UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

July 17, 2008

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 05000335/2008003, 05000389/2008003

Dear Mr. Stall:

On June 30, 2008, 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 July 3, 2008, with Mr. Costanzo 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 one NRC identified finding of very low safety significance (Green). The finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC 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 Resident Inspectors at the St. Lucie facility.

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
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos.: 50-335, 50-389
License Nos.: DPR-31, DPR-41

Enclosure: Inspection Report 05000335/2008003, 05000389/2008003
w/Attachment: Supplemental Information

system (ADAMS). Adams is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

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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:	05000335/2008003, 05000389/2008003
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:	April 1 to June 30, 2008
Inspectors:	T. Hoeg, Senior Resident Inspector S. Sanchez, Resident Inspector R. Moore, Senior Reactor Inspector
Approved by:	M. Sykes, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000335/2008-003, 05000389/2008-003; 04/01/2008 - 06/30/2008; St. Lucie Nuclear Plant, Units 1 & 2; Other.

The report covered a three month period of inspection by resident inspectors and a temporary instruction inspection by a region based reactor inspector. 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 Findings

Cornerstone: Initiating Events

- Green. The inspectors identified a NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee failing to have in place adequate heavy load handling procedures that would control and limit the likelihood of a heavy load drop in the containment building. The licensee entered the finding in their corrective action program for resolution as condition report 2007-14366.

  The finding is greater than minor in accordance with IMC 0612, Power Reactor Inspection Reports,"Appendix B, Issue Screening." Specifically, the finding is related to the Initiating Events cornerstone attribute of equipment performance in that the subject reactor vessel maintenance procedures did not control or limit the likelihood of a load drop event in containment that could challenge plant stability while shutdown. This finding is not suitable for an SDP evaluation but has been reviewed by NRC management and was determined to be of very low safety significance (Green). The finding was not greater than Green because no actual load drop accident had taken place. No cross-cutting aspect associated with this finding was identified. (Section 4OA5)

B. Licensee Identified Violations

None

REPORT DETAILS

Summary of Plant Status:

Both units began the inspection period at full rated thermal power (RTP). Unit 1 operated at or near full RTP for the entire inspection report period. Unit 2 was forced to shutdown on June 4, 2008, due to a partial loss of feedwater event resulting from a loss of a heater drain pump. Unit 2 was returned to full RTP on June 6, 2008, but was forced to shutdown on June 7, 2008, due to another partial loss of feedwater event resulting from a trip of a condensate pump. Unit 2 was returned to full RTP on June 9, 2008, where it operated for the remainder of the inspection report period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed and verified the status of licensee actions taken in accordance with their procedural requirements prior to the onset of hurricane season, hot weather, and the high grid loading season. The inspectors reviewed administrative procedures ADM-04.01, Hurricane Season Preparation; ADM-16.01, PSL Switchyard Access and Control; and off-normal procedure ONP-53.02, Low Switchyard Voltage. The inspectors performed site walkdowns of the below listed systems and/or areas to verify the licensee had made the required preparations. Condition reports (CRs) were checked to assure that the licensee was identifying and resolving weather related issues.

- Common On-site Electrical Switchyard
- Unit 1 Intake Cooling Water (ICW) Pump Area
- Unit 2 ICW Pump Area
- Common Radiological Controlled Area Outside the Reactor Auxiliary Building
- Unit 1 Vital Switchgear Rooms

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).

- 2A Component Cooling Water (CCW) While 2B-CCW Out Of Service (OOS)
- 2B High Pressure Safety Injection (HPSI) Pump While 2A-HPSI Pump OOS
- 2B Containment Spray (CS) Pump While 2A-CS Pump OOS
- 1A/2A Startup Transformers (SUTs) While 1B/2B SUTs OOS

