

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

April 26, 2004

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

# SUBJECT: TURKEY POINT NUCLEAR PLANT - INTEGRATED INSPECTION REPORT 05000250/2004002 AND 05000251/2004002

Dear Mr. Stall:

On March 27, 2004, 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 April 6, 2004, 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 findings of very low safety significance (Green). The findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because the violations were entered into your corrective action program, the NRC is treating the violations as non-cited violations (NCV) in accordance with Section VI.A of the NRC's Enforcement Policy. Additionally, a licensee-identified violation which was determined to be of very low safety significance is listed in Section 4OA7 of this report. If you contest the NCV in this report, you should provide a response, within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at the Turkey Point facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's

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document system (ADAMS). ADAMS is accessible from the NRC Web site at <u>http://www.nrc.gov/reading-rm/adams.html</u> (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 05000250/2004002 and 05000251/2004002 w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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# U.S. NUCLEAR REGULATORY COMMISSION

# **REGION II**

| Docket Nos:        | 50-250, 50-251   |
|--------------------|--|
| License Nos:       | DPR-31, DPR-41   |
| Report Nos:        | 05000250/2004002, 05000251/2004002   |
| Licensee:          | Florida Power & Light Company (FP&L)   |
| Facility:          | Turkey Point Nuclear Plant, Units 3 & 4  |
| Location:          | 9760 S. W. 344 <sup>th</sup> Street<br>Florida City, FL 33035  |
| Dates:             | December 28, 2003 - March 27, 2004   |
| Inspectors:        | <ul> <li>K. Weaver, Senior Resident Inspector</li> <li>K. Green-Bates, Resident Inspector</li> <li>R. Baldwin, Senior Operations Engineer, (Section 1R11.2)</li> <li>T. Kolb, Operations Examiner, (Section 1R11.2)</li> <li>R. Hamilton, Health Physicist, (Section 2OS3)</li> <li>G. Kuzo, Senior Health Physicist, (Sections 2OS3, 2PS1, 2PS3)</li> <li>L. Rickenson, Senior Health Physicist, Region IV (Section 2PS1)</li> <li>S. Vias, Senior Reactor Inspector (Section 1R12.2)</li> <li>J. Kreh, Emergency Preparedness Inspector (Sections 1EP2 thru 1EP5, 4OA1)</li> <li>R. Taylor, Reactor Inspector, (Section 1R12.2)</li> </ul> |
| Accompanying perso | onnel: H. Getford, Health Physicist  |
| Approved by:       | Joel T. Munday, Chief<br>Reactor Projects Branch 3<br>Division of Reactor Projects   |

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## SUMMARY OF FINDINGS

IR 05000250/2004-002, 05000251/2004-002; 12/28/2003 - 03/27/2004; Turkey Point Nuclear Power Plant, Units 3 and 4; Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems; Event Followup

The report covered a three month period of inspection by resident inspectors and announced inspections by two region based operations engineers, four region based health physicists, one region based emergency preparedness inspector, and one region based engineering specialist inspector. Three Green non-cited violations (NCV) were identified. The significance of most findings is identified by their color (Green, White, Yellow, Red) using IC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Overnight Process", Revision 3, dated July 2000.

### A. NRC Identified & Self-Revealing Finding

Cornerstone: Public Radiation Safety

 Green. The inspectors identified a non-cited violation (NCV) of Technical Specification (TS) 6.8.1.d for failure to correctly calibrate selected effluent monitoring instrumentation in accordance with Offsite Dose Calculation Manual (ODCM) specifications. Specifically, the licensee failed to use National Institute of Standards and Technology (NIST) traceable secondary sources related to the initial monitor calibrations during the most recent calibrations of the gas decay tank noble gas effluent monitor (R-14), the liquid radioactive waste effluent monitor (R-18), the Unit 3 (U3) and Unit 4 (U4) Steam Jet Air Ejector monitors (R-3/4-15), and the U3 and U4 Steam Generator Blow-Down monitors (R-3/4-19).

This finding is greater than minor because it adversely affects the effluent monitoring equipment attribute of the Public Radiation Safety cornerstone in that failure to use NIST traceable secondary sources could impair the accuracy of effluent monitoring equipment required to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operations. The finding is of very low safety significance because there was no failure to assess dose to the public and doses did not exceed Appendix I to10 CFR Part 50 design criteria. (Section 2PS1)

 Green. The inspectors identified a non-cited violation of TS 6.8.1.e for failure to implement Quality Control activities for the conduct of representative sampling and monitoring of particulates in the main plant vent airborne effluents. Specifically, the main plant vent airflow flow characteristics were outside of the design specified exhaust flowrate and resultant velocities necessary to maintain isokinetic sampling of particulates by the main plant vent Sample Particulate Iodine, and Noble Gas (SPING) monitoring and sampling equipment (RAD 6304). This finding is greater than minor because it adversely affects the effluent monitoring program and process attribute of the Public Radiation Safety cornerstone in that failure to maintain isokinetic sampling could impact representative sampling and subsequent monitoring of particulates in airborne effluents released into the public domain as a result of routine civilian nuclear reactor operations. The finding is of very low safety significance because there was no failure to assess dose to the public from airborne particulates released from the main plant vent and doses did not exceed Appendix I to10 CFR Part 50 design criteria. (Section 2PS1)

Cornerstone: Mitigating Systems

• Green. A self revealing non-cited violation of Technical Specification 3.1.2.3 was identified for failure to maintain at least two charging pumps operable. This condition occurred when Isolation Valve 3-280H for the 3C Charging Pump interlock pressure control switch PS-3-201C was mispositioned closed.

The finding was greater than minor because it involved the equipment performance attribute of the mitigating system cornerstone and affected the objective of ensuring that equipment is available and capable to respond to an event. The finding was determined to be of very low safety significance in accordance with the Significance Determination Process (SDP) phase 2, since one charging pump remained operable and available to perform the safety function. (Section 4OA3)

## 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. The violation and corrective action tracking number are listed in Section 40A7 of this report.

## REPORT DETAILS

## Summary of Plant Status:

Unit 3 operated at or near full power during the inspection period.

Unit 4 operated at or near full power during the inspection period.

## 1. REACTOR SAFETY

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

### 1R01 Adverse Weather Protection

a. Inspection Scope

On January 21 and January 24, 2004, the inspectors performed a walkdown of the following five risk significant systems to verify that these systems would remain functional during cold weather conditions. During applicable cold weather days in January 2004, the inspectors verified that the preventive maintenance activities associated with Procedure 0-ONOP-103.2 "Cold/Hot Weather Conditions," for cold protection systems were appropriately scheduled and completed prior to and during the onset of cold weather. The inspectors verified that applicable compensatory actions were implemented for the following systems. The inspectors reviewed Procedure 0-ONOP-103.3, "Severe Weather Preparations," and Section 5.1 of the Updated Final Safety Analysis Report (UFSAR) in order to verify the licensee's compliance. The inspectors also reviewed the licensee's corrective action program for adverse weather related items to ensure that discrepancies were being identified and entered into the corrective action program at an appropriate level.

- Unit 3 Instrument Air Compressors
- Unit 4 Instrument Air Compressors
- Unit 4 Auxiliary Feedwater Nitrogen Backup System
- Unit 3 Emergency Diesel Generator Lube Oil System
- Unit 4 Emergency Diesel Generator Lube Oil System
- b. Findings

No findings of significance were identified.

- 1R04 Equipment Alignment
  - a. Inspection Scope

### Partial Equipment Walkdowns

The inspectors conducted five partial alignment verifications of the safety-related systems listed below. The inspectors reviewed the operability of the redundant train or

backup system/train while the other trains were inoperable or out of service. These inspections included reviews of plant lineup procedures, operating procedures, and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions were correctly aligned and that any discrepancies that could affect operability were identified. In addition, the inspectors reviewed the condition report database to verify that the licensee was identifying and correcting component alignment issues.

- Unit 4, 4B Emergency Diesel Generator (EDG), and Unit 3, 3A and 3B EDG, in accordance with procedure 0-OSP-023.3, "Equipment Operability Verification with an Emergency Diesel Generator Inoperable," to verify that there was no equipment taken out of service that would affect the operability of these safety systems while the 4A EDG was out of service for testing and the Unit 4, 41A 125 volt vital DC Battery was out of service for planned maintenance conducted on January 21, 2004.
- Unit 3, Chemical Volume and Control System, 3A, 3B, and 3C Charging Pumps, in accordance with Procedure 3-OP-047, "CVCS Charging and Letdown," Attachment 1, "CVCS Valve Alignment," conducted on January 23, 2004.
- Units 3 and 4, Auxiliary Feedwater System, A, B and C AFW Pumps, in accordance with Procedure 4-OP-075, "Auxiliary Feedwater System," Attachment 5, "Unit 4 Auxiliary Feedwater System Valve Alignment," conducted on February 13, 2004.
- Unit 3, 3A EDG, and Unit 4, 4A and 4B EDGs, in accordance with Procedure 0-OSP-023.3, "Equipment Operability Verification with an Emergency Diesel Generator Inoperable," during the Unit 3, 3B EDG relay replacement and testing activities conducted on February 24, 2004.
- Unit 4, 4B EDG and control room panel walkdown in accordance with Procedure 4-OP-023, "Emergency Diesel Generator," while the 4A EDG was out of service for emergent work conducted on March 1, 2004.

### b. <u>Findings</u>

No findings of significance were identified.

### 1R05 Fire Protection

a. Inspection Scope

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, and selected 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. In addition, the inspectors reviewed the condition report database to verify that fire protection problems were being identified and entered into the corrective action program at an appropriate threshold. The following areas were inspected:

- Unit 3 and Unit 4 Start-up Transformer Area, Fire Zone 81
- Unit 3 and Unit 4 Turbine Building Deck Area, Fire Zone 117
- Unit 3 A Switchgear Room, Fire Zone 71
- Unit 4 4A EDG Engine Room, Fire Zone 138
- Unit 3 3B EDG Engine Room, Fire Zone 72
- Unit 3 Charging Pump Room, Fire Zone 55
- Unit 3 Boric Acid Tank Room, Fire Zone 41
- Unit 3 and 4 AFW Pump Room, Fire Zone 84
- Unit 3 Cable Spreading Room Fire Zone 98

### b. Findings

No findings of significance were identified.

