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

July 27, 2005

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: TURKEY POINT NUCLEAR PLANT - INTEGRATED INSPECTION REPORT 05000250/2005003 AND 05000251/2005003

Dear Mr. Stall:

On June 30, 2005, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Units 3 and 4. The enclosed integrated inspection report documents the inspection findings which were discussed on July 14, 2005, with Mr. M. Pearce 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 the results of this inspection the inspectors identified three identified findings of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. However, because of the very low safety significance of the issues, and because each was entered into your corrective action program, the NRC is treating the issues as Non-Cited violations (NCV) consistent with Section VI.A of the NRC Enforcement Policy. Additionally, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. If you wish to contest any NCVs 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 20555-001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Turkey Point.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). Adams is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

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

Docket Nos. 50-250, 50-251
License Nos. DPR-31, DPR-41

Enclosure: Inspection Report 05000250/2005003 and 05000251/2005003
w/Attachment: Supplemental Information
cc w/encl:

cc w/encl:
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Site Vice President
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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-250, 50-251
License Nos:	DPR-31, DPR-41
Report No:	05000250/2005003, 05000251/2005003
Licensee:	Florida Power & Light Company (FP&L)
Facility:	Turkey Point Nuclear Plant, Units 3 & 4
Location:	9760 S. W. 344th Street Florida City, FL 33035
Dates:	April 1, 2005 - June 30, 2005
Inspectors:	S. Stewart, Senior Resident Inspector K. Weaver, Senior Resident Inspector E. Brown, Acting Senior Resident Inspector M. Barillas, Acting Resident Inspector J. Herrera, Resident Inspector, Oyster Creek Plant R. Aiello, Senior Operations Engineer (Section 1R11.2) G. Kuzo, Senior Health Physicist (Sections 2OS1, 2OS2, 4OA1, 4OA5.6) A. Nielsen, Health Physicist (Sections 2PS2, 4OA5) S. Vias, Senior Reactor Inspector (Section 1R08) B. Crowley, Senior Reactor Inspector (Section 4OA5.1) J. Lenahan, Senior Reactor Inspector (Section 4OA5.2) J. Rivera-Ortiz, Reactor Inspector (Section 4OA5.1) R. Rodriguez, Reactor Inspector (Section 4OA5.7-.11) S. Rudisail, Project Engineer S. Sanchez, Resident Inspector, St. Lucie Plant
Approved by:	Joel T. Munday, Chief Reactor Projects Branch 3 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000250/2005-003 05000251/2005-003; 04/01/2005 - 06/30/2005; Turkey Point Nuclear Power Plant, Units 3 and 4: Personnel Performance During Nonroutine - Plant Evolutions; Surveillance Testing

The report covered a three month period of inspection by resident inspectors, a region based project engineer, and eight region based inspectors including two health physicists. Three Green non-cited violations were identified. The significance of most findings is identified by their color (Green, White, Yellow, Red) using IMC 0609, “Significance Determination Process” (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process,” Revision 3, dated July 2000.

A. Inspector Identified & Self-Revealing Findings

Cornerstone: Initiating Events

- Green The inspectors identified a non-cited violation of Technical Specification 6.8.1, Procedures and Programs when the licensee failed to notify control room personnel when a reflash fire was suspected in the Unit 4 main transformer. Section 5.2.2 of the fire protection program requires that individuals discovering a fire which cannot be safely extinguished using the fire fighting equipment close at hand, shall immediately notify the Shift Manager or the appropriate Reactor Operator.

  This finding is more than minor because if left uncorrected, a more significant safety concern would arise, that being prompt assessment, classification, notification, and response to a fire within the nuclear complex. The issue was of very low safety significance because (1) the fire zone was outside the vital areas of the plant, and (2) safe shutdown equipment was not affected. The cause of the finding involved the cross-cutting element of Human Performance. (Section 1R14)

- Green The inspectors identified a non-cited violation of Technical Specification 6.8.1, Procedures, when the licensee failed to follow procedures for identifying and resolving high unidentified reactor coolant system leakage.

  This finding was more than minor because any increase in unidentified reactor coolant system leakage could be viewed as a precursor to a significant event, that being failure of the reactor coolant system pressure boundary. The issue was of very low safety significance because when investigated following a second high leakage rate determination, leaking valves in a support system were identified as the cause and no actual reactor coolant system boundary leakage occurred. The cause of the finding involved the cross-cutting element of Human Performance. (Section 1R22)

Cornerstone: Mitigating Systems

- Green: The inspectors identified a non-cited violation of 10 CFR 50, Appendix B Criterion XVI, Corrective Action, and licensee administrative procedure NAP-204, Condition Reporting when the licensee failed to enter a condition adverse to quality in the corrective action program in that on multiple occasions a plant responder was not available to respond to an event by virtue of being locked out of the plant protected area.

  The issue was more than minor because if left uncorrected, it would become a more significant safety concern, that being degradation of the ability of the licensee to respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because the times the operator was locked out were brief (less than one hour) and safe shutdown equipment was not affected. The Mitigating Systems Cornerstone was affected and the finding was associated with the attributes of Protection Against External Factors (fire). The finding involved the cross-cutting element of Problem identification and Resolution. (1R14)

B. Licensee Identified Violation

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. These violations and corrective actions taken are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status:

Unit 3 operated at full power during the inspection period.

At the beginning of the inspection period Unit 4 operated at approximately 60 percent full power. On April 10, Unit 4 operators commenced a plant shutdown for a refueling outage that included reactor vessel head replacement. Turkey Point Unit 4 resumed power operations briefly on June 13, when after about 10 minutes, the reactor was returned to Mode 2 for repairs to the turbine governor control system. The plant returned to Mode 1 later that day and resumed full power operations on June 16, 2005. On June 27, Unit 4 tripped due to a fault and fire in the unit main transformer. Unit 4 remained shutdown in Mode 3 for the remainder of the period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection

a. Inspection Scope

During the week of May 16, the inspectors verified the status of licensee actions in accordance with administrative directive EP-AD-009, 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 exceptions which had been identified during the initial check list completion by licensee personnel. Exceptions to the hurricane preparation checklist are approved by the site Vice President and the Plant General Manager and are reviewed weekly by management until completed. The inspectors also reviewed procedure 0-ONOP-103.3, Severe Weather Preparations, and specifically examined the following exterior areas:

- Unit 3 and Unit 4 Perimeters
- Unit 3 and Unit 4 Turbine Buildings

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. The inspectors reviewed the operability of a redundant train or backup system/train while the other trains were inoperable or out of service. These inspections included reviews using plant lineup procedures, operating procedures, and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions of the operable systems were correctly aligned.

- Unit 4, Residual Heat Removal System, in accordance with Procedure 4-OP-050, Residual Heat Removal System, conducted on April 11 through 15 following shutdown to Mode 5
- Unit 4, 4A Emergency Diesel Generator (EDG), in accordance with Procedure 0-OSP-023.3, Equipment Operability Verification with an Emergency Diesel Generator Inoperable, conducted on April 18 while the 4B EDG was out of service
- Unit 4, 4kV 4A bus in accordance with procedure 0-OSP-023.3, Equipment Operability Verification with an Emergency Diesel Generator Inoperable, during maintenance performed on the 4kV 4B bus

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors conducted one detailed walkdown/review of the alignment and condition of the Unit 3 high head safety injection (HHSI) system, which included both A and B HHSI pumps. The inspectors utilized licensee procedure 3-OP-062, Safety Injection, and drawing 5613-3062, Safety Injection System, as well as other licensing and design documents to verify that the system alignment was correct. During the walkdown, the inspectors also verified that: valves and pumps did not exhibit leakage that would impact their function; that major portions of the system and components were correctly labeled; that selected hangers and supports were installed and functional; and that essential support systems were operational. A review of open corrective action reports was also performed to verify that the licensee had appropriately characterized and prioritized equipment problems for resolution in the corrective action program. In addition, the inspectors reviewed outstanding maintenance work requests to determine if any of these affected the ability of the system to perform its function.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Walkdowns

The inspectors toured the following nine plant areas during this inspection period to evaluate conditions related to control of transient combustibles and ignition sources, the material condition and operational status of fire protection systems including fire barriers used to prevent fire damage or fire propagation. The inspectors reviewed these activities against provisions in the licensee's off Normal Operating Procedure 0-ONOP-016.8, Response to a Fire/Smoke Detection System Alarm, Administrative Procedures 0-SME-091.1, Fire and Smoke Detection System Annual Test; O-ADM-016.4, Fire Watch Program; 0-ADM-016, Fire Protection Plan, and 10 CFR Part 50, Appendix R. The licensee's fire impairment lists, updated on a daily basis were routinely reviewed. In addition, the inspectors reviewed the condition report database to verify that fire protection problems were being identified and appropriately resolved. The following areas were inspected:

- Unit 3, RHR Heat Exchanger Room
- Unit 3, 480V Load Centers A and B Room
- Units 3 and 4, Auxiliary Feedwater Pump Area
- Unit 4, Component Cooling Water Pump and Heat Exchanger Area
- Unit 3, Spent Fuel Pit
- Unit 3, Emergency Diesel Generators Building
- Unit 4, A Emergency Diesel Generator Building
- Main Control Room
- Unit 4, B train RHR heat exchanger room

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

Internal Flooding

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, Appendix 5F, Internal Plant Flooding, that discussed protection of areas containing safety-related equipment that may be affected by internal flooding. A walkdown of the Unit 4 residual heat removal rooms including checks of the sumps in each room was conducted to ensure that flood protection measures were in accordance with design specifications. Specific plant attributes that were checked included structural integrity, sealing of penetrations, control of debris, and operability of sump systems.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors witnessed two heat exchanger bio-fouling removal activities on the 4C and 3C Component Cooling water heat exchangers, which provide cooling to safety related equipment during normal and emergency operations. On May 17, 2005, the inspectors observed maintenance personnel perform heat exchanger cleaning as part of work order numbers 34022547 and 35003913. The inspectors verified that activities were conducted in accordance with procedures 3&4-OSP-019.4, "Component Cooling Water Heat Exchanger Performance Monitoring", and procedure 0-PMM-030.1, "Component Cooling Water Heat Exchanger Cleaning", and assessed the operational readiness of the system should it be needed for accident mitigation.

Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI) Activities

.1 Piping Systems ISI

a. Inspection Scope

From April 18 - May 6, 2005, the inspectors reviewed the implementation of the licensee's ISI program for monitoring degradation of the reactor coolant system boundary and the risk significant piping system boundaries for Unit 4. The inspectors selected a sample of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI required examinations and Code components in order of risk priority as identified in Section 71111.08-03 of inspection procedure 71111.08, "Inservice Inspection Activities," based upon the ISI activities available for review during the onsite inspection period.

The inspectors conducted an on-site review of nondestructive examination (NDE) activities to evaluate compliance with Technical Specifications (TS), ASME Section XI, and ASME Section V requirements, 1998 Edition through 2000 Addenda, and to verify that indications and defects (if present) were appropriately evaluated and dispositioned in accordance with the requirements of ASME Section XI, IWB-3000 or IWC-3000 acceptance standards. Specifically, the inspectors observed the following examinations and examination records:

Ultrasonic (UT): 29"-RCH-1404-2, Pipe-to-Pipe, Category R-A, Item R1.11
Automated UT: Reactor Vessel 10-Year ISI
Visual (VT): 5614-H-574, Double Acting Restraint, Category F-A, Item F1.10, VT-3
Liquid Penetrant (PT): 5614-H-574, Integral Attachments, Category B-K, Item B10.20
Radiographic Examination (RT): 14" MSA-2402-1, Category C-F-2

The Inspectors reviewed examination records and corrective action documents for the previous Unit 4 recordable indication as reported in a FPL letter to the NRC dated January 30, 2003 on Form NIS-1 to evaluate if the licensee's acceptance was in accordance with acceptance standards contained in ASME Section XI. The inspectors reviewed documentation and results for the following recordable indication: Magnetic Particle Testing (MT): 6"-FW-2403-3 (CR-03-3271).

Qualification and certification records for examiners, inspection equipment, and consumables along with the applicable NDE procedures for the above ISI examination activities were reviewed and compared to requirements stated in ASME Section V and Section XI.

A sample of pressure boundary welding activities associated with ASME Class 1 or 2 components was reviewed by the inspectors, to verify the welding process and examinations were performed in accordance with the ASME Code Sections III, V, IX, and XI requirements. The inspectors reviewed documentation and results for the following components and associated Class 1 welds: RV-4-4311 & 4-385 with bypass line.

The inspectors performed a review of piping system ISI related problems that were identified by the licensee and entered into the corrective action program. The inspectors reviewed corrective action documents to confirm that the licensee had appropriately described the scope of the problems. Additionally, the inspectors' review included confirmation that the licensee had an appropriate threshold for identifying issues and had implemented effective corrective actions. The inspectors evaluated the threshold for identifying issues through interviews with licensee staff and review of licensee actions to incorporate lessons learned from industry issues related to the ISI program. The inspectors performed these reviews to ensure compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed by the inspectors are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

.2 Boric Acid Corrosion Control (BACC) ISI

a. Inspection Scope

The inspectors reviewed the licensee's BACC program to ensure compliance with commitments made in response to NRC Generic Letter 88-05 "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary" and Bulletin 2002-01 "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity."

