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

July 24, 2003

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

SUBJECT: ST. LUCIE NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000335/2003005 AND 05000389/2003005

Dear Mr. Stall:

On June 28, 2003, the US Nuclear Regulatory Commission (NRC) completed an inspection at your St. Lucie Units 1 and 2. The enclosed integrated inspection report documents the inspection findings which were discussed on July 2, 2003, with Mr. Jefferson and other members of your staff.

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

Based on results of this inspection, the inspectors identified two findings of very low safety significance (Green). These two findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they were entered into your corrective action program, the NRC is treating these violations as non-cited violations (NCVs) in accordance with Section VI.A of the NRC's Enforcement Policy. Additionally, a licensee-identified violation which was determined to be of very low safety significance is listed in Section 4OA7 of this report. If you contest any NCV in this report, you should provide a response, within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at the St. Lucie facility.

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

Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA by Son Ninh for/

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

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

Enclosure: Inspection Report 05000335/2003005, 05000389/2003005
w/Attachment - Supplemental Information

cc w/encl: (See page 3)

cc w/encl:
William Jefferson, Jr.
Site Vice President
St. Lucie Nuclear Plant
Florida Power & Light Company
Electronic Mail Distribution

R. E. Rose
Plant General Manager
St. Lucie Nuclear Plant
Electronic Mail Distribution

Terry L. Patterson
Licensing Manager
St. Lucie Nuclear Plant
Electronic Mail Distribution

Don Mothena, Manager
Nuclear Plant Support Services
Florida Power & Light Company
Electronic Mail Distribution

Mark Dryden
Administrative Support & Special Projects
Florida Power & Light Company
Electronic Mail Distribution

Rajiv S. Kundalkar
Vice President - Nuclear Engineering
Florida Power & Light Company
Electronic Mail Distribution

M. S. Ross, Attorney
Florida Power & Light Company
Electronic Mail Distribution

William A. Passetti
Bureau of Radiation Control
Department of Health
Electronic Mail Distribution

Craig Fugate, Director
Division of Emergency Preparedness
Department of Community Affairs
Electronic Mail Distribution

J. Kammel
Radiological Emergency
Planning Administrator
Department of Public Safety
Electronic Mail Distribution

Douglas Anderson
County Administrator
St. Lucie County
2300 Virginia Avenue
Ft. Pierce, FL 34982

Distribution w/encl: (See page 3)

Distribution w/encl:
B. Moroney, NRR
L. Slack, RII
A. Hiser, NRR
RIDSNRRDIPMLIPB
PUBLIC

OFFICE	DRP/RII	DRP/RII	DRP/RII	DRP/RII	DRS/RII	DRS/RII	DRS/RII
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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-335, 50-389
License Nos.:	DPR-67, NPF-16
Report Nos.:	05000335/2003005, 05000389/2003005
Licensee:	Florida Power & Light Company (FPL)
Facility:	St. Lucie Nuclear Plant, Units 1 & 2
Location:	6351 South Ocean Drive Jensen Beach, FL 34957
Dates:	April 06, 2003 - June 28, 2003
Inspectors:	T. Ross, Senior Resident Inspector S. Sanchez, Resident Inspector S. Rudisail, Project Engineer G. Kuzo, Senior Health Physicist (Sections 2OS1, 4OA1, 4OA2) D. Forbes, Health Physicist (Section 2PS2) A. Nielsen, Health Physicist (Section 2OS2) B. Crowley, Senior Reactor Inspector (Sections 1R08, 4OA5) J. Blake, Senior Project Manager (Sections 1R07, 1R08)
Approved by:	Joel Munday, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

CONTENTS

SUMMARY OF FINDINGS

IR 05000335/2003-005, 05000389/2003-005; 04/06/2003 - 06/28/2003; St. Lucie Nuclear Plant, Units 1 & 2; Refueling and Outage Activities, Radiological Access Controls.

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

A. NRC-Identified and Self-revealing Findings

Cornerstone: Physical Protection

Green. A non-cited violation was identified for the licensee's failure to comply with Section 3.3.6 of the Physical Security Plan. On March 4, 2003, security personnel allowed a shipment of new fuel containers to enter the Protected Area (PA) without performing an adequate search.

This finding is greater than minor because allowing new fuel storage containers, with inadequate seals, to enter the PA without being searched could have adversely affected the licensee's ability to provide adequate assurance that the physical protection program can protect against the design basis threat of radiological sabotage. This finding was evaluated using the Interim Physical Protection Significance Determination Process and determined to be of very low safety significance. The finding was a vulnerability in the implementation of PA search requirements that did not involve a malevolent act, and there had not been two similar findings in four quarters. (Section 1R20)

Cornerstone: Occupational Radiation Safety

Green. A self-revealing non-cited violation of 10 CFR 20.1703 (f) was identified for the failure of the designated standby rescue person to maintain continuous communication with a worker provided with supplied-air hood respiratory equipment during reactor head maintenance activities.

This finding is greater than minor because the failure to maintain continuous communication between the worker and the designated rescue person potentially could decrease timeliness in providing assistance to the worker whose air supply failed in this case, or for any other reason that the individual may have required relief from distress. The finding is of very low safety significance because an indirect communication channel was available between the affected worker and the standby rescue person and, following the loss of breathing air event, was used to request appropriate assistance in a timely manner (Section OS1.1).

B. Licensee-Identified Violations

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

Report Details

Summary of Plant Status

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

Unit 2 operated at essentially full power until April 21, when the unit was shut down for a scheduled refueling outage. Unit 2 was restarted on June 5 and reached 8% power, but shut down on June 6, due to secondary-side equipment problems. After these equipment problems were repaired, the licensee commenced another Unit 2 startup on June 8. The Unit was synchronized to the grid on June 9 and power was increased to about 30%. On June 10, Unit 2 power level was reduced to 22% due to unstable main feedwater (MFW) regulating valve operation. An automatic Unit 2 reactor trip occurred on June 11 due to high steam generator water level when the 2A MFW 15% bypass control valve malfunctioned. On June 16, Unit 2 was restarted again and subsequently returned to full power operation on June 21. The unit continued to operate at essentially full power for the rest of the report period.

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

1R01 Adverse Weather Protection

a. Inspection Scope

During the weeks of June 1 and June 23, the inspectors verified the status of licensee actions in accordance with administrative procedure (ADM)-04.01, Hurricane Season Preparation. This verification included physical walkdowns of the licensee's property and discussions with responsible licensee personnel regarding systems, structures, and components (SSCs) vulnerable to high winds and potential flooding during a hurricane. The inspectors reviewed applicable Technical Specifications (TS), a memo issued by the site Vice President regarding "Hurricane Season," and all outstanding Plant Manager Action Items (PMAIs) used to track incomplete items from ADM-04.01. The inspectors also reviewed administrative procedure AP-0005753, Severe Weather Preparations, and specifically examined the following exterior areas:

- Unit 1 and Unit 2 Reactor Auxiliary Buildings (RAB)
- Ultimate Heat Sink (Big Mud Creek Dam)

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted three partial alignment verifications of the safety-related systems listed below to review the operability of required redundant trains or backup systems while the other trains were inoperable or out of service. These inspections included reviews of applicable TS, plant lineup procedures, operating procedures, and/or piping and instrumentation drawings which were compared with observed equipment configurations to identify any discrepancies that could affect operability of the redundant train or backup system.

- 1A Containment Spray
- 1A Emergency Diesel Generator (EDG)
- Dedicated “A” Train of Unit 2 Spent Fuel Pool Cooling (SFPC), including support systems

b. Findings

No findings of significance were identified.

.2 Complete Equipment Walkdown

a. Inspection Scope

During the week of June 23, the inspectors completed a detailed alignment verification of the Unit 1 Low Pressure Safety Injection (LPSI) System using licensee procedures and applicable plant drawings. The inspectors reviewed applicable sections of the Updated Final Safety Analysis Report (UFSAR) and TS. The inspectors also interviewed the responsible system engineer regarding all outstanding work requests and orders, recent applicable Condition Reports (CRs), and any outstanding Temporary System Alterations (TSA) or PMAIs that could affect system alignment and operability. The inspectors specifically examined the following aspects:

- System configuration, alignment and valve position
- Component and system leakage
- Electrical power availability
- Labeling, lubrication, and cooling of major system components
- Hangers and support installation and functionality
- Affect of any auxiliary equipment or housekeeping on system performance

Furthermore, the inspectors evaluated whether the licensee was identifying and documenting equipment alignment problems at an appropriate threshold in their corrective action program.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

Routine Inspections

a. Inspection Scope

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

- Unit 2 Hot Work on Intake Cooling Water (ICW) System Piping
- Unit 2 SFPC Pump and Heat Exchanger Rooms
- Unit 1 Auxiliary Feedwater Pump (AFW) Rooms
- Unit 2 Containment
- 1A EDG Room
- Unit 2 Switchgear Rooms
- 2A EDG Room

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

During the week of June 23, the inspectors reviewed the UFSAR and Design Basis Document, DBD-SLI-IFLO-1, Internal Flooding Criteria, to identify risk significant areas that could be affected by internal flooding and to verify flood mitigation plans and equipment were consistent with the design requirements and the risk analysis assumptions. The Unit 1 emergency core cooling system pump room was determined to be an area containing risk significant SSCs which was susceptible to internal flooding and was examined to evaluate the condition of flood protection equipment, such as watertight doors, drain systems & associated isolation valves, sumps and associated sump pumps, and level alarm and control circuitry. The inspectors reviewed past condition reports for flooding events and the associated corrective actions and verified that procedures for coping with flooding could reasonably be used to achieve the desired operator actions.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors selected the Component Cooling Water (CCW) Heat Exchangers (HX) as the risk important heat sink components for this biennial review. The inspectors reviewed inspection records, maintenance work documents, preventive maintenance procedures, and other documentation, (such as engineering analyses of degraded conditions and justifications to support inspection and maintenance frequencies,) to ensure that HX deficiencies indicative of degraded performance were being properly identified and analyzed. The inspectors used accepted industry standards for guidelines. Standards used included: Electric Power Research Institute Heat Exchanger Performance Monitoring Guidelines, NP-7552, December 1991, 10 CFR Part 21, and Inservice Performance Testing of Heat Exchangers in Light-Water Reactor Power Plants of ASME OM-S/G-1997 Standard.

The inspection included a walk-through inspection of accessible areas of the ICW System which provides the raw cooling water for the CCW HX. The general condition of ICW pumps, piping, strainers, and valves were observed for comparison with descriptions provided in system health documents such as Maintenance Rule reports, periodic inspection reports, and completed work documents. Data collections and trending charts for ICW and CCW Systems chemistry, and HX pressure and temperature measurements were also reviewed.

A number of CRs concerning problems identified during operation and inspection of the ICW and CCW systems were reviewed. The CRs were reviewed to verify that problem descriptions were complete and accurate, and that corrective actions were appropriate for the circumstances. Although the EDG at St Lucie are provided with independent, self-contained radiators for cooling, (and are not connected to the ICW or CCW systems,) a CR involving identification of, and corrective action for, cooling system leakage on one of the EDGs was reviewed because of the risk-importance of the heat sinks for the EDGs.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI) Activities

.1 Unit 2 ISI inspection

a. Inspection Scope

The inspectors observed in-process ISI work activities on Unit 2 and reviewed selected ISI records. The observations and records were compared to the TS and the applicable

Code (ASME Boiler and Pressure Vessel Code, Sections XI, 1989 Edition, with no Addenda) to verify compliance.

Portions of in-process ultrasonic (UT) and magnetic particle (MT) examinations of Main Feedwater System welds BF-19-2-SW-1 and BF-19-FW-4 were observed. The observations included calibration of UT equipment and calibration check of magnetic particle examination yoke. Additionally, the inspectors reviewed nondestructive examination (NDE) reports for completed liquid penetrant (PT) and UT examinations of Safety Injection System Welds SI-112-2-SW-2, SI-112-FW-6, and SI-112-2-SW-3.

For all of the above listed welds, the inspectors reviewed qualification and certification records for examiners, equipment and consumables. Additionally, the inspectors reviewed current PT inspection results (documented with Condition Report (CR) 03-1429) for rejectable indications in the base material adjacent to Weld SI-112-FW-7. Previous identification and disposition of similar indications in the same area (CRs 97-0836 and 98-1828 and PM 98-01-163) were also reviewed.