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors conducted a detailed walkdown/review of the alignment and condition of the 2B Emergency Diesel Generator (EDG) to verify the capability of the system to meet its design basis function. The inspectors utilized licensee procedure 2-NOP-59.01B, 2B EDG Operating Procedure, and drawing 2998-G-096, 2B EDG Piping and Instrumentation Drawing, as well as other licensing and design documents to verify the system alignment was correct. During the walkdown, the inspectors verified, as appropriate, that: (1) valves were correctly positioned and did not exhibit leakage that would impact their function; (2) electrical power was available as required; (3) major portions of the system and components were correctly labeled, cooled, and ventilated; (4) hangers and supports were correctly installed and functional; (5) essential support systems were operational; (6) ancillary equipment or debris did not interfere with system performance; (7) tagging clearances were appropriate; and (8) valves were locked as required by the licensee's locked valve program. Pending design and equipment issues were reviewed to determine if the identified deficiencies significantly impacted the system's functions. Items included in this review were the operator workaround list, the temporary modification list, system health reports, system description, and outstanding maintenance work requests/work orders. In addition, the inspectors reviewed the licensee's CAP to ensure that the licensee was identifying and resolving equipment alignment problems.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

Fire Area Walkdowns

a. Inspection Scope

The inspectors toured selected four 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 0-ADM-016, 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 EDG Rooms
- Unit 1 Reactor Auxiliary Building (RAB) 43’ Elevation Heating and Ventilation Rooms
- Unit 2 HPSI/CS Pump Areas
- Unit 1 Steam Trestle Area

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors witnessed heat exchanger cleaning activities on the 2B CCW heat exchanger, which provides heat transfer for safety related equipment during normal and emergency operations. On April 15 and 16, 2008, the inspectors observed maintenance personnel perform heat exchanger tube cleaning under work order (WO) number 36020079. The inspectors verified that activities were conducted in accordance with licensee procedure MPP-14.01, Component Cooling Water Heat Exchanger Cleaning and Repair. The inspectors checked the monitoring and trending of heat exchanger performance data and verified the operational readiness of the system should it be needed for accident mitigation. The inspectors walked down portions of the system for signs of degradation and to assess overall material condition. The inspectors verified that significant heat sink issues were entered into the CAP.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

.1 Resident Inspector Quarterly Review

a. Inspection Scope

On June 18, 2008, the inspectors observed and assessed licensed operator continuing training requalification activities. The simulated events were done using the St. Lucie plant reference simulator. The inspectors observed operator use of several Emergency Operating Procedures and Off-Normal Procedures during a simulated pressurizer safety valve loss of coolant accident with a steam generator tube rupture. The operator response was checked to be in accordance with licensee procedures. Emergency Action Level (EAL) classifications (including Site Area Emergency) were checked. The licensee simulated emergency plan notifications. The simulator board configurations were compared with actual plant control board configurations concerning recent plant modifications. The inspectors 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 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

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 three 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. Furthermore, the inspectors verified that equipment problems were being identified and entered into the CAP.

- Unit 1 Auxiliary Feedwater (AFW) System
- Unit 2 CS System
- Unit 2 HPSI 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 OOS risk significant systems, structures, and components (SSCs) listed below:

- 2A-CCW Pump, 2A-CCW Heat Exchanger, 2A-CS Pump, and 2A-HPSI Pump OOS
- 2B-CCW Pump, 2B-CCW Heat Exchanger, 2B-CS Pump, 2B-HPSI Pump, and Containment Fan Coolers HVS-1C/1D OOS
- 2B-HPSI Pump, 2B-CS Pump, 2B Low Pressure Safety Injection (LPSI) Pump OOS for Valve Work
- 2A-HPSI Pump, 2A-CS Pump OOS for Valve Work and fan HVE-9A OOS for Preventive Maintenance (PM)
- 1B Intake Cooling Water (ICW) Pump, Valve PCV-8802, and Valve HCV-3657 OOS
- 1B-HPSI Pump, 1B-CS Pump, and 1B-LPSI Pump OOS for Stroke Test of Valve MV-07-2B

