UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

April 24, 2013

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

SUBJECT: TURKEY POINT NUCLEAR PLANT – NRC INTEGRATED INSPECTION REPORT 05000250/2013002 AND 05000251/2013002, AND NRC OFFICE OF INVESTIGATIONS REPORT 2-2012-033

Dear Mr. Nazar:

On March 31, 2013, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Nuclear Plant Units 3 and 4. The enclosed integrated inspection report documents the inspection findings, which were discussed on April 11, 2013, and on April 17, 2013, with Mr. Kiley 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.

One NRC identified finding and two self-revealing findings of very low safety significance (Green) were identified during this inspection.

These three findings were determined to involve violations of NRC requirements. Additionally, the NRC has determined that a traditional enforcement Severity Level IV violation occurred. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

On June 21, 2012, the NRC's Office of Investigations (OI) initiated an investigation to determine whether a subcontracted employee willfully violated radiation protection procedures in that he by-passed an installed physical barrier to gain access to a high radiation area (HRA) on June 6th, 2012. Based on the investigation, completed on February 21, 2013, OI substantiated that the subcontracted employee deliberately violated radiation protection procedures in that he failed to obtain the proper HRA briefing and deliberately by-passed an installed physical barrier to gain unauthorized access to an HRA. Enclosure 2 provides the synopsis to the investigation. The NRC concluded that this issue is appropriately characterized as a self-revealing Severity Level IV NCV, as documented in Section 2RS2 of the inspection report.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Turkey Point Nuclear Power Plant.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this report, with the basis of your disagreement, to the Regional Administrator, Region II and the NRC Resident Inspector at Turkey Point Nuclear Plant.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice", a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Daniel Rich, Branch Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosures 1: Inspection Reports 05000250/2013002, 05000251/2013002
w/Attachment: Supplemental Information
2: OI Investigation Synopsis

cc w/encls: (See page 3)

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DATE	4/18/2013	4/18/2013	4/18/2013	4/18/2013	4/18/2013	4/18/2013	4/18/2013
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Letter to Mano Nazar from Daniel Rich dated April 24, 2013

SUBJECT: TURKEY POINT NUCLEAR PLANT – NRC INTEGRATED INSPECTION REPORT 05000250/2013002 AND 05000251/2013002, AND NRC OFFICE OF INVESTIGATIONS REPORT 2-2012-033

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-250, 50-251
License Nos.:	DPR-31, DPR-41
Report No:	05000250/2013002, 05000251/2013002
Licensee:	Florida Power & Light Company (FPL)
Facility:	Turkey Point Nuclear Plant, Units 3 & 4
Location:	9760 S. W. 344th Street Homestead, FL 33035
Dates:	January 1, 2013 to March 31, 2013
Inspectors:	T. Hoeg, Senior Resident Inspector M. Barillas, Resident Inspector D. Mas-Peñaranda, Reactor Inspector C. Fletcher, Senior Reactor Inspector W. Loo, Senior Health Physicist R. Kellner, Health Physicist W. Pursley, Health Physicist J. Rivera, Health Physicist M. Riley, Reactor Inspector
Approved by:	Daniel Rich, Branch Chief Reactor Projects Branch 3 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000250/2013002, 05000251/2013002; 01/01/2013 – 03/31/2013; Turkey Point Nuclear Power Plant, Units 3 and 4; Component Design Basis Inspection, Occupational ALARA Planning and Controls, and Problem Identification and Resolution

The report covered a three month period of inspection by resident inspectors and region based inspectors. Three Green and one Severity Level IV non-cited violations were identified. The significance of inspection findings are identified by their color i.e. (Green, White, Yellow, or Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP) dated June 2, 2011. The cross-cutting aspects were determined using IMC 0310, Components Within the Cross-Cutting Areas" dated October 28, 2011. All violations of NRC requirements were dispositioned in accordance with the NRC's Enforcement Policy dated January 28, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4.

Cornerstone: Mitigating Systems

Green. The NRC identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for the licensee's failure to establish a test program to demonstrate that safety-related 120 VAC and 125 VDC molded case circuit breakers (MCCBs) would be able to reliably perform their intended safety functions, specifically protective tripping. The team identified that since 2005 and 2006, when the lack of periodic testing of the molded case circuit breakers was identified, no interim measures were taken to correct the nonconforming condition. Additionally, the team identified that the licensee failed to scope the protective tripping function of the MCCBs in the maintenance rule program. Upon identification by the team, the licensee entered these issues into their correction action program as ARs 1675539, 1676808, 1788355, and 1852219. As immediate corrective actions, the licensee tested 35 breakers which performed satisfactorily. The results of this testing and an action to develop a long-term test program for the entire 120 VAC and 125 VAC MCCBs were documented in AR 1852219. A license amendment will also be pursued to allow for more TS outage time in order to remove and replace the more difficult MCCBs.

The licensee's failure to implement prompt and effective corrective actions to ensure that safety-related molded case circuit breakers were adequately tested was a performance deficiency. The performance deficiency was more than minor because it adversely affected the mitigating systems cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC Inspection Manual Chapter 0609.04, "Initial Screening and Characterization of Findings," the inspectors conducted a Phase 1 Significance Determination Process screening using Exhibit 2 of Appendix A to Manual Chapter 0609 and determined the finding to be of very low safety significance (Green) because it was a qualification deficiency confirmed not to result in the loss of operability or functionality. Because the licensee did not ensure that the necessary resources were available and adequate to maintain long term plant safety through the minimization of preventative maintenance deferrals, this finding is assigned a cross-cutting aspect in the resources component of the human performance area [H.2(a)]. (Section 1R21)

Green. A self-revealing non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified when the licensee failed to implement corrective actions that addressed low stress high cycle fatigue of component cooling water (CCW) relief valve RV-4-747B piping caused by flow induced vibration. As a result, CCW system flow induced vibration resulted in weld cracks and system pressure boundary leakage in November 2012. The licensee repaired the weld failures and installed a pipe support on the line to minimize flow induced vibration on the associated pipe in February 2013 during a scheduled refueling outage. The licensee documented this condition in their corrective action program as action request (AR) 1824939.

The performance deficiency was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to implement corrective actions to address CCW system flow induced vibration resulted in weld cracks and CCW system pressure boundary leakage in November 2012. The inspectors evaluated the finding under the mitigating systems cornerstone and used Inspection Manual Chapter (IMC) 0609, Appendix G, Attachment 1, Shutdown Operations Significance Determination Process Phase 1, Checklist 4, PWR Refueling Operation, dated May 25, 2004. The inspectors determined the finding was of very low safety significance (Green) because the finding did not require a quantitative assessment of risk significance since each item on the Checklist 4 was met during the time the condition existed and while the 4B residual heat removal (RHR) train was removed from service to repair the weld leak. The finding was associated with a cross-cutting aspect in the corrective action program component of the problem identification and resolution area because the licensee did not complete engineering evaluations necessary to support modifications that would prevent CCW system RV-4-747B piping weld failures caused by flow induced vibration. [P.1(c)] (Section 4OA2.2)

Cornerstone: Occupational Radiation Safety

Green. A self-revealing non-cited violation (NCV) of Technical Specification (TS) 6.12.1 was identified when a worker did not comply with a radiological barrier and entered a high radiation area (HRA) without proper authorization. Specifically, the worker entered the HRA without receiving a HRA briefing, and subsequently received a dose rate alarm. Upon identification, the licensee immediately restricted the worker's access to the Radiological Controlled Area (RCA). This condition has been placed into the licensee's Corrective Action Program (CAP), under Action Request (AR) 01852456.