The inspectors reviewed the licensee's boric acid corrosion control program, reviewed a sample of licensee boric acid leakage inspection results for the current outage, and walked down portions of the Unit 2 containment to inspect for evidence of boric acid leakage.

The inspectors reviewed ASME Section XI Repair and Replacement (R&R) Travelers 1-03090 (replacement of Charging Pump 1A Discharge Safety Relief Valve V2326) and 1-02088 (replace disc in CCW Pump C outlet Check Valve V14151), including ASME Repair/Replacement Checklists and applicable Work Orders.

b. Findings

No findings of significance were identified.

.2 Unit 2 Steam Generator Inspection

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's program for monitoring the performance of the Unit 2 steam generators (SG). The inspectors reviewed program documents, procedures, and selected examination records for:

- Eddy current examination (ET) results (including graphics) for four SG tubes.

- In-situ pressure test results for the five tubes in SG B tested during this outage.

- SG tube repair (plugging) lists generated as a result of the Unit 2 SG ET examinations.

- Five condition reports generated as a result of problems identified during the SG ET examinations.

The above records were compared to the TS, License Amendments and applicable industry established performance criteria to verify compliance.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

On June 18, 2003, the inspectors observed and assessed licensed operator actions during a simulator evaluation. During this simulator evaluation the operating crew responded to a failure of critical instrumentation, followed by station blackout event. The inspectors specifically evaluated the following attributes related to the operating crew's performance:

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

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the reliability problems associated with the Unit 1 and 2 turbine-driven AFW pumps (i.e., 1C and 2C AFWPs), including associated condition reports. The inspector verified the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (the Maintenance Rule) and Administrative Procedure ADM-17.08. The inspectors' efforts focused on the licensee's work practices and ability to identify and address common causes, maintenance rule scoping, characterization of reliability issues and charging unavailability time, determination of a(1) and a(2) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also attended applicable expert panel meetings, interviewed responsible engineers, and observed some of the corrective maintenance activities. Furthermore, the inspectors verified that equipment problems were being identified at the appropriate level and entered into the corrective action program.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the risk assessment of CR 03-2230 regarding the prospect of Unit 2 operation for a full cycle of operation following startup with one of the B train atmospheric dump valves (MV 08-18B) out of service (OOS) due to an unexpected valve stem failure. The inspectors also walked down and reviewed the scope of emergent work to evaluate the effectiveness of licensee scheduling, configuration control, and management of online risk in accordance with 10 CFR 50.65(a)(4) and applicable program procedures such as ADM 17.16, Implementation of the Configuration Risk Management Program. Furthermore, the inspectors interviewed the Unit 2 assistant nuclear plant supervisor and examined the affect of the on-line risk monitor results with MV-08-18B OOS along with other risk significant SSCs that were currently OOS (e.g., 2C ICW and 2B Boric Acid Makeup Tank).

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following five CR interim dispositions and operability determinations to ensure that TS operability was properly supported and the affected SSC remained available to perform its safety function with no unrecognized increase in risk. As applicable, the inspectors reviewed the UFSAR, and associated supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim CR disposition.

- CR 03-1043 and 1044, 1A EDG Oil and Coolant Leaks
- CR 03-1093, Unit 2 125 Volt DC Bus 2AB to 2B Cross-tie Breaker
- CR 03- 1662, Unit 2 SG Foreign Object Search And Retrieval
- CR 03-1849, Foreign Material in Unit 2 Reactor Vessel
- CR 03-1972, Unit 2 Shutdown Cooling System Suction Valve Stems Not Per Drawings

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors routinely reviewed the Operator Work Around (OWA) log for both units and discussed new items with Operations supervision. The inspectors also routinely walked down unit main control boards (MCB), reviewed operator chronological logs and equipment OOS logs, and examined MCB plant work order (PWO) tags for potential OWAs. Furthermore, the inspectors verified OWAs were being identified and properly entered into the corrective action program.

Cumulative Effects

The inspectors performed a semi-annual evaluation of the potential cumulative effects of all outstanding Unit 1 and 2 OWAs. The inspectors evaluated all outstanding OWAs for their cumulative effects, and discussed these potential effects with control room supervision and operators. The inspectors also reviewed the minutes for the fourth quarter OWA Team meeting of 2002, which met to systematically examine individual and cumulative OWA status and repair priority, and assess overall risk.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

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

- Unit 2 Control Room Emergency Cleanup System (cable spreading room ventilation flow balance was adjusted)
- 2A High Pressure Safety Injection (HPSI) Pump (injection flow control valves were replaced)
- 2B EDG (coolant leaks were repaired)
- 2C AFW (trip-throttle valve linkage was replaced)

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities

.1 Unit 2 Refueling Outage

a. Inspection Scope

Outage Planning, Control and Risk Assessment

During pre-outage planning, the inspectors reviewed the risk reduction methodology employed by the licensee for the Fourteeth Unit 2 Refueling Outage (SL2-14), and attended Risk Assessment Team (RAT) meetings. The inspectors also examined the licensee's implementation of safety system assessments during SL2-14 in accordance with Administrative Procedure 0-AP-010526, Outage Risk Assessment and Control, to verify whether a defense in depth concept was in place to ensure safe operations and avoid unnecessary risk. Furthermore, the inspectors regularly monitored outage planning and control activities in the Outage Control Center (OCC), and interviewed responsible OCC management, during the outage to ensure SSC configurations and work scope were consistent with TS requirements, site procedures and outage risk controls.

Monitoring of Shutdown Activities

The inspectors witnessed the shutdown of Unit 2 on April 21. The inspectors also monitored plant parameters and verified that shutdown activities were conducted in accordance with applicable emergency and non-emergency operating procedures, such as NOP-2-0030125, Turbine Shutdown - Full Load to Zero Load, and GOP-2-305, Reactor Plant Cooldown - Hot Standby To Cold Shutdown, and NOP-2-03.05, Shutdown Cooling.

Hot Midloop

The inspectors observed hot midloop operations on Unit 2. The inspectors also verified procedural and TS requirements were met prior to reduced inventory and midloop operations, adequate operator training and an infrequent evolution briefing were conducted, and the licensee's commitments from GL 88-17 were still in place and appeared adequate. The inspectors periodically monitored reduced inventory and midloop operations and verified these activities were conducted in accordance with applicable procedures, such as NOP-2-01.04, Reduced Inventory and Midloop Operation, ADM-0010145, Shutdown Cooling Controls, and NOP-2-01.03, Draining the RCS.

Outage Activities

Through SL2-14, the inspectors examined specific, critical outage activities to verify that they were conducted in accordance with TS, licensee procedures, and the licensee's outage risk control plan. Some of the more significant inspection activities accomplished by the inspectors were as follows:

- Walked down selected safety-related equipment clearance orders
- Verified operability of reactor coolant system (RCS) pressure, level, flow, and temperature instruments during various modes of operation
- Verified electrical systems availability and alignment
- Monitored important control room plant parameters
- Verified shutdown cooling system and spent fuel pool cooling system operation
- Evaluated implementation of reactivity controls
- Reviewed control of containment penetrations
- Examined foreign material exclusion (FME) controls put in place inside containment (e.g., around the refueling cavity, near sensitive equipment and RCS breaches) and around the spent fuel pool

Refueling Activities

The inspectors witnessed selected fuel handling operations being performed according to TS and applicable operating procedures. The inspectors also examined licensee activities to control and track the position of each fuel assembly. Furthermore, the inspectors evaluated the licensee's ability to close the containment equipment, personnel, and emergency hatches in a timely manner per their procedural controls.

Heatup and Startup Activities

The inspectors examined selected TS, license conditions, and other commitments and administrative prerequisites were being met prior to mode changes. The inspectors also specifically reviewed the initial RCS inventory balances used to measure RCS leakage, and verified containment integrity was properly established. The inspectors performed a detailed containment sump closeout inspection during Mode 4, and a thorough containment walkdown when the plant had reached Mode 3 and was at normal operating pressure and temperature. Lastly, the inspectors observed portions of the reactor startup and power ascension for the startup on June 5 and then again on June 8. The results of low power physics testing were discussed with Reactor Engineering and Operations personnel to ensure that the core operating limit parameters were consistent with the design.

Correction Action Program

The inspectors reviewed CRs generated during SL2-14 to evaluate the licensee's threshold for initiating CRs. The inspectors also selected numerous CRs to verify appropriate priorities, mode holds, and significance levels were being assigned. Resolution and implementation of corrective actions of several CRs were also examined. Furthermore, the inspectors routinely reviewed the results of Quality Assurance daily surveillances of outage activities.

b. Findings

Introduction. A Green noncited violation (NCV) of Section 3.3.6 of the Physical Security Plan was identified by the inspectors when security personnel allowed a shipment of new fuel containers to enter the Protected Area (PA) without performing an adequate search.

Description. On March 4, 2003, an inspector observed the entry of numerous new fuel containers into the PA under the escort of the onsite security force. These containers constituted the last planned shipment of new fuel assemblies in preparation for the SL2-14 reactor core reload. The containers were being transported on the back of a flat bed truck, and were parked outside the radiologically controlled area (RCA) fence awaiting entry. Whereupon the containers, as with prior SL2-14 shipments, would then be moved to the RCA backyard near the Unit 2 Fuel Handling Building and left unattended until Operations was ready to unload them.

The inspector conducted a detailed examination of the new fuel containers on the flat bead outside the RCA and discovered that the containers were only sealed at one end. The inspector became immediately concerned that this type of seal configuration could have allowed the containers to be partially opened from the other side and re-closed in an undetectable manner. Consequently, the inspector queried the security escort on whether these containers, or containers from the previous SL2-14 shipments, had been searched prior to entry into the PA and subsequently the RCA backyard. The security guard reported in the negative, that none of the containers had been searched. Further investigation by the inspector also determined that none of the previous fuel shipments had been searched either.

After meeting with the Security Manager regarding the inadequate new fuel container seal configuration, the Security Manager initiated CR 03-0730. In a prompt response to this CR, the responsible new fuel vendor issued a letter on March 7, 2003 to the licensee stating that the vendor would modify its new fuel containers to add another tamper seal at the opposite end. The Security Manager also initiated CR 03-1117 to address the inspector's concern that the new fuel containers, due to their inadequate seal configuration, should have been searched prior to being allowed into the PA. [Note, once they were opened, none of the new fuel containers in this shipment or prior shipments for SL2-14 contained any contraband materials.]

Analysis. The finding is associated with Access Control attribute of the Physical Protection Cornerstone. This finding is greater than minor because allowing new fuel storage containers, with inadequate seals, to enter the PA without being searched could have adversely affected the licensee's ability to provide adequate assurance that the physical protection program can protect against the design basis threat of radiological sabotage. Using the Interim Physical Protection Significance Determination Process and identifying the issue as a vulnerability in access control, without a malevolent act, and without two similar findings in four quarters, the issue is determined to be of very low safety significance.

Enforcement. License Condition 2.D states, in part, that "the licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including

amendments made pursuant to provisions of the miscellaneous amendments and search requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p)." The St. Lucie Nuclear Plant Physical Security Plan, Rev. 60, Chapter 3.3, Vehicle and Cargo Access Portals, Section 3.3.6(e) states, in part, that "All cargo shall be searched prior to entry into the Protected Area," except for packages, boxes or auxiliary equipment that are factory or vendor sealed. Contrary to this requirement, on March 4, 2003, the licensee permitted new fuel containers with inadequate vendor seals to enter into the PA without being searched. This violation is being treated as a non-cited violation consistent with Section VI.A of the Enforcement Policy and is identified as NCV 05000335, 389/2003005-01, Failure To Search New Fuel Containers Prior To Entering The Protected Area. The licensee has entered the issue into their corrective action program as CRs 03-0730 and 1117.