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 2008-10958, B Side Reactor Protection System Nuclear Instrumentation Wide Range Failure
- CR 2008-12126, CCW Heat Exchanger Outlet Temperature Sensing Line
- CR 2008-12847, 2C-CCW Pump Suction Line Weld Failure
- CR 2008-13573, Unit 1 Control Room Chiller HVA/ACC-3B Low Oil Pressure Trip
- CR 2008-15600, 2A-HPSI Pump Oil Discolored
- CR 2008-19524, 2B EDG Lube Oil Heaters

b. Findings

No findings of significance were identified

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the documentation for the following Temporary System Alteration (TSA) associated with Unit 2:

- Hot Shutdown Panel Reactor Coolant System Temperature Indicator TI-1125

The inspectors reviewed the 10 CFR 50.59 screening and evaluation, fire protection review, environmental review, ALARA screening, and license renewal review to verify that the modification had not affected system operability/availability. The inspectors reviewed all associated plant drawings and updated Final Safety Analysis Report documents impacted by this TSA and discussed the changes with plant staff 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 six 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 (WO):

- WO 36019078, Clean and Hydrolaze 2A-CCW Heat Exchanger
- WO 36020079, Clean and Hydrolaze 2B-CCW Heat Exchanger
- WO 37008793, 2A-HPSI Pump Oil Replacement
- WO 37016401, 2B-EDG Periodic Maintenance & Inspection
- WO 38006522, Unit 2 Control Element Assembly (CEA) #19 Position Indication
- WO 38000965, 1B-ICW Pump Overhaul

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities

Unit 2 Forced Outage #1

On June 4, 2008, Unit 2 operators manually tripped the reactor when a partial loss of feedwater occurred when the 2B heater drain pump tripped. The inspectors observed (1) control room activities shortly after the reactor trip to place the reactor plant in a safe condition and (2) the reactor startup including approach to criticality.

.1 Monitoring and Shutdown Activities

a. Inspection Scope

The inspectors observed portions of the plant shutdown and cool down in accordance with licensee procedure 2-GOP-305, Hot Standby to Cold Shutdown, to verify that cool down restrictions and similar procedural requirements were followed. The inspectors observed control room operator communications, place keeping, and reviewed chronological log entries.

b. Findings

No findings of significance were identified.

.2 Monitoring of Heatup and Startup Activities

a. Inspection Scope

On June 6, 2008, the inspectors reviewed the post trip review report and observed activities during the reactor restart to verify that reactor parameters were within safety limits and that the startup evolutions were done in accordance with licensee procedure 2-GOP-302, Reactor Startup Mode 3 to Mode 2.

b. Findings

No findings of significance were identified.

Unit 2 Forced Outage #2

On June 7, 2008, Unit 2 operators manually tripped the reactor when another partial loss of feedwater occurred when the 2B condensate pump tripped. The inspectors observed (1) control room activities shortly after the reactor trip to place the reactor plant in a safe condition and (2) the reactor startup including approach to criticality.

.1 Monitoring and Shutdown Activities

a. Inspection Scope

The inspectors observed portions of the plant shutdown and cool down in accordance with licensee procedure 2-GOP-305, Hot Standby to Cold Shutdown, to verify that cool down restrictions and similar procedural requirements were followed. The inspectors observed control room operator communications, place keeping, and reviewed chronological log entries.

b. Findings

No findings of significance were identified.

.2 Monitoring of Heatup and Startup Activities

a. Inspection Scope

On June 9, 2008, the inspectors reviewed the post trip review report and observed activities during the reactor restart to verify that reactor parameters were within safety limits and that the startup evolutions were done in accordance with licensee procedure 2-GOP-302, Reactor Startup Mode 3 to Mode 2.

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 Technical Specifications, 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 two inservice tests (IST). The inspectors verified that surveillance issues were documented in the CAP.