The finding was determined to be more than minor because it was related to the Occupational Radiation Safety cornerstone attribute of Program and Process, and adversely affected the cornerstone attribute to ensure the adequate protection of worker health and safety, because the worker was not made knowledgeable of the radiological conditions. Additionally, the finding was similar to IMC 0612, Appendix E, Example 6.h, which describes an improper entry into an HRA. The finding was evaluated in accordance with IMC 0609, Appendix C, where it was determined to be Green because it did not involve ALARA planning or work controls, was not an overexposure, did not contain a substantial potential for an overexposure, and the ability to assess dose was not compromised. The inspectors determined that this issue had a cross-cutting aspect in the Work Practices component of the Human Performance area because the

licensee did not communicate radiological conditions to the worker through a pre-job brief [H.4(a)]. (Section 2RS2)

Severity Level IV: A self-revealing Severity Level (SL) IV non-cited violation (NCV) of Technical Specification (TS) 6.8, Procedures, was identified on June 6, 2012, when a worker willfully bypassed a radiological barrier and entered a posted high radiation area (HRA) without proper authorization. Specifically, the worker entered the HRA without receiving a HRA briefing and being issued a key as required by licensee procedure RP-SR-103-1002, "High Radiation Area Controls" and subsequently received a dose rate alarm. Upon identification, the licensee immediately restricted the worker's access to the radiological controlled area (RCA) and placed this issue into the corrective action program (CAP) as action request (AR) 01773513.

Due to the willful nature of the worker's actions, the inspectors determined the performance deficiency was more than minor in accordance with the guidance contained in Chapter 2 of the Enforcement Manual, Revision 8. This willful finding involved an isolated act of a low-level non-supervisory individual. It was addressed promptly by appropriate corrective actions, there was no actual safety significance and the underlying technical significance was low. Therefore, the inspectors concluded this finding was Severity Level IV, consistent with Section 2.2.2 of the Enforcement Policy, dated January 28, 2013. There was no cross-cutting aspect because this performance deficiency was dispositioned using traditional enforcement. (Section 2RS2)

REPORT DETAILS

Summary of Plant Status:

Unit 3 began the period at full power. Power was reduced to 50 percent on January 29 for turbine valve testing and returned to full power on January 31. On February 11, the unit automatically tripped from full power due to a loss of condenser vacuum. The unit returned to full power on February 17 and was manually tripped from 70 percent power due to reactor coolant pump 3A shaft seal leakage. The unit was returned to 95 percent of rated full power on March 18 and remained there through this inspection period.

Unit 4 began this period in a scheduled refueling outage where it remained throughout the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted three partial alignment verifications of the safety-related systems listed below. These inspections included reviews using operating procedures and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions of the systems were correctly aligned to support operability. The inspectors also verified that the licensee had identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems. The inspectors routinely verified that equipment alignment deficiencies were documented in the corrective action program.

- Unit 3 walk down of auxiliary feed water (AFW) system Train II while AFW pump C was out of service (OOS) for maintenance in accordance with licensee procedure 3-OSP-075.5, Auxiliary Feedwater System
- 4A high head safety injection (HHSI) pump aligned to Unit 3 reactor water storage tank while Unit 4 defueled in accordance with drawing 5613-M-3062, Safety Injection System
- Unit 3 intake cooling water system 3C pump power supply using licensee procedure 3-NOP-005, 4kV buses A, B, and D, when 3A ICW pump was removed from service under work order 40176280. The 3D 4kV bus, which powers 3C intake cooling water pump, was re-aligned to be fed from 3A 4kV bus

b. Findings

No findings were identified.

1R05 Fire Protection

Fire Area Walkdowns

a. Inspection Scope

The inspectors toured the following five plant areas to evaluate conditions related to control of transient combustibles, ignition sources, and the material condition and operational status of fire protection systems including fire barriers used to prevent fire damage and propagation. The inspectors reviewed these activities using provisions in the licensee's procedure 0-ADM-016, Fire Protection Plan, and 10 CFR Part 50, Appendix R. The licensee's fire impairment lists were routinely reviewed. In addition, the inspectors reviewed the condition report database to verify that fire protection problems were being identified and appropriately resolved. The inspectors accompanied fire watch roving personnel on a tour of fire protection impairments and risk significant fire areas to assure monitoring of area status and to verify proper identification and handling of transient combustibles. The following areas were inspected:

- Unit 4 containment building elevations 18', 30.5', and 58'
- Unit 3 component cooling water heat exchanger and pump room
- Unit 3 switchgear room
- Alternate shutdown panel area in Unit 3 and Unit 4 4160V switchgear rooms
- 3A emergency diesel generator room

b. Findings

No findings were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors conducted walk downs of the following areas subject to internal flooding to ensure that flood protection measures were in accordance with design specifications. The inspectors reviewed the UFSAR, Appendix 5F, Internal Plant Flooding, which discussed protection of areas containing safety-related equipment that could be affected by internal flooding. Specific plant attributes that were checked included structural integrity, sealing of penetrations, and control of debris. Operability of sump systems, including alarms, was verified to be completed under work orders 40105607-01 and 40167855-01. Manhole inspections were completed, including checking for accumulated water and cable integrity problems. The following areas were inspected:

- Unit 3 and 4 4160V switchgear room sump pumps
- Unit 3 and 4 RHR pump room sump pumps
- Manholes 606, 609, and 704
- Manholes (review of records) 614, 720, and 731

b. Findings

No findings were identified.

1R07 Heat Sink Performance

.1 Resident Inspector Annual Sample

a. Inspection Scope

The inspectors verified heat exchanger performance monitoring for the safety related heat exchangers listed. The licensee's testing verified an adequate heat transfer from component cooling to the intake cooling water system by first determining the actual fouling factor of the heat exchangers, then comparing the value against design requirements. The inspectors checked that monitoring and trending of heat exchanger performance was done at an appropriate interval and that the licensee routinely verified the operational readiness of the system should it be needed for accident mitigation. The inspectors verified that the licensee employed the heat transfer method described in EPRI-NP-7552, Heat Exchanger Performance Monitoring Guidelines. The inspectors walked down portions of the cooling systems for integrity checks and to assess operational lineup and material condition. On a routine frequency, the inspectors monitored the licensee's maintenance associated with heat exchanger cleaning and befouling prevention. On January 25, 2013, the inspectors observed engineering perform the unit 3 CCW heat exchanger performance test required by technical specifications in accordance with the procedure listed below. On January 31, 2013, the inspectors observed the 3A CCW heat exchanger cleaning under work order 40213881-01. The inspectors verified issues identified were entered in the corrective action program.

- 3-OSP-030.4, Unit 3 A/B/C CCW Heat Exchanger Performance Test

b. Findings

No findings were identified.

.2 Triennial Review of Heat Sink Performance

a. Inspection Scope

The inspectors interviewed plant personnel and reviewed records for a sample of heat exchangers that were directly cooled by the intake cooling water (ICW) system to verify that heat exchanger deficiencies, potential common cause problems, or heat sink performance problems that could result in initiating events or affect multiple heat exchangers in mitigating systems were being identified, evaluated, and resolved. The inspectors selected the following heat exchangers that were directly cooled by ICW: Unit 3A component cooling water heat exchanger (3A-CCW HX) and Unit 4C component cooling water heat exchanger (4C-CCW HX).

These heat exchangers were chosen based on their risk significance in the licensee's probabilistic risk analysis, their safety-related mitigating system support functions, and previous NRC inspection efforts in this area.