### 1R11 Licensed Operator Regualification

### .1 Licensed Operator Regualification

a. Inspection Scope

On January 27, 2004, the inspectors observed and assessed licensed operator actions on the simulator to a loss of feedwater accident scenario that also involved the failure of numerous critical safety components. The inspectors specifically evaluated the following attributes related to operating crew performance. Licensee procedures and documents reviewed are included in the Attachment to this report.

- Clarity and formality of communication
- · Ability to take timely action to safely control the unit
- · Prioritization, interpretation, and verification of alarms
- Correct use and implementation of Emergency Operating Procedures 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 the post training critique.
- b. <u>Findings</u>

No findings of significance were identified.

#### .2 Licensed Operator Regualification Annual Review

#### a. Inspection Scope

The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. During the week of January 26, 2004, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of simulator operating tests and simulator Job Performance Measures (JPMs) associated with the licensee's operator regualification program. Each of the activities performed by the inspectors was done to assess the effectiveness of the licensee in implementing regualification requirements identified in 10 CFR 55, "Operators' Licenses." The evaluations were also performed to determine if the licensee effectively implemented operator regualification guidelines established in NUREG-1021. "Operator Licensing Examination Standards for Power Reactors," and Inspection Procedure 71111.11, "Licensed Operator Regualification Program." The inspectors also reviewed and evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations. The inspectors observed two operator crews during the performance of the operating tests. Documentation reviewed included written examinations, JPMs, simulator scenarios, licensee procedures, on-shift records, licensed operator qualification records, watchstanding records, simulator discrepancy report records and performance test records. Licensee documents reviewed during the inspection are listed in the Attachment.

Following the completion of the annual operating examination testing cycle which ended on February 19, 2004, the inspectors viewed the overall pass/fail results of the individual JPM operating tests, and the simulator operating tests administered by the licensee during the operator licensing Requalification cycle. 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
- .1 Routine Maintenance Effectiveness Inspection
- a. Inspection Scope

The inspectors reviewed the following three equipment problems and associated condition reports to verify the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (the Maintenance Rule) and Plant Procedures: PMI-5035, "Maintenance Rule Program", PMP-5035-MRP-001 "Maintenance Rule Program Administration" and 12-EHP-5035-MRP-001 "Maintenance Rule Program Administration." 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 attended applicable expert panel meetings, interviewed responsible engineers, and observed some of the corrective maintenance activities. Furthermore, the inspectors verified whether equipment problems were being identified at the appropriate level and entered into the corrective action program.

- Condition Report 03-4271, Instrument Air Compressor shutdown from an indicated low compressor oil pressure.
- Condition Report 03-2606, Unit 3 RHR Sump in the RHR Heat Exchanger full and not running.
- Condition Report 03-2636, Unit 3 RHR Heat Exchanger Room Alarm switch internal mechanism easily knocked out of adjustment. Switch design is not robust and yields poor performance.
- b. Findings

No findings of significance were identified.

- .2 Maintenance Rule Biannual Periodic Evaluation
  - a. Inspection Scope

The inspectors reviewed the licensee's latest Maintenance Rule periodic assessment, "PTN Maintenance Rule Periodic Assessment," dated March 12, 2003. The report was issued to satisfy paragraph (a)(3) of 10 CFR 50.65, and covered the period January 2001 through June 2002 for both units. The (a)(3) report was reviewed to determine that the assessment was issued in accordance with the time requirement of the Maintenance Rule, and included evaluation of: balancing reliability and unavailability, (a)(1) activities, (a)(2) activities, and use of industry operating experience. To verify compliance with 10 CFR 50.65 and the effectiveness of the licensee's (a)(3) activities, the inspectors reviewed selected scoped SSCs/Functions that have experienced degraded performance or conditions. The five scoped SSCs/functions with degraded performance/conditions reviewed were:

- Two Charging Pumps Exceed TS Limits, LER 50-250/2003-010, CR 03-2349
- Inoperable CVCS Containment Isolation Valve, LER 50-250/2003-006, CR 03-1016, CR 03-1004, CR 03-1014
- Cycle 19 Main Steam Safety Valve (MSSV) Setpoint Outside Technical Specification Limits, LER 50-250/2003-004-00, CR 03-0368, CR 03-0368 Supplement 1, and Cycle 20 MSSV Setpoint Outside Technical Specification Limits, LER 50-251/2003-002-00, CR 03-2903

- Manual Trip Due to Low Steam Generator Level, LER 50-250/2003-002-01, CR 03-0134, CR 03-0135, CR 03-0135 Supplement 1, CR 03-0137, CR 03-0140
- Containment Spray Pump Failed during Outage Testing, LER 50-250/2003-007, CR 03-0701, CR 03-3918

Other documents/procedures reviewed during the inspection are listed in the attachment.

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 seven 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, 4A Emergency Diesel Generator taken out of service for testing on January 21, 2004 in conjunction with the Unit 4, 4A1 125 volt DC Battery for planned maintenance.
- Unit 4 Startup Transformer System Outage conducted on February 10-11, 2004
- Unit 3 Startup Transformer System Outage conducted on February 17-18, 2004
- Unit 4, emergent work for RCS leakage into the pressurizer relief tank due to leakage in the RHR discharge line on February 25, 2004
- Unit 3, 3A Reactor Protection System (RPS) emergent work for reactor trip relays RT-9 and RT-10 failures conducted on February 23, 2004
- Unit 4, 4A, Emergency Diesel Generator emergent work for a power supply inverter failure conducted on March 1, 2004

- Units 3 and 4 Plant Stack Radiation Monitor R-14 and Process Radiation Monitors R-15, R-18 and R-19, taken out of service due to calibration deficiencies on March 10, 2004
- b. Findings

No findings of significance were identified.

### 1R14 Personnel Performance During Non-Routine Plant Evolutions and Events

a. Inspection Scope

The inspectors evaluated operator, maintenance and engineering response and performance for non-routine plant evolutions to ensure they were appropriate and in accordance with the required procedures. The inspectors also evaluated performance problems to ensure that they were entered into the corrective action program. The following event was reviewed.

- On February 23, 2004, the inspector evaluated operator, maintenance and engineering response for the non-routine plant equipment failures of the RPS Relays RT-9 and RT-10 during RPS logic testing that resulted in an unplanned entry into a 6-hour to hot standby Technical Specification TS 3.3.1 action statement no. 8.
- b. Findings

No findings of significance were identified.

### 1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following 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 UFSAR, applicable supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim condition report disposition.

• Unit 3 and Unit 4 Condition Report 04-0190, Due to the failure of the Unit 4 AFW flow control valve CV-4-2833 during performance of inservice testing on January 15, 2004, it was identified that the excessive hardness of the failed pin due to improper heat treatment, was potentially generic to all Unit 3 and Unit 4 flow control valves. Three-day interim evaluation.

- Unit 4, Condition Report CR 03-4281, On December 23, 2003 Thermal Relief Valve RV-4-304 lifted when Excess Letdown was placed in service for Unit 4 Charging pump IST's. Due to pressurizer level decrease, operators attempted to close valves in the excess letdown line, but were unsuccessful because pressurizer level and VCT level continued to decrease. Consequently, the Unit 4 Excess Letdown line was placed OOS until troubleshooting and repair could take place. The Main Letdown Header structures and components were verified to be operable and were placed in protective train status.
- Unit 4, Condition Report 04-0441, During performance of Procedure 4-OSP-040, "Calorimetric Verification of Reactor Coolant System Flow", it was noted that the percent difference between measured and indicated flow on RCS Flow Instrumentation had increased.
- Unit 3, Condition Report 04-0864, Failure of 3A Reactor Protection System Westinghouse reactor trip relays RT-9 and RT-10 during performance of Procedure 3-OSP-049.1 RPS logic testing.
- Unit 3 and 4, Condition Report 04-0934, During a February 2004 NRC inspection it was identified that four radiation monitors did not meet all source and geometric calibration requirements listed in the Offsite Dose Calculation Manual.
- Unit 3, Condition Report 04-1316, During an outage package walkdown it was identified that the external pipe corrosion in the vicinity of AFW Hanger 80117-H-320-17 had degraded the pipe below the nominal minimum wall thickness. Three-day interim evaluation.
- b. Findings

No findings of significance were identified.

### 1R16 Operator Workarounds

a. Inspection Scope

The inspectors routinely reviewed the Operator Work Around (OWA) log for both units and discussed new items with Operations supervision. The inspectors also routinely walked down unit main control boards, reviewed operator chronological logs and equipment OOS logs, and examined main control board plant work order (PWO) tags for potential OWAs. Furthermore, the inspectors verified OWAs were being identified and properly entered into the corrective action program. In addition, inspectors reviewed operator burden and potential operator EOP actions when the Unit 4 CVCS excess letdown system was taken out of service for an extended time due to excessive leakage into the pressurizer relief tank. Thermal Relief Valve RV-4-304 had failed open and Throttle Valve HCV-187 did not close with full close demand (CRs and 03-4281, 03-4432 and 04-0145).

## b. Findings

No findings of significance were identified.

## 1R19 Post Maintenance Testing

### a. Inspection Scope

For the six 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. Procedures reviewed by the inspectors as a basis for acceptance are listed in the Attachment. The inspectors reviewed the following work orders (WO) and/or procedures:

- Unit 3 RPS Relay RT-9 & RT-10 post maintenance testing conducted under 0-GMI-49.1, "Testing and Replacement of BFD/NBFD Relays in Reactor Protection and Safeguards Systems," following relay replacement on February 23, 2004. (WO 34004464-01).
- Unit 3 3B EDG post maintenance testing per WO 32019211-02 and monthly test run in accordance with Procedure 3-OP-023, "Unit 3 Emergency Diesel Generator Test," on February 24, 2004 following 3B EDG relay replacement.
- Unit 4 post maintenance testing of 4A EDG following maintenance on March 4, 2004.
- Unit 4 post maintenance testing of 4CD Instrument Air Compressor following maintenance on March 5, 2004.
- Unit 4 4B High Head Safety Injection Pump post maintenance testing conducted under WO 31010353 following parts replacement on March 5, 2004.
- Unit 3 post maintenance testing per WO 34003445 in accordance with Procedure 3-OSP-050.2 Section 7.3, "Residual Heat Removal Pump 3B Test," following a RHR maintenance outage on March 24, 2004.
- 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.