The inspectors conducted an on-site record review as well as an independent walk-down of parts of the reactor building that are not normally accessible during at-power operations to evaluate compliance with licensee BACC program requirements. In particular, the inspectors assessed whether the visual examinations focused on locations where boric acid leaks can cause degradation of safety significant components and that degraded or non-conforming conditions were properly identified in the licensee's corrective action system. The inspectors reviewed changes to the BACC procedure 0-OSP-041.26, Containment Visual Leak Inspection, 3/7/05 and Operations procedure, 4-GOP-301, Hot Standby to Power Operations, 4/18/05, that were recently revised to properly perform walkdowns to identify boric acid leaks after a change in system configuration occurring after the outage shutdown.

The inspectors reviewed a sample of engineering evaluations completed for boric acid found on reactor coolant system piping and components to verify that the minimum design code required section thickness had been maintained for the affected component(s). The inspectors also reviewed licensee corrective actions implemented for evidence of boric acid leakage to confirm that they were consistent with requirements of Section XI of the ASME Code and 10 CFR 50 Appendix B Criterion XVI.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

.1 Routine Quarterly Review

a. Inspection Scope

On June 20, 2005, the inspectors observed and assessed licensed operator actions to a simulated loss of vacuum, dropped rod, loss of 3P09, and an anticipated transient without scram (ATWS). The operator's actions was checked to be in accordance with licensee procedures. The inspectors reviewed the following associated licensee documents: Lesson package no. 750006900, Loss of Vacuum, Dropped Rod; Loss of 3P09, ATWS; Procedure NAP-402, Conduct of Operations; Procedures 0-EPIP-2001, Duties of Emergency Coordinator; 3-ONOP-014, Main Condenser Loss of Vacuum; 3-ONOP-028.3N, Dropped RCC; 3-ONOP-003.9, Loss of vital instrument panel 3P09; and Procedure 3-EOP-FR-S.1, Response to Nuclear Power Generation ATWS. The inspectors specifically evaluated the following attributes related to operating crew performance:

- Clarity and formality of communication
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms
- Correct use and implementation of Off Normal and Emergency Operation Procedures and Emergency Plan Implementing Procedures
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by Operations supervision, including ability to identify and implement appropriate Technical Specification actions, regulatory reporting requirements, and emergency plan actions and notifications
- Effectiveness of periodic training critiques

b. Findings

No findings of significance were identified.

.2 Annual Operating Test Results

a. Inspection Scope

On April 23, 2005, the licensee completed the requalification annual operating tests, required to be given to all licensed operators by 10 CFR 55.59(a)(2). The inspectors reviewed the overall pass/fail results of the individual operating tests, and the crew simulator operating tests. These results were compared to the thresholds established in Manual Chapter 609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following (two) equipment problems and associated condition reports to verify that the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants) and Administrative Procedure 0-ADM-728, Maintenance Rule Implementation. The inspectors' efforts focused on maintenance rule scoping, characterization of the failed components, risk significance, determination of (a)(1) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also 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.

- Condition Report 2005-13176, Breaker 3AB failed to close from the control room
- Condition Report 2005-16398, Grid stability review and action plans

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors completed in-office reviews and control room inspections of the licensee's risk assessment of (five) emergent or planned maintenance activities. The inspectors compared the licensee's risk assessment and risk management activities against the requirements of 10 CFR 50.65(a)(4); the recommendations of Nuclear Management and Resource Council 93-01, Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 3; and Procedures 0-ADM-068, Work Week Management and O-ADM-225, On Line Risk Assessment and Management. The inspectors also reviewed the effectiveness of the licensee's contingency actions to mitigate increased risk resulting from the degraded equipment. The inspectors evaluated the following risk assessments during the inspection:

- Unit 4, risk assessment for work conducted on April 11, 2005, which included draining the reactor coolant system.
- Unit 3, maintenance risk assessment for work conducted on April 11, which included troubleshooting the 3C component cooling water pump.
- Unit 3, maintenance risk assessment for work conducted on April 18, which included Intake Bay 3A2 Grizzly cleaning and 3B train RPS Logic Test.
- Unit 3 and 4, maintenance risk assessment for auxiliary feedwater pump oil addition on May 5, which increased plant risk while B Standby Steam Generator Feed pump was out of service due to maintenance.
- Unit 3, maintenance risk assessment for work conducted on 3A and 4A 4160V vital busses during week of May 5, 2005 unit 4 maintenance refueling outage.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope

For the non-routine events described below, the inspectors either observed the activity or reviewed operator logs and computer data to determine that the evolution was conducted safely and in accordance with plant procedures. Specific checks were done to assess operator preparedness and performance in coping with non-routine events

and transients.

- June 3, 2005; CR 2005-16378 and 2005-16377; Notice of Unusual Event due to reactor coolant system (RCS) leakage greater than allowed by technical specifications. The licensee determined that a valve (4-802B) in the chemical volume and control system letdown line had been incorrectly opened, thus allowing a transfer of water from the letdown system to the RWST. The event was later retracted because the transfer of water was not RCS leakage.

- June 11 and 15, 2005; Non-licensed operator preparedness for response when assigned collateral duties at FPL Units 1 and 2.

- June 27, 2005; CR 2005-18338; Notice of Unusual Event due to a fire in the Unit 4 main transformer that resulted in a reactor trip.

- June 29, 2005; CR 2005-18508; Fire in Unit 4 main transformer suspected when smoke was observed coming out of an opened cooling connection. The inspectors reviewed the licensee's actions relative to the requirements of FPL procedure 0-ADM-016, Fire Protection Program.

b. Findings

.1 Introduction: A Green Non-Cited Violation was identified by the inspectors for failure to enter a condition adverse to quality in the corrective action program in that on multiple occasions a plant responder was not available to respond to an event by virtue of being locked out of the plant protected area. Informal interim actions were insufficient prior to a June 15 occurrence where a member of the fire brigade was locked outside of the plant protected area such as to prevent timely response to a fire alarm. The issue, although having occurred prior to June 15, including June 11, was not documented in the corrective actions program until observed by the inspectors.

Description: Non-licensed nuclear plant operators are generally assigned collateral duties of either plant fire brigade member or responder for implementation of 0-ONOP-105, Control Room Evacuation. The inspector learned on June 12, 2005, that a member of the plant fire brigade had been locked out of the plant protected area after having left the area to take logs on FPL Units 1 and 2 (fossil). When trying to return, security personnel assigned to facilitate re-entry had been re-assigned to other duties and the operator was stranded until a security guard could be summoned. The inspector was informed that this lockout had been a recurring issue and that it had taken as long as 40 minutes to restore access of the operator to the protected area. The outside operator typically has duties to either complete immediate actions per FPL off-normal procedure 0-ONOP-105, Control Room Evacuation, or as a member of the plant fire brigade. In either case, the responder position requires availability of the individual, typically in a few minutes to mitigate events, including fires. Although the lockout had been a recurring problem, the inspector observed on June 12 that Operations personnel attempted to correct the problem by meeting with security supervisors. A condition report was not written. The inspector then observed on June 15, that the operator, when assigned as a

member of the fire brigade, was locked out of the protected area for about 20 minutes, until a security guard could be summoned. Following the June 15 occurrence, and after questioning by the inspector, a condition report was written (CR 2005-17412) and corrective actions initiated.

Analysis: Failing to assure adequate interim measures for operators assigned with response duties when assigned outside of the plant protected area was identified as a performance deficiency. The issue was more than minor because if left uncorrected, the challenge to adequate event response due to collateral duties would become a more significant safety concern, that being degradation of the ability of the licensee to respond to initiating events to prevent undesirable consequences. The Mitigating Systems Cornerstone was affected and the finding was associated with the attributes of Protection Against External Factors (fire) and Human Performance (Pre-event). Although not suitable for SDP review, the finding was determined by regional management to be of very low safety significance in that (1) the times the operator was locked out were generally brief (less than one hour); and (2) safe shutdown equipment was not affected. The finding involved the cross-cutting area of Problem Identification and Resolution because although known as a problem by operations personnel, no corrective action program entry had been made.

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, states, in part, that measures shall be established to assure that conditions adverse to quality, are promptly identified and corrected. The licensee meets this requirement, in part, by implementing administrative procedure NAP-204, Condition Reporting. NAP-204 requires in step 3.7, that site personnel are responsible for identifying and reporting conditions that are potentially adverse to plant safety. Contrary to the above, on June 11, 2005, and on prior occasions, a condition report had not been identified for the potentially adverse condition of having a plant operator unable to respond to an event if needed, while assigned duties outside of the plant protected area. The violation represents a failure to assure that corrective measures to conditions adverse to quality were taken in a timely manner, to prevent recurrence. There were no events requiring response during the times that the operator had been locked out. Once identified by the inspectors, the licensee documented the issue in the corrective actions program and suspended activities outside of the plant protected area for personnel assigned as responders. Because the failure to identify and report conditions adverse to safety was of very low safety significance and had been entered into the licensee's corrective action program as CR 2005-17412, this violation is being treated as an Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000250 and 05000251/2005-03-01: Failure to identify and report conditions potentially adverse to plant safety involving availability of operators for event response when assigned collateral duties.

.2 Introduction: A Green Non-Cited Violation was identified by the inspectors when the licensee failed to implement plant fire procedures when a reflash fire was suspected in the Unit 4 main transformer. Section 5.2.2 of the fire protection program requires that individuals discovering a fire, which cannot be safely extinguished using the fire fighting equipment close at hand, shall immediately notify the Shift Manager or the appropriate Reactor Operator.

Description: On June 29, 2005, FPL craftsmen, engineers, and staff performed site cleanup and transformer disassembly activities on Unit 4 following a main transformer fire on June 27. After removal of a cooling flange on the transformer, smoke was noted coming from the transformer internals. Engineering personnel were summoned to perform thermography on the casing and a nitrogen purge was planned to assure that any internal burning was extinguished. The site fire protection engineer was also summoned to the scene. NRC inspectors upon arriving at the scene, noted the absence of fire brigade personnel and when FPL supervisors were questioned, learned that control room personnel had not been notified of the potential fire.

The Unit 4 transformer was located in the secondary plant, in the vicinity of secondary plant equipment including the main generator, various electrical cable runs including bus power supplies, and the main turbine generator and associated equipment. The transformer contained oil and because of the earlier fire, had been de-energized, disconnected, and was being disassembled for removal. Fire detection equipment for the transformer was disconnected, however, fire detection for nearby areas remained operable. A safety related isolation valve near the transformer had been damaged by the June 27 fire and had been shut to its safety position. Automatic fire suppression in the area of the transformer had been removed from service to support removal of the transformer. Water hose stations and fire extinguishers were located in the vicinity.

Analysis: The inspectors determined that the failure to inform control room personnel of a suspected onsite fire was contrary to plant fire protection procedures and was a performance deficiency warranting significance evaluation. The inspectors concluded that the finding was greater than minor in accordance with Inspection Manual Chapter 0612, Appendix B, because if left uncorrected, a more significant safety concern would arise, that being prompt assessment, classification, notification, and response to the emergency condition of an uncontrolled fire within the nuclear complex. The finding involved the Initiating Events cornerstone with the attribute of protection from external factors (fire). The finding involved the cross-cutting aspect of Human Performance because the number of on-scene personnel that failed to report the suspected fire to control room personnel included supervisory individuals and those trained on the need for prompt integrated response should a fire have occurred. Control room personnel responsible for fire assessment, mitigation, and emergency declaration and notifications were not aware of the situation.

The finding involved the ability of the fire brigade and associated resources to promptly respond to a fire. At the time of the occurrence, the automatic deluge system for the main transformer was out of service. The fire protection significance determination process (Inspection Manual Chapter 0609F) was not appropriate because the process is

not applicable to lower than full power modes of plant operation (nuclear unit was shutdown) and fire brigade degradations. Although not suitable for SDP review, the finding was determined by regional management to be of very low safety significance in that (1) the fire zone was outside the vital areas of the plant, and (2) safe shutdown equipment was not affected.

Enforcement: Technical Specification 6.8.1 requires implementation of activities, including the facility Fire Protection Program. FPL procedure 0-ADM-016, Fire Protection Program, requires that individuals discovering a fire which cannot be safely extinguished using the fire fighting equipment close at hand, shall immediately notify the Shift Manager or the appropriate Reactor Operator. Contrary to the above, when smoke was identified from an open port in the Unit 4 main transformer, fire suppression activities including a nitrogen purge were planned and the control room was not immediately notified. The violation existed for about one hour during which time smoke came from the opened flange connection, as station personnel performed thermography and planned the nitrogen purge. When the failure to notify control room personnel was identified by the inspector, control room personnel were promptly summoned and a work stand-down was ordered to assure that personnel would alert operators of unusual conditions at the work site, including suspected fires. A condition report was generated. Because of the very low safety significance and because the issue has been entered into the corrective action program (CR 2005-18443 and 18508), the issue is being treated as a Non-Cited Violation consistent with Section VI.A.1 of the NRC Enforcement Policy. NCV 05000251/2005003-02, Failure to implement fire protection procedures.