- 2-OSP-59.01A, 2A EDG Monthly
- OP-2-0010125A, Surveillance Data Sheet 8B (2-MV-07-2B)

- 1-OSP-59.01B, 1B EDG Monthly
- ICM-2-0700052, Auxiliary Feedwater Actuation System Relay Test
- 1-OSP-07.04A, 1B CS Pump Code Run
- OP-1-0010125A, Surveillance Data Sheet 8B (1-MV-07-2B)

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

Emergency Preparedness Drill

a. Inspection Scope

On April 23, 2008, the inspectors observed an operating crew in the simulator, technical support center staff, and emergency offsite facility staff during a drill of the site emergency response organization. The drill included a loss of annunciators followed by a steam generator tube leak with a plant downpower, followed by a loss of condenser vacuum with subsequent reactor trip, and steam generator tube rupture with a stuck open safety valve. During the drill the inspectors assessed licensee actions to verify that emergency classifications and notifications were made in accordance with the licensee emergency plan implementing procedures and 10 CFR 50.72 requirements. The inspectors specifically reviewed that the event classifications and notifications were in accordance with licensee procedure EPIP-01, Classification of Emergencies. The inspectors also observed whether the initial activation of the emergency response centers was timely and as specified in the licensee's emergency plan. Technical Specifications that required actions during the drill were reviewed to assess correct implementation. Licensee identified critique items were discussed with the licensee and reviewed to verify that drill issues were identified and captured.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

Barrier Integrity Cornerstone

a. Inspection Scope

The inspectors checked licensee submittals for the performance indicators (PIs) listed below for the period April 1, 2007, through March 31, 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 RCS Leakage
- Unit 2 RCS Leakage
- Unit 1 RCS Activity
- Unit 2 RCS Activity

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Review of Items Entered into the Corrective Action Program

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. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

.2 Annual Sample: Review of Fire Protection System Valve Found Out of Position

a. Inspection Scope

The inspectors selected CR 2008-17205, Fire Protection System Valve Found Out of Position, for a more in-depth review of the circumstances that led to the fire main piping system being returned to service with a valve out of position. On May 21, 2008, the East to West Main Feed Fire Protection Header bypass valve V15133 was found locked closed versus locked open. The inspectors determined the out of position valve did not affect the fire protection system from being able to perform its design function and remained pressurized and available in the event of an emergency and was out of position for less than two days. The inspectors reviewed the licensee's evaluation of the event and the associated corrective actions to correct the problem. The inspectors reviewed the apparent cause evaluation and interviewed Operations personnel. The inspectors evaluated the licensee's administration of this selected CR in accordance with their corrective action process as specified in licensee procedure NAP-204, Condition Reporting.

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Follow-up

.1 (Closed) LER 2008-001-00, RCP 2B1 Upper Seal Cavity Line Leak

Inspection Scope

On January 29, 2008, Unit 2 was in Mode 1 at 100 percent reactor power when a planned manual reactor trip was initiated as a result of a RCS unidentified leak exceeding an administrative limit. Subsequent containment walkdown identified the leak source as a non-isolable RCS pressure boundary leak from a socket weld in the ¾ inch upper seal cavity pressure transmitter line of the 2B1 reactor cooling pump (RCP). The cracked socket weld was repaired by replacing the controlled bleedoff as well as the upper and middle seal cavity piping spool pieces for all four RCPs with 2:1 taper socket welds. During the week of February 25, 2008, a more detailed inspection of this issue was performed and documented in NRC Inspection Report 05000335, 389/2008002 as a NCV. This LER was reviewed by the inspectors and no findings of significance were identified. This LER is closed.

.2 (Closed) LER 2007-002-00, 2B2 Reactor Coolant Pump Seal Housing Leakage

Inspection Scope

On December 21, 2007, Unit 2 was in Mode 3 returning from a refueling outage when personnel discovered a RCS pressure boundary leak from a ¾ inch diameter seal injection line weld on the 2B2 RCP seal cartridge. Subsequent visual and liquid penetrant examinations identified the presence of a linear indication at the pipe side toe of the weld on the pump seal package. During the week of February 25, 2008, a more detailed inspection of this issue was performed and documented in NRC Inspection Report 05000335, 389/2008002 as a NCV. This LER was reviewed by the inspectors and no findings of significance were identified. This LER is closed.