- Unit 4, Procedure 4-OSP-023.2, "4A Diesel Generator 24 Hour Full Load Test and Load Rejection" on January 21, 2004.
- Unit 3, Procedure 3-OSP-047.1, "Charging Pumps/Valves Inservice Test," conducted on February 14, 2004 (IST).
- Unit 4, Procedure 4-OSP-030.7, "CCW Manual Valve Operability Test," in-service testing conducted on February 14, 2004 (IST).
- Unit 4, Procedure 0-OSP-202.3, "Safety Injection Pump and Piping Venting Monthly Test." conducted on January 28, 2004.
- Unit 3, Procedure 3-OSP-023.1, "Diesel Generator Operability Test," Section 7.5, "3A EDG Operability Test," conducted on March 1, 2004.
- Unit 4, Procedure 4-OSP-075.7, "Auxiliary Feedwater Train 2 Backup Nitrogen Test" and Procedure 4-ONOP-099.1 "Response to a Metal Impact Monitor Alarm", which was entered into during the surveillance conducted on March 5, 2004.
- Unit 4, Procedure 0-OSP-202.3, Sections 7.1 and 7.2, "Safety Injection Pump and Piping Venting Weekly Test," for 4B High Head Safety Injection Pump 4B conducted on March 5, 2004.

### b. <u>Findings</u>

No findings of significance were identified.

#### 1R23 Temporary Plant Modifications

a. Inspection Scope (7111123)

The inspectors completed a review of the following two active temporary modifications 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. Documents reviewed during the inspection are listed in the Attachment to this report.

- TSA 03-03-025-031, "D-3 Damper Restrained in Open Position,"
- TSA 04-04-047-02, "Rescale HCV-4-137 from 4-20 ma to 0-20 ma to allow HCV-4-137 to fully close"
- b. Findings

No findings of significance were identified.

### **Cornerstone: Emergency Preparedness (EP)**

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

- 1EP2 Alert and Notification System Testing (71114.02)
- a. Inspection Scope

The inspectors ascertained the licensee's commitments with respect to the testing and maintenance of the alert and notification system (ANS), which comprised 47 sirens in the ten-mile-radius emergency planning zone. The inspectors evaluated the design of the ANS, the licensee's methodology for testing the system, and the adequacy of the testing program design. Routine testing of the ANS comprised biweekly silent and quarterly full-cycle tests. Assessment of the program as actually implemented included review of siren test records (with an emphasis on identification of any repetitive individual siren failures), system changes during the past two years, procedures for periodic preventive maintenance (including post-maintenance testing), and a sample of corrective actions and their effectiveness for siren failures and issues. The review of this program area encompassed the period January 2002 through December 2003. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

#### 1EP3 <u>Emergency Response Organization (ERO) Augmentation (71114.03)</u>

a. Inspection Scope

The inspectors identified the licensee's commitments with respect to timeliness and numbers of personnel for staffing emergency response facilities (ERFs) in the event of an emergency declaration at Alert or higher. The licensee's automated paging system (Dialogic Communications) and manual backup system (via the Emergency Response Directory) for call-out of ERO personnel were reviewed to determine whether they would support staff augmentation in accordance with the criteria for ERF activation timeliness. Methodologies for testing the primary and backup systems for augmenting the ERO

were reviewed and discussed with cognizant licensee personnel. The inspectors also reviewed and discussed the changes to the augmentation system and process during the past two years, which included implementation of the automated paging system in April 2002. The inspectors reviewed records of the last off-hour ERO augmentation drill which involved actual travel to the plant and activation of ERFs (drill was initiated at 3:55 a.m. on December 17, 2003). Follow-up activities for a sample of problems identified through augmentation testing were evaluated to determine whether appropriate corrective actions were implemented. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

### 1EP4 Emergency Action Level (EAL) and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed a selected sample of changes made to the Radiological Emergency Plan (REP) since the last inspection in this program area (conducted in February 2002) against the requirements of 10 CFR 50.54(q) to determine whether any of the changes decreased REP effectiveness. The licensee had implemented REP Revisions 40 and 41, including modifications to the emergency action levels (EALs) in Revision 41. The inspectors conducted a detailed review of all EAL changes. The inspectors reviewed documentation of the licensee's 10 CFR 50.54(q) screening evaluations for the referenced revisions. Licensee plans, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

### 1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspectors evaluated the efficacy of licensee programs that addressed weaknesses and deficiencies in emergency preparedness. The procedure governing the plant corrective action program was reviewed for applicability to the emergency preparedness program. Since the last inspection of this program area (February 2002), no emergency declarations were made by the licensee. Audits performed in accordance with 10 CFR 50.54(t) and a self-assessment were reviewed. The inspectors evaluated selected drill scenarios and associated critiques to determine whether the licensee had properly identified failures to implement regulatory requirements and planning standards. A sample of weaknesses and deficiencies identified by means of these licensee processes was evaluated to determine whether corrective actions were effective and timely.

Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

#### **Findings**

No findings of significance were identified.

#### 1EP6 Drill Evaluation

a. Inspection Scope

On February 24, 2004, the inspectors monitored the participation of emergency response organization (ERO) personnel in the Technical Support Center (TSC) during the first quarter emergency preparedness (EP) drill of the site emergency plan. During the drill the inspectors assessed if actions taken for emergency classification, notification, and protective action recommendations were made in accordance with the EP implementing procedures and 10 CFR 50.72. Specifically, the inspectors reviewed whether the initial activation of the emergency response centers was correctly conducted due to a steam generator tube rupture and loss of offsite power. Technical specifications required actions during the drill were reviewed to assess correct implementation. Drill critique items were discussed and reviewed with the licensee to verify that drill issues were being identified and captured. Additionally, on March 5, 2004, the inspectors verified that "Alert" sirens used during Emergency Evacuations were working and that pre and post test messages were clearly audible and stated in both English and Spanish, at two remote siren site locations during the 1<sup>st</sup> Quarter Miami-Dade County "Alert" siren test.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety and Public Radiation Safety

#### 2OS3 Radiation Monitoring Instrumentation

a. Inspection Scope

<u>Area Radiation Monitoring Systems</u> The operability, availability, and reliability of selected direct area radiation monitoring and continuous air monitoring equipment used for routine and accident monitoring activities were reviewed and evaluated. The inspectors reviewed Area Radiation Monitor (ARM) system details specified in Updated Final Safety Analysis Report (UFSAR) Section 11.2 and subsequently reviewed and discussed with cognizant licensee representatives the most recent periodic System Engineer System Health reports for ARMs including the Containment High Range Area Radiation Monitor (CHRM) and Post Accident Sampling System equipment. In addition, calibration and

repair records for selected ARM equipment were reviewed and discussed with licensee representatives. During the week of February 23, 2004, the inspectors directly observed equipment material condition, installed configurations (where accessible), and local and control room readouts; and reviewed established alarm set-points for selected Unit 3 (U3) and Unit 4 (U4) CHRM and Spent Fuel Pool (SFP) ARM equipment.

Program guidance, performance activities, and equipment material condition for the direct radiation detection instrumentation and continuous air sampling equipment were reviewed against details documented in Technical Specification (TS) 6.8.1, 10 CFR Parts 20 and 50, UFSAR Section 11, applicable Design Basis Document (DBD) details, and associated procedures. Radiation detection and sampling equipment required for use in accident monitoring also were reviewed against details specified in NUREG 0737, Item II.F.1, Regulatory Guide (RG) 1.97, Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, Rev. 3, and recent license amendment details. The specific procedural and guidance documents used to evaluate this program area are listed in the report Attachment.

<u>Personnel Survey Instrumentation</u> The inspectors reviewed and discussed calibration and traceability documentation for the J.L. Shephard calibrator used for on-site calibration of portable survey instruments. Responsible staff's knowledge and proficiency regarding use of the calibrator were evaluated through record reviews and interviews of responsible personnel.

Operability and analysis capabilities of the whole body counting (WBC) equipment for monitoring internally deposited radionuclides and Personnel Contamination Monitor (PCM) equipment utilized for surveys of individuals exiting the Radiologically Controlled Area (RCA) were evaluated. For both WBC and PCM equipment, current calibration and recent operational/performance test surveillance data, as applicable, were evaluated. The licensee's radionuclide data base library used for routine WBC analyses was reviewed against current dry active waste (DAW) 10 CFR Part 61 analyses and discussed with licensee representatives. Selected WBC data analyses were reviewed and discussed with responsible staff to assess knowledge and proficiency in equipment operation and in evaluating WBC results for measurable intakes which could result in committed effective dose equivalent (CEDE) values assigned to occupational workers.

Licensee activities associated with personnel radiation monitoring instrumentation were reviewed against TS 6.8.1; 10 CFR 20.1204 and 20.1501; and applicable licensee procedures listed in Section 2OS3 of the report Attachment.

<u>Protective Equipment Respiratory Protection - Self Contained Breathing Apparatus</u> (SCBA) The licensee's respiratory protection program guidance and its implementation for use of Self Contained Breathing Apparatus (SCBA) equipment was evaluated. The inspectors reviewed records associated with supplied air quality and maintenance activities for SCBA equipment. The number of available staged SCBA units, and their general material condition and bottle air pressure were observed during tours of the Control Room, RCA control point, and Operational Support Center (OSC) storage

locations. During the week of February 23, 2004, the inspectors reviewed and evaluated records associated with current medical qualification determinations, fit test results, and training status for selected emergency response personnel assigned duties requiring use of SCBA equipment. In addition, selected operators were interviewed to determine their level of knowledge of SCBA equipment locations, and proper use.