1R15 Operability Evaluations

a. Inspection Scope

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

- Unit 3, CR 2005-7552, 3A Containment Spray Pump Seal Injection Flow Indicator, FI-3-NNA Problem
- Unit 4, CR 2005-7896, MOV-856A (HHSI Pump Recirculation Isolation Valve) conduit degradation
- Unit 4, CR 2005-13739, EDG voltage regulator swings
- Unit 4, CR 2005-14614, Grid undervoltage relay failure during A safeguards testing
- Unit 3, CR 2005-16678, 3A & 3B High Head Safety Injection recirculation piping foreign material intrusion
- Unit 4, CR 2005-17497, Unit 4 A Steam Generator blowdown sample line leak

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the five post maintenance tests listed below, the inspectors reviewed the test procedures and either witnessed the testing and/or reviewed test records to determine whether the scope of testing adequately verified that the work performed was correctly completed and demonstrated that the affected equipment was functional and operable. The inspectors verified that the requirements of Procedure 0-ADM-737, Post Maintenance Testing, were incorporated into test requirements. The inspectors reviewed the following work orders (WO) and/or surveillance procedures (OSP):

- Unit 3, Damper D-2 Control Room Emergency Ventilation System Operability Test 0-OSP-025.1, in accordance with Work Order 3401080001, conducted on April 8, 2005
- Unit 3, Procedure 3-OP-005, section 7.2, Transferring Station Service from Startup to Auxiliary Transformers, conducted on 3AB05 4160V startup transformer breaker due to failed limit switch on May 5, 2005
- Unit 4, Procedure 4-OSP-203-1, Train A Engineered Safeguards Integrated Test as part of a cumulative post maintenance test for work conducted during outage on A train safeguards components
- Unit 3, Procedure 3-OSP-056.1, A Emergency Containment Filter fans operating test after failure and replacement of failed fast acting fuse conducted on May 19, 2005
- Unit 3, Procedure 3-OSP-075.7, Auxiliary Feedwater Train 2 Backup Nitrogen Test as part of a post maintenance test conducted on the B Auxiliary feedwater pump due to turbine thrip and throttle valve relay replacement and MOV-3-1404 in-service test conducted on June 25, 2005

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

The inspectors evaluated licensee outage activities as described below, to verify the licensee considered risk in developing outage schedules, adhered to administrative risk reduction methodologies they developed to control plant configuration, and adhered to operating license and Technical Specification requirements that maintained defense-in-depth. The inspectors also verified that the licensee developed mitigation strategies for losses of the following key safety functions:

- decay heat removal
- inventory control
- power availability
- reactivity control
- containment

Documents reviewed by the inspectors are listed in the Attachment.

.1 Review of Outage Plan

a. Inspection Scope

Prior to the outage, the inspectors reviewed the licensee's outage risk control plan to verify that the licensee had performed adequate risk assessments and had implemented appropriate risk-management strategies when required by 10 CFR 50.65(a)(4).

b. Findings

No findings of significance were identified.

.2 Monitoring of Shutdown Activities

a. Inspection Scope

The inspectors observed portions of the plant shutdown and cooldown process to verify that Technical Specification cooldown restrictions were followed.

b. Findings

No findings of significance were identified.

.3 Licensee Control of Outage Activities

a. Inspection Scope

During the outage, the inspectors observed the items or activities described below, to verify that the licensee maintained defense-in-depth commensurate with the outage risk-control plan for key safety functions and applicable Technical Specifications when taking equipment out of service.

- Clearance Activities
- Reactor Coolant System Instrumentation
- Electrical Power
- Residual Heat Removal (RHR)

- Spent Fuel Pit Cooling
- Inventory Control
- Reactivity Control
- Containment Closure

The inspectors also reviewed the licensee's responses to emergent work and unexpected conditions, to verify that resulting configuration changes were controlled in accordance with the outage risk control plan, and to verify that control-room operators were kept cognizant of the plant configuration.

b. Findings

No findings of significance were identified.

.4 Reduced Inventory and Mid-loop Conditions

a. Inspection Scope

During this Refueling Outage, the licensee did not reduce the reactor coolant system (RCS) water level to reduced inventory or mid-loop conditions. However, the licensee did drain the RCS to just below the reactor vessel flange for head removal operations. The inspectors observed the RCS drain down and reviewed the planned activities during this drain down condition to assess the effect of the critical parameters that affected RCS time to boil. The inspectors reviewed the Unit 4 time-to-boil curves as well as licensee controls and administrative procedures governing the RCS drain down operation. The inspectors verified that multiple RCS water level indications were available and that operators were appropriately monitoring RCS water level to identify unexpected RCS inventory changes both during the actual draining of the RCS and during the duration of the RCS drained down condition.

b. Findings

No findings of significance were identified.

.5 Refueling Activities

a. Inspection Scope

The inspectors observed fuel handling operations (removal, inspection, and insertion) and other ongoing activities to verify that those operations and activities were being performed in accordance with Technical Specifications and approved procedures. Also, the inspectors observed refueling activities to verify that the location of the fuel assemblies was tracked, from core offload through core reload.

b. Findings

No findings of significance were identified.

.6 Monitoring of Heatup and Startup Activities

a. Inspection Scope

Prior to mode changes and on a sampling basis, the inspectors reviewed system lineups and/or control board indications to verify that technical specifications, license conditions, and other requirements, commitments, and administrative procedure prerequisites for mode changes were met prior to changing modes or plant configurations. Also, the inspectors periodically reviewed RCS boundary leakage data, and observed the setting of containment integrity, to verify that the RCS and containment boundaries were in place and had integrity when necessary. Prior to reactor startup, the inspectors walked down containment to verify that debris had not been left which could affect performance of the containment sumps. The inspectors observed activities during reactor restart and power escalation to verify that reactor parameters were within safety limits and that the startup evolutions were done in accordance with pre-approved procedures and plans.

b. Findings

No findings of significance were identified.

.7 Identification and Resolution of Problems

a. Inspection Scope

Periodically, the inspectors reviewed the items that had been entered into the licensee's corrective action program, to verify that the licensee had identified problems related to outage activities at an appropriate threshold and had entered them into the corrective action program. For the significant problems documented in the corrective action program and listed below, the inspectors reviewed the results of the licensee's investigations, to verify that the licensee had determined the root cause and implemented appropriate corrective actions, as required by 10 CFR 50, Appendix B, Criterion XVI, Corrective Action.

- CR 2005-10444, Inadequate pressurizer vent during reactor coolant system drain
- CR 2005-10712, 4B spent fuel pool cooling water pump failed post maintenance testing
- CR 2005-11059, During excavation of the Unit 4 concrete, the liner plate at the east side of the excavation at the reinforcing weld on the C-5 channel separated from the vertical stiffener angle

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following seven surveillance tests to verify that the tests met the Technical Specifications, the UFSAR, the licensee's procedural requirements and demonstrated the systems were capable of performing their intended safety functions and their operational readiness. In addition, the inspectors evaluated the effect of the testing activities on the plant to ensure that conditions were adequately addressed by the licensee staff and that after completion of the testing activities, equipment was returned to the positions/status required for the SSC's to perform its safety function. The tests reviewed included one inservice test (IST) and one reactor coolant leakage test.

- Unit 3, 3-OSP-024.2, Emergency Bus Load Sequencer Manual Test
- Unit 3, 0-SME-003.7, 125VDC Station Battery Weekly Maintenance, 3A and 3B batteries
- Unit 3, 0-OSP-74.3, Standby Steam Generator Feedwater Pumps Availability Test
- Unit 4, 4-OSP-051.2, Containment Personnel Airlock Seal Vacuum Test
- Unit 4, 4-OSP-051.16, Integrated Leakage Rate Test
- Unit 4, 4-OSP-050.2, B Residual Heat removal surveillance
- Unit 4, 4-OSP-041.1, Reactor Coolant System Leak Rate Determination

b. Findings

.1 Introduction: A Green Non-cited Violation was identified by the inspectors for two examples of failure of the licensee to follow procedures for identification and resolution of unidentified reactor coolant system leakage.

Description: On June 17, the licensee found that Unit 4 unidentified leakage had increased (from 0.01 gpm on June 15) to 0.87 gpm. FPL procedure 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation, required that for leak rate results greater than 0.5 gpm, a condition report be generated, that a troubleshooting plan per administrative instruction 0-ADM-725 be generated, that the engineering department be notified, and that a reactor coolant system visual leak inspection and leak evaluation be done in accordance with FPL procedure 4-OSP-41.2. The inspector noted that the engineering department was not notified and neither the troubleshooting plan (0-ADM-725) nor the leak evaluation (4-OSP-41.2) were done. A condition report was generated (CR 2005-17516) but was not immediately acted upon. Plant operators initially believed the leakage value to be due to an instrumentation failure, however, after a successive test five hours later, the result confirmed the increased leakage, and an investigation was initiated. The increased leakage was attributed to a reactor coolant pump seal injection filter leak through leaking boundary isolation valves. After learning of the high leak rate and in reviewing the licensee's actions to resolve the increased leakage, the inspectors found the previously performed leakage was measured as 0.01 gpm at 8:35 pm on June 15 and that the licensee had not completed a water inventory balance at

least once per 24 hours (on June 16) as required by the licensee's surveillance requirements.

Analysis: The inspectors determined that the licensee's failure to follow administrative requirements regarding prompt identification and resolution of unusual unidentified reactor coolant system leakage was a performance deficiency warranting significance evaluation. The issue was more than minor because any increase in unidentified reactor coolant system leakage could be viewed as a precursor to a significant event, that being degradation of the reactor coolant system pressure boundary. The finding involved the attribute of human performance whose objective is to limit the likelihood of plant events that upset plant stability and challenged critical safety functions. The finding was screened as Green using Manual Chapter 0609, Appendix A and involved the Initiating Events Cornerstone, Primary System LOCA initiator criterion. No system inoperabilities or degradations were subsequently identified. The finding involved the cross-cutting aspect of Human Performance because operators failed to follow the steps of the leakage determination procedure which assure prompt identification and attention to high unidentified leakage.

Enforcement: Turkey Point Technical Specification 6.8.1 requires implementation of the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2. The regulatory guide, in Part 6.a, recommends procedures for combating significant events which includes leak rate determinations. The licensee complies with this requirement by implementing Turkey Point Unit 4 procedure 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation, which requires a leak rate determination at least once per 24 hours of steady state operation; and includes provisions for resolving unidentified leakage greater than 0.5 gpm by generating a troubleshooting plan using 0-ADM-725, Troubleshooting Guidelines; performing 4-OSP-041.2, RCS Visual Leak Inspection and Evaluation; and notifying the engineering department. Contrary to this requirement,

1) from July 15 to July 17, for an intervening period of about 34 hours of steady state operation, no reactor coolant system water inventory balance was performed, and

2) on June 17, 2005, after having found unidentified leakage greater than 0.5 gpm (0.87 gpm), the licensee failed to implement the procedure requirements to generate a troubleshooting plan using 0-ADM-725, perform an RCS Visual Leak Inspection and Evaluation, and notify the Engineering Department.

The violation existed for about 12 hours during which time leaking isolation valves for an isolated seal injection filter were found and corrected, and a repeated leakage determination was completed with normal results. Although a condition report had been generated, no actions were initially taken within the CAP. Because of the very low safety significance and because the issue has been entered into the corrective action program (CR 2005-18094, CR 2005-18990), the issue is being treated as a Non-Cited Violation consistent with Section VI.A.1 of the NRC Enforcement Policy, NCV 05000251/2005003-03, Failure to follow procedures to identify and investigate unusual reactor coolant system leakage

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors completed a review of the following temporary modification and the supporting safety evaluation. The inspectors compared the temporary modification package against the requirements established in Administrative 0-ADM-503, Control and Use of Temporary System Alterations (TSA), and system requirements contained in the UFSAR. The inspectors reviewed the temporary air cooling installation for the Spent Fuel Pit Area to verify it was implemented as described in the exigent technical specification change package. The inspectors interviewed operators and fire protection personnel and reviewed procedure changes involved in the modification. As part of temporary alterations, the inspectors reviewed the 10 CFR 50.59 evaluations to verify that no new single-failure was introduced, no prior NRC approval was needed for the change, and that the applicable 10 CFR 50, Appendix A, General Design Criteria continued to be met. In addition, the inspectors completed in-office reviews and walkdown systems restoration verifications.