.2 Unit 2 Short Notice Outage Following Reactor Trip

a. Inspection Scope

Following the automatic Unit 2 reactor trip on June 11, 2003, the licensee entered into a short notice outage (SNO) that lasted several days. During this SNO, the inspectors observed shutdown activities and monitored unit status to verify compliance with applicable Mode 3 TS and operating procedures. The inspectors also examined licensee processes for controlling SNO-related work activities in accordance with their administrative procedures. The inspectors focused a considerable portion of their efforts on reviewing the licensee's resolution of secondary plant problems associated with MFW flow and SG level control valves that had caused or contributed to the automatic reactor trip. Lastly, the inspectors observed portions of the Unit 2 startup on June 16, and subsequent power ascension, in accordance with applicable TS and operating procedures. Licensee identification and resolution of problems that occurred during the SNO were also examined by the inspectors.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

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

- 2A HPSI Pump Safeguards Full Flow Test
- 2B HPSI Pump Safeguards Full Flow Test
- Unit 2 Safety Injection Tank Dump Tests
- 2B EDG 24 Hour Load Run and B-Train Safeguards Testing

- 1C AFW Pump Inservice Test
- Unit 2 Auxiliary Feedwater Actuation System Testing
- Unit 1 Personnel Air Lock Pressure Test and Unit 2 Containment Isolation Valve (LCV-07-11A/B) Local Leak Rate Test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors continued to periodically screen active temporary modifications, especially for risk significant systems. The inspectors specifically examined TSA #1-03-003 regarding a defeated Unit 1 reactor cavity leakage annunciator alarm. The technical evaluation and associated 10CFR50.59 screening of this TSA were reviewed against the system design basis documentation to ensure that (1) the modification did not adversely affect operability or availability of other systems, (2) the installation was consistent with applicable modification documents, and (3) did not affect TS or warrant prior NRC approval. The inspectors also walked down the installation of the TSA to verify configuration control was maintained. Furthermore, the inspectors verified and reviewed required condition monitoring by Operations, and discussed compensatory actions detailed by the TSA with Operations supervision.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

On June 20, the inspectors observed the annual (off-year) emergency preparedness exercise with offsite participation by the site emergency response organization. The inspectors observed licensee activities in the main control room simulator, Technical Support Center (TSC), and Emergency Offsite Facility to assess whether emergency classification, notification, and protective action recommendation development activities were in accordance with the EPIPs. Additionally, the inspectors evaluated the adequacy of the post drill critiques conducted in the TSC.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety (OS) and Public Radiation Safety (PS)

2OS1 Access Controls To Radiologically Significant Areas

.1 Access Controls

a. Inspection Scope

During the weeks of April 28 and May 12, 2003, the inspectors evaluated licensee activities for controlling and monitoring worker access to radiologically significant areas and tasks. The evaluation included assessment of procedural guidance; direct observation of the implementation of administrative and established physical controls; and reviews of resultant worker exposures to radiation and radioactive material. Radiation worker and Health Physics Technician (HPT) proficiency in implementing radiation protection (RP) activities was appraised. The effectiveness of access controls and resultant occupational worker doses associated with performance of selected SL2-14 tasks conducted in steep dose-rate gradient fields, or in designated discrete radioactive particles (DRP), airborne radioactivity area, radiation area, high radiation area (HRA), locked-high radiation area (LHRA), and very high radiation area (VHRA) conditions were assessed.

During the onsite inspection, radiological controls for selected areas and work activities including spent filter change-out, transfer and storage activities; Unit 2 reactor head inspection and maintenance; upper guide structure movement; SG ET and maintenance; fuel movement; and RCS hot and cold leg nozzle replacement tasks were observed and discussed. In addition, the inspectors reviewed and discussed radiological controls associated with an April 28, 2003, containment evacuation alarm and subsequent re-entry activities. The evaluations included, as applicable, Radiation Work Permit (RWP) details; use and placement of dosimetry; electronic dosimetry (ED) set-points and use in loud ambient noise areas; conduct of surveys; implementation of DRP and airborne radioactive controls; and licensee training for use of supplied-air respiratory protective equipment. The inspectors attended pre-job briefings and reviewed RWP details to assess communication of radiological control requirements to workers.

During facility tours of the Unit 2 Reactor Containment Building (RCB) and both Unit 1 and Unit 2 Reactor Auxiliary Building (RAB) areas, the inspectors assessed postings and physical controls for access to DRP, HRA and LHRA locations. Use of labels and their information content were evaluated for containers of radioactive materials located within established radiation controlled area (RCA) locations. Direct radiation, DRP, and airborne survey records associated with Unit 2 SG ET and hot leg nozzle maintenance activities were reviewed and discussed. The inspectors independently measured radiation dose rates or directly observed conduct of licensee radiation surveys and results for radiologically significant areas/tasks including radioactive liquid waste processing equipment and areas; radioactive material and dry active waste (DAW) storage facilities, equipment and containers; and the Unit 2 RCB low-dose waiting areas, high level trash storage, and the “B” RCS hot leg work areas. Results were assessed against in-use survey records and established postings and controls.

Through direct observation and interviews, occupational worker adherence to selected RWPs and HPT proficiency in performing direct radiation and contamination surveys were evaluated.

The inspectors reviewed selected records regarding radiation contamination events, ED alarm events, and worker exposures to evaluate the effectiveness of access controls for the January 1 through May 15, 2003, period. Reviewed records included exposure investigation reports, personnel contamination monitor portal monitor alarm logs, and external and internal exposure data for occupational workers. Licensee actions regarding internal contamination events were evaluated for consistency with procedural guidance for performing investigational whole body counts.

Radiation protection activities were evaluated against UFSAR Section 12, Radiation Protection; 10 CFR 19.12; 10 CFR 20, Subparts B, C, F, G, H, and J; TS Sections 6.11, Radiation Protection Program, and 6.12, High Radiation Area Controls; and approved procedures listed in Section 2OS1 of the Attachment to this report.

b. Findings

Introduction. A Green Self-revealing NCV of 10 CFR 20.1703 (f) was identified for the failure of the designated standby rescue person to maintain continuous communication with a reactor head maintenance worker provided with a supplied air hood for respiratory protection during U2 RCB reactor head maintenance activities.

Description. On May 13, 2003, a self-revealing finding was identified when the designated standby rescue person failed to maintain continuous communications with a vendor reactor head maintenance worker provided with a supplied-air hood respiratory protective equipment in accordance with 10 CFR 20.1703(f). The finding was identified during a licensee review of an event associated with failure of the supplied-air respiratory protective equipment during on-going maintenance activities.

A licensee review of the event identified a concern with required communications between the worker and designated rescue personnel. An HPT designated as the standby rescue person, initially provided continuous oversight of the subject maintenance worker through visual direct line-of-sight coverage. Continuous audio communications were also established between the worker and staff in the reactor head vendor control center (VCC). Further, the VCC had communication capabilities with the Health Physics Control Center (HPCC). During the task evolution, the worker moved to the opposite side of the reactor head out of the line of sight of the HPT who also moved away from the immediate work area, thereby precluding direct communication between the designated standby rescue person and the worker. Subsequent to the air-line malfunction and the resultant loss of supplied air, the worker notified the VCC staff of the problem, and immediately began to move to the work area step-off pad to seek assistance. The VCC staff telephoned the HPPC to request a call to the HP control point near the work area for HPT assistance. Concurrently, the designated standby rescue HPT noticed the affected individual moving toward the reactor head work area step-off pad, and immediately assisted the worker in removing the worker's respiratory protective equipment. The affected worker did not suffer any respiratory distress nor any unintended or unexpected dose.

Analysis. The inspectors determined that the failure of the designated standby rescue person to maintain continuous communication with a maintenance worker provided with a supplied-air hood was a performance deficiency in that, the licensee is expected to implement the requirements of 10 CFR 20.1703(f) and the occurrence was preventable. This finding is greater than minor because it is associated with the Radiation Protection Cornerstone objective to protect occupational workers from exposure to airborne radioactive materials through the proper use of respiratory protective equipment including the use of standby rescue personnel for selected supplied-air devices. This finding was evaluated using the Occupational Radiation SDP and was determined to be a finding of very low safety significance because the worker was trained properly and immediately moved to the edge of the work area to get relief, vendor staff supporting the work activities immediately were aware of the problem and took prompt actions to notify HP staff to assist the affected worker in a timely manner, the individual was not subjected to extensive respiratory distress, and no unexpected personnel exposure resulted from external radiation sources or from internally deposited radionuclides as a result of the subject event.

Enforcement. 10 CFR 20.1703(f) requires a standby rescue person whenever one-piece atmosphere-supplying suits, or any combination of supplied air respiratory protection device and personnel protective equipment are used from which an unaided individual would have difficulty extricating himself or herself. The standby rescue persons shall observe or otherwise maintain continuous communication with the worker (visual, voice, signal line, telephone, radio, or other suitable means), and be immediately available to assist them in case of a failure of the air supply or for any other reason that requires relief from distress. Contrary to the above, on May 13, 2003, a designated standby rescue person failed to maintain continuous communication with a reactor head maintenance worker provided with supplied-air hood, which resulted in a condition which could have resulted in the worker having difficulty in extricating himself from the respiratory protective equipment after a loss of the breathing-air supply. Because the failure to maintain continuous communication was of very low safety significance and was entered in the licensee's Corrective Action Program (CAP) (CR 03-1818), this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000335,389/2003005-02, Failure Of A Designated Standby Rescue Person To Maintain Continuous Communication With Worker Using Supplied-Air Hood Respiratory Protective Equipment.

.2 Problem Identification and Resolution

a. Inspection Scope

Issues identified through selected CAP documents including department self-assessments, audits, and CRs were reviewed and discussed with responsible licensee representatives. Specific CRs documented for radiological controls, personnel monitoring, and exposure assessment issues during the SL2-14 were reviewed and discussed in detail. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the identified issues in accordance with licensee ADM, ADM-07.02, Condition Reports, Revision (Rev.) 7A. Documents reviewed are listed in Section 2OS1 of the report Attachment.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls

.1 As Low As Reasonably Achievable (ALARA)

a. Inspection Scope

During the weeks of April 28 and May 12, 2003, the inspectors evaluated ALARA program guidance and its implementation for on-going SL2-14 job tasks. The inspection included review of ALARA planning activities, implementation of dose reduction initiatives for high person-rem expenditure tasks, assessment of licensee source-term reduction effort effectiveness, and review and discussion regarding historical dose expenditure data for selected tasks. Specific SL2-14 tasks observed and evaluated in detail included reactor head inspection/repair, hot leg nozzle repair/ replacement, and steam generator maintenance activities

The implementation and effectiveness of ALARA planning and program initiatives during work in-progress were evaluated. The inspectors attended ALARA Review Board (ARB) meetings and task briefings, conducted direct field and closed circuit television observations of work activities, completed independent surveys of dose rate measurements, and reviewed individual worker exposures. Projected dose expenditure estimates detailed in current ALARA planning document data were compared to actual dose expenditures and noted differences were discussed with responsible ALARA staff. Changes to dose budgets relative to changes in job scope also were discussed. The inspectors attended ARBs convened to assess emergent work and reviewed minutes from previous meetings. The inspectors attended pre-job briefings and evaluated communication of ALARA goals, RWP requirements, and industry lessons-learned to job crew personnel. Licensee and contractor understanding of dose budgets and ALARA concepts were evaluated through discussions with radiation workers and job sponsors. The inspectors reviewed applicable parts of two licensee procedures to assess administrative guidance for ALARA activities including Total Effective Dose Equivalent (TEDE)-ALARA evaluations, multi-badging guidance, and dose budget development.

Implementation and effectiveness of selected source term reduction program initiatives were evaluated. Shut-down chemistry program implementation and the resultant effect on containment and auxiliary building dose rate trending data were reviewed and discussed with responsible chemistry and HP staff. Three outage temporary shielding plans, including shielding for nozzle repair/replacement tasks, were reviewed against applicable sections of a temporary shielding procedure. The effectiveness of installed shielding was assessed from review of survey records and from results of independent S/G hot leg radiation surveys observed by the inspectors. The inspectors interviewed a procurement engineer, reviewed applicable sections of a cobalt reduction procedure, and examined material composition of replacement valves to assess implementation of the licensee's cobalt reduction initiative for containment maintenance activities. A new procedure for flushing hot spots in piping and survey data to demonstrate its

effectiveness in reducing source terms were reviewed and discussed with a plant operations and HP personnel.