For the 3A-CCW HX and the 4C-CCW HX, the inspectors reviewed the methods and results of heat exchanger performance testing to verify performance was maintained in accordance with the design basis. The inspectors determined whether the testing methods and monitoring of biotic and macro- fouling were adequate to ensure proper heat transfer. This was accomplished by determining whether the test methodology, test conditions, test frequency, acceptance criteria, and results were adequate to confirm the heat transfer capability of the heat exchangers and detect degradation prior to loss of heat removal capabilities below design basis values. The inspectors also reviewed inspection records to determine whether the methods, frequency, and acceptance criteria used to inspect and clean heat exchangers were consistent with licensee procedures and adequate to ensure proper heat transfer performance in accordance with the design basis.

For the 3A-CCW HX and the 4C-CCW HX, the inspectors determined whether the condition and operation of the heat exchangers were consistent with design assumptions in heat transfer calculations, and as described in the final safety analysis report. Where applicable, the inspectors reviewed records of heat exchanger tube plugging to verify that the number of plugged tubes was within pre-established limits based on capacity and heat transfer assumptions. The inspectors reviewed calculations and operating procedures to determine whether the licensee evaluated the potential for water hammer in susceptible heat exchangers, and established adequate controls and operational limits to prevent heat exchanger degradation due to excessive flow induced vibration during operation. The inspectors' review also included periodic flow testing records at or near maximum design flow to verify flow through each heat exchanger was consistent with the system design basis. In addition, the inspectors reviewed eddy current test results and visual inspection records to evaluate the structural integrity of the heat exchangers. The inspectors also reviewed system health reports and corrective action program documents to determine whether the licensee's chemical treatment programs for corrosion control were effective in preventing system degradation.

The inspectors determined whether the licensee's inspection of the ultimate heat sink (UHS) was thorough and of sufficient depth to identify degradation of the shoreline protection or loss of structural integrity. This included determination whether vegetation present along the slopes was trimmed, maintained, and was not adversely impacted the embankment. In addition, the inspectors determined whether the licensee ensured sufficient reservoir capacity by trending and removing debris, or sediment buildup, in the UHS.

For a sample of buried and inaccessible piping, the inspectors reviewed the licensee's pipe testing, inspection, or monitoring program to determine whether structural integrity was ensured and that any leakage or degradation was appropriately identified and evaluated. Specifically, the inspectors reviewed inspection records and corrective action documents for the intake structure.

The inspector performed a system walk down of the ICW system to assess the material condition and functionality of accessible structures and components such as strainers, pumps, instrumentation, and component supports. In addition, the inspectors determined whether ICW pump bay silt accumulation was monitored, trended, and maintained at an acceptable level, and that water level instruments were functional and routinely monitored. The inspectors reviewed the licensee's operation of the ICW system and ultimate heat sink, including monitoring, trending, and control of macro-fouling to prevent clogging.

Additionally, the inspectors reviewed corrective action documents related to the ICW system and heat sink performance issues to determine whether the licensee had an appropriate threshold for identifying issues and to evaluate the effectiveness of the corrective actions. The documents that were reviewed are included in the Attachment to this report.

These inspection activities constituted two heat exchanger samples and one ultimate heat sink sample for a total of three inspection samples as defined in IP 71111.07-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program

.1 Resident Inspector Quarterly Review- Continuing Training Practice Scenario

a. Inspection Scope

On January 18, 2013, the inspectors assessed licensed operator performance in the plant specific simulator during a licensed operator continuing training practice scenario. The training scenario was started at simulated Unit 3 100 percent steady state conditions. Event simulations were accomplished using Simulator Evaluation PTN 760204906, Steam Generator Tube Rupture with Failures. Operators responded to the event using off-normal procedures 3-ONOP-071.2 for steam generator tube rupture. Emergency procedures used by the crew to safely mitigate the events included 3-EOP-E-0, Reactor Trip and 3-EOP-E-2, Faulted Steam Generator Isolation. The inspectors specifically checked that the simulated emergency classification of Alert was done in accordance with licensee procedure, 0-EPIP-20101, Duties of the Emergency Coordinator.

The simulator board configurations were compared with actual plant control board configurations concerning recent power up rate modifications. The inspectors specifically evaluated the following attributes related to operating crew performance and the licensee evaluation:

- Clarity and formality of communication
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms

- Correct use and implementation of off-normal and emergency operating procedures; and emergency plan implementing procedures
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by shift supervisor, including ability to identify and implement appropriate TS actions and emergency plan classification and notification
- Crew overall performance and interactions
- Evaluator's control of the scenario and post scenario evaluation of crew performance

b. Findings

No findings were identified.

.2 Control Room Observations

a. Inspection Scope

Inspectors observed and assessed licensed operator performance in the plant and main control room, particularly during periods of heightened activity or risk and where the activities could affect plant safety. The inspectors focused on the following conduct of operations attributes as appropriate:

- Operator compliance and use of procedures
- Control board manipulations
- Communication between crew members
- Use and interpretation of plant instruments, indications and alarms
- Use of human error prevention techniques
- Documentation of activities, including initials and sign-offs in procedures
- Supervision of activities, including risk and reactivity management

The following three periods of heightened activity or risk were observed:

- Unit 3, January 30, Turbine control valve testing
- Unit 3, February12, Reactor trip post-trip actions and Mode 3 entry
- Unit 3, February 14, Reactor start-up and Mode 2 entry

This activity constituted three inspection samples.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following two equipment problems and associated condition reports to verify that the licensee's maintenance efforts met the requirements of 10 CFR

50.65, Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, and licensee administrative procedure 0-ADM-728, Maintenance Rule Implementation. The inspectors' efforts focused on maintenance rule scoping, characterization of maintenance problems and failed components, risk significance, determination of a(1) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also interviewed responsible engineers and observed some of the corrective maintenance activities. The inspectors verified that equipment problems were being identified and entered into the corrective action program. The inspectors used licensee maintenance rule data base, system health reports, and the corrective action program as sources of information on tracking and resolution of issues.

- Unit 4 CCW to RHR RV-4-747B relief valve leak due to weld failure
- Unit 3 3A emergency diesel generator fuel oil transfer pump failure

b. Findings

No findings 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 four emergent or planned maintenance activities. The inspectors verified the licensee's risk assessment and risk management activities using the requirements of 10 CFR 50.65(a)(4); the recommendations of Nuclear Management and Resource Council 93-01, Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 3; and procedures 0-ADM-068, Work Week Management; WM-AA-1000, Work Activity Risk 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 and the licensee assessment of aggregate risk using FPL procedure OP-AA-104-1007, Online Aggregate Risk. The inspectors evaluated the following five risk assessments during the inspection:

- Unit 3, 3B reactor protection system reactor coolant flow loop C relay RC-6 was found in de-energized state and was replaced under work order 40212424-01
- Unit 3, 3A intake cooling water pump, 3A and 3C motor control cabinet 480 volt load center out of service (OOS)
- Unit 3, 3A component cooling water pump and the 3C 4000 volt transformer OOS
- Unit 3, 3A containment spray pump, 3C 4000 volt transformer, 4A and 4C high head safety injection pumps, and 3C instrument air compressor (IAC) OOS
- Common Units, 'A' control room emergency ventilation fan, 3C transformer, and 3CM IAC

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

For the five operability evaluations described in the action requests (AR) listed below, the inspectors evaluated the technical adequacy of licensee evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors reviewed the UFSAR to verify that the system or component remained available to perform its intended function. In addition, when applicable, the inspectors reviewed compensatory measures implemented to verify that the plant design basis was being maintained. The inspectors also reviewed a sampling of condition reports to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations.