- TSA 04-05-033-019, Place temporary air cooling units on building roof to reduce ambient temperature in spent fuel pit area.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Occupational Radiation Safety (OS) Cornerstone

2OS1 Access Controls To Radiologically Significant Areas

Access Controls. The inspectors reviewed and evaluated licensee guidance and its implementation for controlling and monitoring worker access to radiologically significant areas and tasks associated with Unit 3 (U3) routine operations and with ongoing Unit 4 (U4) Refueling Outage 22 (R22) tasks. The inspectors evaluated changes to and adequacy of procedural guidance; directly observed implementation of established administrative and physical radiation controls; appraised occupational worker and health physics technician (HPT) knowledge of and proficiency in implementing radiation protection activities; and assessed occupational worker exposures to radiation and radioactive material.

The inspectors directly observed controls established for workers and HPT staff involved in work/tasks associated with actual/potential airborne radioactivity area, radiation area, high radiation area (HRA), locked-high radiation area (LHRA), and very high radiation area (VHRA) conditions. Controls and their implementation for LHRA keys and for storage of irradiated material within the U4 spent fuel pool (SFP) were reviewed and

discussed in detail. Established radiological controls were evaluated for a U3 'at power' containment entry and for selected U4 R22 tasks including fuel off- load; Reactor Vessel Closure Head (RVCH) replacement task; reactor coolant pump (RCP) maintenance; valve replacement/refurbishment; In-service Inspection (ISI); sludge lance activities; scaffold construction tasks; and radioactive waste (radwaste) processing, storage, and shipping. In addition, licensee controls for areas where dose rates could change significantly as a result of plant shutdown and refueling operations, including U4 chemical crud burst and subsequent reactor coolant system (RCS) cleanup, and fuel off-load activities were reviewed and discussed.

For selected tasks, the inspectors attended pre-job briefings, and reviewed radiation work permit (RWP) details to assess communication of radiological control requirements to workers. Occupational workers' adherence to selected RWPs and HPT proficiency in providing job coverage were evaluated through direct observations and interviews with licensee staff. Electronic dosimeter (ED) alarm set points and worker stay times were evaluated against area radiation survey results for ISI, RVCH replacement, sludge lance, and valve maintenance/replacement activities. For selected HRA tasks involving significant dose gradients, e.g., ISI tasks, RVCH replacement, and valve maintenance, the inspectors evaluated the use and placement of whole body and extremity dosimetry to monitor worker exposure.

Postings and physical controls established within the radiologically controlled area (RCA) for access to the U4 reactor building containment (U4 RB); the U3 and U4 auxiliary building (AB) locations; radioactive material/waste processing equipment, storage, and shipping locations; and the low level radioactive waste storage facilities were evaluated directly during facility tours. The inspectors independently measured radiation dose rates and contamination levels, or directly observed conduct of licensee radiation surveys and results for ISI tasks, RVCH replacement activities; valve maintenance tasks; and radioactive material/waste shipping work. Results were compared to current licensee surveys and assessed against established postings and radiation controls. Licensee controls were reviewed and evaluated in detail for selected U3 and U4 AB areas/equipment; the U4 SFP; and U4 RB HRA, LHRA, and VHRA locations.

The inspectors evaluated implementation and effectiveness of licensee controls for both airborne and external radiation exposure. Worker exposure as measured by ED and by licensee evaluations of skin doses resulting from discrete radioactive particle or dispersed skin contamination events during the current outage were reviewed and assessed independently. The inspectors reviewed and discussed selected whole-body count (WBC) analyses conducted between January 1, 2004, and May 19, 2005. This was to evaluate the implementation and effectiveness of personnel monitoring and administrative and physical controls including air sampling, barrier integrity, engineering controls, and postings for tasks having the potential for individual worker internal exposures to exceed 30 millirem (mrem) Committed Effective Dose Equivalent (CEDE). Effectiveness of external radiation exposure controls were evaluated through review and discussions of individual worker dose as measured by ED for selected U4 R22 tasks.

Radiation protection activities were evaluated against Updated Final Safety Analysis Report (UFSAR), Technical Specifications (TS), and 10 Code of Federal Regulations (CFR) Parts 19 and 20 requirements. Specific assessment criteria included UFSAR Section 11, Radioactive Waste Management, and Section 12, Radiation Protection; 10 CFR 19.12; 10 CFR 20, Subpart B, Subpart C, Subpart F, Subpart G, Subpart H, and Subpart J; TS Sections 6.8.1, Procedures, and 6.12, High Radiation Area; and approved procedures. Detailed procedural guidance and records review for this inspection area are listed in Sections 2OS1, 2OS2, 2PS2, 4OA1 and 4OA5 of the report Attachment.

Problem Identification and Resolution (PI&R) Licensee Corrective Action Program (CAP) documents associated with access control to radiologically significant areas were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with Nuclear Administrative Procedure (NAP)-204, Condition Reporting, Revision (Rev.) 5. Licensee CAP documents associated with access control issues, personnel radiation monitoring, and personnel exposure events reviewed and evaluated in detail during inspection of this program area are identified in Sections 2OS1, 2OS2, 4OA1, and 4OA5 the report Attachment.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls

a. Inspection Scope

As Low As Reasonably Achievable (ALARA) The inspectors reviewed ALARA program guidance and its implementation for ongoing U4 R22 tasks. The inspectors evaluated the accuracy of ALARA work planning and dose budgeting, observed implementation of ALARA initiatives and radiation controls for selected jobs in-progress, assessed the effectiveness of source-term reduction efforts, and reviewed historical dose information. ALARA planning documents and procedural guidance were reviewed and projected dose estimates were compared to actual dose expenditures for the following high dose jobs: RVCH replacement, ISI tasks, valve maintenance and replacement, and sludge lancing. Differences between budgeted dose and actual exposure received were discussed with cognizant ALARA staff and job sponsors. Changes to dose budgets relative to changes in radiation source term and/or job scope were also discussed. The inspectors attended pre-job briefings and evaluated the communication of ALARA goals, RWP requirements, and industry lessons-learned to job crew personnel. The inspectors also attended selected ALARA Review Committee meetings and observed the interface between plant management and ALARA planning staff.

The inspectors made direct field or closed-circuit-video observations of outage job tasks including ISI activities, and valve maintenance and/or replacement. For the selected tasks, the inspectors evaluated occupational worker and HPT job performance; individual and collective dose expenditure versus percentage of job completion; surveys

of the work areas, appropriateness of RWP requirements; and adequacy of established engineering controls. For ISI and valve maintenance tasks, the inspectors interviewed job sponsors, radworkers and HPTs regarding understanding of dose reduction initiatives and their current and expected accumulated doses at completion of the job tasks.

Implementation and effectiveness of selected program initiatives with respect to source-term reduction were evaluated. Chemistry program ALARA initiatives and their effect on U4 RB and AB dose rate trends were reviewed. Engineering analyses associated with U4 R22 temporary shielding requests were reviewed for adequacy and the effectiveness of the installed shielding was assessed through comparison of pre-shielding versus post-shielding dose rate data. Cobalt reduction initiatives and their implementation were reviewed and discussed with responsible licensee representatives. Implementation of the cobalt reduction program was assessed through review of selected R22 valve maintenance work orders and technical evaluation reports, and subsequent confirmation that low-cobalt material was used for replacement components.

Plant exposure history for calendar year (CY) 2001 through CY 2004 and data reported to the NRC pursuant to 10 CFR 20.2206 were reviewed and discussed, as were established goals for reducing collective exposure during the current U4 R22 outage. The inspectors reviewed procedural guidance for dosimetry issuance and exposure tracking. The inspectors also discussed guidance and evaluated doses for declared pregnant workers. Guidance to assign gestation dose for pregnant workers was reviewed and discussed in detail.

ALARA program activities and their implementation were reviewed against 10 CFR Part 20, and approved licensee procedures. In addition, licensee performance was evaluated against guidance contained in Regulatory Guide (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. Procedures and records reviewed within this inspection area are listed in Sections 2OS2 of the report Attachment.

Problem Identification and Resolution. Licensee CAP documents associated with ALARA were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with NAP-204, Condition Reporting, Rev. 5. Specific CAP documents reviewed in detail for this inspection area are identified in Section 2OS2 of the report Attachment.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety (PS)

2PS2 Radioactive Material Processing and Transportation

a. Inspection Scope

Waste Processing and Characterization Selected liquid and solid radwaste processing system components were inspected for material condition and for configuration compliance with the UFSAR and Process Control Program (PCP) details. Inspected equipment included liquid radwaste demineralizer beds, resin and filter packaging components, resin transfer piping, and abandoned hold-up tanks. The inspectors discussed component function, processing system changes, and radwaste program implementation with licensee staff. The inspectors also toured and evaluated exposure and contamination controls for Dry Active Waste (DAW) stored within the main and a temporary satellite RCA locations.

The 2003 Effluent Report and major waste stream radionuclide characterizations for CYs 2003 and 2004 were reviewed and discussed with responsible staff. For spent resin and DAW the inspectors evaluated analyses for hard-to-detect nuclides, reviewed the use of scaling factors, and examined comparison results between licensee waste stream characterizations and outside laboratory data. Waste stream mixing and concentration averaging methodology for spent resin was evaluated and discussed with radwaste staff. The inspectors also discussed licensee techniques for monitoring changes in waste stream isotopic mixtures.

Radwaste processing activities were reviewed for compliance with the licensee's PCP and UFSAR Chapter 11 details. Waste stream characterization analyses were reviewed against regulations detailed in 10 CFR Part 20, 10 CFR Part 61, and guidance provided in the Branch Technical Position on Waste Classification and Waste Form. Reviewed documents are listed in Section 2PS2 of the report Attachment.

Transportation The inspectors directly observed preparation activities for a shipment of contaminated equipment. The inspectors noted package markings and placarding, performed independent dose rate measurements, and interviewed shipping technicians regarding Department of Transportation (DOT) regulations.

Five shipping records were reviewed for consistency with licensee procedures and compliance with NRC and DOT regulations. The inspectors reviewed emergency response information, DOT shipping package classification, radiation survey results, and evaluated whether receiving licensees were authorized to accept the packages. The inspectors also reviewed documentation of opening and closing Type A shipping casks and compared the records to required package vendor protocols. In addition, training records for selected individuals currently qualified to ship radioactive material were reviewed.

Transportation program implementation was reviewed against regulations detailed in 10 CFR Part 20, 10 CFR Part 71, 49 CFR Parts 172-178; as well as the guidance provided in NUREG-1608. Training activities were assessed against 49 CFR Part 172 Subpart H. Reviewed documents are listed in Section 2PS2 of the report Attachment.

Problem Identification and Resolution Five Condition Reports, one Self-Assessment, and one Quality Assurance (QA) Audit were reviewed in detail and discussed with licensee personnel. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the identified issues in accordance with licensee procedure NAP-204, Condition Reporting, Rev. 5. Documents reviewed for problem identification and resolution are listed in Section 2PS2 of the report Attachment.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors sampled licensee data for the performance indicators (PIs) listed below. To verify the accuracy of the licensee data reported during that period, PI definitions and guidance contained in NEI 99-02, Regulatory Assessment Indicator Guideline, Rev. 3, were used to screen each data element.

Public Radiation Safety Cornerstone The inspectors reviewed the Radiological Control Effluent Release Occurrences PI results for the period of January 1, 2004, through March 31, 2005. For the review period, the inspectors assessed cumulative and projected doses to the public, and out-of-service (OOS) effluent radiation monitors and implementation of compensatory sampling and subsequent results. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in section 4OA1 of the report Attachment.

Occupational Radiation Safety Cornerstone The inspectors reviewed the Occupational Exposure Control Effectiveness PI results for the period of January 1, 2004, through March 31, 2005. For the assessment period, the inspectors reviewed ED alarm logs, radiological event reports, and condition reports related to radiologically significant area controls. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in sections 2OS1, 2OS2, 4OA1, and 4OA5 of the report Attachment.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

.1 Daily Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a screening of items entered daily into the licensee's corrective action program. This review was accomplished by reviewing daily printed summaries of Condition Reports and by reviewing the licensees electronic Condition Report database.

b. Findings

No findings of significance were identified

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected the following condition report for detailed review and discussion with the licensee. The condition report was associated with an unplanned entry into a 30 day action statement for inoperability of the auxiliary feedwater pump due to an oil addition work activity. The condition report was reviewed to ensure that an appropriate evaluation was performed and appropriate corrective actions were specified and prioritized. Other attributes checked included disposition of operability, resolution of the problem including cause determination and corrective actions. The inspectors evaluated the condition report in accordance with the requirements of the licensee's corrective actions process as specified in NAP-204, Condition Reporting.

- CR 2005-13434, Oil Addition to B Auxiliary Feedwater Pump

b. Findings and Observations

No findings of significance were identified.

.3 Semi-Annual Trend Review

Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors reviewed the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector corrective actions item screening discussed in section 4OA2.1 above, plant status reviews, plant tours, and licensee trending efforts.