Historical site collective exposure data from April 1999 through March 2003 were reviewed and discussed. The inspectors examined the dose records of two declared pregnant workers to evaluate current gestation dose. Relevant parts of a dosimetry procedure were reviewed to assess licensee controls for declared pregnant workers.

The licensee's ALARA program was evaluated against the requirements of 10 CFR Part 20 and UFSAR Chapter 12.1, Ensuring that Occupational Radiation Exposures are ALARA. In addition, licensee commitments to Regulatory Guide (RG)1.33, Quality Assurance Program Requirements, RG 8.8, Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Reasonably Achievable, and RG 8.13, Instruction Concerning Prenatal Radiation Exposure were used to evaluate licensee performance. Procedures and records reviewed are listed in Section 2OS2 of the report Attachment.

b. Findings

No findings of significance were identified.

.2 Problem Identification and Resolution

a. Inspection Scope

Five licensee CRs associated with ALARA activities were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure ADM-07.02, CRs, Rev. 7A. Documents reviewed are listed in the Section 2OS2 of the report Attachment.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation

.1 Waste Processing and Characterization

a. Inspection Scope

During the week of April 28, 2003, licensee operations associated with selected liquid and solid radioactive waste (radwaste) processing systems and equipment were evaluated. Inspection activities included document and record review, interviews with responsible plant personnel including the radioactive waste systems engineer, and direct inspection of selected processing equipment and related piping.

The inspectors directly observed processing equipment material condition and configuration for selected liquid processing and solid radwaste systems. The potential for process equipment being abandoned in-place and the material condition of selected equipment currently not in use, e.g., waste concentrators, laundry process equipment,

were reviewed through facility tours and discussions with responsible licensee representatives. The tours included the Unit 1 RAB process facilities, Unit 1 Drumming Room, and the radwaste storage warehouse.

Licensee HP and Operations staff knowledge of resin processing, sluicing activities, solid radwaste system operations, and disposal requirements were assessed through interviews and discussion of equipment function and operability. The inspectors also attended a briefing for handling, moving, and disposing of a spent fuel pool filter and observed removal and transfer of a spent filter to waste storage.

Licensee radionuclide characterizations of selected solid waste streams were evaluated. These included dry active waste (DAW), primary resin, secondary resin, and spent filters. Comparison data between the current waste sample gamma-emitter concentrations and those of a vendor laboratory were evaluated. The licensee's analysis for and the use of scaling factors for hard-to-detect nuclides were assessed.

The inspectors evaluated the piping and system components' material condition and as built configurations against the UFSAR Section 11. Licensee procedures and Process Control Program (PCP) guidance, and their implementation were evaluated against 10 CFR 61.55, TS, and the Branch Technical Position (BTP) Radioactive Waste Classification guidance documents dated May 1983 and January 1995. Procedures and records reviewed are listed in Section 2PS2 of the report Attachment.

b. Findings

No findings of significance were identified.

.2 Transportation

a. Inspection Scope

The inspectors evaluated the licensee's activities related to transportation of radioactive material. The evaluation included review of procedures and completed shipping records, and assessment of worker knowledge and proficiency in shipping activities.

Shipping-related procedures, guidance documents, and selected shipping records were evaluated for compliance with applicable regulatory requirements. Current training records for individuals involved in transportation activities were reviewed.

During the week of April 28, 2003, the inspectors observed the conduct of receipt surveys for incoming outage equipment. Responsible staff were interviewed regarding packaging and shipping requirements.

Transportation program guidance and implementation were reviewed against regulations detailed in 10 CFR 71 and 49 CFR 170-189, and applicable licensee procedures. In addition, training activities were assessed against 49 CFR 172 Subpart H, and the guidance documented in NRC Bulletin 79-19. The reviewed procedures and records are listed in Section 2PS2 of the report Attachment.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

Licensee corrective actions for issues listed in Section 2PS2 of the report Attachment, including self-assessments, audits, and CRs associated with radwaste processing and radioactive material transportation activities were reviewed. The inspectors assessed the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with ADM-07.02, Condition Reports, Rev. 7A.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

.1 Mitigating Systems Cornerstone

a. Inspection Scope

The inspectors assessed the accuracy of the Unit 1 and 2 HPSI Unavailability Performance Indicator (PI) reported to the NRC in accordance with the criteria specified in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, and ADM-25.02, NRC Performance Indicators. The inspectors reviewed the PI data of both Units 1 and 2 for the previous four quarters. Applicable operator logs, condition reports, Maintenance Rule history, and Licensee Events Reports were reviewed to verify the reported PI data was complete and accurate. Furthermore, the inspectors interviewed the responsible system engineers, engineering supervision, and licensing engineer.

b. Findings

No findings of significance were identified.

.2 Barrier Integrity Cornerstone

a. Inspection Scope

The inspectors assessed the accuracy of the following PIs reported to the NRC in accordance with the criteria specified in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, and ADM-25.02, NRC Performance Indicators:

- Unit 1 and 2 Reactor Coolant System Leakage
- Unit 1 and 2 Reactor Coolant System Activity

The inspectors reviewed the PI data of both Units 1 and 2 for the previous four quarters. The inspectors also interviewed the responsible system engineer and Chemistry technician regarding the acquisition, review, validation, and reporting of PI data to the PI program coordinator. Furthermore, the inspectors reviewed a large number of selected source documents (i.e., RCS inventory balance datasheets and primary chemistry sample analysis results) during the past twelve months to verify accuracy and completeness of PI data. Lastly, the inspectors reviewed CR 03-2504 that was initiated to address the licensee's past interpretation of "identified" RCS leakage.

b. Findings

No findings of significance were identified.

.3 Occupational Radiation Safety Performance Indicator Verification

a. Inspection Scope

The licensee's Occupational Exposure Control Effectiveness PI results for the Occupational Radiation Safety Cornerstone were reviewed for the period January 1 through May 15, 2003. For the specified period, the inspectors evaluated data reported to the NRC, and subsequently sampled and assessed applicable CAP documents and selected HP Program records. The reviewed records included HP shift logs, contamination occurrence logs and assessments, internal exposure evaluations, and personnel exposure investigation reports and licensee CRs listed in Sections 2OS1, 2OS2, and 4OA1 of the report Attachment. The licensee's dispositioning of the reviewed issues and events was evaluated against NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 2.

b. Findings

No findings of significance were identified.

.4 Public Radiation Safety Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed and discussed the Radiological Control Effluent Release Occurrence PI results for the Public Radiation Safety Cornerstone from January 1 through December 2, 2002. For the review period, the inspectors reviewed data reported to the NRC and evaluated selected radiological liquid and gaseous effluent release data, selected out-of-service process radiation monitor and compensatory sampling data, abnormal release results, and CRs documented in Section 4OA1 of the report Attachment. The licensee's classification of reviewed data was evaluated against NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 2.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Annual Sample Review

Followup Secondary System Equipment Problems

a. Inspection Scope

The inspectors conducted a comprehensive review and discussion with the licensee regarding their Unit 2 Restart Management Team (RMT) efforts to address the numerous secondary system problems that had evolved following SL2-14 and culminated in an automatic reactor trip on June 11. The RMT was instituted to provide greater management oversight and direction to the multiple ongoing Event Review Teams (ERT) and Root Cause Teams (RCT) that had been assembled in response to the numerous secondary system equipment problems discovered during Unit 2 startup activities. The inspectors met frequently with RMT/ERT/RCT members and OCC staff. The inspectors also reviewed the progress and interim dispositions of the many applicable CRs, including in particular CR 03-2327 (Unit 2 Reactor Trip). These CRs and the licensee's efforts were examined to verify whether problem identification was timely; safety concerns were properly classified and prioritized for resolution; technical issues were being evaluated and dispositioned to address operability and reportability; root cause or apparent cause determinations were being implemented as appropriate; extent of condition, generic implications, common causes, and previous history were being considered; and appropriate short-term corrective actions were being implemented and/or longterm corrective actions being planned in a manner consistent with safety and TS compliance. The inspectors evaluated the CRs against the requirements of the licensee's corrective action program as delineated in ADM-07.02, CRs, ADM-08.04, Root Cause Evaluations, and 10 CFR 50, Appendix B. Furthermore, an inspector attended the Facility Review Group meeting on June 13 that conducted the post-trip review and approved Unit 2 for restart.

b. Findings and Observations

There were no significant licensee performance issues identified by the inspectors. The inspectors verified that the initial root/apparent cause evaluations and initial corrective actions were appropriate and timely in relation to the safety significance of the problem. The inspectors did not identify any violation of regulatory requirements.

Followup Licensee' s Corrective Actions on Previous Unit 1 Eighteenth Refueling Outage Radiological Controls Issues

a. Inspection Scope

During the week of April 8, 2003, the inspectors evaluated the effectiveness of licensee problem identification and resolution program activities for five CRs associated with NCVs identified within the occupational and public radiation protection cornerstones that occurred during the previous Unit 1 Eighteenth Refueling Outage (SL1-18). The evaluation included review and discussion of identified root causes of performance issues, follow-up of the adequacy and timeliness of corrective actions for use during the SL2-14, and determination of compliance for any additional issues identified. The

inspectors reviewed and discussed revisions to applicable procedures, assessed changes to radiation protection training, and observed modifications/upgrades to radiation protection equipment, as applicable. Licensee management and first-line supervisory staff were interviewed regarding changes to oversight of ongoing radiation protection activities during the current outage. Licensee activities were reviewed against ADM-07.02, CRs, Rev. 7A. Licensee documents reviewed are detailed in Section 4OA2 of the report Attachment.

b. Findings and Observations

There were no findings identified for the reviewed examples. The inspectors noted that full implementation of corrective actions for selected radiation protection activities were not completed until just prior to the start of the SL2-14 which could have impacted their effectiveness. For example, training on the calibration and operation of continuous air sampling equipment was not conducted until the week of April 7, 2003, thus providing limited opportunities for training and minimum time to address any procedural or operational problems identified. However, the inspectors noted that a Quality Assurance audit of the radiation protection program corrective actions assessed the completion of those tasks specifically applicable to the SL2-14. Overall, corrective actions and management oversight during the current outage were effective in addressing previous concerns.

.2 Unit 1 Emergency Operating Procedure Ladders

On June 19, during a partial equipment walkdown of the 1A CSS, the inspector noticed that all of the ladders for emergency operating procedure (EOP) actions in the Unit 1 piping penetration room were missing from their designated position on the wall. Typically these ladders are mounted and locked on the wall, with a placard stating for "EOP Use Only." Even though the ladders appeared to be located elsewhere in the piping penetration room, they were absent from their designated position and were being used for non-EOP purposes. After further review, the inspector also determined that this exact issue had been previously identified by Operations and documented in CR 03-1170. The corrective actions for this CR were inadequate to ensure designated EOP ladders would remain available for their prescribed use during an emergency. The inspector subsequently verified that the EOP ladders were restored in the proper position.

.3 Foreign Material Discovered In The Unit 2 Reactor Vessel

On May 14, 2003, the licensee discovered five pieces of foreign material laying on the lower core support plate after the full core offload was completed during SL2-14. CR 03-1849 was initiated to address the significance of this material which appeared to include metallic and plastic parts from two to six inches long. The inspectors met with senior licensee management to express concern regarding the adequacy of foreign material exclusion (FME) controls, the origin of the material, and potential affect on fuel integrity. However, the licensee assigned CR 03-1849 as a "Significance Level 3 - Correction Only" and closed it out without addressing the extent of condition, potential impact on fuel integrity, or FME implications. Although this issue was brought to the licensee's attention during the refuel outage, the licensee failed to revisit their resolution of CR 03-1849 and address these concerns prior to any of the Unit 2 restarts. A

supplement to CR 03-1849 was subsequently issued with a safety evaluation that was reviewed by the inspector. In addition, the licensee initiated CRs 03-2406 and 2407 to ensure extent of condition and operability evaluations of foreign material discovered in the reactor vessel are conducted prior to restart.

4OA3 Event Follow-up

.1 (Closed) LER 05000335, 389/2001001-02, Control Room Ventilation Emergency Recirculation Procedures Inadequate.

