to the NRC's ROP and annual assessment of the St. Lucie Nuclear Plant's safety performance for the period January 1 through December 31, 2008. The presentation material used for discussions and the list of attendees is available from the NRC's document system (ADAMS) as accession number ML 090920483. ADAMS is accessible from the NRC Web site at http://www/nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a NCV.

- Technical Specification 6.8.1 requires that written procedures be implemented covering activities referenced in RG 1.33, Revision 2, February 1978. Contrary to this, on November 11, 2008, maintenance workers removed blank flanges on RCP seal injection piping with danger tags still attached. The finding was more than minor because it could be viewed as a precursor to a significant event and if left uncorrected could lead to a more significant safety concern in that if plant personnel remove, breach, or otherwise touch, plant equipment with danger tags attached, it could result in an injury, death, or other unwanted consequences. The finding was determined to be of very low safety significance because it only affected the initiating events cornerstone for a loss of coolant accident initiator and could not have resulted in exceeding the TS limit for RCS leakage since the reactor was defueled. The licensee entered this issue into their CAP as CR 2008-35071.

ATTACHMENT: SUPPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

C. Ali, Licensing Engineer
E. Belizar, Projects Manager
M. Bladek, Assistant Operations Manager
D. Calabrese, Emergency Preparedness Supervisor
D. Cecchett, Licensing Engineer
J. Connor, Engineering Manager - Programs
T. Cosgrove, Site Engineering Director
C. Costanzo, Plant General Manager
A. Day, Chemistry Manager
M. Delowery, Maintenance Manager
S. Duston, Training Manager
K. Frehafer, Licensing Engineer
J. Heinold, Chemistry Technical Supervisor
M. Hicks, Operations Manager
D. Huey, Acting Work Control Manager
G. Johnston, Site Vice President
J. Klauck, Assistant Operations Manger
J. Kramer, Site Safety Manager
R. McDaniel, Fire Protection Supervisor
M. Moore, Radiation Protection Manager
P. Paradis, Fix-It-Now Team Supervisor
T. Patterson, Performance Improvement Department Manager
J. Porter, Design Engineering Manager
G. Swider, Systems and Component Engineering Manager

NRC personnel:

M. Sykes, Region II, Chief, Branch 3, Division of Reactor Projects
S. Ninh, Region II, Senior Project Engineer, Branch 3, Division of Reactor Projects
R. Bernhard, Region II, Senior Risk Analyst, Division of Reactor Projects

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

NONE

Closed

05000335/2008005-02	URI	Failure of the Automatic Diesel Fuel Oil Transfer System Could Potentially Result in the 1A EDG Being Inoperable (4OA5.3)

05000389/2008-002-00	LER	Unit 2 Manually Tripped as a Result of Maintenance Activities (4OA3.1)
05000389/2008-003-00	LER	Unit 2 Condensate Pump Failure Resulting in Manual Reactor Trip (4OA3.2)
2515/176	TI	EDG TS Surveillance Requirements Regarding Endurance and Margin Testing (Section 4OA5.2)

Opened and Closed

05000335/2009002-01	NCV	Failure to Perform a Required TS Surveillance (1R22)
05000335/2009002-02	NCV	Failure to Take Timely and Effective Corrective Actions for EDG Day Tank Level Switch Failure (4OA2.3)
05000335/2009002-03	NCV	Failure to Perform an Adequate Post Maintenance Test on the 1A-EDG Fuel Oil Day Tank Low Level Switch (4OA5.3)
05000389/2009002-04	NCV	Failure to Implement Adequate Process Controls during Maintenance Activities Resulted in a Manual Reactor Trip (4OA3.1)