The inspectors' review nominally considered the six month period of January 2005 through June 2005. The review also included issues documented outside the normal CAP in Chief Nuclear Officer's Indicator Report, dated June 15, 2005. Corrective actions associated with a sample of the issues identified in the licensees corrective actions program were reviewed for adequacy.

Assessment and Observations

No findings of significance were identified. The inspectors in reviewing licensee performance over the last six months, noted a number of occasions when licensee personnel did not identify precursor issues for evaluation in the corrective action program. On June 13, during Unit 4 power escalation, the reactor operator directed a five megawatt electric increase and the turbine operator adjustment resulted in an approximate 30 Mwe increase, which resulted in an unplanned reactor and steam generator transient, which the operators controlled. The inspectors considered the occurrence a small reactivity excursion that was a precursor to an initiating event which did not involve a violation of regulatory requirements. No corrective action document was written and the occurrence was not evaluated for cause or corrective actions. On June 15, the inspectors learned that on multiple occasions, including on June 12, the outside system operator had been locked-out of the plant protected area when performing duties at Units 1 and 2 (fossil). Although the operator had response duties (fire brigade or control room evacuation support), no corrective actions document was written and the occurrence was not evaluated for corrective actions until identified by the inspectors. (See 1R14 findings)

4OA4 Human Performance Cross-Cutting Aspects

- Section 1R14 discussed a finding involved the cross-cutting element of Human Performance in that Maintenance personnel failed to notify the control room when a reflash fire was suspected in the Unit 4 main transformer.

- Section 1R14 also discussed a finding involved the cross-cutting element of Problem identification and Resolution, that being problem identification, in that Operations personnel failed to enter a condition adverse to quality in the corrective action program when the responder was not available to respond to an event by virtue of being locked out of the plant protected area.

- Section 1R22 discussed a finding involved the cross-cutting element of Human Performance in that Operations personnel failed to follow procedures for investigating and resolving high unidentified reactor coolant and failed to verify that reactor coolant system leakage met technical specification requirements at least once per 24 hours of steady state operation.

4OA5 Other Activities

.1 Replacement of Turkey Point Unit 4 Reactor Pressure Vessel Head (RPVH)

a. Inspection Scope

Containment Restoration Activities - Welding and Reinforcing Steel

The inspectors examined restoration activities associated with the temporary construction opening (approximately 18 feet by 30 feet) in the containment liner, as detailed in the licensee's Plant Change/Modification (PC/M) 03-081, Containment Access Opening for U4 RVCH Replacement, Revision 01, Supplement 1.

Activities associated with containment liner plate welding were observed/reviewed and compared with the applicable codes (ASME Boiler and Pressure Vessel Code (B&PV), Section VIII, 1998 Edition with 2000 Addenda and Section XI, 1992 Edition with 1992 Addenda) and FPL Specification 5610-C-47. In addition, the inspectors reviewed/observed repair activities associated with replacing 5 plate sections adjacent to the original opening because of damage to the liner plate during concrete excavation. For a sample of the liner plate welds, the inspectors visually inspected weld surfaces at various stages of completion. In addition to the visual inspection, the inspection included: observation of in-process welding for Welds LP-2, LP-3, LP-4, LP-5, LP-10, LP-11, and LP-15; observation of visual (VT) and magnetic particle (MT) examination of a portion of Welds LP-1, LP-12, and LP-13; observation of vacuum box examination of a portion of Welds LP-2, LP-3, and LP-4; review of the welding procedure specification, including the supporting procedure qualification records; review of welder qualification records; review of welding material receipt inspection and certification records; review of in-process Weld Data Cards; review of Magnetic Particle Examination Reports; review of Visual Examination Reports; review of Bubble Test Reports; review of Quality Control (QC) involvement in the welding process; and review of Quality control and nondestructive examination (NDE) personnel qualification and certification records.

For restoration of the reinforced concrete, the inspectors reviewed activities associated with installation of the containment opening reinforcing bar (rebar) and compared activities with the applicable Codes (ACI 318-63, Part IV-B, Building Code Requirements for Reinforced Concrete, 1963, and ASME Section III, Division 2, 1989 Edition, no Addenda). The inspection included: review of the rebar splice procedure and ASME Code qualification records (including tensile test results) for the rebar splice process; visual inspection of a sample of completed half-bar splices and associated sister splices; review of qualification records for rebar splicer operators 3327, 2798, 5274, 6366, 6766, 4105, 3206, 5171, 6355, 5213, 4112, 4090, 2342, and 3792; and review of qualification records for two Quality Control inspector who inspected the half-bar splices.

The inspectors also reviewed PC/M 03-081, Attachment 1A (10 CFR 50.59 Applicability Determination), Attachment 1B (50.59 Evaluation) and Attachment 10 (Code Reconciliation For the Containment Opening Liner Plate) to verify that the modification was properly evaluated in accordance with 10 CFR 50.59.

Replacement Head Fabrication Records

The inspectors observed/reviewed the activities detailed below for the replacement RPVH to verify compliance with applicable Codes (ASME Boiler and Pressure Vessel Code, Sections XI and III, 1989 Edition with no Addenda and 1998 Edition through the 2000 Addenda) as defined in: (1) PC/M 03-058, Rx Vessel Closure Head Replacement, (2) Framatome Certified Design Specification 08-5023846-04, Reactor Vessel Closure Head Replacement Florida Power and Light Company Turkey Point Units 3 and 4, and (3) AREVA Document 51-5043258-02, Turkey Point Unit 4 Replacement RV Closure Head Reconciliation.

Specifically, the inspectors reviewed the following RPVH and Control Rod Drive Mechanism (CRDM) housing fabrication records:

- Production Weld Data Sheets and Followup Documents (Travelers) for: CRDM and Vent Line J-Groove Butter Welds B/D 001, B/D 002 and J-Groove Welds S/P 001; RPVH Clad Welds R/D001, R/D002, and R/D007; and CRDM Housing Tube/Flange Welds S/C001

- A sample of NDE reports (liquid penetrant (PT) and ultrasonic (UT), as applicable), for the above listed welds

- Certified Material Test Reports (CMTRs) for the following heats/lots of welding materials used for the above listed welds: Alloy 52 Heat No. NX3167JK; Alloy 152 Heat Nos. WC96F1, WC72F0, and WC72F1; cladding material E309L Heat No. FN2504; and cladding material ER309L/Flux combination Heat No. 36107/7500276

- Radiographic (RT) film and reader sheets for CRDM Housing Tube/Flange Welds CRDHC-29, CRDHC-30, CRDHC-31, CRDHC-32, CRDHC-33, CRDHC-44, CRDHC-51, CRDHC-53, CRDHC-55, and CRDHC-70

- Final post weld heat treatment (PWHT) records, including time-temperature strip charts for the RPVH

- Certified Material Test Reports for the replacement RPVH (Monoblock Forging), Stainless Steel CRDM Adapter Flange and the Inconel CRDM Housing Tube

Replacement Head Preservice Inspection (PSI) and Baseline Inspections

The inspectors reviewed Framatome Document 51-5056358-0, Turkey Point Unit 4 RVCH Replacement Baseline NDE Field Report, and PTN-ENG-SEMS-05-0027, Bare Metal Visual Inspection of the Replaced Reactor Vessel Closure Head Prior to Initial Service, which documented ASME Section XI PSI and baseline inspections performed to provide baseline conditions for future inspections in accordance with NRC Order EA-03-09. Additional PSI and Baseline inspections documented in the fabrication records were reviewed.

Relative to ASME Section XI PSI of the replacement RPVH, the inspectors reviewed a sample of completed NDE records consisting of: (1) PT of the 24 peripheral Category BO CRDM housing tube to flange welds, and (2) UT of all 53 Category BO CRDM housing tube to flange welds.

The baseline inspections to support future inspections in accordance with NRC Order EA-03-09 consisted of: (1) automated inside diameter UT of the 53 CRDM penetrations and the vent line (2) outside diameter and J-groove weld eddy current (ET) examination of 53 CRDM penetrations and ET of the J-groove weld surface for the vent line, (3) top of head bare metal VT examination of all penetrations, and (4) under head PT inspection of all penetration to head J-groove welds using PT white acceptance criteria. For these inspections, the inspectors reviewed the summary report of results, a sample of the PT records for the J-groove welds, a sample of the automated UT and ET results, and the top of head bare metal VT report, including a sample of the digitized photographs of the penetrations. In addition, NDE personnel certification records for three UT Level II Examiners and two ET Level III-QDA Examiners were reviewed.

The inspectors reviewed PC/M 03-58, Reactor Vessel Closure Head, including the associated 10 CFR 50.59 Determination (Attachment 1), evaluation to verify that changes between the original RPVH and the replacement RPVH, and modifications resulting from installation of the replacement RPVH were properly evaluated in accordance with 10 CFR 50.59.

b. Findings

No findings of significance were identified.

.2 Replacement of Turkey Point Unit 4 RPVH

a. Inspection Scope

Containment Restoration Activities - Concrete

The inspectors examined restoration activities associated with the temporary construction opening (approximately 20 feet by 33 feet) in the containment, as detailed in the licensee's Plant Change/Modification (PC/M) Package 03-081, Containment Access Opening for Unit 4 RVCH Replacement.

The inspectors witnessed placement of a portion of the concrete in the Unit 4 containment wall to restore the temporary construction opening. The inspectors observed the concrete forms to ensure tightness and cleanliness and that the reinforcing steel was clean. The inspectors reviewed placement activities to ensure that activities pertaining to concrete delivery time, free fall, flow distance, layer thickness and concrete consolidation conformed to industry standards established by the American Concrete Institute. Concrete batch tickets were examined to ensure that the specified concrete mix was being delivered to the site. The inspectors also witnessed testing of the plastic concrete for slump, air, and temperature, unit weight, and molding of the

concrete cylinders for testing. Reviews were performed to ensure concrete testing was performed and the cylinders were molded in accordance with applicable American Society for Testing and Materials (ASTM) requirements. In addition, the inspectors reviewed activities to ensure that concrete testing was performed by qualified inspectors from an independent testing company and that concrete placement activities were continuously monitored by licensee and contractor quality control and quality assurance personnel.

The inspectors examined the concrete batch plant to verify proper storage and separation of materials and temperature controls. The inspectors reviewed results of quality control acceptance testing performed on materials (cement, component, fine and coarse aggregate, and admixtures) used for batching the concrete. The inspectors also reviewed records documenting inspection of the concrete batch plant and the concrete truck mixers. Activities were reviewed to determine if the contractor's inspection of the trucks and batch plant were performed in accordance with the guidance of the National Ready Mixed Concrete Association (NRMCA); the batch plant scales were calibrated in accordance with NRMCA recommendations; and mixer efficiency tests were performed on the truck mixers in accordance with ASTM C-94. The inspectors reviewed the concrete mix data to ensure that mix proportions for delivered concrete were selected based on trial concrete mix results, that Quality controls acceptance criteria for the plastic concrete were based on the trail mixes, and that the trail mix met concrete strength requirements. The inspectors also examined the offsite concrete laboratory and verified that laboratory equipment was calibrated and that the concrete test cylinders were being cured in accordance with ASTM requirements.

b. Findings

No findings of significance were identified.

.3 Reactor Vessel Head Replacement Radiation Protection Inspection

a. Inspection Scope

The inspectors reviewed and evaluated planning and implementation of radiological controls for RVCH replacement activities.
Radiation, contamination, and airborne radioactivity surveys contained in planning documents were reviewed for radiological work conditions and the adequacy of prescribed postings and HP controls. The inspectors reviewed RWPs and evaluated ED alarm settings, worker and HPT instructions, special dosimetry needs, and protective clothing/equipment requirements. ALARA planning, dose reduction initiatives, and actual doses received were reviewed and discussed with the RVCH replacement project manager. The inspectors also reviewed contingency plans for temporary storage of the old vessel head. A review of the training provided to workers responsible for preparing the old head for transportation offsite is detailed in section 2PS2.

The inspectors observed implementation of radiological controls around the old RVCH before removal from containment including posting, shielding, and air monitoring. The

inspectors toured and conducted independent surveys of the temporary storage environs outside of containment and reviewed RVCH radiological controls and temporary monitoring programs. Packaging used to ship the RVCH was observed and plans for transfer of the RVCH to the processing/burial site were discussed with licensee staff.

RVCH replacement activities were evaluated against 10 CFR Parts 19 and 20, and approved licensee procedures. Licensee guidance documents, records, and data reviewed within this inspection area are listed in Sections 2OS1, 2PS2 and 4OA5 of the report Attachment.

b. Findings

No findings of significance were identified.

.4 Institute of Nuclear Power Operations (INPO) Assessment Report Review

a. Inspection Scope

The inspectors reviewed the final report of the INPO assessment of site activities conducted in June 2004. The inspectors reviewed the report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and if any significant safety issues were identified that needed further NRC followup.

b. Findings

No findings of significance were identified.