The inspectors reviewed this second supplement to LER 05000335, 389/2001001-02, along with the original LER, and its first supplement. The inspectors also reviewed CR 02-2528, and its multiple supplements, which came out of the licensee's corrective program to address the additional problems identified by the licensee's continuing investigation regarding marginal performance of the Unit 2 Control Emergency Cleanup System (CRECS).

Two NCVs were previously issued regarding the licensee's efforts to identify, evaluate and correct equipment performance problems with the Unit 2 CRECS (see inspection reports 05000335, 389/2000008) that were subsequently reported by LERs 05000335, 389/2001001 and Supplement one.

Supplement two of LER 05000335, 389/2001001, concluded that prior corrective actions of LER 05000335, 389/2001001, including supplement one, had not been completely effective because the original cause had not been adequately determined and resolved. A key contributing factor to past poor performance of the Unit 2 CRECS had originally been thought to be an instrumentation issue resulting in a positive pressure bias. However, further efforts by the licensee to improve marginal performance of the Unit 2 CRECS discovered the actual cause was a ventilation imbalance in the Cable Spreading Room creating an undesirable pressure differential with the Control Room. Consequently, the licensee's discovery of an inadequate causal determination and subsequent ineffective corrective actions resulted in another safety system functional failure (SSFF) for Unit 2 CRECS.

This issue had a credible impact on safety since a functional failure of CRECS could have potentially resulted in control room operators doses during a design basis accident in excess of 10CFR50 General Design Criteria 19 limits. The NRC used the Phase 1 screening worksheet for "Containment Barriers" of the Significance Determination Process and determined that this issue was of very low safety significance. Enforcement aspects of this issue are addressed in section 4OA7 of this report.

Although the licensee discovered the Unit 2 CRECS was unable to maintain a positive pressure as required by TS on October 19, 2001, it was not reported as a Unit 2 SSFF until August 13, 2002. Failure to report the Unit 2 CRECS SSFF in a timely manner constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy. This finding is in the licensee's CAP as CR 02-2528.

The inspectors witnessed successful post maintenance testing of the Unit 2 CRECS following flow balancing modifications to the CSR ventilation system.

.2 Unit 2 Automatic Reactor Trip

a. Inspection Scope

On June 11, 2003, the Unit 2 reactor automatically tripped from 22% power due to a trip of the main turbine that was caused by high SG water level. The inspectors promptly responded to the control room and verified the unit was stable in Mode 3, and confirmed that all safety-related mitigating systems had operated properly. The inspectors examined operator and plant response by reviewing plant parameters, strip charts, operator logs, and the Sequence of Events Recorder; and discussing the event with Operations personnel and members of the licensee's Event Review Team. The event was initiated when the 1A MFW 15% bypass valve (LCV-9005) suddenly failed closed (due to valve stem separation). The inspectors also discussed the risk significance with Region II personnel and verified that appropriate notifications were made in accordance with 10 CFR 50.72. Furthermore, the inspectors reviewed the post-trip report and attended the initial Facility Review Group meeting for restart.

b. Findings

No finding of significance were identified

4OA5 Other Activities

.1 (Closed) NRC Temporary Instruction 2515/150, Reactor Pressure Vessel Head and Head Penetration Nozzles (NRC Bulletin 2002-02) (Unit 2)

a. Inspection Scope

The inspectors observed activities relative to inspection of the reactor pressure vessel head (RPVH) nozzles in response to NRC Bulletins 2001-01, 2002-01, 2002-02 and NRC Order EA-03-009 Modifying Licenses dated February 11, 2003. The inspection included review of NDE procedures, assessment of NDE personnel training and qualification, and observation and assessment of visual (VT) and UT examinations. Discussions were also held with contractor representatives and other licensee personnel. The activities were examined to verify licensee compliance with regulatory requirements and gather information to help the NRC staff identify possible further regulatory positions and generic communications. Specifically, the inspectors reviewed or observed the following:

(1) Bare Metal VT Examination

- Observed a portion of in-process bare metal remote video VT inspection of RPVH Nozzle Nos. 8, 12, 14, 21, 30, 37, 38, 57, 61, 68, 70, 71, 79 and 82 (including space around the nozzles)

- Observed most of the in-process bare metal remote video VT inspection of the area of the RPVH under the shroud ring vertical mirror insulation panels (areas originally included in relaxation request 2 as inaccessible areas)

- Reviewed a portion of RPVH bare metal VT video tape for Nozzle Numbers 6 and 8 and still digital pictures for Nozzle Nos. 10, 18, 22, 40, 41, 59, 70, 71, 72, 75, 90, 100, and the vent nozzle

The VT examinations were observed/reviewed in order to verify absence of boron crystals indicative of a leak and to verify the integrity of the RPVH.

(2) UT Examination of RPVH Nozzles

- Observed a portion of in-process UT scanning of RPVH Nozzle Nos. 6, 78, and 95

- Reviewed the UT results for RPVH Nozzle Nos. 1, 3, 4, 6, 11, 18, 27, 34, 47, 50, 72, 78, and 90

- UT observations/reviews included review of results intended to assess for leakage into the interference fit zone of the nozzles.

The inspectors reviewed and discussed with licensee personnel the susceptibility ranking calculation and the basis for the RPVH temperatures used in the calculation. The basis for RPVH temperature input was reviewed to verify appropriate plant specific information was used in the time-at-temperature model for determining RPVH susceptibility ranking.

The inspectors reviewed licensee procedures and inspection results for visual examinations to identify potential boric acid leaks from pressure-retaining components above the RPVH.

Also, the inspectors reviewed the Repair Traveler and planned repair technique for flaws identified in RPVH Nozzles 18 and 72.

b. Observations and Findings

1)Verification that the examinations were performed by qualified and knowledgeable personnel.

The inspectors found that visual and NDE inspections were being performed in accordance with approved and demonstrated procedures with trained and qualified inspection personnel. All examiners had significant experience, including experience inspecting RPVHs. In addition to qualification to Code requirements, VT and UT personnel had additional training on RPVH inspections.

2) Verification that the examinations were performed in accordance with approved procedures.

The St. Lucie Unit 2 RPVH has 91 Control Element Drive Mechanism (CEDM) nozzles, 10 Incore Instumentation (ICI) nozzles, and one vent nozzle, or a total of 102 nozzles.

The bare head remote visual inspection was performed in accordance with Framatome Procedure 54-ISI-367. The procedure used high-resolution miniaturized cameras delivered by a flexible inspection guide tube (CIGAR - Combined Inspection Grappling and Retrieval) which scanned a portion of each nozzle and surrounding head material with each pass. The scans covered the full circumference at the nozzle-to-top-of-head interface areas of all of the 102 nozzles and surrounding head surfaces. Also, the majority of the head material outside the nozzle areas was inspected although relaxation request Number 2 was submitted because of limitations with inspection of the areas under the shroud ring and the vertical mirror insulation panels. It was determined during the inspection that the majority of this access restricted area could actually be inspected. The Relaxation Request was modified by FPL Letter L-2002-129 to indicate that essentially 100% of the head surface was inspected.

All 102 nozzles received remote mechanized open bore (no thermal sleeves) UT examination from the inside surface in accordance with Framatome approved Procedures 54-ISI-100-09 and 54-ISI-137-01(vent nozzle only). All UT transducers were mounted in a single inspection module and scanning was in the axial direction (vertical up and vertical down). For all nozzles except the vent nozzle, the UT examination employed the 'time of flight' technique using two sets (one 30 degree and one 45 degree) of 5 MHz, L (longitudinal) wave transducers with the 30 degree directed in the axial direction and the 45 degree directed in the circumferential direction. In addition, the nozzle volume was scanned using 60 degree, 2.25 MHz, shear wave transducers directed in the axial and circumferential directions and a 0 degree, 5 MHZ L Wave transducer. The vent nozzle was scanned with a 0 degree, 5.0 MHz, L wave transducer, a 45 degree, 5.0 MHz, shear wave transducer (axial flaw detection), and a 70 degree, 5.0 MHz, shear wave transducer (circumferential flaw detection). The inspection area extended from a minimum of 2" above the J-groove weld to internal threads at the bottom of the nozzle.

The inspectors reviewed the Framatome procedures and observed in-process examinations as noted above. Approved acceptance criteria and/or critical parameters for RPVH leakage were applied in accordance with the procedures.

UT examination could not be performed to the bottom of the 91 CEDM nozzles, as described in the Order. In addition, inspection of a minimum of 1 inch below the J-groove weld, as proposed in the original Relaxation Request 1, could not be performed for all nozzles. In the worst case, the distance inspected below the J-groove weld was 0.30 inches on the downhill side of weld for Nozzle 88. For all nozzles, the area inspected above the weld was greater than 2 inches. The inspection limitation below the welds was because of nozzle configuration (internal threads), the distance between the bottom of the weld and the top of the threads being less than anticipated, and limitations of UT probe design. These limitations are documented in FPL Relaxation Request Letter L-2003-086, dated March 28, 2003 as supplemented by FPL Letters L-2003-101(dated April 18, 2003), L-2003-113 (dated April 29, 2003), and L-2003-117 (dated May 4, 2003), and L-2003-129 (dated May 11,2003). For the nine nozzles with UT coverage less than 0.41 inches below the weld, supplemental PT inspection of the nozzle base material was performed with no recordable indications.

The licensee performed PT examination of the surface of the RPVH vent nozzle J-groove weld to assess if leakage had occurred through the weld. Based on discussions with licensee personnel, the inspection did not identify any relevant indications.

3) Verification that the licensee was able to identify, disposition, and resolve deficiencies.

All potential crack indications were required to be reported for further inspection and disposition. Based on observation of the inspection process, the inspectors considered deficiencies would be appropriately identified, dispositioned and resolved. Cracks were identified in two CEDM nozzles, numbers 18 and 72. The cracks were axial on the nozzle OD and were not through-wall. In nozzle 72 the crack was characterized as 0.96 inches in length with a depth of 0.28 inches (nozzle thickness 0.625 inches) and extended from below the nozzle into the area under the J-groove weld. In nozzle 18, the crack was characterized as 2.98 inches in length with a depth of 0.26 inches and extended from below the J-groove weld to above the weld. Repairs were initiated.

4) Verification that the licensee was capable of identifying the primary water stress corrosion cracking (PWSCC) phenomenon described in the bulletins.

The licensee performed NDE examinations on all of the RPVH nozzles during the outage. The inspection techniques had been previously demonstrated under the MRP Inspection Demonstration Program as capable of detecting PWSCC type cracks as well as cracks from actual samples from another site. As noted above, two nozzles were identified with cracking.

5) Evaluate condition of the reactor vessel head (debris, insulation, dirt, boron from other sources, physical layout, viewing obstructions).

Although boric acid and other debris were observed, the inspectors noted that the boric acid deposits and loose particles appeared to be associated with previous leaks above the head and not associated with nozzle leaks. Based on discussion with licensee inspection personnel, all areas of debris which impeded the inspection were easily removed by blowing air over the areas and re-inspected. This allowed 100 percent visual inspection of each of the 102 RPVH nozzles with no significant obstructions impeding the examination. As noted in (2) above, a small area of RPVH surface under the vertical insulation panels at the shroud lugs and under the horizontal insulation panel support legs was inaccessible. This was estimated to be less than one percent of the RPVH surface and not significant for determining if head wastage was present.

6) Evaluate ability for small boron deposits, as described in NRC Bulletin 2001-01, to be identified and characterized.

The inspectors observed that the resolution of the video camera provided capability of detecting any debris or small boron deposits on the bare metal head. As noted above there were no obstructions to preclude essentially 100% visual inspection of the RPVH penetrations. As noted above the loose debris noted at the RPVH to nozzle areas, was easily removed. However, boron deposits were noted on some nozzles above the head to nozzle interface and the overhead insulation, which appeared to have originated from above the head.

7) Determine extent of material deficiencies (associated with the concerns identified in the three bulletins) which were identified that required repair.

No examples of RPVH leakage were identified during the visual or NDE examinations. As noted above, two nozzles were identified with UT indications of non-though-wall cracks.

8) Determine any significant items that could impede effective examinations.

St. Lucie Unit 2 did not have thermal sleeves, thus allowing open-bore examinations of all nozzles. No significant items that could impede the examination process were noted during observation of the visual or NDE examinations.