Licensee activities associated with maintenance and use of SCBA equipment were reviewed against TS, 10 CFR Part 20.1703, UFSAR Section 11, Emergency Plan details, American Nuclear Standards Institute (ANSI)-Z88.2-1992, American National Standard Practices for Respiratory Protection, and applicable procedures listed in Section 2OS3 of the report Attachment.

<u>Problem Identification and Resolution</u> Licensee Condition Reports (CR) associated with personnel monitoring instrumentation and respiratory protection activities were reviewed. Licensee CRs reviewed and evaluated in detail during inspection of this program area are identified in the report Attachment. The inspectors assessed the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with licensee Nuclear Administrative Procedure (NAP)-400, Condition Reports, Rev. 0.

b. Findings

No findings of significance were identified.

### 2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

a. Inspection Scope

<u>Effluent Processing Equipment</u>. During the week of February 23, 2004, the inspectors reviewed and evaluated the operability, availability, and reliability of selected radioactive effluent process sampling and detection equipment used for routine and accident monitoring activities. Inspection activities consisted of direct observation of installed equipment configuration and operation, and review of calibration and performance data for the liquid and gaseous effluent process systems.

The inspectors directly evaluated selected U3 and U4 effluent process monitoring equipment for material condition and assessed selected processing and monitoring components against design configuration and operating specifications. During walk-downs, accessible sections of the liquid waste system including waste monitor tanks, system piping, and the liquid radioactive waste (radwaste) effluent line radiation monitor (R-18) were assessed for material condition and conformance with current system design diagrams. Inspected components of the main gaseous effluent process and release system included the waste gas decay tanks; radiation monitoring instrumentation for the gas decay tank noble gas monitor (R-14); and the U3 and U4 condenser Steam Jet Air Ejector (SJAE) noble gas (R-3/4-15) and Sample Particulate Iodine Noble Gas (SPING)[RAD-3/4-6417] monitoring equipment. For the main plant vent SPING (RA-6304), the inspectors evaluated sample lines interior to the plant. The

inspectors interviewed chemistry supervision regarding liquid and gaseous radwaste system configurations, system modifications, and effluent monitor operation. The inspectors compared U3/U4 plant vent flow rates and velocities to the Rad-6304 sample line flow rates and resultant velocities to evaluate equipment operation for isokinetic sampling conditions. In addition, the most recent surveillances test results for the emergency containment filter and control room emergency ventilation systems were reviewed and discussed with licensee representatives.

The inspectors reviewed applicable sections of licensee effluent monitor calibration procedures and evaluated results of calibration and/or functional tests for the liquid radioactive waste (radwaste) monitor (R-18), gas decay tank noble gas monitor (R-14), and the main plant vent SPING equipment (RAD-6304), and the U3 and U4 condenser SJAE noble gas monitors (R-3/4-15). The reviewed data included isotopic calibration records, source check results, and flowmeter calibration records. The inspectors also reviewed out-of-service data and selected contingency sampling records for effluent monitors from January 1, 2003 through January 31, 2004.

Installed configuration, material condition, operability, and reliability for selected effluent sampling and monitoring equipment were reviewed against 10 CFR Parts 20 and 50; Regulatory Guide (RG) 1.33, Quality Assurance Program Requirements (Operation), February 1978; RG 1.21, Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plant, June 1974; ANSI-N13.1-1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities; ANSI-N13.10-1974, ANS Specification and Performance of On-Site Instrumentation for Continuously Monitoring Radioactivity in Effluents; TS Section 6.8 1; the Offsite Dose Calculation Manual (ODCM), Rev. 11; and UFSAR Chapter 11. Procedures and records reviewed during the inspection are listed in Section 2PS1 of the report Attachment.

<u>Effluent Release Processing and Quality Control Activities</u>. The inspectors evaluated licensee performance in conducting effluent release processing and quality control (QC) activities including implementation of program guidance and chemistry and operations staff proficiency. The inspection consisted of direct observation of sampling and release operations, examination of count room equipment and daily QC activities, and review of effluent release procedural guidance and documentation.

The inspectors directly observed the weekly collection of airborne effluent samples from the U3 SJAE SPING (Rad -3-6417) as part of a continuous gaseous release. The collection of a tritium sample from the U4 containment purge exhaust was also observed. The inspectors evaluated chemistry technician proficiency in collecting, processing, and counting the samples. In addition, the inspectors interviewed and observed operations personnel during conduct of a February 26, 2004, 'A' Waste Monitor Tank liquid effluent release.

QC activities regarding gamma spectroscopy and liquid scintillation counting instrumentation were discussed with a count room technician and Chemistry supervision. The inspectors reviewed calibration records and daily QC check trends,

observed daily QC check performance, and evaluated the data against procedural guidance for germanium detector numbers 1, 2, and 3 and the Packard liquid scintillation counting equipment. In addition, quarterly radiochemistry cross-check program results from the first quarter of 2002 through the second quarter of 2003 were reviewed and discussed with cognizant licensee representatives.

Procedures for effluent sampling, processing, and release were evaluated for consistency with licensee actions. Three liquid and four gaseous release permits were reviewed against current procedural guidance and ODCM specifications. The ODCM was reviewed to determine whether any changes were made since January 1, 2001. The inspectors also reviewed the Calendar Year (CY) 2001 and CY 2002 annual effluent reports for effluent release data trends and anomalous releases.

Observed task evolutions, count room activities, and offsite dose results were evaluated against details and guidance documented in the following: 10 CFR Parts 20 and Appendix I to 10 CFR Part 50; ODCM; RG 1.21, Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plant, June 1974; RG 4.15, Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment, December 1977; RG 1.109, Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50 Appendix I, October 1977; ANSI-N13.1-1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities; and ANSI-N13.10-1974, ANS Specification and Performance of On-Site Instrumentation for Continuously Monitoring Radioactivity in Effluents. Procedures and records reviewed during the inspection are listed in Section 2PS1 of the report Attachment.

<u>Problem Identification and Resolution</u>. Five licensee corrective action documents and an audit associated with effluent release activities were reviewed and assessed. The inspectors assessed the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with licensee procedure NAP-400, Condition Reports, Rev. 0. Reviewed guidance documents and data are listed in Section 2PS1 of the report Attachment.

b. Findings

#### .1 Failure to Implement ODCM Requirements

<u>Introduction</u>. A Green NRC-identified Non-Cited Violation (NCV) for the failure to implement ODCM calibration requirements for selected effluent monitors was identified.

<u>Description</u>. During a review and discussions of effluent monitor calibration procedures and records, the inspectors determined that the licensee did not use secondary calibration sources while calibrating selected effluent monitors. A secondary calibration source is a calibration source whose effects on the system were established at the time of the primary calibration and, therefore, has a known relationship to the primary calibration. Specifically, the licensee did not use National Institute of Standards and

Technology (NIST) traceable secondary calibration sources during calibrations of the gas decay tank noble gas monitor (R-14), the liquid radwaste effluent monitor (R-18), the U3 and U4 condenser Steam Jet Air Ejector (SJAE) noble gas monitors (R-3/4-15), and the U3 and U4 Steam Generator Blow-Down (SGBD) monitors (R-3/4-19). For some of the data reviewed, the inspectors noted that check sources were used during portions of the electronic calibrations; however, the resultant count rates produced were not linked to the count rates measured during the primary calibrations.

<u>Analysis</u>. The inspectors determined that the licensee's failure to correctly calibrate the process effluent monitors was a performance deficiency. The finding is more than minor because it was associated with the Public Radiation Safety Cornerstone plant equipment/process radiation monitoring attribute and affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operations. The finding impaired the licensee's ability to assess dose; however, for each of the affected effluent pathways, the finding did not result in the licensee's failure to assess dose and doses did not exceed Appendix I to 10 CFR Part 50 values. For monitors R-14 and 18, the licensee performed sampling and analysis before each liquid or gaseous effluent batch release. For monitors R3/4-15 and R3/4-19, other properly calibrated SPING effluent monitoring equipment/systems were operational and provided monitoring for each of the affected effluent pathways.

Enforcement. TS 6.8.1.d requires written procedures to be established, implemented, and maintained covering ODCM implementation. Offsite Dose Calculation Manual Surveillance Requirements 2.1.1 and 3.1.1 require, respectively, that each radioactive liquid and gaseous effluent monitoring instrumentation channel be demonstrated operable by performance of the channel check, source check, channel calibration and analog channel operational test at the frequencies shown in Table 2.1-2 and Table 3.1-2. Table 2.1-2 and Table 3.1-2, respectively, require the monitor on the liquid effluent line and monitors on the gas decay tank, condenser air ejector vent, plant vent, and spent fuel pit building vent systems be calibrated at least once per 18 months. Table 2.1-2, Notation 2 and Table 3.1-2, Notation 3, require initial channel calibrations be performed using one or more of the reference standards certified by NIST or using standards that have been obtained from suppliers that participate in measurement assurance activities with NIST. For subsequent channel calibration, sources that have been related to the initial calibration shall be used.

Contrary to TS 6.8.1.d, current calibrations for selected effluent monitors were not conducted using NIST traceable secondary sources that were related to the initial calibration as specified in the ODCM. Because the failure to correctly calibrate effluent monitors was determined to be of very low safety significance and has been entered into the licensee's corrective action program (CR No. 04-0934), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000250, 251/2004002-01, Failure to Correctly Calibrate Selected Effluent Monitoring Instrumentation in Accordance With ODCM Requirements.

#### .2 Failure to Implement Quality Control Requirements

<u>Introduction</u>. A Green NRC-identified NCV of TS 6.8.1.e was identified for failure to implement Quality Control (QC) activities for the conduct of representative sampling and monitoring of particulates in the main plant vent airborne effluents.