.5 (Closed) Temporary Instruction (TI) 2515/163: Operational Readiness of Offsite Power

The inspectors collected data pursuant to TI 2515/163, "Operational Readiness of Offsite Power." The inspectors reviewed the licensee's procedures related to General Design Criteria 17, "Electric Power Systems;" 10 CFR 50.63, "Loss of All Alternating Current Power;" 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants;" and the Technical Specifications for the offsite power system. The data was provided to the Office of Nuclear Reactor Regulation for further review. Documents reviewed for this TI are listed in the attachment.

.6 (Closed) Temporary Instruction 2515/161, Transport of Control Rod Drive (CRD) in Type A Packages The inspectors reviewed shipping logs and discussed shipment of CRDs in Type A packages with shipping staff. The inspectors noted that no shipments of CRDs in Type A packages have been made since January 1, 2002. The only recent use of a Type A package, i.e., shipment of a Californium - 252 sealed source, was reviewed and evaluated as part of routine inspection activities documented in Section 2PS2 of this report.

4OA6 Meetings

.1 Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Pearce and other members of licensee management at the conclusion of the inspection on July 13, 2005. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. The licensee did not identify any proprietary information.

.2 Annual Assessment Meeting Summary

On May 18, 2005, the NRC's Chief of Reactor Project's Branch 3, Region II Public Affairs Officer, and Resident staff assigned to the Turkey Point Nuclear Plant met with Florida Power & Light (FP&L) to discuss the NRC's Reactor Oversight Process (ROP) and the Turkey Point annual assessment of safety performance for the period of January 1, 2004 - December 31, 2004. The major topics addressed were: the NRC's assessment program, the results of the Turkey Point assessment, and future NRC inspection activities. Attendees included FP&L management, Turkey Point site management, and one member of the public.

This meeting was open to the public. The NRC's presentation material used for the discussion is available from the NRC's document system (ADAMS) as accession number ML051370219. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

4OA7 Licensee-Identified Violations

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

- 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" requires, in part, that activities affecting quality shall be prescribed by documented instructions of a type appropriate to the circumstances. Contrary to the above, on May 21, 2005, appropriate instructions were not used during the restoration of the Unit 4 recirculation test line restricting orifice. As a result, FPL installed the incorrect size flexitallic gasket into a flange connection which, when it failed, caused the introduction of foreign material into the High Head Safety Injection recirculation piping. The violation existed from May 21, 2005 to June 7, 2005, when the problem was identified during a failed surveillance test. Corrective actions taken by FPL included documentation of the problem in the corrective action program (CR 2005-16678), removal of the foreign material, and installation of the correct gasket on the Unit 4 HHSI restricting orifice. The finding was of very low safety significance because it resulted in no actual degradation in the function for the safety injection system.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:
A. Avella, Nuclear Project Manager, RV Head Replacement
W. Johns, Security Manager
T. Jones, Site Vice-President
M. Moran, Projects Engineering Manger
M. Navin, Operations Manager
K O'Hare, Radiation Protection and Safety Manager
W. Parker, Licensing Manager
M. Pearce, Plant General Manager
W. Prevatt, Work Control Manager
D. Sipos, Construction Project Manager
B. Stamp, Operations Supervisor
T. Sweeney, Engineering Electrical Supervisor
C. Tudor, ISI NDE Supervisor
G. Warriner, Site Quality Manager

Contractors
Steam Generator Group (SGT)
N. Alchaar, Civil Engineer
P.Hilton, Quality Assurance Manager
F. Suchar, Quality controls Supervisor

NRC personnel:
J. Munday, Projects Branch Chief, Region II

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000250&05000251/2005-03-01	NCV	Failure to identify and report conditions potentially adverse to plant safety involving availability of operators for event response duties when assigned collateral duties (Section 1R14)
05000251/2005003-02	NCV	Failure to implement fire protection procedures (Section 1R14)
05000251/2005003-03	NCV	Failure to follow procedures to identify and investigate unusual reactor coolant system leakage (Section 1R22)

Closed

2515/163	TI	Operational Readiness of Offsite Power (Section 4OA5.5)
2515/161	TI	Transport of Control Rod Drive (CRD) in Type A Packages (Section 4OA5.6)

LIST OF DOCUMENTS REVIEWED

Section 1R08, Inservice Inspection Activities

Nondestructive Examination

- ISI-PTN-3/4-Program, Third Interval Inservice Inspection Program for TP 3 & 4, Rev. 6 August 26, 2003
- ENG-CSI-2.0, ASME Section XI Inservice Inspection, Rev. 4
- ENG-CSI-9.0, Nondestructive Examination (NDE) Activities, Rev. 3
- ENG-CSI-9.1, Nondestructive Examination (NDE) Personnel Qualification & Certification, Rev. 8
- ENG-CSI-9.3, Appendix VIII Implementation Program for FPL, Rev. 3
- NDE-3.3, Liquid Penetrant Examination Solvent Removable Visible Dye Technique, Rev. 9
- NDE-4.3, Visual Examination VT-3, Rev. 10
- NDE-5.4, Ultrasonic Examination of Austenitic Piping Welds. Rev. 17
- NDE-5.23, Ultrasonic Examination of Welds Adjoining Cast Materials, Rev. 2
- Document 51-5056681-00, TP-4 2D Scan Plan and Weld Volume Coverage
- VP-04-104, Automated Ultrasonic Examination of Reactor Vessel Nozzle to Shell Welds and Inner Radius Regions from t Nozzle Bore (54-ISI-855), 9/29/04
- VP-04-106, ID Automated Ultrasonic Examination of Austenitic and Dissimilar Metal Piping Welds for Detection and Length Sizing (54-ISI-821), 10/17/04
- VP-04-107, Automated UT of PWR Vessel Shell Welds (54-ISI-801), 9/29/04

Other Documents

- CSI-NDE-05-027, April 2005 Contingency Eddy Current Examination Implementation for Steam Generator Tubing at TP4, 2/24/05
- Memo UT of Surface Around a Pin Hole Flaw (8" Spent Fuel Pool Cooling pipe leak) 4/19/05
- 0-OSP-041.26, Containment Visual Leak Inspection, 3/7/05
- 3-OSP-051.17, Containment Building Visual Inspection, 9/6/96C2
- 0-OSP-105.1, Visual Inspection, Removal and Reinstallation of Mechanical Shock Arrestors, 7/14/04C1
- 0-OSP-105.2, Functional Testing for Mechanical Shock Arrestors, 9/21/04
- VP-04-111, Remote Ultrasonic Examination of Bottom Reactor Head Penetrations (54-ISI-167)
- Calculation for pipe support 5614-H-558 (Feedwater System) Snubber 4-1032
- WO 35000367-01, Replace RV-4-311 & 4-385 with bypass line

Corrective Action Documents

- CR 2005-11674, Containment Liner Plate Deformation Monitoring System was not installed as specified in NCR 04-120 prior to commencing hydro-demolition
- CR 2005-11059, U4 Liner Plate Separated at Reinforcing Weld
- CR 2005-11430, Unisolable Leak on Line 8"-AC-151-R-3 of the U3 Spent Fuel Pit Cooling System
- CR-2005-11154, Foreign Objects in 4C Seam Generator

- CR-2005-11860, Foreign Objects in 4A Seam Generator
- CR-2005-12127, Appendix VIII Personnel Qualification Issues potentially affecting the 10 year Reactor Vessel ISI Performed on TP3 during PT3-21 Refueling Outage
- CR-2005-13116, Incore Thimble Tube Found in Unit 4 Reactor Vessel
- CR-2005-12828, Containment Sump areas not included in the ASME Section XI IWE Inspection Plan
- CR-03-3271, Linear Indication Observed during MT Exam
- CR-2005-11154, Foreign Objects in 4C Seam Generator
- CR-2005-11860, Foreign Objects in 4A Seam Generator
- NCR 04-120, Unit 4 Liner Plate (SGT)
- CR-03-3168, Deficiencies of Pipe Support 4-SR-626

Self-Assessments and Audits

- CSI-NDE-03-103, ISI Program Procedure Adequacy and Implementation

1R12: Maintenance Effectiveness

Procedure 0-ADM-225, On Line Risk Assessment and Management
Procedure BPI-GRIP, Systems Splicing Manual and Operating Instructions, Revision 10/18/01

1R15: Operability Evaluations

Procedure 3-OSP-068.2, Containment Spray System Inservice Test
Condition Report 2005-5414, SOER 99-01, 'Loss of Grid-Addendum'
Condition Report 2005-14071, The On Line Risk Monitor (OLRM) does not contain switchyard components that may contribute to the risk profile for the Nuclear Units
Condition Report 2005-11059, Turkey Point Liner Plate Repairs
Condition Report 04-114, Contamination of Coarse Aggregate Storage Bin
Condition Report 04-127, Cutting of Concrete Outside Cut Boundary
Condition Report 04-130, Concrete Cover Over Existing Rebar
Condition Report 04-146, Rebar Spacing (As Found)
Condition Report 04-147, Rebar Clearance
Condition Report 04-148, Some Concrete Placed in Construction Opening With Slump Either Above or Below Specification Requirements
Condition report 2005-13192, As Found Condition of Liner Plate and Concrete Small Void Below Channel at Crane Rail Elevation
Condition Report 2001-0196
Condition Report 2004-15464
Condition Report 2004-1907
Condition Report 2004-467
Condition Report 2004-15272
Condition Report 2005-10505
Miscellaneous

Plant Change/Modification (PC/M) Package 03-081, Containment Access Opening for Unit 4 RVCH Replacement.

Plant Change/Modification 03-58, Rx Vessel Closure Head, including the associated 10 CFR 50.59 Determination (Attachment 1)
Goulds Vendor Manual, Installation, Operation and Maintenance Instructions For The Containment Spray Pumps
Design Basis Document No. 5610-068-DB-001, Containment Spray Pump
Design Basis Document No. 5610-062-DB-002, Safety Injection System
PID No. 5614-—3062, Safety Injection System
Plant Change/Modification PC/M 03-081, Containment Access Opening for U4 RVCH Replacement, Revision 1, Supplement 1, including: (1) Attachment 9, ASME Section XI Repair/Replacement for the Containment Opening, (2) Attachment 10, Code Reconciliation - Containment Liner Plate, and (3) Attachments 1A and 1B, 10 CFR 50.59 Applicability Determination and Evaluation
Work Package 4-3740, Reinstall Liner At Containment Access Opening
SGT Specification No. 7012-SPEC-C-006, Reinforcing Steel and Mechanical Splicing, Revision 0 and Change Request Notice C-11358
FPL Specification 5610-C-47, Specification for Furnishing, Fabrication, Delivery, & Erection of the Containment Structure Liner Plate and Accessory Steel
SGT Quality Execution Procedure 12.05, Magnetic Particle Examination, Revision OE2
SGT Welding Procedure Specification SM/1.1-1, Revision 0
SGT Procedure Qualification Record GT-SM/1.1-Q6
SGT Procedure VB-TP-1, Bubble leak Test Procedure - Vacuum Box Method, Revision LTS-0
BarSplice Installation and Examination of Swaged Mechanical Splices Supplemental Requirements for the Turkey Point Nuclear Power Plant, Revision 1
FPL Procurement Quality Audit Report 08.03.BAROH.04.01
Wiss, Janney, Elstner, Associates, Inc. Report WJE 78649Q, Interim Report CAMTAK and BARGRIP SleeveTesting for Dayton BarSplice
NDE Examiner Qualification Records
Qualification Records for 4 SGT LII Welding Inspectors
Magnetic Particle Examination Reports for Liner Plate Welds LP-1, LP-2, LP- 8, LP-9, LP-10, LP-11, LP-12, LP-13, LP-15, and LP17
Certification Records for MT Yoke SGT-2284, Test Plate SGT-5318, and Powder Lot 04J050
Bubble Test Technique Sheets for Liner Plate Welds LP-1, LP-2, LP-3, LP-4, LP-5, LP-6, LP-8, LP-9, LP-10, LP-11, LP-12, LP-13, LP-14, LP-15, and LP-17
Qualification Records for three Level II and one Level III Bubble Test Inspectors
Welder Qualification Records for Chicago Bridge and Iron (CB&I) Welders 1282, 9446, 7064, 0650, 6216, 4969, 3347, 4308, and 2560
Receipt Inspection Reports and Certified Material Test Reports for 3/32 E7018 - Lot 2F414C02 & Heat 589758, and 1/8 E7018 - Lot 4E412C03 & Heat W79518 Welding Electrodes
SGT Nonconformance Report (NCR) 04-120 - Unit 4 Liner Plate Damage
Framatome Certified Design Specification 08-5023846-04, Reactor Vessel Closure Head Replacement Florida Power and Light Company Turkey Point Units 3 and 4
AREVA Document 51-5043258-02, Turkey Point Unit 4 Replacement RV Closure Head Reconciliation
Framatome Document 51-5056358-0, Turkey Point Unit 4 RVCH Replacement Baseline NDE Field Report
PTN-ENG-SEMS-05-0027, Bare Metal Visual Inspection of the Replaced Reactor Vessel Closure Head Prior to Initial Service
Specification No. 7012-SPEC-C-003, FPL Turkey Point, Construction Opening Concrete Rev. 1, dated 10/23/04