(9) Determine the basis for the temperatures used in the susceptibility calculation.

The inspectors reviewed the susceptibility calculation and the basis for the RPVH temperatures used in the calculation, as documented in FPL Engineering Evaluations and FPL Letters listed in List of Documents Reviewed (Attachment 1) below. The RPVH temperatures used for the calculation was taken from Combustion Engineering Owners Group (CEOG) Report CE-NPS-1074, which documented an analysis of core bypass flow to determine a reduction from T-hot called T-mix.

10) Determine if the methods used for disposition of NDE identified flaws were consistent with NRC flaw evaluation guidance.

The only flaws identified were dispositioned as needing repair in accordance with NRC flaw evaluation guidance.

11) Determine if procedures existed to identify potential boric acid leaks from pressure-retaining components above the RPVH and if the licensee performed proper followup for indications of boric acid leaks.

The licensee had two procedures to inspect for leakage of components above the RPVH each refueling outage. Instrument & Control Maintenance Procedure 2-IMP-65.10 requires inspection of ICI flanges for leakage and issuance of a CR if leakage is found. Operating Procedure 2-0120022 requires a general inspection of the reactor vessel head area including Control Rod Drive Mechanisms and ICI Flanges during cool-down for refueling and issuance of a CR if leakage is identified. The inspectors reviewed the completed copies of these two procedures for the current Unit 2 outage. Leakage was identified and a CR 03-1304 written for ICI flange leaks. As noted above, there was indication of previous leakage as evidenced by boron deposits on the insulation and RPVH nozzles and loose boron particles on the RPVH surface. The deposits appeared to be from old leakage from above the nozzles. There was a history of previous ICI flange leakage.

Although procedures were provided for inspection for evidence of leakage from pressure-retaining components in the head area, the inspectors noted that the procedures could be enhanced to provide additional details of what components to inspect and actions to take if leaks are identified. The licensee stated that they had already concluded that procedure enhancements were needed. During the inspection,

Procedure Change Requests 03-1225 (Unit 1) and 03-1226 (Unit 2) were initiated to add additional details for inspection of components above the RPVH for leakage.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Bill Jefferson and other members of licensee management on July 3, 2003. Several interim exits were held during the report periods by regional inspectors. The licensee acknowledged the findings presented. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following finding of very low significance 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 an NCV.

Criterion XVI of Appendix B to 10 CFR 50, Corrective Action, states in part that, "Measures shall be established to assure that conditions adverse to quality . . . are promptly identified and corrected." Contrary to the above, on October 19, 2001, the licensee discovered that they had failed to adequately identify the cause and correct deficiencies in the pressurization capability of the Unit 2 Control Room Emergency Cleanup System that was originally reported in the LER 05000335, 389/2001001. This issue was captured in the licensee's corrective action program as CR 01-2528 and its several supplements.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

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

NRC personnel

B. Moroney, NRR Project Manager

LIST OF ITEMS OPENED AND CLOSED

Opened and Closed

05000335, 389/2003005-01	NCV	Failure To Search New Fuel Containers Prior To Entering The Protected Area (Section 1R20)
05000335, 389/2003005-02	NCV	Failure Of A Designated Standby Rescue Person To Maintain Continuous Communication With Worker Provided With Supplied-Air Hood Respiratory Equipment (Section 2OS1.1)

Closed

05000335, 389/2001001-02	LER	Control Room Ventilation Emergency Recirculation Procedures Inadequate (4OA3.1)
2515 /150	TI	Reactor Pressure Vessel Head And Head Penetration Nozzles (NRC Bulletin 2002-02) (Unit 2) (Section 4OA5)

ATTACHMENT

LIST OF DOCUMENTS REVIEWED

1R07 Heat Sink Performance

Request For Information From Licensee

1. Has there been a practical heat or flow balance performed on ICW and/or CCW System (s)? That is, have the required flows been determined (calculation or a model prediction) and the actual flows tested to evaluate the actual heat removal capability of the ICW, CCW, and/or any other risk significant cooling water system(s)?

2. Is there trend data (test or inspection with corrective actions) on all the safety-related (SR) HXs. How far in time does this go back? Are new sets of data taken after every HX cleaning, plugging, or repair? If there is no trend data, how is HX operability determined [EPRI TR-107397 guidance category]? Have PM frequencies been changed to adjust for system performance changes? Has there been any plant operational adjustments to account for heat exchanger plugging or subsequent modifications? Provide a three year history of ICW and CCW corrective action program (CAP) items.

If available, provide trend data on ICW/CCW, RHR/CCW, and SR Containment HXs over the past three outages.

3. GL 89-13 required the licensees' to verify their SW (ICW) systems are not vulnerable to single failures (page 6, item IV). Has that been completed? Has there been any revaluation of ICW single failures? Has there been a similar look at your CCW and RHR systems (e.g., such as air operated valve line pressure degradation)?

4. GL 89-13 (page 6, item V) required a confirmation that SW (ICW) maintenance practices, operating and emergency procedures, and training are adequate. Is this process re-performed on a periodic basis at St Lucie? How is this accomplished and documented?

5. List the types of heat S-R HXs and provide MR history over the last three years (should include the room coolers, pump seal or lube oil coolers, etc.). Have any heat exchanger problems caused an entry into a(1) status since the rule inception?

6. Are ESF pumps or other safety related equipment (motor bearings, seals, gear boxes, etc.) cooled by ICW or CCW. Are these support subassemblies tested or trended in any way? For example, if the high pressure injection ECCS pumps are cooled by CCW, is there a backup water supply to this cooling capability? What PMs or tests are written on both capabilities?

7. At some point after a large break LOCA, RHR is placed in service. What is the expected high temperature from the sump to be expected at the RHR HX's CCW outlet? Have the company's engineers done sensitivity studies to understand what other equipment, if any, may be degraded/harmed by the CCW water warmed by the accident heat load?

8. Page 5, item II, of GL 89-13 discusses confirmation of CCW chemistry maintaining closed-cycle piping and tube integrity. Is there a periodic chemistry sampling program for the CCW supplied fluid inclusive of particulate? If in existence, has this produced any findings? Are there actions levels for degradation of chemistries? Does the RHR side of CCW get any periodic inspections? Has the CCW HXs developed leaks (ICW with CCW or CCW with RHR) in the last three years? Is CCW higher than ICW system pressures, and, is RHR higher than CCW system pressures?

9. Does the ICW have underground piping? What inspections are performed on the exterior and interior of the piping? Are there any inspections on the above ground piping?

10. Are there ICW microbiological infestation, marine growth fouling, or clams? How are these treated?

11. Are there PMs on the ICW strainers? I would like to look at the PMs when at the site. Have there been any LCO initiated in the last three years for strainer clogging?

12. Are any PMs performed on the above exchangers or support equipment? Provide a list of the PMs when I arrive on site.

I will need a discussion with the engineer(s) responsible for the service water system and heat sink performance early in the inspection.

I will need access to the following document while on site:

Service water design basis document and general schematic showing heat loads.

Heat exchanger (HX) performance data such as transfer tests, chemistry data, PM information, as applicable for the risk significant Hxs.

Commitments for Generic Letter 89-13.

Tube plugging information for significant HXs, as applicable.

List of testing performed to assure ultimate heat sink performance, such as service water intake inspections, dam inspections, pond volumetric inspections, special erosion/corrosion inspections, etc.

Trending data for key HXs.

Any evaluation for water hammer in Hxs or associated piping, as applicable.

Procedures associated with the above activities.

A list of corrective action reports associated with service water, closed loop cooling loops such as Residual Heat Removals, and/or ECCS pump/motor coolers cooled by SW or the closed loop cooling.

<u>Procedures and Drawings</u>

2-0310020, Component Cooling Water - Normal Operation, St Lucie Unit 2, Appendix F, Recommended Operating Flow Rates for all Auxiliary Equipment Cooled by the Component Cooling Water System, Rev. 61A.
OP-2-0010123, Schedule of Periodic Tests, Checks and Calibrations, St Lucie 2, Appendix A, Surveillances Performed Each Shift for Modes 1 & 2.
2-0640020, Intake Cooling Water System Operation, St Lucie 2, Appendix D, Intake Cooling Water Operability, Rev 49.
2-MMP-59.06, EDG 12 Year Preventive Maintenance, St Lucie Unit 2, Section 6.4, Power Assembly Reassembly, Steps 61-71, Rev. 3B.
8770-G-082, Sh 1, Flow Diagram Circulating & Intake Cooling Water System, Unit 1, Rev. 50
8770-G-082, Sh 2, Flow Diagram Circulating & Intake Cooling Water System, Unit 1, Rev. 18
2998-G-082, Sh 1, Flow Diagram Circulating & Intake Cooling Water System, Unit 1, Rev. 43
2998-G-082, Sh 2, Flow Diagram Circulating & Intake Cooling Water System, Unit 1, Rev. 48

Engineering Reports, Calculations, and Analyses

Anal: PSL-ENG-SEMS-00-109, “Single Train ICW Inspection,” Rev. 0, 9/22/00
Rep: PCA Engineering Job No. 20638, ICW Inspection, Unit 1, April 2001
Rep: PCA Engineering Job No. 22489, ICW Inspection, Unit 1A, September-October 2002
Rep: PCA Engineering Job No. 21664, ICW Inspection, Unit 2 (2B), December 2001
Calc: PSL-IFJM-93-016, ICW System Performance Curves, St Lucie Unit 1, Rev. 1
Calc: PSL-ENG-SEMS-02-043, ICW Performance Curves, St Lucie Unit 2, Rev 0.
Calc: PSL-2FSM-00-004, Attachment 9, Test Results from 1990 and 1992 CCW Heat Exchanger Tests, Rev 2.
Calc: Combustion Engineering 016-ST99-C-015, “CONTRANS LOCA Containment Analysis for St Lucie 2 Peak CCW Temperature at 102% Power,” Tables VI-1 to VI-6, Rev, 0.

Condition Reports (Crs)

CR 03-1933, 2B2EDG Cooling System Expansion Tank Loses Water During Run
CR 03-1447, Extent of Condition not considered on CR 03-1360
CR 03-1367, Unit 1 CCW System Leakage
CR 03-1360, 2A CCW Hx Condition
CR 03-1257, No Domestic Material Suppliers for CCW Hx Replacement Tubes
CR 02-2468, Defective Replacement Tubes for CCW HX 1A
CR 02-2056, Unit 1 CCW System Leakage
CR 02-0569, CCW Hx 1B Tube Plug Map Not Updated
CR 02-0146, CCW Hx 1A Significant Marine Fouling of Inlet Tubesheet
CR 02-0145, CCW Hx 1A Tube Plugging to Exceed Maximum Limit
CR 01-2221, ICW Temperature to CCW Hx Reached 85°F on 9-5-01, Operability Assessment
CR 01-1606, Conversion Chart from Ohms reading to temperature for ICW to CCW is incorrect
CR 01-1598, Postings for Temporary RTDs used to Monitor ICW Temperature not controlled

Completed Work Orders (Wos)

WO 32012456 01, FYP 1081 A/C Train ICW Piping Inspection, Unit 2, May 2003
WO 31002221 01, FYP 1081 B/C Train ICW Piping Inspection, Unit 2, Nov-Dec 2001

Miscellaneous

MR Performance Indicators:
- SSC: 14 - Component Cooling Water (CCW), Unit 1, 04/18/03
- SSC: 21a - Intake Cooling Water (ICW), Unit 1, 04/18/03
- SSC: 14 - Component Cooling Water (CCW), Unit 2, 03/28/03
- SSC: 21a - Intake Cooling Water (ICW), Unit 2, 03/28/03

Design Bases Documents:
- Intake Cooling Water System St Lucie Unit 1
- Intake Cooling Water System St Lucie Unit 2

Request for Engineering Assistance: ICW to CCW Hx Strainer (SS-21-1A/B)Modifications - Install Automatic Debris Filter in Place of SS-21-1A/B

1R08.1 Inservice Inspection

Document 104-1221055, St. Lucie - LUCIE 2 (EOC13) Outage and NDE Services Project Plan, Revision 00

Document 6011693A Reactor Head Nozzle Penetration Remote Visual Inspection Plan For St. Lucie Unit 2, Revision 02, Change CA STL-03-007