- AR 1844875, Unit 3 RWST inventory loss during clearance release
- AR 1836636, Unit 3 pressurizer level instrument failed calibration
- AR 1832175, 3A emergency diesel generator fuel oil transfer pump failed test
- AR 1774584, 'B' auxiliary feedwater pump turbine lube oil cooler leak
- AR 1859895, Unit 3 component cooling water head tank level increase

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the engineering change (EC) documentation for the permanent modification listed below. The inspectors reviewed the 10 CFR 50.59 screening and evaluation to verify that the modifications had not affected system operability and availability. The inspectors reviewed associated system descriptions and updated final safety analysis report sections impacted by this modification and discussed the changes with licensee personnel to verify that the installation was consistent with the modification documents. The inspectors walked down accessible portions of the modification to determine if it was installed in the field as described in the associated documents. Additionally, the inspectors verified that that any issues associated with the modifications were identified and entered into the licensee's CAP.

- Unit 3 EC 247048, Revision 2, PTN Unit 3 Westinghouse Set Point Scaling

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the six post maintenance tests and associated work orders (WO) or extended power up rate (EPU) tests listed below, the inspectors reviewed the test procedures and either witnessed the testing 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 operable. The inspectors used licensee procedure 0-ADM-737, Post Maintenance Testing, in their assessments. Modifications associated with the EPU are noted as IP 71004 samples.

- WO 40216491-01, 3A steam generator flow control valve FCV-3-478 actuator replacement
- WO 40209453-01, containment penetration 35 for containment purge valve POV-3-2601 seat replacement
- Unit 3 EPU, 3-PTP-074.4, Leading Edge Flow Meter (LEFM) Commissioning Test to place LEFM in service as part of a 1.7 percent measurement uncertainty recapture (MUR) power up rate to support the extended power up rate (EPU) license amendment issued to Unit 3 (IP 71004 sample)
- Unit 3 EPU, 3-PTP-072.2, 3R26 Extended Power Update Return to Service Testing, 87 percent reactor power plateau to include power ascension data, LEFM data collection, and NSSS data collection (IP 71004 sample)
- WO 40175600-01, auxiliary feedwater pump C steam piping planned maintenance
- WO 40124159-02, 4B emergency diesel generator watt meter maintenance

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities

.1 Unit 4 Refueling and Extended Power Uprate (EPU) Outage 27

a. Inspection Scope

Outage Planning, Control and Risk Assessment

During daily outage planning activities by the licensee, the inspectors reviewed the risk reduction methodology employed by the licensee during various refueling outage (RFO) meetings including outage control center (OCC) morning meetings, operations daily team meetings, and schedule performance update meetings. The inspectors examined the licensee implementation of shutdown safety assessments in accordance procedure ADM-051, Outage Risk Assessment and Control, to verify whether a defense in depth concept was in place to ensure safe operations and avoid unnecessary risk. In addition, the inspectors regularly monitored outage planning and control activities in the OCC, and interviewed responsible OCC management, during the outage to ensure system, structure, and component configurations and work scope were consistent with TS

requirements, site procedures, and outage risk controls. On February 13, 2013, the inspectors performed an equipment clearance order walk down while the unit was in yellow risk due to the B intake cooling water header being out of service for valve maintenance under equipment clearance order (ECO) 4-019-02.

Monitoring of Shutdown Activities

The inspectors performed periodic walk downs of important systems and components used for decay heat removal from the spent fuel pool during the shutdown period including the intake cooling water system, component cooling water system, residual heat removal system, and spent fuel pool cooling system.

Outage Activities

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

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

Refueling Activities and Containment Closure

The inspectors witnessed selected fuel handling operations being performed according to TS and applicable operating procedures from the main control room and, refueling control station in the shift manager's office. The inspectors examined licensee activities to control and track the position of each fuel assembly. The inspectors evaluated the licensee's ability to close the containment equipment, personnel, and emergency hatches in a timely manner if necessary.

Corrective Action Program

The inspectors reviewed CRs generated during the outage to evaluate the licensee's threshold for initiating CRs. The inspectors reviewed CRs to verify priorities, mode holds, and significance levels were assigned as required. Resolution and implementation of corrective actions of several CRs were also reviewed for completeness. The inspectors routinely reviewed the results of Quality Assurance (QA) daily surveillances of outage activities.

b. Findings

No findings were identified.

.2 Unit 3 Other Outage Activities

a. Inspection Scope

Reactor Trips, Heat-up, Mode Transition, and Reactor Startup Activities

Unit 3 experienced three reactor trips during this inspection period requiring post trip reviews by the licensee in accordance with their procedure 0-ADM-511, Post Trip Review Restart Reports. The inspectors observed portions of the RCS heat up, reactor startup, and power ascension following three reactor trips that occurred on February 11, February 18, and March 12. The inspectors examined the post trip review reports and associated technical specifications, license conditions, license commitments and verified prerequisites were being met prior to reactor restart and plant mode changes. The inspectors observed selected activities to determine whether shutdown safety functions were properly maintained as required by technical specifications and plant procedures. The inspectors evaluated specific performance attributes including operator performance, communications, and risk management. The inspectors reviewed procedures and observed selected activities associated with the unplanned outages and conducted walk downs of systems credited to maintain safety margins and defense in depth. Selected conditions adverse to quality were reviewed as documented by the licensee in the corrective action program.

The inspectors verified that the plant cool down was conducted in accordance with licensee procedure 4-OSP-041.7, Reactor Coolant System Heat up and Cooldown Temperature Verification. The inspectors also reviewed measured RCS leakage rates, and verified containment integrity was properly established following containment entries and during containment equipment hatch removal. The inspectors discussed and reviewed reactor physics pre critical reviews with reactor engineering and operations personnel to determine if the expected critical boron concentration and control rod heights were calculated and properly documented. The inspectors observed portions of the reactor plant heat up, startup, and power ascension activities, including control room and field operator observations of licensee performance in conducting procedures 3-GOP-503, Cold Shutdown to Hot Standby and 3-GOP-301, Hot Standby to Power Operations.

b. Findings

No findings were identified.

1R21 Component Design Basis Inspection

(Closed) URI 05000250, 251/2011008-02: Molded Case Circuit Breaker Testing (ML112590421)

a. Inspection Scope

During the 2011 component design basis inspection, an unresolved item was identified related to the licensee's failure to establish a test program to demonstrate that safety-related molded case circuit breakers (120 VAC and 125 VDC) would be able to reliably perform their intended safety functions. Specifically, the inspection team was concerned that, since 2005 and 2006, when the lack of periodic testing of the molded case circuit breakers (MCCBs) was identified, no interim measures were taken to ensure the reliability of the protective tripping functions of the safety-related MCCBs.

This item was unresolved pending further inspection to determine the extent of condition and impact of not establishing a test program for the MCCBs. The team required additional information from the licensee to verify that the 120 VAC and 125 VDC safety related MCCBs could perform their intended functions.

The team reviewed test results of a statistically significant sample of the approximately 416 safety-related MCCBs prior to closing the issue. In addition, the team reviewed the licensee's operability determination to verify the ability of the MCCBs to supply power under expected starting loads and not open prematurely or spuriously. The team also reviewed thermography results, testing procedures, and maintenance procedures to ensure measures to mitigate age-related failures of MCCBs such as overheating and long term grease hardening were included in the licensee's testing and maintenance program.

b. Findings

Introduction: The NRC identified a green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for the licensee's failure to ensure that molded case circuit breakers were adequately tested.