Specification No. 7012-SPEC-C-006, FPL Turkey Point, Reinforcing Steel and Mechanical Splices, Rev. 0, dated 03/09/04
Plant Change/Modification (PC/M) Package 03-081, Containment Access Opening for Unit 4 RVCH Replacement
Quality Execution Procedure QEP 11.03, Concrete and Grout Placement, Rev. 0E1, dated 11/3/03
Work Order 35001449-05, Containment Access Opening, Install Rebar/Concrete
National Ready Mixed Concrete Association (NRMCA) certificate for batch plant, truck mix
National Ready Mixed Concrete Association (NRMCA) certificates for concrete truck mixers, Rinker Materials concrete truck numbers 22353 and 15950
Records for calibration of concrete batch plant cement and aggregate scales, and batch plant water meter
Concrete mixer uniformity (ASTM C-94) tests performed on truck number 22353
Concrete mix design data
Result of testing performed on concrete materials: Type III cement (ASTM C-150), CTS Komponent admixture, air entraining admixture MB-EA90, high range water reducer Glenium 3030 NS, fine aggregate (ASTM C-33), number 67 coarse aggregate (ASTM C-33), Ice, and batch plant water
Concrete placement records which included the pre-pour check list, the concrete pour card, concrete batch tickets, and the results of testing performed on the plastic concrete (slump, air content, temperature and unit weight) at the batch plant and point of placement (end of pumpline)

1R20: Refueling Outage Activities

Procedure 4-OSP-051.17, Containment Building Visual Inspection
Procedure 4-OP-040.2, Refueling Core Shuffle
Procedure 0-SMM-051.3, Containment Closeout Inspection
Procedure 0-ADM-529, Unit Restart Readiness
Procedure 4-OP-041.7, Draining the Reactor Coolant System
Procedure 0-ADM-212.1, Operation In-Plant Equipment Clearance Orders
Procedure 0-ADM-051, Outage Risk Assessment and Control
PTN4-CY22, Outage Risk Assessment Key Safety Function Protection Plan
ECO-4-04-04-012, 4B 4kV Bus Outage Inspection and Relay Maintenance

2OS1 Access Controls to Radiologically Significant Areas

Procedure, Manuals, and Guidance Documents

0-Health Physics Administrative Procedure (HPA)-001, Radiation Work Permit Initiation and Termination 02/15/05
0-HPA-021, Radiation Protection Restricted Area Key Control, 02/15/05
0-HPA-030, Personnel Monitoring of External Dose, 07/15/03
0-HPA-031, Personnel Monitoring of Internal Dose, 03/07/01
0-HPA-031.2, Multibadge Exposure Monitoring, 06/12/02
0-Health Physics Surveillance Procedure (HPS)-025.2, General Posting and Survey Requirements for Outages, 02/15/05
0-HPS-026.1, Decontamination of Personnel, 06/01/02

0-HPS-026.2, Response Protocols for Whole Body Counting and Personnel Contamination Monitoring, 03/08/05
0-HPS-033.6, Exposure Investigations, 04/30/01
Nuclear Administrative Procedure (NAP)-204, Condition Reporting, Revision (Rev.) 5
Radiation Work Permit (RWP) 05-4007, Unit 4 (U4) Containment, Housekeeping and Decon Activities Including Shielding Maintenance, 04/05/05
RWP 05-4008, U4 Containment, Outage Support Activities on Non-Radioactive Systems, 04/05/05
RWP 05-4009, U4 Containment, Repair and Calibrate Indicators, Transmitters and Actuators, 04/05/05
RWP 05-4011, U4 Containment, Remove/ Repair/ Replace/ Repack Valves or Flanges, 04/08/05
RWP 05-4012, U4 Containment, Install / Remove Scaffolding, 04/05/05
RWP 05-4033, U4 Containment, All ISI Work Including Insulation Removal and All Support Work, 04/07/05
RWP 05-4050, U4 Containment, All RCP Work Excluding RCP Impeller Work, 04/07/05
RWP 05-4057, U4 Containment, 14 Foot (‘) Elevation, Test/Overhaul Valves PCV-455 A&B, 524A & 525A Bypass Valves, 568, Valve, and 572 & 573 Isolation Valves Including Support Work, 04/08/05
RWP 05-4060, U4 Containment, 14' Elevation (LHRA) All Work in Locked High Radiation Areas, 04/07/05
RWP 05-4077, U4 Containment, Steam Generator Sludge Lance and Bundle Flush (Secondary Side) Including Support Work, 04/07/05
RWP 05-4139, U4 Containment, Remove/Replace Reactor Head and Upper Internals, 03/24/05
RWP 05-4202, U4 Containment, Prepare/Package/Transport Old Reactor Head Inside Containment (Non-LHRA) Including All Support Work, 04/07/05
RWP 05-4207, U4 Containment, Remove/Replace Curb Boxes Including All Support Work, 04/05/05
RWP 05-4121, U4 Containment, Maintain Refuel Equipment and Fuel Movement; Latch and Unlatch Control Rods/Remove and Replace CRDM/RPI/MI Cables, 04/05/05
RWP 05-4136, U4 Containment, Detension/Remove/Clean/Install/Tension Reactor Head Studs/Guide Studs/Stud Hole Plugs, 04/07/05
RWP 05-4145, U4 Containment, All Reactor Vessel ISI Work and All Support Work, 03/17/05

Records and Data

Air Calculation Sheet Sampling Data for Maintenance Work on U4 Motor Operated Valve (MOV) 750: Breach of Valve conducted 4/20/05 and Pulling of Stem and Disk from Valve Body conducted 4/21/05
Non-Radiological Respiratory Issue Record Data for 04/21/05
Air Sample Log Data for Routine Containment Samples, Associated with Needle Gunning of U4 Containment Liner Plate, 04/16/05
Air Calculation Sheet Data for U4 Containment 14' Elevation Needle Gunning Task Under Transfer Canal, 05/05/05
HP Radiation and/or Contamination Surveys for Motor Operated Valve (MOV) U4-750 Maintenance Activities Including Survey Log Number (No.) 05-2616, (04/20/05); Log No. 05-2626 (04/20/05); and Log No. 05-2660 (04/21/05)
HP Radiation and/or Contamination Surveys for RWP 05-4204, Flow Restrictor Modifications Including Survey Log No. 05-2491, (04/18/05); Log No. 05-2440, (04/18/05); and Log No.

05-2528, (04/19/05)
HP Radiation Surveys for Defueling Activities Including: Survey Log No. 05-2281, (04/15/05); No. 05-2345 (04/16/05); No. 05-2347, (04/16/05); No. 05-2354, (04/16/05); No. 05-2386, (04/17/05); No.05-2340 (04/17/05); No. 05-2362, (04/16/05); No. 05-2429, (04/17/05); No. 05-2461, (04/18/05); No. 05-2331; No. 05-2405, (04/17/05); No. 05-2407, (04/17/05); No. 05-2434, (04/18/05); No. 05-2454, (04/18/05); No. 05-2532 (04/16/05); and No. 05-2415 (04/17/05)
HP Radiation Surveys for U4 Containment 14 foot (') Locations Including: Survey Log No. 05-2430, (04/17/05); No. 05-2470, (04/18/05); No. 05-2552 (04/19/02); No. 05-2562, (04/19/05); Fuel Movement Survey Matrix Data for U4 conducted 04/16-18/05
Radiation Protection Shift Turnover Logs, April 18-22, and May 16-19, 2005
Plant Turkey Point Refueling Outage 22, Outage Control Center Turnover Sheet April 18-22, 2005
Health Physics Restricted Area Key Issue Log Data, 05/18-19/2005

Corrective Action Program (CAP) Documents

Quality Assurance Audit (QAO)-Plant Turkey Point Nuclear (PTN)-03-004, Radiation Protection Functional Area Audit, 07/03/2003
Self Assessment Number (No.) 04-01, SEN-240 - Unplanned Radiation Exposure (Dose Control), 05/13/04
Quick Hit Self-Assessment Plan and Report, Preparation for the Spent Fuel Pit Inspections and Repairs, 04/14/04
Quick Hit Self-Assessment Plan and Report, Locked High Radiation Area Controls, 03/24/04
Quick Hit Self-Assessment Plan and Report, Radiation Protection Short Notice Outage Performance, 05/15/04
Quick Hit Self-Assessment Plan and Report, Radiological Event Tracking Sheet Trend, 7/04/04
Plant Turkey Point Nuclear (PTN) Daily Quality Summary, 04/18-22/05
CR 2004-04177, Radiological Control Issues Identified by Quality Department Observations, 07/14/04
CR 2004-10341, 'F' to 'G' Bus Transfer Causes Loss of HP Remote Monitoring Cameras on 30'6" Elevation in U3 Containment, 10/07/04
CR 2004-12837, Personnel Contamination Event in Contaminated Area, Contaminated on Face, 11/02/04
CR 2004-15287, Failure to Follow Procedures for Surveys and Posting U3 AB RHR Pump Pits, 11/20/04
CR 2005-00451, Problems Encountered During U4 Spent Fuel Pool Transfer System Inspection, 01/06/05
CR 2005-00743, Unexpected Dose Rate Alarm on PEA, 01/09/05
CR 2005-3944, Exit Whole Body Count Requiring Dose Calculation, 02/03/05
CR 2005-5934, Higher Than Expected Dose Rates on Auxiliary Building Roof during the Unit 4 Fuel Off-Load, 02/24/05
CR 2005-6017, Improper Movement of Radiological Posting, 02/24/05
CR 2005-6902, Failure to Follow Instructions for RWP, 03/04/05
CR 2005-8287, Negative Adverse Trend Noted in Area of Human Performance as Applied to Radiation Protection, 03/21/05
CR 2005-11117, High Radiation Area Control Issues - Ladder Placement Against Reactor Head, 04/17/05

2OS2 As Low As Reasonably Achievable

Procedures, Manuals, Guidance Documents

0-Administrative Procedure (ADM)-104, 10 CFR 50.59 Applicability/Screening Reviews, Revision 02/22/05
0-ADM-602, ALARA Program, 06/30/04
0-HPA-030, Personnel Monitoring of External Dose, 07/15/03
0-HPS-031.1, Whole Body Dosimetry Issue, 09/19/03c
0-HPA-071, ALARA Job Reviews, 02/11/04
0-HPA-072, Installation, Control, and Removal of Permanent and Temporary Shielding, Revision 04/07/03
0-HPS-105, Surveys for Chemical Crudburst and Cleanup of the Reactor Coolant System, 08/07/00
0-Nuclear Chemistry Operating Procedure-001.1, Primary Chemistry Control During Shutdown, 06/09/03c
Stellite Reduction Policy - Memorandum from A.L.DeRoy to P.E. Personnel, dated 08/06/92
Plant Turkey Point Nuclear (PTN) Cobalt Source Reduction, Revision 01/2/93
Specification (SPEC)-C-003, Lead Shielding Installation Turkey Point Units 3 & 4, Rev. 2
CN-3.01, Piping and Support Analysis Requirements Turkey Point Units 3 & 4, Rev. 3
Engineering Quality Instruction (ENG-QI)-1.11, ALARA Design Requirements, Rev.1
ENG-QI-2.1, 10CFR50.59 Applicability/Screening/Evaluation, Rev. 7
Procurement Engineering Standard (STD-PE)-001, Procurement Engineering Processes and Responsibilities, Rev. 5

Records and Data

Unit 4 (U4) Outage Shut Down (S/D) Chemistry and Dose Rate Data Between April 09-17, 2005, Including Crud Cleanup Trend; Cobalt (Co)-58 and Co-60 Activity for the Demineralizer Input, Demineralizer Output, and Let Down; Dose Rate Data for the 'A', 'B', and 'C' Steam Generator Intermediate Legs; Dose Rate Data for the U4 Containment 200 and 751 Valves Outside Biowall, Letdown Lines Associated with the U4 Pipe and Valve Room and Charging Pump Rooms, and the U4 RHR Common Inlet and Heat Exchanger Outlet.
U4 Outage S/D Chemistry Data Including RCS Total Activity, Co-58 and Co-60 Activity, October 5 - 14, 2003
U4 Outage Initial Shut Down (S/D) Chemistry Data Including RCS Total Activity Demineralizer Input & Output Cobalt (Co)-58 and Co-60 Activity, March 23-29, 2002
HP-229 Form, ALARA Shielding Log Data as of 04/19/05
RWP 05-4204, Flow Restrictor Modifications, Department Summary Report, Dose Expenditure
Florida Power and Light Turkey Point Nuclear Station Unit 4, 2003 Refueling Outage Health Physics Report
ALARA Review Board (ARB) Minutes: 02/09/04, 04/14/04, 07/15/04, 09/08/04, 09/16/04, 09/20/04, 09/21/04, 09/22/04, 09/24/04, 11/01/04, 11/10/04, 11/13/04, 11/17/04, 03/01/05, 03/30/05, 04/05/05, 04/07/05
2005 U4 Refueling Outage ALARA Report Data April 18-22, and May 16-19, 2005
RWP Electronic Dosimeter Setpoints, Radiation Work Permit Request, and ALARA Job Evaluation Data Sheets for: RWP 05-4007, completed 04/05/05; RWP 05-4008, completed 04/05/05; RWP 05-4009, completed 04/05/05; RWP 05-4011, completed 04/08/05; RWP