Framatome ANP Nondestructive Examination Procedure 54-ISI-367-04, Procedure for Visual Examination for Leakage of Reactor Head Penetrations, Revision 4, Change STL-03-06

Framatome NDE 108.0, Task Lesson Plan Bare Head Inspection, Revision 1

Framatome ANP Nondestructive Examination Procedure 54-PT-6-07, Visible Solvent Removable Liquid Penetrant Examination Procedure, Revision 07, Changes FRA-01-007, FRA-02-017, FRA-03-001, STL-03-003 - Revision 1, and STL-03-005

Framatome ANP Nondestructive Examination Procedure 54-ISI-100-09, Remote Ultrasonic Examination of Reactor Head Penetrations, Revision 09, Change FRA-03-004 - Revision 2

Framatome ANP Nondestructive Examination Procedure 54-ISI-137-01, Remote Ultrasonic Examination of Reactor Vessel Head Vent Line Penetrations, Revision 01, Changes FRA-03-005 - Revision 1 and FRA-03-009 - Revision 1

Framatome Process Traveler 50-5023763-00, St. Lucie Unit 2 Ambient IDTB Repair of CEDM Nozzles

FPL Letter FPL-2001-262, St. Lucie Units 1 and 2, In-Service-Inspection Plan Unit 1 Third Ten-Year Interval and Unit 2 Second Ten-Year Interval, Unit 1 Relief Requests 20 and 21and Unit 2 Relief Requests 30 and 3, dated November 21, 2001

FPL Letter FPL-2002-061, St. Lucie Units 1 and 2, Turkey Point Units 3 and 4, Response to NRC Bulletin 2002-001, Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity, dated April 3, 2002

FPL Letter FPL-2003-007, NRC Bulletin 2002-01, Request for Additional Information Response, dated January 31, 2003

FPL Letter No. L-2003-086, St. Lucie Unit 2 Order EA-03-009 Relaxation Requests 1 and 2, Examination Coverage of RPV Head Penetration Nozzles - Supplemental Data, dated March 28, 2003

FPL Letter No. L-2003-092, St. Lucie Units 1 and 2 Inservice Inspection Plans, Unit 1 Third and Unit 2 Second Ten-Year Intervals, Unit 1 Relief Request 21 and Unit 2 Relief Request 31, Request for Additional Information, dated April 14, 2001

FPL Letter No. L-2003-117, St. Lucie Unit 2 Order EA-03-009 Relaxation Requests 1, Supplement 3, dated May 4, 2003

St. Lucie Plant Administrative Procedure ADM-29.03, Boric Acid Corrosion Control Program, Revision 0

St. Lucie Unit 2 Operating Procedure 2-0120022, St. Lucie Unit 2 Operating Procedure

St. Lucie Plant System and Component Guideline SCEG-019, System and Component Engineering Walkdown Program, Revision 2A

St. Lucie Unit 2 Inservice Surveillance Procedure 2-ISP-01.01, Reactor Coolant System ASME Leakage Test, Revision 2

St. Lucie Unit 2 Inservice Surveillance Procedure 2-ISP-100.01, ASME Section XI Pressure Test Procedure for Cass 2 & 3 Systems

St. Lucie Unit 2 Operations Surveillance Procedure 2-OSP-24.01, RAB Fluid Systems Periodic Leak Test

A sample of Administrative Procedure ADM-29.03 Data Sheet 1 Forms (Boric Acid Leakage Inspection) for leakage identified during the current Unit 2 outage

St. Lucie Unit 2 Instrument & Control Maintenance Procedure 2-IMP-65.10, Reactor Instrumentation Outage Tasks

Condition Report 03-1304, Leakage of Unit 2 ICI Flanges

Procedure Change Requests 03-1225 and 03-1226 dated April 29, 2003, for Procedures 1-0120022 and 2-0120022

Personnel Certification Records for Framatome Inspection Personnel, including:

- Personnel Training Report Release #s 03-093 and 03-094
- St. Lucie - LUCIE2 (EOC13) Bare Head Inspection Training Matrix dated 4/21-5/21/2003
- St. Lucie - LUCIE2 (EOC13) CRDM Nozzle Inspection W/SUMO-ROCKY BUT Training Matrix dated 4/21-5/21/2003

Individual Examiner Certification, Training, and Eye Test Records for 9 NDE Examiners

Framatome Equipment Certification Records for the following Inspection Equipment

μTOMOSCAN Pulser-Receivers VH-7794, VH-8167, VH-8169, and VH-8554
UT Head Assemblies, including transducers, 7500102, 7500111, 7500112, and 7500537
ICI UT Probe Assemblies 7500309, 7500521, and 7500667
Thermometer VH-8040
Calibration Standards 6011680-001 and 6016423D
Liquid Penetrant Materials - Penetrant Batches 02K01K and 02C033, Developer Batches 02C009 and 02L02K, Cleaner Batch 02H006

Condition Report 03-1429, Multiple aligned linear indications identified during follow-up liquid penetrant examination of weld that exceed the acceptance criteria of ASME Section XI

PMAI Corrective Form PM98-01-163, Perform a surface examination (liquid penetrant_ of SI-112-FW-7 during cycle 11 refueling outage

Condition Report 98-1828, Rejectable indications identified during performance of liquid penetrant examination required by PMAI 98-01-163

FPL Letter L-2002-185, St. Lucie Units 1 and 2, Turkey Point Units 3 and 4, Response to NRC Bulletin 2002-02, Reactor Pressure Vessel Head Penetration Nozzle Inspection Programs MRP 48 (PWR Materials Reliability Program)

PSL-ENG-SESJ-02-045, St. Lucie Units 1 & 2 Engineering Evaluation For Response to NRC Bulletin 2002-02, Revision 1

PSL-ENG-SESJ-01-049, Engineering Evaluation, Response to the NRC Bulletin 2001-01 For St. Lucie Units 1 & 2, Revision 0

Spread Sheet Calculation for Effective Degradation Years (EDY)

1R08.2 Inservice Inspection and 4OA5 Other Activities

Procedures

CSI-NDE-00-07, St Lucie Unit 1 and 2 Steam Generator Secondary Side Integrity Plan, Rev.2, April 2003.
CSI-NDE-03-051, Foreign Objects in St Lucie Unit 2 Steam Generators, May 13, 2003
CSI-NDE-02-079, April 2003 Eddy Current Examination Implementation for Steam Generator Tubing at St Lucie Unit 2, Rev. 1, April 21, 2003
L-2003-085, 10CFR50.4 Steam Generator Tubesheet Inspection Practices, March 31, 2003
Framatome ANP, 51-5022812-00, St Lucie Unit 2 Data Analysis Guidelines Spring 2003 Outage.

Examination Technique Sheet #B1 - Bobbin Probe, Standard ASME Code Examination for Unsleeved Parent Tubing, Rev. 2
Framatome ANP, 02-5024161A-01, Guideline for In-Situ Screening and Interfacing with APTECH Engineering at PTN and PSL, 4/19/2003

Other Documents

PSL-ENG-SESJ-02-031, Engineering Evaluation Condition Monitoring and Operational Assessment for the Steam Generators Based on the Eddy Current Examination End of Cycle 12, November 2001. Revision 1, 4/2/2003
PSL-ENG-SEMS-02-067, Justification for the Deviation from the EPRI PWR SG Examination Guidelines for Bobbin Coil Voltage Normalization Requirements
PSL-ENG-SEMS-98-101, Safety Evaluation for Unit 2 Steam Generators Secondary Side Foreign Objects.
APTECH Letter dated May 6, 2003, Assessment of Wear Caused by Foreign Objects - St Lucie Unit 2 Steam Generators - April 2003 Inspection (APTECH Report ES 03024974-1Q-1, Controlled Document I-1)
Engineering Information Record 51-5027877-00, St Lucie-2 April 2003 EOC13 CMOA Input Document.
ET Indication Graphics for SG 2B Row 100 Lane 60 tube
ET Indication Graphics for SG 2B Row 103 Lane 129 tube
ET Indication Graphics for SG 2B Row 34 Lane 122 tube
ET Indication Graphics for SG 2B Row 63 Lane 103 tube

Condition Reports

CR 03-1573, Eddy Current testing in the 2A and 2B steam generators identified a larger number of indications of degradation than was projected.
CR 03-1574, Plus Point ECT has identified a number of possible loose parts on the tubesheet of the 2A and 2B steam generators
CR 03-1662, Five items removed from 2B SG during Foreign Object Search and Retrieval (FOSAR)
CR 03-1643, Engineering disposition addressing ECT results for 2A SG
CR 03-1644, Engineering disposition addressing ECT results for 2B SG

2OS1 Access Control To Radiologically Significant Areas

Procedures, Instructions, Guidance Documents

Plant St. Lucie (PSL) Inter-Office Correspondence, From Health Physics to Security Regarding Issuance of the High Radiation Area Key, dated November 29, 2001, October 22, 2002, and March 27, 2003
PSL Inter-Office Correspondence, From Health Physics to Security, Regarding Issuance of Very High Radiation Area Key, dated March 5, 2003
Administrative Procedure (ADM) -09.12, Conduct of Infrequently Performed Tests or Evolutions at St Lucie Plant, Rev. 0A
Instrument and Control Maintenance Procedure (IMP) - 65.10, Reactor Instrumentation Outage Tasks, Rev 0

Health Physics Procedure (HPP) - 3, High Radiation Areas, Rev. 14
HPP - 6, Health Physics Controls for Reactor Head Inspection, Rev. 0
HPP - 5, Health Physics Department Conduct of Operations, Rev. 0A
HPP-30, Personnel Monitoring, Rev. 30
HPP-39, Response Protocols for Whole Body Counting and Personnel Contamination Monitoring, Rev.
HPP-70, Personnel Contamination Monitoring, Rev. 21
St. Lucie Plant Nuclear Training Lesson Plan 3102200, General Employee Training, Non-Radiological Respiratory Protection Training, Rev. 1
St. Lucie Plant Nuclear Training Lesson Plan 3302016, Initial Radiation Control Area Training, Respiratory Protection Training, Rev. 7
St. Lucie Plant Nuclear Training Lesson Plan 3402200, General Employee Training, Respiratory Protection Requal, Rev. 4

Radiation Work Permits (RWPs)

RWP 03-2561, Locked High Radiation Area (LHRA) Unit 1 (U1), 19.5 foot (') Radiologically Controlled Area (RCA) / Dry Waste Storage / Drumming Room; Move Filter Cask to Unit 1 Drumming Room, Remove Filter from Cask, Remove Spacer from Filter, Place Filter in LHRA Storage Area, Remove Cask from Drumming Room, Revision (Rev.) 0
RWP-03-3368, Unit 2 (U2), Reactor Containment Building (RCB) - 62 foot (') Elevation: Reactor Head Lay Down Area: Beneath Head (LHRA); CEDMS # (18) and # (72): Grid Chamfer, Install, Weld, Inspect Funnels, Rev. 3
RWP-03-3370, U2, RCB - 62 foot (') Elevation: Reactor Cavity/ Refuel Bridge (LHRA); Identify, Retrieve, Remove Debris from Reactor Vessel Flange Area and Reactor Vessel, Rev. 0

Records and Data

Health Physics Forms HPP 3.2, Health Physics High Radiation Area Key Issue Log, May 7, 2003, through May 13, 2003,
Health Physics Forms HPP 22.1, Air Sample Data Summary Sheets for the Reactor Containment Building (RCB) "B" Side 18' Elevation conducted from April 23, 2003, through May 9, 2003
Health Physics Form HPP-30.17, Exposure Investigation Report, January 1, 2003, through May 15, 2003,
Health Physics Form HPP-30.18, Internal Dose Calculations, April 26, 2003, through May 16, 2003
Health Physics Form HPP-39.2, Authorization for Release of Contaminated Individuals, April 26, 2003, through May 16, 2003,
Health Physics Form HPP-70.1, Unit 2, Personnel Skin and Clothing Contamination Report, April 21, 2003, through May 15, 2003
Health Physics Form HPP-70.2, Unit 1 and Unit 2, Personnel Contamination Monitor - Portal Monitor ALARM Logs for January 1 through May 15, 2003
Health Physics Forms HPS 264, 288, 289, and -344, Radiation Surveys for the 'B' Steam Generator 18 foot (') Cold Leg, Hot Let, and Platform - conducted from April 24, 2003 through May 9, 2003
Health Physics Forms HPS 264, Radiation Surveys for Unit 2 Reactor Auxiliary Building 19.5' Elevation Let-Down Cubicle, conducted April 9, 2003