LIST OF DOCUMENTS REVIEWED

Procedures

ADM-25.02, NRC Performance Indicators, Rev. 21A
ADM-04.02, Industrial Safety Program, Rev. 11A
ADM-78.01, Post Maintenance Testing, Rev. 30A
1-ARP-06-A16, Annunciator Response Procedure 1A EDG Panel, Revs. 1 & 2
1-OSP-59.11, Simultaneous Start of 1A EDG and 1B EDG Periodic Test, Rev. 1
2-OSP-59.11, Simultaneous Start of 2A EDG and 2B EDG Periodic Test, Rev. 4
1-OSP-59.01A, 1A EDG Monthly Surveillance
1-OSP-59.01B, 1B EDG Monthly Surveillance, Rev. 8A
2-OSP-59.01A, 2A EDG Monthly Surveillance, Rev. 9
2-OSP-59.05A, 2A EDG Air Start Check Valve Quarterly Test, Rev. 1
2-OSP-59.05B, 2B EDG Air Start Check Valve Quarterly Test, Rev. 1
1-OSP-69.14A, ESF – 18 Month Surveillance for EDG Start on SIAS Without LOOP & 24- Hour Load Run – Train A
HPP-3, High Radiation Areas, Rev. 26A
2-0330020, Unit 2 Turbine Cooling Water System Normal Operation, Rev. 54
2-NOP-03.05, Aligning and Starting SDC Loop 2A, Rev. 40
EP-SR-102-1000, Nuclear Division Florida Alert and Notification System Guideline, Rev. 0
06.80.02-E, Protection & Control Siren Maintenance Procedure, 01/11/2006

06.80.01-I, Transmission and Substation Siren System Availability Test Procedure, Rev. 04/03/2008
NPSS-EP-WP-001, Public Alert Notification System Testing, Maintenance, and Engineering, Rev. 2
EPG-06, Maintenance of the Emergency Recall System, Rev. 0
EPG-04, Drill and Exercise Program, Rev. 4
EPIP-13, Maintaining Emergency Preparedness Radiological Emergency Plan Training, Rev. 19
EPG-03, Review and Revision of Emergency Preparedness Documents, Rev. 2
EPIP-01, Classification of Emergencies, Rev. 15 and16
EPIP-02, Duties and Responsibilities of the Emergency coordinator, Rev. 26 and 27
EPIP-06, Activation and Operation of the Emergency Operations Facility, Rev. 19 and 20
EPIP-08, Off-site Notifications and Protective Action Recommendations, Rev. 17, 18, 19, and 19A
PI-AA-204, Condition Identification and Screening Process, Rev. 0
PI-AA-205, Condition Evaluation and Corrective Action, Rev. 0
EP-AA-100-1001**,** Guidelines for Maintaining Emergency Preparedness, Rev. 0
EP-AA-100-1002, Emergency Preparedness Change Review Committee Guideline, Rev. 0
ADM-25.02, NRC Performance Indicators, Rev. 21B
EPG-01, Emergency Preparedness Assessment and Performance Monitoring, Rev. 4

Records, Calculations, and Data Reviewed

Work Order 35013863, L-29 Alarm and Power Supply Failure
Work Order 34004771, CEDS Power Supply Replacement
Work Order 37012672, Level Switch for Diesel Oil Day Tank 1A2 Low Level Control
Work Order 38024041, Level Switch for Diesel Oil Day Tank 1A2 Low Level Control
JPN-PSL-SEIP-93-049, EDG Instrument Setpoint Evaluation
PSL-1FSM-09-004, EDG Fuel Oil DOST Gravity Feed St. Lucie 1
Siren System Availability Test Records
Quarterly Siren Maintenance records: 1st and 3rd Quarters 2007
Quarterly Siren Maintenance records: 2nd and 4th Quarters 2008
Siren Extended (Annual) Maintenance records: 2008
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LIST OF ACRONYMS

ANS	Alert and Notification System (ANS) Testing
DEP	Emergency Response Organization Drill/Exercise Performance
EAL	Emergency Action Level
ERO	Emergency Response Organization
NEI	Nuclear Energy Institute
PI	Performance Indicator
PS	Planning Standard
TI	Temporary Instruction

Attachment