Description: The age range of approximately 416 in-service MCCBs at Turkey Point is twenty to forty years. Some MCCBs are original plant equipment, some were installed in the 1980's, and the remainder installed in the early 1990's. With the exception of bench testing prior to installation, no testing or maintenance has been performed on the breakers. These MCCBs are susceptible to age related failures such as overheating due to loose connections and long term grease hardening. Overheating can exceed material temperature ratings, distort motor control center case and operating mechanism tolerances, and result in hardening/baking of grease. Long term grease hardening can result in the breaker failing to open or a delay in opening during a downstream electrical fault.

In 2005 and 2006, during Turkey Point's preventative maintenance optimization project, the licensee identified that a testing program for safety-related 120 VAC and 125 VDC MCCBs had not been established. At that time, the licensee developed a preventative maintenance (PM) program for the breakers. However, the licensee suspended the PMs, in part, because of scheduling challenges associated with Technical Specification (TS) restrictions. Specifically, the TS has a two hour action statement associated with

the de-energization of the AC or DC load centers, which was deemed not enough time to perform the PMs.

In 2008, in response to the cancelled PMs, the licensee initiated change authorization request (CAR) 08-069 and assigned the CAR as a Turkey Point Excellence (TPE) project. The TPE project was later cancelled due to funding.

In 2010, the licensee initiated action request (AR) 1649834 because the funding for the TPE project was terminated. This AR created a new long term asset management initiative to retarget the project in future years.

In 2011, engineering change request (ECR) 1657020 was created for a one-time replacement of all safety-related 120 VAC and 125 VDC MCCBs and entered into the licensee's long term management program as PTN-11-0177 (Unit 3) and PTN -11-0179 (Unit 4).

The team found that since 2005 and 2006, when the failure to test MCCBs was identified; no interim measures were taken to correct the nonconforming condition. Specifically, on multiple occasions since 2005, the licensee failed to take adequate corrective action to ensure the reliability and capability of the MCCBs to perform their design function while pursuing long term strategies. Additionally, the team identified that the licensee failed to scope the protective tripping function of the MCCBs in the maintenance rule program. Upon identification by the team, the licensee entered these issues into their correction action program as ARs 1675539, 1676808, 1788355, and 1852219. As immediate corrective actions, the licensee tested 35 breakers which performed satisfactorily. The results of this testing and an action to develop a long-term test program for the entire 120 VAC and 125 VDC MCCBs were documented in AR 1852219. A license amendment will also be pursued to allow for more TS outage time in order to remove and replace the more difficult MCCBs.

Analysis: The licensee's failure to implement prompt and effective corrective actions to ensure that safety-related MCCBs were adequately tested was a performance deficiency. The performance deficiency was more than minor because it adversely affected the mitigating systems cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, inadequate MCCB testing adversely affected the reliability of the components to perform their design functions. In accordance with NRC Inspection Manual Chapter (IMC) 0609.04, "Initial Screening and Characterization of Findings," the inspectors conducted a Phase 1 Significance Determination Process (SDP) screening using Exhibit 2 of Appendix A to Manual Chapter 0609 and determined the finding to be of very low safety significance (Green) because it was a qualification deficiency confirmed not to result in the loss of operability or functionality. Specifically, the initial phase of as-found breaker testing performed in 2012, and subsequent testing performed in 2013, yielded satisfactory results and the breakers met test acceptance criteria.

Because the licensee did not ensure that the necessary resources were available and adequate to maintain long term plant safety through the minimization of preventative maintenance deferrals (by prompt implementation of actions identified through the corrective action program), this finding is assigned a cross-cutting aspect in the resources component of the human performance area [H.2(a)].

Enforcement: Appendix B, to 10 CFR Part 50, Criterion XVI, Corrective Action, requires, in part, that measures be established to assure conditions adverse to quality are promptly identified and corrected. Contrary to the above, since 2005, the licensee identified a condition adverse to quality associated with the lack of MCCB testing, but failed to implement measures to assure that the testing deficiencies were corrected in a prompt manner. Because this violation was determined to be of very low safety significance and has been entered into the licensee's CAP as ARs 1675539, 1676808, 1788355, and 1852219, it is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000250, 251/2013002-01, Failure to Implement Timely Corrective Actions to Test Molded Case Circuit Breakers.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following seven surveillance tests to verify that the tests met the TS, the UFSAR, the licensee's procedural requirements, and demonstrated the systems were capable of performing their intended safety functions and their operational readiness. In addition, the inspectors evaluated the effect of the testing activities on the plant to ensure that conditions were adequately addressed by the licensee staff and that after completion of the testing activities, equipment was returned to the positions required for the system to perform its safety function. The tests reviewed included two in-service tests, one reactor coolant leakage detection test, and one containment isolation valve local leak rate surveillance. The inspectors verified that surveillance issues were documented in the CAP. Extended power up rate (EPU) testing was evaluated under NRC Inspection Procedure 71004 guidance.

In-service Tests

- 3-OSP-206.2, Quarterly In-service Valve Testing MOV-3-350, Emergency Boration Valve Stroke Test
- 3-OSP-068.2, 3B Containment Spray System Inservice Test

Surveillance Tests

- 0-OSP-025.4, Control Room Habitability Test, Section 5.3, Control Room Envelope Unfiltered Air In leakage Testing for CREVS Compensatory Filter (IP 71004 sample)
- 3-OSP-023.1, 3A Emergency Diesel Generator Monthly Surveillance Test
- 4-OSP-059.1A, Source Range Nuclear Instrumentation Analog Channel Test for N-31

Reactor Coolant Leakage Detection Test

- 3-OSP-041.1, Reactor Coolant System Leak Rate Calculation (RCS Leak Rate)

Containment Isolation Valve Test

- 3-OSP-051.5, Local Leak Rate Tests, Containment Penetration 35 for Containment Purge Valve POV-3-2601

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

Simulator Based Training Evolution

a. Inspection Scope

On January 18, 2013, the inspectors observed an operating crew in the plant simulator. The simulation included a steam generator tube rupture followed by a loss of offsite power in accordance with the licensee's initial/continuing training evaluation scenario PTN 760204906, Steam Generator Tube Rupture with Failures. Plant operators responded to the simulated loss of coolant with the declaration of an Unusual Event. With the subsequent potential loss of a fission product barrier, the classification was escalated to an Alert classification requiring activation of the emergency response organization. During the drill, the inspectors assessed operator actions to verify that emergency classification and simulated notification to local, State and NRC officials were made in accordance with the emergency plan implementing procedures and 10 CFR 50.72 requirements. The inspectors reviewed the event classifications and notifications to ensure these were made in accordance with licensee procedure, 0-EPIP-20101, Attachments 1 and 2, Turkey Point Classification Tables. Drill critique items were discussed with the licensee and reviewed to verify that drill issues were identified and captured in the licensee's corrective action program.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety and Public Radiation Safety

2RS2 As Low As Is Reasonably Achievable (ALARA)

a. Inspection Scope

ALARA Program Status The inspectors reviewed and discussed plant exposure history and current trends including the site's three-year rolling average (TYRA) collective exposure history for calendar year (CY) 2010 through CY 2011. Current and proposed activities to manage site collective exposure and trends regarding collective exposure were evaluated through review of previous TYRA collective exposure data and review of the licensee's 5-year ALARA program implementing plan. Current ALARA program guidance and recent changes, as applicable, regarding estimating and tracking exposure were discussed and evaluated.