Description. During a review of design and current operating flow-rate characteristics for the main plant vent, the inspectors noted current exhaust flow rates, averaging approximately 77,000 cubic feet per minute (cfm), were outside of documented design/operating limits of 130,000 cfm ± 20 percent (%) required for proper isokinetic sampling of airborne effluent particulates. Further, review of main stack flow-rate data demonstrated that the current observed flow-rate was indicative of long-term routine operations. From discussions with cognizant licensee representatives and review of Licensee Design Package Document, RAD-6304 Plant Vent Stack Sample Nozzle Modification and Relocation, dated July 12, 1982, and Plant Change Modification (PCM) 82-147 specifications, the inspectors noted that the current plant vent nozzle was installed and sized to provide isokinetic sampling at a plant vent stack flow-rate of 130,000 cfm + 20 %. The documented specifications further detailed that the vacuum pump for main plant vent sample line supplying the SPING equipment (Rad-6304) should be operated at a flow-rate of 60 liters per minute (lpm) to provide isokinetic sampling for a plant vent stack flow-rate of 130,000 cfm + 20 %. From discussions with licensee representatives, the inspectors determined that the flow-rate in the sample line supplying the Rad-6304 SPING equipment was procedurally maintained as specified, i.e., flow-rate of approximately 60 lpm. However, no similar program or process controls were identified that maintained the main plant vent flow-rate within the design specifications.

<u>Analysis</u>. The inspectors determined that the licensee's failure to operate the plant vent flow rates and resultant velocities within established design/operating specifications was a performance deficiency. This finding is associated with the Public Radiation Safety Cornerstone and adversely affects the cornerstone objective attribute of having adequate programs and processes for accurate measurement of offsite dose and is, therefore, more than minor. This finding was evaluated using the Public Radiation Significance Determination Process (SDP). It is of very low safety significance based on current plant operations and processing of plant vent effluents which result in small diameter particulates which are not readily affected by the observed anisokinetic conditions. The finding did not result in the licensee's failure to assess dose and doses did not exceed Appendix I to 10 CFR Part 50 values.

<u>Enforcement</u>. TS 6.8.1.e requires written procedures to be established, implemented, and maintained covering the QC Program for effluent monitoring using the guidance in RG 1.21, Rev. 1, June, 1974. Footnote 1 of RG 1.21 references ANSI N.13.1-1969 as an acceptable standard which includes general principles and guidance for representative sampling of particulates in airborne effluent streams. The standard specifies, in part, that non-representative sampling can result when velocities are anisokinetic.

Contrary to TS 6.8.1.e, the inspectors determined no QC programs or processes were established to maintain representative sampling of particulates in the main plant vent airborne effluents. Because the failure to maintain and implement the established design and operating criteria for the main plant vent airborne effluents and sampling system was determined to be of very low safety significance and has been entered into the licensee's corrective action program (CR No. 04-0944) this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000250, 251/2004002-02, Failure to Maintain QC Program Activities for the Conduct of Representative Sampling and Monitoring of Particulates In the Main Plant Vent Airborne Effluents.

### 2PS3 <u>Radiological Environmental Monitoring Program (REMP) and Radioactive Material</u> <u>Control Program</u>

### a. Inspection Scope

<u>REMP Implementation</u>. The licensee's Annual Radiological Environmental Operating Reports for Calendar Year (CY) 2001 and CY 2002 were reviewed and discussed with cognizant licensee representatives. The inspectors discussed and evaluated the reported data for trends in radionuclide concentrations, anomalous/missing data, and land-use census information. Quality control (QC) activities and data for selected sample types listed in the reports were reviewed and evaluated including inter-laboratory comparison results; analytical assumptions used in gross beta analyses; calculations for surface water cobalt-60, manganese-54, and gross beta lower limit of detection (LLD) determinations; and CY 2003 semiannual sample pump air flow calibration data.

Equipment operational status and staff proficiency for implementing REMP activities were assessed through review of records, observations of equipment material condition and operating characteristics, and through assessment of selected sample collection activities. Collection of weekly air particulate filters/charcoal cartridges and air flow rate determinations were observed at sampling station location numbers (nos.) T-52, T-58, T-72, and a supplemental station located at the day care center. Collection of surface water and vegetation samples at sampling station nos. T-84 and T-41, respectively, were observed and discussed. During observations of sample collection, the inspectors evaluated the proficiency of staff collecting the samples, and assessed the adequacy and implementation of selected collection techniques. The placement and material condition nos. NW-1, NW-5, W-5, WNW-10, W-9, WSW-8, W-8, SW-8, SSW-10. Using Global Positioning System equipment, the inspectors independently assessed selected TLD and air sampling locations and compared the current location data to Off Site Dose Calculation Manual (ODCM) specified locations.

REMP guidance, implementation, and results were reviewed against ODCM, Rev. 11 guidance and applicable procedures listed in section 2PS3 of the report Attachment.

<u>Meteorological Monitoring Program</u>. Licensee program activities to assure accuracy and availability of meteorological monitoring data were evaluated through review of calibration and surveillance data and direct observation of equipment and data readouts at the primary tower, backup tower, and control room. Current calibration data were reviewed and equipment performance, reliability, and conduct of routine surveillances were discussed with operations and vendor technician staff responsible for tower equipment maintenance and surveillances. Meteorological data availability were reviewed and discussed with licensee representatives for the period CY 2001 through CY 2003. The inspectors observed performance of the weekly meteorological tower system inspections and daily control room surveillances. The inspectors also verified consistency between meteorological tower local readouts and control room data.

Meteorological instrument operation, calibration, and maintenance were reviewed against details listed in the UFSAR, Chapter 2; NRC Safety Guide 23, Onsite Meteorological Programs-1972; ANSI -3.11-2000, Determining Meteorological Information; Regulatory Guide (RG) 1.21, Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials In Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plant, June 1974; and RG 4.15, Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment, December 1977 and applicable licensee procedures. Reviewed documents and data are listed in section 2PS3 of the report Attachment.

<u>Unrestricted Release of Materials from the Radiologically Controlled Area (RCA)</u>. Radiation protection program activities associated with the unconditional release of potentially contaminated materials or personnel from dress-out facilities and RCA egress points were evaluated. The evaluation included review of calibration records associated with personnel contamination monitor (PCM), portal monitor (PM), and Small Article Monitor (SAM) equipment located at the Dress-Out Building, RCA exit portal, and the Main Truck gate. The inspectors also observed source checking of two personnel contamination monitors, two portal monitors, and two material survey monitors. Source activity and radionuclides used for checks and equipment minimum detectable activities were discussed with an instrument technician. In addition, a low level source, approximately 5000 disintegration per minute, was used to evaluate monitor sensitivity for selected PM and PCM equipment.

The inspectors verified that radiation detection sensitivities were consistent with NRC guidance in IE Circular 81-07 Control of Radioactively Contaminated Material, May 14, 1981, and IE Information Notice 85-92, Surveys of Wastes Before Disposal from Nuclear Reactor Facilities. Documents reviewed are listed in section 2PS3 of the report Attachment.

<u>Problem Identification and Resolution</u>. Selected licensee Corrective Action Program (CAP) documents including Condition Report (CR) documents and vendor audits associated with meteorological monitoring activities and unrestricted release of materials from the RCA were reviewed and discussed with responsible licensee representatives. In addition, licensee quality assurance vendor audits and vendor self-assessments

associated with REMP activities were reviewed and discussed with cognizant licensee and vendor personnel. The inspectors assessed the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with licensee procedure NAP-400, Condition Reports, Rev. 0. Specific documents reviewed and evaluated in detail for these program areas are identified in Section 2PS3 of the report Attachment.

b. Findings

No findings of significance were identified.

- 4. OTHER ACTIVITIES
- 4OA1 Performance Indicator (PI) Verification
- .1 <u>Emergency Preparedness Cornerstone Performance Indicator (PI)</u>
- a. Inspection Scope

The inspectors sampled licensee submittals relative to the PIs listed below for the period January through December 2003. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline", Revision 2, were used to confirm the reporting basis for each data element.

### Emergency Preparedness Cornerstone PIs

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

For the specified review period, the inspectors examined data reported to the NRC, procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspectors verified the accuracy of the PI for ERO drill and exercise performance through review of a sample of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspectors verified the accuracy of the PI for alert and notification system reliability through review of a sample of the licensee's records of periodic system tests. The inspectors also interviewed the licensee personnel who were responsible for collecting and evaluating the PI data. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

#### 4OA2 Problem Identification and Resolution

#### .1 Daily Sample Review

### a. <u>Inspection Scope (71152)</u>

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 daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing hard copies of each condition report, and attending daily screening meetings.

b. Findings and Observations

No findings of significance were identified.

#### 4OA3 Event Followup

## .1 (Closed) Licensee Event Report (LER) 05000250/2003010-00, Operation With Two Charging Pumps Inoperable In Excess of Technical Specifications Allowable Limits

a. Inspection Scope

The inspectors reviewed the LER and associated Condition Report 03-2349, which documented this event in the corrective action program, to verify that the cause of the August 29, 2003, failure of the 3C Charging Pump, was identified and that the corrective actions were reasonable. On August 29, 2003, the 3C Charging pump failed to start due to a mispositioned valve. The 3C Charging Pump oil pressure sensor was inadvertently isolated due to the mispositioned valve and actual oil pressure could not be detected. As a result when the 3C Charging Pump was placed in service, the pump tripped as designed. The inspectors reviewed the licensee's corrective actions described in the LER, reviewed the condition report, and discussed the status of continuing corrective action with appropriate personnel. Procedure 3-ONOP-047.1, "Loss of Charging Flow in Modes 1 through 4," Procedure 0-ADM-205, "Administrative Control of Valves, Locks, and Switches," and Procedure 0-OSP-205, "Verification of Administratively Controlled Valves, Lock, and Switches," were also used in the inspector's review.

### b. Findings

<u>Introduction</u>. A self revealing Green NCV of Technical Specification 3.1.2.3 was identified for failure to maintain at least two charging pumps operable. This condition occurred when Isolation Valve 3-280H for the 3C Charging Pump interlock pressure control switch PS-3-201C was mispositioned closed.