Corrective Action Program (CAP) Documents

Plant St Lucie Daily Quality Summary Reports , April 25 - May 16, 2003
CR-03-1053, Multiple DMC 200S EPD Alarms on Entry Exit Transactions, 03/02/2003
CR-03-1403, Breach of Mini-Spray System 1100E While Working Under Wrong RWP, 04/28/03
CR-03-1337, Inadequate Controls of 'Tool Box' Type Vacuums on RCB 18 Foot (') Elevation, 04/27/03
CR-03-1216, Inadequate Posting of U2 Reactor Auxiliary Building 0.5' Elevation Hallway between Low Pressure Safety Injection and Shutdown Cooling Heat Exchanger Rooms as an Exclusion Zone Preparation for Crud Burst, 04/21/03
CR-03-1586, Inadequate Training/Briefing on the Use of AMS-4 Continuous Monitoring Radiological Airborne Sampling Units, 05/03/03

2OS2 ALARA Planning and Controls

Procedures

HPP-30, Personnel Monitoring, Rev. 30
HPP-39, Response Protocols for Whole Body Counting and Personnel Contamination Monitoring, Rev. 1
HP-55, Portable Shielding, Rev. 17
HPP-101, Identification and Reporting of Radiological Events, Rev. 9
ADM-05.01, ALARA Program, Rev. 8
ADM-05.04, Cobalt Reduction Program, Rev. 0
ADM-07.02, Condition Reports, Rev. 7A
0-Nuclear Operations Procedure - 06.02, Flushing Hot Spots from Radioactive Piping Systems, Rev. 0

Surveys and Records

U2 Under-head Dose Rate Surveys, 04/29/03 and 05/06/03
U2 Investigational Hot-Leg Penetration Survey for RTD and Insulation Removal, 04/24/03
Dose Rate and Co-58 Concentration Trending Data for 2B Low Pressure Safety Injection System for Outages SL2-12, SL2-13, and SL2-14
ALARA Trending Point Data for January - March 2003
Procurement Data Records for Valve Number (No.) U2 - 3652
Temporary Shielding Placement Form 03-001, U2 2A & 2B hot leg drain valves
Temporary Shielding Placement Form 03-017, U2 A & B S/G Platform Low Dose Waiting Area and Cold Leg Manway Handrails
Temporary Shielding Placement Form 03-018, U2 18 Foot (') Reactor Coolant Loops
Exposure Records for Declared Pregnant Workers, 04/17/03 - 04/30/03
Three-year Collective Dose Average for St. Lucie U1 & U2, 1999 - 2001
Collective Dose by Department, Calendar Year 2002
Daily RWP Dose Reports, 04/28/03 - 05/02/03, and 05/12/03 - 05/16/03
Investigational Packages for Personnel Contamination Event Nos. 2003-103 and 2003-142
ALARA Review Board Meeting Minutes: May 6, 8, 9, 2003, and June 11, 2002.

Radiation Work Permits and ALARA plans

RWP 03-3006 and Associated ALARA work plan, De-tension/Tension Head Studs, Rev. 0
RWP 03-3324 and Associated ALARA work plan, S/G eddy Current Testing and Tube Plugging, Rev. 0
RWP 03-3357 and Associated ALARA Work Plan, Reactor Head Vent Line Manual Penetrant Testing, Rev. 0
RWP 03-3358 and Associated ALARA Work Plan, Remove, Replace, Repair Hot-leg RTD Nozzles, Rev. 0
RWP 03-3366 and Associated ALARA Work Plan, Support for Under-Head Repair Activities, Rev. 0, 1
RWP 03-3367 and Associated ALARA Work Plan, Under-Head Repair Work on Nozzles 18 and 72, Revs 0, 1, 2
RWP 03-3368 and Associated ALARA Work Plan, Under-Head Chamfer & Weld on Nozzles 18 and 72, Rev. 0, 1, 2, 3
RWP 03-3369 and associated ALARA work plan, Under-head manual penetrant testing, Rev. 0

Corrective Action Program Documents

CR 03-0083, Operations Work Task 41 millirem (mrem) over Budget, 01/08/03
CR 03-0068, Work Crew Received Additional Exposure During an At-power Entry, 01/08/03
CR 03-0047, White Paper Documenting Proposed New Methodology for Assigning Dose of Record, 01/09/03
CR 03-1475, RWP 03-3301 HP Initial Entry Surveys, Postings & Job Coverage' 423 mrem Over Budget, 04/21/03
CR 03-1872, SL2-14 Valve Work Exceeded the Original Dose Budget, May 2003

2PS2 Radioactive Material Processing and Transportation

Procedures

Health Physics Procedure (HP)-40, Shipment of Radioactive Material, Rev. 49A, 09/12/01
HP-47, Classification of Radioactive Waste Material for Land Disposal, Rev. 27, 04/17/02
HP-48, Activity Determinations for Radioactive Material Shipments, Rev.6A, 09/12/01
HP-49, Dewatering Radioactive Bed Resins, Rev.10, 02/25/02
HP-53, Transfer of Plant Process or Tri-Nuc Filters and High Dose Rate Radioactive Waste, Rev. 5A, 01/17/02
Health Physics Procedure (HPP)-45, Packaging of Dry Active Waste Into Bulk Containers, Rev. 5A, 04/01/03
HPP-41, Movement of Material and Equipment, Rev. 19, 04/01/03
HPP-80, Receipt of Radioactive Material, Rev.8A, 06/17/02

CAP Documents

CR-03-0522, Radioactive Material Outside RCA within Protected Area, 02/19/2003
CR-03-0557, Loss in Pressure on "C" Gas Decay Tank, 02/24/2003
CR-02-3092, Procedure for Release of Material, 12/06/02

Records and Data

Personnel Qualification Data Training Status Records as of April 28, 2003, for Hazardous Material Handling and Transportation of Radioactive Material
Quality Assurance Program Approval for Radioactive Material Packages No 0169, Rev. 6, dated 08/26/1999
10 CFR Part 50/61, Environmental Laboratory Certificate of Compliance, 06/10/02
Class A, Dry Active Waste Radioactive Material Shipment Record No. 02-80, 12/10/02
Class A, Resin Radioactive Material Shipment Record No. 02-79, 12/09/02
Class B, Resin Radioactive Material Shipment Record No. 02-40, 09/12/02
Equipment, Radioactive Material Shipment Record No. 02-60, 10/22/02
Class C, Resin Radioactive Material Shipment Record No. 02-08, 02/14/02
Equipment, Radioactive Material Shipment Record No. 02-28, 07/09/02

Annual Reports

St. Lucie Units 1 and 2, 2002 Annual Radioactive Effluent Release Report, 02/28/2003

4OA1 Performance Indicator Verification

Records

Administrative Procedure (ADM) -07.02, Condition Reports, Rev. 7A
System Structure Component (SSC) Performance Indicator Data; System 26, Radiation Monitoring, January 1, 2002, through March 31, 2003
Plant St. Lucie, Unit 1 and Unit 2 Gaseous and Liquid Effluent Dose Report Data as of April 30, 2003
Chemistry Off-Normal Sampling Log Data, November 1, 2002, through May 12, 2003
Operations Department Chronological Logs - Unit 1 May 1, 2002, through November 20, 2003, Radiation Monitor Entries
St. Lucie Units 1 and 2, 2002 Annual Radioactive Effluent Release Report, 02/28/2003

Corrective Action Program Documents

CR 02-2164, Evaluate Failure of RSC-26-1 in Accordance with ADM 17.08, ' Maintenance Rule, 09/09/2002
CR 03-0021, Evaluate Failure of RSC-26-1 Under the Maintenance Rule In Accordance with ADM 17.08, 01/06/2003

4OA2 Identification and Resolution of Problems

Procedures, Guidance Documents, Lessons Plans

2- Instrument and Control Maintenance Procedure - 65.10, Reactor Instrumentation Outage Tasks, Rev. 0
Administrative Procedure (ADM) - 09.12, Conduct of Infrequently Performed Test or Evolutions at St Lucie Plant, Rev. 0A

Work Control Guideline (WCG) - 013, Operations Control Center Daily Guideline, Rev. 0,
Off-Normal Operating Procedure, 1-ONP-26.02, Area Radiation Monitor, Rev 1
HPP - 42, Identification, Survey, and Release of Material, Rev. 0,
Training for Radiation Worker Excellence, 3410300, Rev. 1

CAP Documents

CR 02-2336, Hydrolazing Activities Resulted in Airborne Contamination within the U1 RCB and Fuel Handling Building and Numerous Personnel Contaminations, 10/06/02
CR 02-2367, Failure to Evacuate U1 Containment Following Containment Evacuation Alarm, 10/07/02
CR 02-2523, Fixed Contamination Found on Workers Clothes Offsite, 10/13/02
CR 02-2729, Release of Slightly Contaminated Modesty Garments Offsite for Processing, 10/21/02523,
CR 02-2833, Review 64 CRs Associated with Inadequate Radiological Controls Associated with U1 EOC 18 RFO, 11/04/02
Plant St. Lucie Nuclear Assurance Quality Report, 03-0052, Radiation Protection Program Corrective Action, 04/18/03

LIST OF ACRONYMS

ADM	Administrative Procedure
ALARA	As Low As Reasonably Achievable
ARB	ALARA Review Board
AFW	Auxiliary Feedwater Pump
CEOG	Combustion Engineering Owners Group
CCW	Component Cooling Water
CR	Condition Report
CEDM	Control Element Drive Mechanisms
CRECS	Control Room Emergency Cleanup System
CAP	Corrective Action Program
DRP	Discrete Radioactive Particle
DAW	Dry Active Waste
ET	Eddy Current Examination
ED	Electronic Dosimetry
EDG	Emergency Diesel Generator
EPIP	Emergency Plan Implementing Procedure
EOP	Emergency Operating Procedure
ERT	Event Review Team
FPL	Florida Power and Light
FME	Foreign Material Exclusion
HX	Heat Exchanger
HP	Health Physics
HPCC	Health Physics Control Center
HPT	Health Physics Technician
HPSI	High Pressure Safety Injection
HRA	High Radiation Area

ICI	Incore Instrumentation
ISI	Inservice Inspection
ICW	Intake Cooling Water
LER	Licensee Event Report
LHRA	Locked High Radiation Area
LPSI	Low Pressure Safety Injection
MCB	Main Control Boards
MFW	Main Feedwater
MT	Magnetic Particle Test
NCV	Non-cited Violation
NDE	Nondestructive Examination
OS	Occupational Radiation Safety
OWA	Operator Work Around
OCC	Outage Control Center
OOS	Out of Service
PMAIs	Plant Manager Action Items
PWO	Plant Work Order
PI	Performance Indicator
PWSCC	Primary Water Stress Corrosion Cracking
PCP	Process Control Program
PA	Protected Area
PS	Public Radiation Safety
PMT	Post Maintenance Testing
RCA	Radiation Controlled Area
RP	Radiation Protection
RAB	Reactor Auxiliary Building
RCS	Reactor Coolant System
RPVH	Reactor Pressure Vessel Head
RMT	Restart Management Team
RCT	Root Cause Team
RAT	Risk Assessment Team
SSFF	Safety System Functional Failure
SNO	Short Notice Outage
SDP	Significance Determination Process
SFPC	Spent Fuel Pool Cooling
SG	Steam Generator
SSCs	Systems, Structures, and Components
TS	Technical Specifications
TSC	Technical Support Center
TSA	Temporary System Alterations
TEDE	Total Effective Dose Equivalent
UT	Ultrasonic Test
SL1-18	Unit 1 Eighteenth Refueling Outage
SL2-14	Unit 2 Fourteenth Refueling Outage
UFSAR	Updated Final Safety Analysis Report
NRC	US Nuclear Regulatory Commission
VCC	Vendor Control Center
VHRA	Very High Radiation Area
VT	Visual Test