Radiological Work Planning The inspectors reviewed planned work activities and their collective exposure estimates for Unit 4 (U4) Refueling Outage Cycle 27 (4R27) and a forced outage on Unit 3 (U3) in progress when the inspection team arrived. Work activities, exposure estimates and mitigation activities were reviewed for the following high collective exposure tasks: U3 "A" Reactor Coolant Pump (RCP) Seal Repair/Replacement, U4 Reactor Sump work, U4 Steam Generator Activities, and U4 seal table activities. For the selected tasks, the inspectors reviewed dose mitigation actions and established dose goals. During the inspection, use of remote technologies including teledosimetry and remote visual monitoring were reviewed as specified in Radiation Work Permit (RWP) or procedural guidance. Current collective dose data for selected tasks were compared with established estimates and, where applicable, changes to established estimates were discussed with responsible licensee ALARA planning representatives. The inspectors reviewed previous post-job reviews conducted for the U4 Refueling Outage Cycle 26 and determined that the items were entered into the licensee's CAP for evaluation.

Verification of Dose Estimates and Exposure Tracking Systems The inspectors reviewed select ALARA work packages and discussed assumptions with responsible planning personal regarding the bases for the current estimates. The licensee's on-line RWP cumulative dose data bases used to track and trend current personal and cumulative exposure data and/or to trigger additional ALARA planning activities in accordance with current procedures were reviewed and discussed. Selected 4R27 work-in-progress reviews and adjustments to cumulative exposure estimate data were evaluated against work scope changes or unanticipated elevated dose rates.

Source Term Reduction and Control The inspectors reviewed historical dose rate trends for shutdown chemistry, cleanup, and resultant chemistry and Radiation Protection (RP) trend-point data against the current 4R27 data.

Radiation Worker Performance Through direct observations and interviews with licensee staff, inspectors evaluated occupational workers' adherence to selected RWPs and health physics technician proficiency in providing job coverage. Electronic dosimeter (ED) alarm set points and worker stay times were evaluated against area radiation survey results for selected 4R27 job tasks. As part of Inspection Procedure (IP) 71124.04, inspectors reviewed the use of personnel dosimetry (ED alarms, extremity dosimetry, multi-badging in high dose rate gradients, etc.). The inspectors also evaluated worker responses to dose and dose rate alarms during selected work activities.

Problem Identification and Resolution The inspectors reviewed and discussed selected CAP reports associated with ALARA program implementation. The reviewed items included CAP reports, self-assessments, and quality assurance audit documents. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with licensee procedures PI-AA-204, Condition Identification and Screening Process, Revision (Rev.) 18, and PI-AA-205, Condition Evaluation and Corrective Action, Rev. 19.

The licensee's ALARA program activities and results were evaluated against the requirements of Updated Final Safety Analysis Report (UFSAR) Section 12; TS Sections 6.8 Procedures and Programs, and 6.12, HRA; 10 CFR Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in the Attachment.

The inspectors completed all specified line-items detailed in IP 71124.02.

b. Findings

Noncompliance with Radiological Barrier

Introduction: A self-revealing, Green NCV of TS 6.12.1, High Radiation Area, was identified when a worker did not comply with a radiological barrier and entered an HRA without proper authorization. Specifically, the worker entered the HRA without receiving an HRA briefing, and subsequently received a dose rate alarm.

Description: On February 28, 2013, a supplemental laborer who was working in Unit 3 Containment received a dose rate alarm. The worker entered an area posted "CAUTION HIGH RADIATION AREA", "NOTIFY RP PRIOR TO ENTRY", and "HRA BRIEFING REQUIRED", as he followed his crew past the postings, to the top of the stairs of the 58' level. The worker had not received the required HRA briefing to enter the area, although the rest of his crew had, and thus was not on the proper RWP to enter. The worker had signed onto RWP No. 13-0350, Task No. 4, for Lower Dose Fields, which designated a dose alarm of 20 millirem (mrem) and dose rate alarm of 20 mrem per hour (mrem/hr). The worker received 0.1 mrem for the entry, and the highest dose rate received was 21.8 mrem/hr. The worker immediately exited the area and reported to RP. The licensee immediately restricted the worker's access to the RCA pending further investigation. The licensee entered the issue into their CAP under AR 01852456.

TS 6.12.1, High Radiation Area, requires, in part, that each HRA in which the intensity of radiation is greater than 100 mrem/hr but equal to or less than 1,000 mrem/hr at 30 centimeters from the radiation source, be controlled by requiring the issuance of an RWP, and that any individual permitted to enter such areas shall be provided with or accompanied by a radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received; entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them. Contrary to the above, on February 28, 2013, a worker entered a HRA and prior to the entry did not receive an HRA briefing that would have made him knowledgeable of the radiological conditions in such areas.

Analysis: Noncompliance with established radiological barriers and protective measures specified for HRA entry in accordance with TS 6.12.1 was a performance deficiency in the cornerstone of Occupational Radiation Safety, which was reasonably within the licensee's ability to foresee and correct. The finding was determined to be more than minor because it was related to the cornerstone attribute of Program and Process, and adversely affected the cornerstone attribute to ensure the adequate protection of worker health and safety, because the worker was not made knowledgeable of the radiological conditions. Additionally, the finding was similar to IMC 0612, Appendix E, Example 6.h, which describes an improper entry into an HRA. Specifically, the worker entered the HRA without receiving a HRA briefing from RP staff, and subsequently received a dose rate alarm. The finding was evaluated in accordance with IMC 0609, Appendix C, where it was determined to be Green because it did not involve ALARA planning or work controls, was not an overexposure, did not contain a substantial potential for an overexposure, and the ability to assess dose was not compromised. The inspectors determined that this issue had a cross-cutting aspect in the Work Practices component of the Human Performance area because the licensee did not communicate radiological conditions to the worker through a pre-job brief [H.4(a)].

Enforcement: TS 6.12.1 requires, in part, that each HRA in which the intensity of radiation is greater than 100 mrem/hr but equal to or less than 1,000 mrem/hr at 30 centimeters from the radiation source, be controlled by requiring the issuance of an RWP, and that any individual permitted to enter such areas shall be provided with or accompanied by a radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received; entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them. Contrary to the above, on February 28, 2013, a worker entered an HRA and prior to the entry did not receive an HRA briefing that would have made him knowledgeable of the radiological conditions in such areas. Immediate corrective action taken by the licensee was to restrict the worker from the RCA pending further investigation. Because this finding was of very low safety significance and entered into the licensee's CAP as AR 01852456, this finding is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000250/2013002-02, Noncompliance with Radiological Barrier)

Willful Violation of Radiological Barrier

Introduction: A self-revealing, Severity Level (SL) IV non-cited violation of Technical Specification (TS) 6.8, Procedures, was identified when a worker willfully bypassed a radiological barrier and entered a posted High Radiation Area (HRA) without receiving an HRA brief as required by licensee procedure RP-SR-103-1002, "High Radiation Area Controls" and subsequently received a dose rate alarm.

Description: On June 6, 2012, a contract carpenter failed to obtain an HRA brief and key to the turnstile at the HRA access point on the Unit 3 14 foot elevation and bypassed an installed physical barrier to gain unauthorized access to the posted HRA. Procedure RP-SR-103-1002, "High Radiation Area Controls" requires that a key be issued to each worker who enters an HRA in which the entrance to the area is controlled by a lockable turnstile/swing gate after receiving an HRA brief.

An Office of Investigation (OI) investigation was conducted to determine if the worker willfully violated the licensee's radiation protection (RP) procedures. The OI investigation was completed on February 21, 2013, and determined that based upon the evidence developed during the investigation, the worker deliberately violated RP procedures by failing to obtain the proper HRA briefing and deliberately bypassing an installed physical barrier to gain unauthorized access to an HRA. The failure to comply with procedure RP-SR-103-1002 became self-revealing when the individual entered a radiation field of 67 millirem/hour (mr/hr) and received an alarm on his electronic dosimeter (ED). The ED alarm setpoint was 65 mr/hr. The individual exited the area and notified RP and his supervisor that he had received an ED alarm.