Description. On August 29, 2003, while Unit 3 was operating at full power and the 3A Charging Pump was out of service for maintenance, Operations personnel placed the 3C Charging Pump in service and the pump immediately tripped. After a second unsuccessful attempt to restart the 3C Charging Pump, it was declared inoperable and the licensee entered Technical Specification 3.1.2.3, Action, which required that with only one charging pump operable, at least two charging pumps be restored to operable status within 72 hours or be in at least hot standby within six hours, and cold shutdown within the next 30 hours. The licensee's investigation revealed that Valve 3-280H was mispositioned in the closed position. Valve 3-280H is the instrument isolation valve for PS-3-201C, the interlock pressure control switch, and is required to be open during normal operations. Pressure Switch PS-3-201C provides a protective feature for the 3C Charging Pump that will trip the charging pump if it detects low oil pressure. Therefore, on August 29, 2003 when the Charging Pump 3C was placed in service the pump tripped as designed. The licensee immediately repositioned Valve 3-280H to the open position, restored the 3C Charging Pump to operable status, exited Technical Specification 3.1.2.3 action, and subsequently placed the pump in service.

During the investigation, the licensee could not determine when Valve 3-208H was closed. However, the licensee's investigation concluded that Valve 3-280H could have been easily manipulated by accidental contact during work taking place in the immediate vicinity. Since a definite time of Valve 3-208H closure could not be determined, the licensee considered that the 3C Charging Pump was inoperable from the time the last surveillance test was performed on August 26, 2003 until it was restored on August 29, 2003. The total period of inoperability was 84 hours which exceeded the 72 hour Technical Specification Action Station 3.1.2.3 allowed outage time of 72 hours.

<u>Analysis.</u> The licensee failed to maintain plant configuration control in that Valve 3-280H was mispositioned closed which resulted in the 3C Charging Pump being inoperable. This performance deficiency resulted in Unit 3 operating in a condition prohibited by Technical Specification 3.1.2.3. This finding is greater than minor because it involved the equipment performance attribute of the mitigating system cornerstone and affected the objective of ensuring that equipment is available and capable to respond to an event. Because the finding involved an actual loss of safety function of two charging pumps, for longer than the Technical Specification allowed outage time, a phase 2, Significance Determination was completed using NRC Manual Chapter 0609, Appendix A. The finding was determined to be of low safety significance (green), since one charging pump remained operable and available to perform the safety function. The most dominant core damage sequence involved the steam generator tube rupture accident. For this finding, the inspectors assumed that one charging pump was available.

<u>Enforcement</u>. Technical Specification 3.1.2.3 required that "At least two charging pumps shall be operable" in Modes 1, 2, 3, and 4. Technical Specification 3.1.2.3 Action required that "with only one charging pump operable, restore at least two charging pumps to operable status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1 % delta k/k at 200 degrees F within 6 hours..." Contrary to the above, the licensee failed to maintain at least two

operable charging pumps in accordance with Technical Specification 3.1.2.3, due to a mispostioned valve (Isolation valve 3-280H for the 3C Charging Pump interlock pressure control switch PS-3-201C.) As a result, 3C Charging Pump was determined to be inoperable from August 26, 2003 at 4:45 a.m. to August 29, 2003 at 16:55, a total of 84 hours and 10 minutes which exceeded the 72 hour Technical Specification Action Station 3.1.2.3 of 72 hours, and constituted an operation prohibited by Technical Specifications. Because of the very low safety significance and the licensee's action to place the issue in their corrective action program as Condition Report 03-2349, this violation is being treated as a non-cited violation in accordance with Section VI.A.1 of the Enforcement Policy: 05000250/2004002-03, Operation with two charging pumps inoperable in excess of technical specifications allowable limits.

## . 2 (Closed) LER 05000250/2003009-00, Component Cooling Water System Outside Technical Specifications

This LER identified that during a July 6, 2003 Pump In-Service Test (IST) of the Unit 3C Component Cooling Water pump (CCW) the system was placed in a configuration that resulted in a loss of safety function of the system, and failed to meet the requirements of Technical Specification (TS) 3.7.2, "Component Cooling Water System". During the IST the CCW system headers are split with the 3A CCW pump aligned through one heat exchanger to the 3A header and the 3C CCW and 3B CCW pumps aligned through the other two heat exchangers to the 3B header. The 3B CCW pump control switch is placed in the pull-to-lock position, rendering it inoperable, in order to establish the required IST test flow rate for the 3C CCW pump, to the 3B header. In order for the 3C CCW pump to receive the 3B CCW pump's auto-start signals the 3B CCW pump breaker must be racked out. This will align the CCW pump auto-start logic to the 3C CCW pump. The racking out of the 3B pump breaker was not accounted for in the licensee's IST procedures and as a result rendered the 3C pump incapable of auto starting as designed. This resulted in only the 3A CCW pump and one heat exchanger to mitigate a postulated accident during the IST. One CCW pump serving 1 header and 1 heat exchanger is less than the minimum required per TS 3.7.2. The licensee attributed the event to a procedural deficiency resulting in unacceptable CCW system testing configurations. The licensee's corrective action was to update the IST procedure to ensure that the 3B CCW pump is not placed into pull to lock and is therefore always available to receive its auto-start logic signals during testing of the 3C CCW pump. This procedural change ensures that the system is in compliance with TS 3.7.2.

The finding is more than minor because it affected the Mitigating Systems Cornerstone objective in that CCW equipment reliability and capability were reduced and did not meet accident heat load requirements. The finding was evaluated using the SDP Phase 2 worksheets and was considered to have very low safety significance (Green), because the out of service duration was short and operator recovery of the B CCW Pump was considered credible. This licensee-identified finding involved a violation of 10CFR50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

#### 4OA5 Other Activities

# <u>NRC Temporary Instruction (TI) 2515/154; Spent Fuel Material Control and Accounting at Nuclear Power Plants Units 3 and 4</u>

Temporary Instruction 2515/154, Spent Fuel Material Control and Accounting at Nuclear Power Plants, Phase 1 and II, were completed during this inspection period for Unit 3 and Unit 4. Appropriate documentation was provided to NRC management as required.

#### 4OA6 Meetings, including Exit

#### .1 Exit Meeting Summary

On April 6, 2004, the resident inspectors presented the inspection results to Mr. M. Pearce and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

#### .2 Annual Assessment Meeting Summary

On March 24, 2004, the NRC's Chief of Reactor Project's Branch 3, Public Affairs Officer, and Resident Inspector assigned to the Turkey Point Nuclear Plant met with Florida Power & Light Co. to discuss the NRC's Reactor Oversight Process (ROP) and the Turkey Point annual assessment of safety performance for the period of January 1, 2003 - December 31, 2003. The major topics addressed were: the NRC's assessment program, the results of the Turkey Point assessment, and future NRC inspection activities. Attendees included Turkey Point site management and members of site staff.

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 ML040980609. ADAMS is accessible from the NRC Web site at <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a> (the Public Electronic Reading Room).

### 40A7 Licensee-Identified Violation

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 NCV's:

10CFR50, Appendix B, Criterion V, requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to the above, on July 18, 2003, the licensee identified that due to an inadequate in-service test procedure, the CCW system was placed into a configuration, during in-service testing of the 3C CCW Pump, which resulted in the plant being in a condition that could have prevented the CCW system from being able to adequately cool down the plant. With only the 3A CCW Pump (100

% capacity) supplying one CCW heat exchanger (50 % capacity) the CCW system safety function, of providing heat removal capability for analyzed accidents, was not assured. This was identified in the licensee's corrective action program as Condition Report 03-1563. This finding was determined to be of very low safety significance (Green) using the SDP Phase 2 worksheets, because of the short duration of the past testing activities of the 3C CCW Pump, and the ability for immediate operator recovery of the B CCW Pump.

## **SUPPLEMENTAL INFORMATION**

# **KEY POINTS OF CONTACT**

## Licensee personnel:

M. Braughman, Program Assessment Supervisor

- J. Cadogan, Engineering
- M. Cornell, Training Manager
- A. Dallau, QA Site Specialist
- O. Hanek, Licensing Engineer
- R. Jacob, Simulator Engineering Supervisor
- J. Johns, Maintenance Rule Coordinator
- W. Johns, Security Manager
- T. Jones, Site Vice-President
- M. Lacal, Operations Manager
- G. Laughlin, Operations Training Supervisor
- R. Mayes, QA Site Specialist
- T. Miller, Acting Maintenance Manager
- W. Miller, Continuing Training Supervisor
- D. Mothena, Manager, Plant Services (FPL Corporate)
- M. Murray, Emergency Preparedness Coordinator
- W. Parker, Licensing Manager
- M. Pearce, Plant General Manager
- W. Prevatt, Work Control Manager
- D. Robbins, Inservice Inspection Supervisor
- B. Stamp, Operations Supervisor
- G. Warriner, Quality Assurance Manager
- F. Wurster, Initial Training Supervisor
- A. Zielonka, Site Engineering Manager

### NRC personnel:

- J. Munday, Branch Chief
- K. Weaver, Senior Resident Inspector
- K. Green-Bates, Resident Inspector

# LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

| Opened and Closed        |     |  |
|--------------------------|-----|--|
| 05000250, 251/2004002-01 | NCV | Failure to Correctly Calibrate Selected Effluent<br>Monitoring Instrumentation In Accordance With<br>ODCM Requirements. (Section 2PS1)   |
| 05000250, 251/2004002-02 | NCV | Failure to Maintain QC Activities for the Conduct of<br>Representative Sampling and Monitoring of<br>Particulates in the Main Plant Vent Airborne<br>Effluents. (Section 2PS1) |
| 05000250/2004002-03      | NCV | Operation With Two Charging Pumps Inoperable in<br>Excess of Technical Specifications Allowable Limits<br>(Section 40A3.1)   |
| Closed                   |     |  |
| 05000250/2003-009-00     | LER | Component Cooling Water System Outside<br>Technical Specifications (Section 40A3.2)  |
| 05000250/2003-010-00     | LER | Operation With Two Charging Pumps Inoperable In<br>Excess of Technical Specifications Allowable Limits<br>(Section 4OA3.1)   |
| Discussed                |     |  |
| TI 2515/154              |     | Spent Fuel Material Control and Accounting at Nuclear Power Plants (Section 40A5)  |

# PARTIAL LIST OF DOCUMENTS REVIEWED

# 1R01: Adverse Weather

### Procedures

3-OP-013, "Instrument Air System"