4OA5 Other

.1 2007 End of Cycle Public Meeting

On April 1, 2008, the NRC provided a summary and overview of the reactor oversight process as it was performed at the St. Lucie Nuclear Plant for calendar year 2007. The meeting was open to the public and took place at the St. Lucie Energy Encounter Facility. The meeting was attended by several members of the public and two local newspaper media reporters.

.2 (Closed) Unresolved Item (URI) 05000335, 389/2007003-01, Reactor Vessel Head Lift Practices

a. Inspection Scope

In NRC Inspection Report 05000335, 389/2007003, the inspectors documented the performance of an operating experience smart sample in the area of handling heavy loads in containment. The inspectors identified a weakness in licensee heavy load lifting procedures performed in Unit 1 containment associated with the reactor vessel head. The inspectors along with Region II assistance further evaluated the unresolved condition to better understand the details and corrective actions associated with this item at the St. Lucie Nuclear Station.

b. Findings

Introduction: The inspectors identified a Green Non-Cited Violation (NCV) of 10 CFR 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, for the licensee failing to specify or control a maximum allowed height when lifting the reactor vessel head with the polar crane inside of the containment building. Specifically, licensee safety related procedures 0010438, Control of Heavy Loads, and 1-M-0015, Reactor Vessel Maintenance Sequence of Operations, did not provide adequate guidance to limit the lift elevation of the reactor vessel head over the reactor vessel during refueling operations.

Description: On May 4, 2007, the inspectors identified that lifting heavy loads with the polar crane in the containment building was controlled by procedures which did not limit the maximum vertical height that the reactor vessel head could be raised above the reactor vessel during refueling maintenance. The inspectors reviewed St. Lucie's response to NUREG 0612, Control of Heavy Loads, documented in FPL to NRC Letter 81-428, dated September 30, 1981. The FPL response stated that St. Lucie would not perform a load drop analysis since they felt it was not justified since they adhere to the general requirements and guidelines of NUREG 0612 to limit the likelihood of a load drop accident and their procedures limit the "worst case" load drop accident height of the reactor vessel head to no higher than the 62' elevation of containment. The inspectors toured the Unit 1 containment building and noted that the reactor vessel head was stored on the 62' elevation next to a fixed handrail surrounding the upper refueling cavity. The inspectors realized that the reactor vessel head would have to be lifted above the handrail which was approximately six feet above the 62' elevation floor level when following the safe load path to and from the reactor vessel flange. This observation was in contrast to the FPL response dated September 30, 1981. The inspectors then reviewed applicable load handling procedures and noted there were no limits in place that would restrict lifting the reactor vessel head above a prescribed height to limit the likelihood of a load handling accident as communicated to the NRC in FPL response dated September 30, 1981. The inspectors brought this finding to the attention of the licensee who entered it in their CAP as CR 2007-14366. The licensee's initial investigation confirmed the inspectors finding and a corrective action item was created to revise the heavy load procedures to limit the vertical height in which the reactor vessel can be lifted with the polar crane. This corrective action was later closed on April 7, 2008, to a new corrective action to perform a load drop analysis scheduled to be completed and incorporated into the heavy lift procedures by August 1, 2008, before the next Unit 1 refueling outage.

Analysis: The inspectors determined that the licensee's failure to procedurally limit the maximum height for a reactor vessel head lift during refueling operations as described in FPL to NRC Letter 81-428, dated September 30, 1981, to be a performance deficiency. The inspectors concluded the finding was more than minor in accordance with IMC 0612, Power Reactor Inspection Reports, Appendix B, Issue Disposition Screening. Specifically, the finding was related to the Initiating Events cornerstone attribute of equipment performance in that the subject reactor vessel maintenance procedures did not control and limit the likelihood of a load drop event in containment that could challenge plant stability while shutdown. This finding is not suitable for an SDP evaluation but has been reviewed by NRC management and was determined to be of very low safety significance (Green). The finding was not greater than Green because no actual load drop accident had taken place. No cross-cutting aspect associated with this finding was identified.