This event was promptly reported by the licensee and entered into their corrective action program. The worker's access to the plant was placed on hold pending the licensee's investigation. Actual dose rates in the posted HRA the worker entered were less than 100 mr/hr. Additional surveys performed by the licensee indicated the maximum general dose rate the worker could have entered was 90 mr/hr. Although this dose rate exceeds the station procedure administrative level of 80 mr/hr for posting an HRA, it did not exceed the regulatory limit of 100 mr/hr for posting and control of an HRA.

Analysis: The failure to receive a briefing of the radiological conditions and obtain a turnstile key prior to entering a posted HRA as required by licensee procedure RP-SR-103-1002, High Radiation Area Controls, Revision 1B, Step 4.5.1 Key Issue, was a performance deficiency. Due to the willful nature of the worker's actions, the inspectors determined the performance deficiency was more than minor in accordance with the guidance contained in Chapter 2 of the Enforcement Manual, Revision 8. This willful finding involved an isolated act of a low-level non-supervisory individual. It was addressed promptly by appropriate corrective actions, there was no actual safety significance and the underlying technical significance was low. Therefore, the inspectors concluded this finding was Severity Level IV, consistent with Section 2.2.2 of the Enforcement Policy, dated January 28, 2013. There was no cross-cutting aspect because this performance deficiency was dispositioned using traditional enforcement.

Enforcement: TS 6.8, Procedures, requires written procedures to be established, implemented, and maintained, as required by the FP&L Quality Assurance (QA) Topical Report. FP&L's QA Topical Report Appendix B, Procedures, commits the licensee to develop and implement procedures to support plant operations in accordance with Regulatory Guide (RG) 1.33, Quality Assurance Program Requirements, Appendix A, (Rev 2, 1978). RG 1.33, Appendix A, Section 7e(1) specifies radiation protection procedures be developed for access controls to radiation areas. Licensee procedure RP-SR-103-1002, High Radiation Area Controls, Revision 1B, Step 4.5.1 Key Issue, states, in part, that each worker who plans to enter a HRA receive a brief and be issued a key if the area is controlled by a lockable turnstile. Contrary to the above, on June 6, 2012, a contract carpenter failed to meet these requirements in that he deliberately entered an HRA without a brief and without a key to the lockable turnstile controlling HRA access at the 14 foot elevation in Unit 3 containment. Immediate corrective action taken by the licensee was to restrict the worker from the RCA pending further investigation. This violation was an isolated act of a low-level non-supervisory individual that was addressed promptly by appropriate corrective actions. Additionally, there was no actual safety significance, the underlying technical significance was low and has been entered into the licensee's CAP as AR No. 01773513. Therefore, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy, dated January 28, 2013. (NCV 05000250/2013002-03, Willful Violation of Radiological Barrier)

2RS3 In-Plant Airborne Radioactivity Control and Mitigation

a. Inspection Scope:

Engineering Controls: Licensee engineering controls used to control and mitigate airborne radioactivity were reviewed and discussed. The inspectors evaluated selected U3 engineering controls including temporary High Efficiency Particulate Air filtration systems for selected outage tasks with the potential for generating airborne activity conditions. The evaluations included procedural guidance, operability testing, and established configurations during specific outage tasks. In addition, plant guidance and its implementation for the monitoring of potential airborne beta-gamma and alpha-emitting radionuclides for outage tasks associated with the pressurizer, seal table, and RCP "A" were reviewed and discussed with cognizant licensee representatives.

Use of Respiratory Protection Devices: Program guidance for issuance and use of respiratory protection devices were reviewed and discussed with responsible licensee representatives. The inspectors reviewed Total Effective Dose Equivalent ALARA evaluations conducted for select U3 outage tasks. Use of respiratory protective equipment was evaluated for selected workers involved in U3 outage activities. The inspectors toured selected onsite compressors available for supplying breathing air for current outage activities and reviewed Grade D or greater air certification for permanent and temporary on-site compressors used for supplied-line breathing air and SCBA bottle fill-station activities. Training, fit testing, and medical qualifications for selected RP, maintenance, operations and chemistry staff for using respiratory protection for outage activities were reviewed and discussed with cognizant licensee representatives.

Self-Contained Breathing Apparatus (SCBA) for Emergency Use: The inspectors reviewed current status, operability and availability of select respiratory and SCBA equipment maintained within the Operations Support Center, B5B lockers, U3 and U4 control rooms, and U3 and U4 Reactor Auxiliary Building locations. Maintenance activities for selected respiratory protective equipment, e.g., compressed gas cylinders, regulators, valves, and hose couplings, by certified vendor technicians was reviewed for selected SCBA units. Training, fit testing, and medical qualifications for selected RP, maintenance, chemistry and operations staff assigned Emergency Response Organization duties were reviewed and discussed with cognizant licensee representatives. For selected U3 and U4 control room operators, the inspectors discussed and reviewed annual hands-on SCBA training activities including donning, doffing and functionally checking SCBA equipment, bottle change out, and reviewed availability of corrective lens, as applicable, for on-shift personnel.

Problem Identification and Resolution The inspectors reviewed selected CAP documents within the area of radiological airborne controls and respiratory protection activities. The inspectors evaluated the licensee's ability to identify and resolve the issues in accordance with licensee procedures PI-AA-204, Condition Identification and Screening Process, Rev. 18, and PI-AA-205, Condition Evaluation and Corrective Action, Rev. 19. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results. Specific licensee CAP documents reviewed for airborne radionuclide concentration monitoring and mitigation are listed in the Attachment.

RP program activities associated with airborne radioactivity monitoring and controls were evaluated against details and requirements documented in the UFSAR Sections 11 and 12; TS Section 3/4.9.9, Containment Ventilation System, 3/4.9.13, Radiation Monitoring, and 6.8.1, Procedures and Programs; 10 CFR Part 20; and approved licensee procedures. Documents reviewed are listed in the Attachment.

The inspectors completed all specified line-items detailed in IP 71124.03.

b. Findings:

No findings were identified.

2RS4 Occupational Dose Assessment

a. Inspection Scope

The inspector evaluated current RP program guidance and its implementation for monitoring and assessing occupational workers' internal and external radiation exposure. The review included quality assurance activities, results, and responses to identified issues; and individual dose results for selected occupational workers.

External Dosimetry. The inspector reviewed and discussed RP program guidance for monitoring external and internal radiation exposures of occupational workers. The inspector verified National Voluntary Laboratory Accreditation Program certification data and discussed program guidance for storage, processing and results for dosimeters currently in use. The inspector also reviewed and discussed the comparison between ED and thermoluminescent dosimeter data.

Internal Dosimetry. Program guidance, instrument detection capabilities, and select results for assessing internally deposited radionuclides were reviewed and discussed in detail. The inspector evaluated licensee follow-up *in vivo* monitoring results and dose assignment for three workers involved in contamination events having the potential for internal deposition of radioactive material. In addition, the current licensee and contract vendor laboratory analysis capabilities for the collection and analysis of *in vitro* samples were reviewed and discussed in detail.