# 1R04: Equipment Alignment

Procedures

4-OSP-023.2, Diesel Generator 24 Hour Full Load Test and Load Rejection, 1/5/04C

<u>Drawing</u>s 5614-M-3022, sheets 1-6, Emergency Diesel Engine and Oil System

# 1R11: Licensed Operator Requalification

| AG-022               | Administrative Guideline, NRC Exam Security   |
|----------------------|---|
| ODI-CO-034           | Turkey Point Communication Standard   |
| 0-ADM-200            | Conduct of Operations   |
| 0-ADM-315            | Licensed Operator Continuing Training Program   |
| 0-ADM-317            | Conduct of On-the-Job Training (OJT) and Task Performance<br>Evaluation (TPE)           |
| NTI-003-PTN-JA-002 L | OCT Sample Plan Development & Annual Exam Preparation, Validation and Conduct           |
| NTI-007-PTN-JA-003   | Simulator Scenario-Based Testing  |
| CR-NO. 03-2906       | Evaluation of industry of simulator testing to ensure compliance with new ANSI standard |
| CR-NO. 04-0375       | Potential Loss of LOCT annual examination materials                                     |
| TRN-001              | Manual Reactor Trip   |
| TRN-002              | Loss of Normal & Emergency Feedwater  |
| TRN-003              | Simultaneous Closure of all MSIVs   |
| 0-OSP-040.16         | Reactivity Management Procedure (Simulator Cycle 20)                                    |
| 750001200            | Lesson Package Loss of Instrument Air/Loss of Feedwater/ATWS                            |
| 750008100            | Small Break LOCA with Sequencer Failures; Week 1/26/04                                  |
|                      | Operating Test (Simulator Scenarios and JPMs)   |
| 03-6-2-RO            | Segment 6 Week 2 RO Annual Exam   |
| 03-6-2-SRO           | Segment 6 Week 2 SRO Annual Exam  |
| 01-6-1-Static        | Segment 6 Week 2 Static Annual Exam (RO)  |
| 01-6-1-Static        | Segment 6 Week 1 Static Annual Exam (SRO)   |
| 01-6-3 Static        | Segment 6 Week 3 Static Annual Exam (SRO)   |
| 01-6-3-SRO           | Segment 6 Week 3 SRO Part B ORQ Annual Exam   |
| 01-6-1-RO            | Segment 6 Week 1 RO Part B ORQ Annual Exam  |

## **1R12: Maintenance Effectiveness**

System Checklist / Health Report (Period:2003-04): 013 / Instrument Air, 042 / Qualified Safety Parameter Display System (QSPDS), 068 / Containment Spray and 072 / Main Steam Procedure 0-ADM-728, Revision 12/23/02, "Maintenance Rule Implementation" Engineering Department Instruction (EDI), EDI-SE-005, Component and System Walkdowns, 10/7/03 Maintenance Rule (a)(1) Action Plan Timeline (2/15/2004) 7111112B, Maintenance Effectiveness Procedure, Rev. 7/1/02

### 1R16: Operator Work Arounds

### Procedures

ODI-CO-016, Control Room Deficiency Log, Annunciator Status Log and Operator Workarounds

### **Miscellaneous**

Operator Workaround Summary List dated January 7 thru 9, 2004 Operator Workaround Summary List dated January 11, 14 and 16, 2004 Operator Workaround Summary List dated January 21 thru 23, 2004 Operator Workaround Summary List dated February 2 thru 6, 2004 Operator Workaround Summary List dated February 9 thru 13, 2004 Operator Workaround Summary List dated February 18 thru 20, 2004 Operator Workaround Summary List dated February 23 thru 27, 2004 Operator Workaround Summary List dated February 23 thru 27, 2004 Operator Workaround Summary List dated March 15 thru 19, 2004

### Sections 1EP2 - 1EP5: Reactor Safety—Emergency Preparedness

### Plans and Procedures

0-EPIP-20101, Duties of Emergency Coordinator, 12/05/2003 0-EPIP-20104, Emergency Response Organization Notifications/Staff Augmentation, 05/17/2002 Radiological Emergency Plan, Rev. 40 (effective 03/26/2003) and Rev. 41 (effective 09/22/2003) Procedure No. 6.80.01-G, Power Systems–Siren System Availability Test Procedure, 02/19/2002 Procedure No. 6.80.02-D, Protection & Control–Siren Maintenance Procedure, 02/20/2002 Emergency Response Directory, approved 12/31/2003 NAP-400, Condition Reports, 01/16/2004

### Records and Data

50.59 Applicability Determination/Screen for REP Revs. 40 and 41 50.54(q) Screening Criteria Form for REP Revs. 40 and 41 FPL Siren System Availability Test Records for 2003: First Quarter (03/24/2003), Second Quarter (06/27/2003), Third Quarter (09/22/2003), Fourth Quarter (12/26/2003) Turkey Point Siren System Availability Information (matrix) for 2002-2003 Documentation package (scenario/time line/event notification forms/critique report) for ERO drill on 08/19/2003 Critique Report/Information Bulletin on 12/17/2003 ERO Augmentation Drill, 12/17/2003

## Audits and Self-Assessments

QAO-PTN-02-002, Emergency Preparedness Functional Area Audit, 03/01/2002–05/02/2002 QAO-PTN-03-002, Emergency Preparedness Functional Area Audit, 02/04/2003–04/14/2003 Emergency Preparedness Self-Assessment No. PS 02-02: Review NEI Letter of 01/31/2002, conducted 09/09-20/2002

## Condition Reports

CR 03-2186, State Emergency Notification Form transmitted without Emergency Coordinator approval during drill, 08/19/2003

CR 03-2210, Drill notifications to the State of Florida and the NRC challenged time limits, 08/19/2003

CR 03-3933, Automated paging system not functional during weekly performance test, 11/21/2003

CR 03-4152, TSC ENS Communicator unable to respond from home within 1 hour of notification, 12/11/2003

CR 03-4155, Automated paging system was not contacting the required number of responders during the 12/11/2003 ERO augmentation drill, 12/11/2003

CR 04-0397, Adequate procedural guidance does not exist regarding how to correctly fill out the Florida Nuclear Plant Emergency Notification Form and the NRC Event Notification Worksheet, 01/21/2004

CR 04-0550, No procedural requirement to document discussions concerning revisions to EAL reviews conducted with the counties and the State of Florida, 02/04/2004

### Records and Data

Emergency Response Directory, approved 12/31/2003

Documentation package (scenario/time line/event notification forms/critique report) for ERO drill on 08/19/2003

Documentation packages (event notification forms/evaluator critiques) for Licensed Operator Requalification drills on various dates in April-June 2003 and October-December 2003 FPL Siren System Availability Test Records for 2003: First Quarter (03/24/2003), Second Quarter (06/27/2003), Third Quarter (09/22/2003), Fourth Quarter (12/26/2003)

# 2OS3 Personnel Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

Procedures, Instructions, Guidance Documents

0-Administrative Procedure (ADM)-041,PTN Respiratory Protection Plan,6/25/02 0-ADM-202, Shift Relief and Turnover, 8/14/03 0-ADM-518, Condition Reports, 12/15/03

Nuclear Administrative Procedure (NAP)-400, Condition Reports, Rev. 0

0-ADM-601, Health Physics Conduct of Operations, 3/20/02

0-ADM-604, Radiological Protection Guidelines and Practices, 7/15/03

0-ADM-605, Control of Radioactive Tools, Equipment and Components,8/7/03

0-Health Physics Administrative Procedure (HPA)-010, Health Physics Instrument Plan, 9/28/01

- 0-HPA-011, Monitoring and Improving Radiological Protection Performance, 10/30/02
- 0-Health Physics Surveillance Procedure (HPS)-020, Radiation Surveys, 8/7/00
- 0-HPS-021.3, Identification, Survey and Release of Material for Unrestricted Use, 6/25/03
- 0-HPS-022.1, Air Sample Counting, 8/31/98C
- 0-HPS-026.2, Response Protocols for Whole Body Counting and Personnel Contamination Monitoring, 9/11/03
- 0-HPS-061.2, Scott Air-Pak Bottle Charging, 7/3/02

0-HPS-061.7, Operation and Maintenance of The Portable Breathing Air Filtration System, 2/14/02

0-HPS-061.9, Operation and Maintenance of the Portable Breathing Air Filtration System Model BB100HTAA, 2/14/02

- 0-HPS-061.8, Use of Installed Containment Breathing Air System Manifolds, 2/22/00
- 0-HPS-062.1, Use of Scottoramic Air Purifying Respirators, 6/10/98C
- 0-HPS-062.2, Use of the Self-Contained Breathing Apparatus, 8/6/01

0-HPS-062.3,Use of Nuclear Power Outfitters Models SAR-101 and SAR-102 Supplied-Air Hoods,6/25/03

- 0-HPS-063.2, Maintenance and Accountability of Respiratory Protection Equipment, 3/22/01
- 0-HPS-063.4, Selection and Issue of Respiratory Protection Equipment, 9/18/98
- 0-HPS-090, Inventory of Health Physics Emergency Equipment, 5/10/01

0-Health Physics Technical Procedure (HPT)-011.2, Certification and Operation of the Shepherd Model 89 Shielded Range Calibrator, 2/18/03

- 0-HPT-013.3, Calibration and Operation of the Eberline Beta Air Monitoring System Model AMS-3(A)/AMS-4, 6/16/03
- 0-HPT-013, Portable Survey Instruments, 8/27/01

0-HPT-014.4, Calibration and Operation of the Health Physics Gamma Spectroscopy Counting System, 6/22/01C

- 0-HPT-014.6, Calibration and Operation of the Health Physics Whole Body Counting Equipment, 9/24/01
- 0-HPT-014.7, Calibration and Operation of the Geiger Mueller Beta-Gamma Counting System, 7/23/01
- 0-HPT-014.6, Calibration and Operation of the Health Physics Whole Body Counting Equipment, 9/24/01
- 0-HPT-014.8, Calibration and Operation of the Alpha Counting System, 7/24/01
- 0-HPT-014.10, Calibration and Operation of the Health Physics Portable GE Detector Genie 2000 Spectroscopy System, 10/17/01
- 0-HPT-018.2, Calibration and Operation of the AMP-100 High Range Area/Underwater Radiation Monitor, 3/21/01
- 0-HPT-018.3, Calibration and Operation of the MGP Instruments Telepole Wide Range Telescoping Survey Meter, 6/6/02