Enforcement: 10 CFR 50 Appendix B, Criterion V, states, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to the above, licensee safety related procedures 0010438, Control of Heavy Loads, and 1-M-0015, Reactor Vessel Maintenance Sequence of Operations, did not provide adequate guidance to limit the lift elevation of the reactor vessel head over the reactor vessel during refueling operations as previously communicated in FPL to NRC Letter 81-428, dated September 30, 1981. Because this failure to comply with 10 CFR 50 Appendix B, Criterion V, is of very low safety significance and has been entered into the licensee's CAP, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000335/2008003-01, Inadequate Procedure Fails to Limit the Likelihood of Heavy Load Drop Accident in Containment. Unresolved Item 05000335, 389/2007003-01 is closed.

.3 (Closed) Temporary Instruction (TI) 2515/166, Pressurized Water Reactor Containment Sump Blockage (NRC Generic Letter 2004-02) Unit 1

a. Inspection Scope

The inspectors performed an in-office review to verify the implementation of the licensee's commitments documented in their September 1, 2005 response, and supplemental responses to Generic Letter 2004-02, Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactor for Unit 1, which were not verified during the previous on-site inspection (NRC Report No. 50-335,389/2007003). The Unit 2 inspection documented the completion of the Unit 2 physical modifications and program changes and the TI was closed for Unit 2 in NRC Inspection Report 50-335,389/2007005. For Unit 1, the outstanding items included completion of programmatic controls for debris sources, completion of the strainer structural equipment qualification, and completion of engineering and design documentation, associated with chemical effects testing and downstream effect analysis, to support the modified design. Additionally, the inspectors reviewed the licensee's administrative controls which were implemented to assure the reactor water storage tank (RWST) level was maintained at a level to assure containment sump levels during the design basis event (DBE) were consistent with the tested strainer configuration.

b. Findings and Observations

No findings of significance were identified.

St. Lucie Unit 1 and 2 corrective actions related to physical modifications and program changes for GL 2004-02/GSI-191 were complete and implemented in accordance with 10 CFR 50.59. Confirmatory tests and analysis related to downstream effects and chemical effects were not complete. Administrative controls have been implemented for RWST level to assure that the minimum required containment sump levels are available for the DBE. A completion date extension was approved (Letter, USNRC to FPL, dated December 28, 2007) until June 30, 2008, to complete the confirmatory tests and analysis and to submit a license amendment request to change the Technical Specification values for minimum RWST level.

This documentation of TI-2515/166 completion as well as any results of sampling audits of licensee actions will be reviewed by the NRC staff (Office of Nuclear Reactor Regulation - NRR) as input along with the Generic Letter (GL) 2004-02 “Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors” responses to support closure of GL 2004-02 and Generic Safety Issue (GSI)-191 “Assessment of Debris Accumulation on Pressurized-Water Reactor (PWR) Sump Performance." The NRC will notify each licensee by letter of the results of the overall assessment as to whether GSI-191 and GL 2004-02 have been satisfactorily addressed at that licensee’s plant(s). Completion of TI-2515/166 does not necessarily indicate that a licensee has finished all testing and analyses needed to demonstrate the adequacy of their modifications and procedure changes. Licensees may also have obtained approval of plant-specific extensions that allow for later implementation of plant modifications. Licensees will confirm completion of all corrective actions to the NRC. The NRC will track all such yet-to-be-performed items identified in the TI-2515/166 inspection reports to completion and may choose to inspect implementation of some or all of them.

An interim exit was conducted on June 24, 2008, to discuss the findings of this inspection. Although proprietary information was reviewed during the inspection, no proprietary information is included in this report.

.4 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

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

- Multiple tours of operations within the Central and Secondary Security Alarm Stations

- Tours of selected security towers/security officer response posts
- Direct observation of personnel entry screening operations within the plant's main access building
- Security force shift turnover activities, and
- Owner control area vehicle search activities

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

b. Findings

No findings of significance were identified.

4OA6 Exit

Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Costanzo and other members of licensee management on July 3, 2008. 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.