05-4012, completed 04/05/05; RWP 05-4033, completed 04/07/05; RWP 05-4057, completed 04/13/05; RWP 05-4060, completed 04/07/05; RWP 05-4139, completed 03/24/05; RWP 05-4202, completed 04/13/05; RWP 05-4207, completed 04/13/05; RWP 05-4121, completed 04/13/05; and RWP 05-4136, completed 04/13/05
2 Inch Globe Replacement Value, 05/19/2005
Technical Evaluation Report 081125

CAP Documents

PTN Nuclear Assurance Quality Report, ALARA Controls for Unit 4 Refueling Outage,
Quick Hit Self-Assessments Plan and Report, Review of Shielding Packages, May 15-16, 2004
CR 2004-00332, Proposed ALARA Initiative to Evaluate Use of Ultrasonic Level Transducers for Containment Sump Equipment to Reduce Man-Rem Accumulation, 03/31/04
CR 2004-03252, Safety and ALARA Concerns for Personnel Entries to 10 Foot Radioactive Pipeway for Locked Valve and Containment Integrity Valve Checks, 06/12/04
CR 2004-03761, 3A Charging Pump Job Exposure Increased Due to Increased Letdown Flow, 07/01/04
CR 2004-10581, Reactor Coolant Drain Tank Required LHRA Controls Recommended Elimination of Hot Spot to Reduce Dose, 10/10/04
CR 2004-11053, Unexpected Increase In Dose Rates in 3A RCP Cubicle, 10/14/04
CR 2004-10475, Dose Rate Limits on the Sludge Lancing RWP Are Set Excessively High, 10/09/2004
CR 2004-17535, Exceeded Dose Estimate for Installing the RCP Standpipe Modification in Unit 3 Containment, 12/21/04
CR 2005-04509, 3B Standpipe Drum Refill Frequency Estimated to Result in Over 3 Rem Annually, 02/10/05
CR 2005-06304, ALARA Exposure Variance Reports, 02/28/05

2PS2 Radioactive Material Processing and Transportation

Procedures, Manuals, and Guidance Documents

0-HPS-040.5, Radioactive Waste Classification, 09/22/04
0-HPS-044.2, Characterizing Radioactive Material/Waste for Transport, 09/22/04
0-HPS-044.9, Radioactive Material/Waste Shipment Documentation, 09/22/04
VP 03-097, Handling Procedure for Transport Cask Number CNS 14-215H, 01/24/05
0-HPA-045, Process Control Program, 11/20/02
0-ADM-104, 10 CFR 50.59 Applicability/Screening Reviews, 02/22/05
Nuclear Training Department Student Handout No. 2410080, Radwaste Shipping, 05/21/03
Nuclear Training Department Student Handout No. 3410014, Plant Access Training, 01/14/05
Diversified Technology Services, PCP-01, Waste Processing System, Rev. 0
NAP-204, Condition Reporting, Rev. 5

Records and Data

Shipment 04-004, Spent Resin, LSA, 01/23/04
Shipment 04-012, Spent Resin, LSA, 03/04/04
Shipment 04-026, Cf-252 Sealed Source, Type A, 05/13/04

Shipment 04-068, Spent Resin, LSA, 12/7/04
Shipment 05-042, Outage Equipment, SCO, 05/17/05
10 CFR Part 61 Radioactive Waste Stream Analysis Reports, 2003 and 2004
FP & L Inter-Office Correspondence, Satellite RCA and Relocation of C-Land Containers, 06/10/04
HAZMAT Training Records for Selected Radwaste Shipping Staff, 2003 - 2004

CAP Documents

CR 2004-3293, Receipt Survey Not Performed in Timely Manner, 06/14/04
CR 2004-6765, No Sample Taken During Sluice of Resin from SRST to HIC, 08/20/04
CR 2005-11577, Incomplete 50.59 Screening Performed for Changes Made to Liquid Radwaste Processing Systems, 04/20/05
CR 2005-13979, Better Procedural Guidance Needed for Detecting Changes in Waste Stream Isotopic Ratios, 05/11/05
CR 2005-14608, Water Observed Leaking from SCO Box Prepared for Shipment, 05/17/05
Self-Assessment Report No. 2004-RP-04-04, Radioactive Material Control
QAO-PTN-05-003, Radiation Protection Functional Area Audit, March 2005

4OA1 Performance Indicator Verification

Procedures

0-Administrative Procedure (ADM)-032, NRC Performance Indicators Turkey Point, 11/22/04

Records and Data

Radiological Event Tracking Sheets, Radiological Event Report Data: January 1, 2004 -May 19, 2005
System Component Report for PTN -067- Process Radiation Monitoring System January 1, 2004 - March 30, 2005
Liquid Dose Summary Sheet, December 2004, February 2005
Gas Release Summary Worksheet, February 2005
Gas Gamma Beta Dose Summary Sheet, December 2004, February 2005
Iodine Dose Summary Sheet, December 2004, February 2005
Liquid Release Permit 40152, 12/31/04
Gas Release Permit 04-30, 12/27/04
U3 Containment Air Sampling Log Sheet Data, October 2004
U3 Spent Fuel Pit Gas Effluent Log Sheet Data, October 2004

CAP Documents

CR 2004-07417, Dose Rate Alarm Working in Overhead in Unit 3 RHR Heat Exchanger Room, 08/30/04
CR 2004-10128, I&C Worker Received dose Alarm While Working on RWP 04-203 in U3 Pipe and Valve Room, 10/06/04
CR 2004-10406, Digital Alarming Dosimeter Accumulated Dose Alarm, 10/08/04
CR- 2004-10640, EPD Dose Rate Alarm Received by HP Worker, 10/10/04

CR 2004-14427, Worker Received DAD Dose Rate Alarm While Carrying an Incore Detector Reel Out of U3 Containment, 11/18/04
CR 2005-00743, Unexpected Dose Rate Alarm on PEA, 01/09/05

4OA5.1 and .2 Other Activities

Engineering Evaluation PTN-ENG-SEES-04-016, Revision 1
Draft Procedure 0-ONOP-004.6, Degraded Switchyard Voltage
Procedure 0-ADM-115, Notification of Plant Events
Procedure 0-ADM-225, On Line Risk Assessment and Management

Specifications & Procedures

Specification No. 7012-SPEC-C-003, FPL Turkey Point, Construction Opening Concrete Rev. 1, dated 10/23/04

Specification No. 7012-SPEC-C-006, FPL Turkey Point, Reinforcing Steel and Mechanical Splices, Rev. 0, dated 03/09/04

Plant Change/Modification (PC/M) Package 03-081, Containment Access Opening for Unit 4 RVCH Replacement

Quality Execution Procedure QEP 11.03, Concrete and Grout Placement, Rev. 0E1, dated 11/3/03

Work Order 35001449-05, Containment Access Opening, Install Rebar/Concrete

Quality Records

National Ready Mixed Concrete Association (NRMCA) certificate for batch plant, truck mix

National Ready Mixed Concrete Association (NRMCA) certificates for concrete truck mixers, Rinker Materials concrete truck numbers 22353 and 15950

Records for calibration of concrete batch plant cement and aggregate scales, and batch plant water meter

Concrete mixer uniformity (ASTM C-94) tests performed on truck number 22353

Concrete mix design data

Result of testing performed on concrete materials: Type III cement (ASTM C-150), CTS Komponent admixture, air entraining admixture MB-EA90, high range water reducer Glenium 3030 NS, fine aggregate (ASTM C-33), number 67 coarse aggregate (ASTM C-33), Ice, and batch plant water

Concrete placement records which included the pre-pour check list, the concrete pour card, concrete batch tickets, and the results of testing performed on the plastic concrete (slump, air content, temperature and unit weight) at the batch plant and point of placement (end of pumpline)

SGT NCR 04-114, Contamination of Coarse Aggregate Storage Bin

SGT NCR 04-127, Cutting of Concrete Outside Cut Boundary

SGT NCR 04-130, Concrete Cover Over Existing Rebar

SGT NCR 04-146, Rebar Spacing (As Found)

SGT NCR 04-147, Rebar Clearance

SGT NCR 04-148, Some Concrete Placed in Construction Opening With Slump Either Above or Below Specification Requirements

Condition report (CR) 2005-13192, As Found Condition of Liner Plate and Concrete Small Void Below Channel at Crane Rail Elevation

Plant Change/Modification PC/M 03-081, Containment Access Opening for U4 RVCH Replacement, Revision 1, Supplement 1, including: (1) Attachment 9, ASME Section XI Repair/Replacement for the Containment Opening, (2) Attachment 10, Code Reconciliation - Containment Liner Plate, and (3) Attachments 1A and 1B, 10 CFR 50.59 Applicability Determination and Evaluation

Work Package 4-3740, Reinstall Liner At Containment Access Opening

SGT Specification No. 7012-SPEC-C-006, Reinforcing Steel and Mechanical Splicing, Revision 0 and Change Request Notice C-11358

FPL Specification 5610-C-47, Specification for Furnishing, Fabrication, Delivery, & Erection of the Containment Structure Liner Plate and Accessory Steel

SGT Quality Execution Procedure 12.05, Magnetic Particle Examination, Revision OE2

SGT Welding Procedure Specification SM/1.1-1, Revision 0

SGT Procedure Qualification Record GT-SM/1.1-Q6

SGT Procedure VB-TP-1, Bubble leak Test Procedure - Vacuum Box Method, Revision LTS-0

BarSplice Installation and Examination of Swaged Mechanical Splices Supplemental Requirements for the Turkey Point Nuclear Power Plant, Revision 1

Procedure BPI-GRIP Systems Splicing Manual and Operating Instructions, Revision 10/18/01

FPL Procurement Quality Audit Report 08.03.BAROH.04.01

Wiss, Janney, Elstner, Associates, Inc. Report WJE 78649Q, Interim Report CAMTAK and BARGRIP SLEEVE TESTING for DAYTON BAR SPLICE , ING

NDE Examiner Qualification Records for the following SGT NDE Examiners: 3 Level II VT and 4 Level II MT Examiners

Qualification Records for 4 SGT LII Welding Inspectors

Magnetic Particle Examination Reports for Liner Plate Welds LP-1, LP-2, LP- 8, LP-9, LP-10, LP-11, LP-12, LP-13, LP-15, and LP17

Certification Records for MT Yoke SGT-2284, Test Plate SGT-5318, and Powder Lot 04J050

Bubble Test Technique Sheets for Liner Plate Welds LP-1, LP-2, LP-3, LP-4, LP-5, LP-6, LP-8, LP-9, LP-10, LP-11, LP-12, LP-13, LP-14, LP-15, and LP-17

Qualification Records for three Level II and one Level III Bubble Test Inspectors

Welder Qualification Records for Chicago Bridge and Iron (CB&I) Welders 1282, 9446, 7064, 0650, 6216, 4969, 3347, 4308, and 2560

Receipt Inspection Reports and Certified Material Test Reports for 3/32" E7018 - Lot 2F414C02 & Heat 589758, and 1/8" E7018 - Lot 4E412C03 & Heat W79518 Welding Electrodes

SGT Nonconformance Report (NCR) 04-120 - Unit 4 Liner Plate Damage

FPL NCR 2005-11059 - CR , Turkey Point Liner Plate Repairs
PC/M 03-58, Rx Vessel Closure Head, including the associated 10 CFR 50.59 Determination (Attachment 1)

Framatome Certified Design Specification 08-5023846-04, Reactor Vessel Closure Head Replacement Florida Power and Light Company Turkey Point Units 3 and 4

AREVA Document 51-5043258-02, Turkey Point Unit 4 Replacement RV Closure Head Reconciliation

Framatome Document 51-5056358-0, Turkey Point Unit 4 RVCH Replacement Baseline NDE Field Report

PTN-ENG-SEMS-05-0027, Bare Metal Visual Inspection of the Replaced Reactor Vessel Closure Head Prior to Initial Service

4OA5.3 Other Activities

Records and Data

HPDI 04-007, RVCH Replacement Health Physics Controls
RWP 05-4139, Remove/Replace Reactor Head and Upper Internals
RWP 05-4202, Prepare/Package/Transport Old Rx Head inside CTMT (Non-LHRA) Including All Support Work
Survey 05-3432, Underneath RVCH Inside Containment, 4/27/05
Survey 05-3142, Old RVCH Stored Outside, 4/28/05