0-HPT-020, Calibration and Operation of the MGPI Digital Alarming Dosimeter Models DMC-100 and DMC-2000, 6/6/02

0-HPT-061,7, Breathing Air Quality Analysis, 11/2/99

0-HPT-011.1,Operation of the Victoreen Model 500 Precision Electrometer with Victoreen Model 550 Probes, 8/10/99

0-HPT-011.3, Maintenance and Operation of the Victoreen Condenser R-Meter Model 570, 4/28/99C

0-HPT-012.1, Calibration and Operation of RO-20, RO-2 and RO-2A, 11/29/00

0-HPT-012.7, Calibration and Operation of the Eberline Analog Smart Model ASP-1, 5/2/01

0-HPT-016.11, Calibration and Operation of the SAM-9(A), 9/26/02

0-OP-066, Area Radiation Monitoring System, 2/18/02

0-PMI-066.2, Area Radiation Monitoring System Channel Calibration, 3/26/99C

Lesson Plan No. 3302006, Respiratory Protection Training, 7/02/03

Student Handout No. 3310006, Respiratory Protection Training, 7/02/03

Student Lab Exercise Guide No. 3308006 7/02/03

# Records and Data

Whole Body Count Equipment Calibration Yearly Calibration Data, Detector 4 (Fastscan-Upper) and Detector 5 (Fastscan - Lower), Completed 8/28/03

Whole Body Count Equipment Calibration Yearly Calibration Data, Detector 1 (Chair Thyroid)

Detector 2 (Chair Lungs), and Detector 5 (Chair Lower Torso) Completed 1/13/03 -2/18/03

System Checklist /Health Report System 66/ARMS, 4/4/02, 7/11/02, 1/8/2003, 6/30/03, 8/11/03, 1/8/04

WBC Radionuclide List, Master Library, as of 2/26/04

System Checklist /Health Report System 94/Cntmt Post-Acc Eval, 4/16/03, 8/7/03,

System Checklist/ Health Report System 94-CPAMS, 4/4/02,7/11/02, 9/23/02

System Checklist / Health Report System 94/PACES, 1/9/03

Work Order (WO) 29026357-01, ARMS(Area Radiation Monitoring System) Channel Calibration Outside Containment

WO 30012105-01, ARMS RD-1409,1410,1417,1418,1420 CAL

WO 31008742-01, Containment NTMT Area Rad Monitors RD-1404,1405, 1406 - ARMS CAL Inside Containment

Air Quality Certificate Data Analyses, Health Physics SCBA Equipment , 1/12/03, 7/28/03/, and 02/25/04

SCBA Air Bottle Inspection and Inventory Records, U3/U4 Control Room completed 12/14/03; Operational Support Center, completed 12/05; and Health Physics Control Point, completed 12/06/03

SCBA Inventory, Inspection, and Repair Record data for Regulator Serial Numbers 89200094, 89200097, 89200240, 89200243, 89200246, and 89200247

Calibration Reports: Personnel Contamination Monitor (PCM)-2, Serial Number (s/n) 399 [completed 5/2/03, 11/7/03]; PCM-2, s/n 433, [5/2/03, 11/6/03]; PCM-2, s/n 432 [4/30/03, 10/29/03]; PCM-2, s/n 481, [6/2/03, 11/26/03]

Corrective Action Program (CAP) Documents

Condition Report (CR) 02-0210, Lack of Information on PASS/CAS Sample Casks Valve Position Determination,

CR 02-2314, Control Room Received Annunciator ARMS High Radiation and Verified ARMS Channel 8 Reading 9 mr/hr and Decreasing Rapidly Relative to 50 mr/hr Alarm Setpoint.

CR 03-0772, RD-3-1415 Out-of-Service (OOS) Since 3/15/2003, Maintenance Rule Item

- CR 03-1157, R0-4-1416 Auxiliary Building Maintenance Rule Channel Declared OOS with Allowable and Maintenance Rule Hours Exceeded.
- CR 03-1729, 0-OSP-066 Misleading Step Requires Pressing a Check Source Button but does not Expose Detector to Source Which Could Result in a Satisfactory Test for Inoperable Detector.
- CR 03-3403, On 10/19/03 at 17:00 Hours RAI-4-6311B Spiked and Failed Low due to Failed High Voltage Power Supply. Replacement Module S/C 85117-1 not Immediately Available due to Overdue Shelf-life Extension.
- CR 03-3917 Respirator Fit Testing Is Not Performed with Corrective Lens Inserts in Place at PTN.
- CR 03-4009, On 11/26/03 the HP control point PCM-2 Calibration Was Not Completed on Time, and the Instrument Was Allowed to Enter a Grace Period Approved by Instrument Supervisor Due to the Importance of the Instrument.
- CR 03-4247, During HP Instrument Inventory Due for December Calibration, Three Instruments Were Not Accounted For.
- CR 04-0270, During the past 6 months I/C shop replaced ARMS Detectors for RD-3-1412 and RD-4-1405 with new detectors failing within a 2 week period of installation.
- CR 04-0367, Documentation for Calibration Procedure 4-PMI-066.3 Documentation Performed 3/31/02 Incomplete with Final Calibration Data Sheets for RAD-4-6311A Missing and one of U 4 procedures marked "A" was actually the "B" Channel Procedure
- Plant Manager's Action Item 98-07-180, Response to Information Notice 98-20, completed 12/15/98

# 2PS1 Radioactive Gaseous and Liquid Effluent Monitoring (71122.01)

## Procedures, Manuals, and Guidance Documents

3-Operations Procedure (OP)-067 Basis Document - Process Radiation Monitoring System 0-Nuclear Chemistry Calibration Procedure (NCCP)-102, Liquid Scintillation Counter Set-up and Calibration, 6/9/98C

0-NCCP-103, Calibration of the Gamma Spectroscopy Counting System, 8/22/96C

- 0-Nuclear Chemistry Operation Procedure (NCOP)-003, Preparation of Liquid Release Permits, 2/5/05
- 0-NCOP-067, Process Radiation Monitor Setpoint Determination, 4/03/02
- 0-NCOP-308, Operation of the Gamma Spectroscopy System, 7/17/03
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- 0-Operations Surveillance Procedure (OSP)-025.1, Control Room Emergency Ventilation System Operability Test (7/24/03)
- 0-OSP-025.2, Control Room Emergency Ventilation System Filter Performance Test 8/06/01
- 0-OSP-025.3, Control Room Emergency Ventilation System Filter Charcoal Sample Analysis (2/21/00)
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- 3-ONOP-071.2, Steam Generator Tube Leakage, 3/26/03C
- 3-Annunciator Response Procedure (ARP)-097.CR, Control Room Annunciator Response, 7/23/02

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- 3-PMI-067.3, Process Radiation Monitoring System Channel R-3-15 Calibration Procedure, 2/22/01
- 4-PMI-067.3, Process Radiation Monitoring System Channel R-4-15 Calibration Procedure, 2/22/01
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CR-03-1232, During Met Tower Semi-Annual PM, Noted That Drawings and Actual Site Wiring Not Matched, 5/28/03

CR 03-0977, South Dade Met Tower 10 Meter Wind Speed Failure (~50 Hours Prior to Discovery), Identified by Land Utilization (LU) During Weekly Check, Not Control Room, 4/22/03

CR 04-0271, Failure of South Dade Met Tower 60 meter wind speed failure (1/12/04 to 1/22/04) identified by LU During Weekly Check, Not Control Room, 1/20/04 (not yet closed) QAS-ENV-03-1, Radiological Environmental Monitoring Program And Site Non-radiological

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Letter dated 9/16/03 from Mr. Joseph Escalante, Florida Department of Health to Mr. Peter Bailey, Florida Power and Light (FP&L) Re: Lack of Vegetation Matrix for DOE EML QAP Samples

### Section 4OA1: Performance Indicator Verification

#### Records and Data

Emergency Response Directory, approved 12/31/2003

Documentation package (scenario/time line/event notification forms/critique report) for ERO drill on 08/19/2003

Documentation packages (event notification forms/evaluator critiques) for Licensed Operator Requalification drills on various dates in April-June 2003 and October-December 2003 FPL Siren System Availability Test Records for 2003: First Quarter (03/24/2003), Second Quarter (06/27/2003), Third Quarter (09/22/2003), Fourth Quarter (12/26/2003)

## LIST OF ACRONYMS

| AFW   | Auxiliary Feedwater System                     |
|-------|--|
| CCW   | Component Cooling Water                        |
| CHAM  | Containment High Range Area Radiation Monitor  |
| CR    | Condition Report                               |
| CVCS  | Chemical Volume and Control System             |
| DBD   | Design Basis Document                          |
| EAL   | Emergency Action Levels                        |
| ERO   | Emergency Response Organization                |
| JPMS  | Job Performance Measures                       |
| NIST  | National Institute of Standards and Technology |
| ODCM  | Offsite Dose Calculation Manual                |
| OSC   | Operational Support Center                     |
| OSP   | Outage Safety Plan                             |
| OWA   | Operator Work Around                           |
| MSSV  | Main Steam Safety Valve                        |
| NCV   | Non-cited Violation                            |
| REMP  | Radiological Environment Monitoring Program    |
| RG    | Regulatory Guide                               |
| SCBA  | Self Contained Breathing Apparatus             |
| SDP   | Significance Determination Process             |
| SFP   | Spent Fuel Pool                                |
| SGBD  | Steam Generator Blow-Down                      |
| SJBA  | Steam Jet Air Ejector                          |
| SPING | Sample Particulate lodine, and Noble Gas       |
| SSC   | Structure, System, or Component                |
| TLD   | Thermoluminescent Dosimetry                    |
| TSA   | Temporary System Alterations                   |
| TSC   | Temporary System Alterations                   |
| TSC   | Technical Support Center                       |