ATTACHMENT: SUPPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:
E. Belizar, Projects Manager
D. Calabrese, Emergency Preparedness Supervisor
D. Cecchett, Licensing Engineer
T. Cosgrove, Site Engineering Manager
C. Costanzo, Plant General Manager
M. Delowery, Maintenance Manager
K. Frehafer, Licensing Engineer
B. Jacques, Security Manager
G. Johnston, Site Vice President
B. Kelly, System Engineer
R. McDaniel, Fire Protection Supervisor
M. Moore, Radiation Protection Manager
M. Page, Assistant Operations Manger
W. Parks, Work Control Manger and Acting Operations Manager
T. Patterson, Performance Improvement Department Manger and Licensing Manager
W. Raasch, System Engineer
M. Snyder, Site Quality Manager
G. Swider, Systems Engineering Manager

NRC personnel:
M. Sykes, Chief, Branch 3, Division of Reactor Projects

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

NONE

Opened and Closed

05000335/2008-003-01	NCV	Inadequate Procedure Fails to Limit the Likelihood of Heavy Load Drop Accident in Containment

Closed

05000389/2008-001-00	LER	RCP 2B1 Upper Seal Cavity Line Leak
05000389/2007-002-00	LER	2B2 Reactor Coolant Pump Seal Housing Leakage
05000335, 389/2007003-01	URI	Reactor Vessel Head Lift Practices

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Condition Reports

2008-18663	2008-18683	2008-18715	2008-18187	2008-19475	2008-18531
2008-18537	2008-18541	2008-18545	2008-18610	2008-18618	2008-20118
2008-20162	2008-20197	2008-20857	2008-20867	2008-20911	2008-17205
2008-16351	2008-18977	2008-17020	2008-19605	2008-19830	2008-16127
2008-15416	2008-15541	2008-15564	2008-15600	2008-15766	2008-15823
2008-16031	2008-15895	2008-15106	2008-18470	2008-18066	2008-18097
2008-18103	2008-18117	2008-17826	2008-17892	2008-17300	2008-17309
2008-17339	2008-17350	2008-17205	2008-17216	2008-16947	2008-16981
2008-16987	2008-17020	2008-17064	2008-17109	2008-17118	2008-16837
2008-16708	2008-16711	2008-16716	2008-16718	2008-16364	2008-14899
2008-16329	2008-16384	2008-21291	2008-21296	2008-21337	2008-21359
2008-21359	2008-16153	2008-16197	2008-16215	2008-14798	2008-14856
2008-14658	2008-14465	2008-14526	2008-11561	2008-13204	2008-13560
2008-13573	2008-13587	2008-13816	2008-13884	2008-13888	2008-13321
2008-13358	2008-13404	2008-12969	2008-12973	2008-12847	2008-12948
2008-12321	2008-12771	2008-11781	2008-11802	2008-11891	2008-12593
2008-12620	2008-12623	2008-12245	2008-12319	2008-12086	2008-12126
2008-12144	2008-11938	2008-11965	2008-10768	2008-11302	2008-11322
2008-11089	2008-11091	2008-11143	2008-11393	2008-11403	2008-11434
2008-11486					

Miscellaneous

NRC Letter to FPL, St. Lucie Nuclear Plant, Unit 1 and 2, and Turkey Point Nuclear Plant, Unit 3 – GL 2004-02, “Potential Impact of Debris Blockage on Emergency Recirculation During Design Base Accident at PWRs,”Extension Request Evaluation (TAC NOs. MC4710, MC 4711, and MC 4725), dated Dec. 28, 2007

Operations Surveillance Procedure, 2-OSP-02.07, Boration Flowpath and Sources, Rev. 3A

Operations Surveillance Procedure, 1-OSP-02.07, Boration Flowpath and Sources, Rev. 2A

Calculation SL1-08, containment Water Level after a LOCA, Rev. 2

FPL letter to USNRC, Supplemental Response to NRC GL 2004-02, “Potential Impact of

Debris Blockage on Emergency Recirculation During Design Base Accident at PWRs”, dated Feb. 27, 2008