Special Dosimetric Situations. The inspector reviewed monitoring conducted and results for two declared pregnant workers since the last inspection. The methodology and results of monitoring occupational workers within non-uniform external dose fields and assignment of effective dose equivalent results were discussed in detail. In addition, the adequacy of dosimetry program guidance and its implementation for shallow dose assessments and supporting calculations for an individual involved in a select contamination event were evaluated. Neutron monitoring guidance and implementation for select 'at power' containment entries were reviewed and discussed. RP staff proficiency involved in conducting skin dose assessments, neutron monitoring, and Whole Body Counting equipment operations were evaluated through review and discussions of completed records and supporting data.

Corrective Action Program (CAP) Review. The inspector reviewed and discussed selected CAP documents associated with occupational dose assessment. The reviewed items included ARs, self-assessments, and quality assurance audit documents. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with licensee procedures PI-AA-204, Condition Identification and Screening Process, Rev. 18, and PI-AA-205, Condition Evaluation and Corrective Action, Rev. 19.

RP program occupational dose assessment guidance and activities were evaluated against the requirements of the UFSAR Section 11; TS Sections 6.8.1, Procedures and Programs, and 6.12, High Radiation Area; 10 CFR Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in the Attachment.

The inspectors completed all specified line-items detailed in IP 71124.04.

b. Findings

No findings were identified.

2RS5 Radiation Monitoring Instrumentation

a. Inspection Scope

The inspectors reviewed the licensee's radiation monitoring instrumentation programs to verify the accuracy and operability of radiation monitoring instruments used to monitor areas, materials, and workers to ensure a radiologically safe work environment and to detect and quantify radioactive process streams and effluent releases.

Walkdowns and Observations: The inspectors walked down effluent and process monitoring systems, including U3 and U4 Component Cooling Water Return Header Activity (R3-17A/B, R4-17A/B), WDS Liquid Effluent Activity (R-18), U3 and U4 Steam Generator Blowdown Liquid Activity (R3-19), and U3 Containment Air Particulate/Gaseous (R3-11/R3-12), evaluating material condition and verifying configurations were consistent with Offsite Dose Calculation Manual (ODCM) descriptions. The inspectors also evaluated the material condition and location of area radiation monitor (ARM) radiation detector (RD) equipment RD-3-1401, RD-3-1402, RD-3-1403, RD-1416, RD-1417, and RD-1418, and continuous air radiation detector (RaD) monitors RaD-6417, RaD-6418, and RaD-3-6426. For selected effluent monitors and ARMs, the inspectors verified in-field responses were consistent with readings obtained in the control room.

During plant tours and observations in the calibration lab, the inspectors assessed material condition and operability of portable survey instruments in addition to verifying calibration and source checks were current. The inspectors reviewed records of survey instrument function/source checks and observed and discussed performance of required checks with calibration lab personnel. Material condition of source check devices, device operation, and establishment of source check acceptance range were also discussed with calibration lab personnel.

The inspectors evaluated material condition and observed performance of source checks on personal contamination monitors and small article monitors located at the RCA exit and discussed differences in source check geometries for portal monitors located at the protected area exit.

Calibration and Testing Program: The inspectors reviewed the last two calibration records for the following effluent, process, area radiation, and post-accident monitors: RD-1404 (U4 Personnel Access Hatch), RAD-3-6311A/B (Containment High Range Radiation Monitors), R-3-15 (Condenser Air Ejector, R-18 (Liquid Radioactive Waste), R-3-19 (S/G Liquid), and RAD-6304 (Plant Main Vent). In addition to evaluating the calibration procedures, calibration geometry, functional tests, and calibration sources, the inspectors verified monitor set-points were consistent with and/or changed in accordance with ODCM and/or site procedures.

Instrumentation used in the chemistry and health physics counting rooms was evaluated for material condition, operability, and use. Daily background and quality control charts for select high-purity germanium spectroscopy, low background gas flow counting systems, and alpha counting systems were reviewed. In addition, the inspectors

reviewed the most recent calibration of two portable spectroscopy systems being used for release surveys of secondary side components associated with Extended Power Uprate modifications. The inspectors also reviewed the cross-check analysis results for several quarters of CYs 2011 and 2012.

For the whole body counter, the inspectors reviewed the most recent calibration, assessed the isotope library, reviewed and discussed performance of daily quality control checks, and verified appropriate check and calibration sources were used. In addition, the inspectors reviewed calibrations of, and observed performance of source checks on select portal monitor, personnel monitor, and small article monitor equipment listed in the Attachment.

The inspectors reviewed performance of the portable instrument calibration lab through review and discussion of instrument calibrations, direct observation of source checks, and response checks, review of instrument calibration records, assessment of the calibration range (calibration geometry, sources, etc.) and review of the annual Shepherd calibrator recertification.

Operability and reliability of selected radiation detection instruments were reviewed against details documented in the following: 10 CFR Part 20; NUREG-0737, Clarification of TMI Action Plan Requirements; UFSAR Chapters 11 and 12; TS Sections 3/4.9.13, Radiation Monitoring, and 6.8.1, Procedures and Programs; and applicable licensee procedures. Documents reviewed during the inspection are listed in the Attachment.

Problem Identification and Resolution: Selected corrective action program documents associated with radiation monitoring instruments, including condition reports and audits, were reviewed and assessed. This review of corrective action documents included evaluating the licensee's response to indications of degraded count room instrument performance. The inspectors verified that problems were being identified at an appropriate threshold and resolved in accordance with licensee procedures PI-AA-204, Condition Identification and Screening Process, Rev. 18, and PI-AA-205, Condition Evaluation and Correction, Rev. 19. Documents reviewed are listed in the Attachment.

The inspectors completed the specified line-item samples detailed in IP 71124.05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (IP 71151)

Initiating Events Cornerstones

a Inspection Scope

The inspectors checked licensee submittals for the performance indicators (PIs) listed below for the period January 1, 2012 thru December 31, 2012, to verify the accuracy of the PI data reported during that period. Performance indicator definitions and guidance contained in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, and licensee procedure 0-ADM-032, "NRC Performance Indicators Turkey Point," were used to check the reporting for each data element. The inspectors checked operator logs, plant status reports, condition reports, system health reports, and PI data sheets to verify that the licensee had identified the required data, as applicable. The inspectors interviewed licensee personnel associated with performance indicator data collection, evaluation, and distribution.

Unit 3

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Scrams With Complications
- Unplanned Power Changes per 7000 Critical Hours

Unit 4

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Scrams With Complications
- Unplanned Power Changes per 7000 Critical Hours

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (IP 71152)

.1 Daily Review

a. Inspection Scope

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

b. Findings

No findings were identified.

.2 Annual Sample

AR 1709153, RV-4-747B, Component Cooling Water to Residual Heat Removal Weld Leak

a. Inspection Scope

The inspectors selected the condition report for detailed review and discussion with the licensee. The condition report was reviewed to ensure that an appropriate evaluation was performed and corrective actions were specified and prioritized in accordance with the licensee's program. Other attributes checked included disposition of operability and resolution of the problem including cause determination and corrective actions. The inspectors evaluated the condition report in accordance with the requirements of the licensee's corrective actions process as specified in licensee's procedures PI-AA-204, Condition Identification and Screening Process, and PI-AA-205, Condition Evaluation and Corrective Action.

b. Findings and Observations

Introduction: A Green self-revealing non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified when the licensee failed to implement corrective actions that addressed low stress high cycle fatigue of component cooling water (CCW) relief valve RV-4-747B piping caused by flow induced vibration. As a result, CCW system flow induced vibration resulted in weld cracks and system pressure boundary leakage in November 2012.

Description: On November 22, 2011, the licensee identified a 4B CCW system piping weld leak of 5 to 10 drops per minute at the branch connection of the one inch CCW relief valve RV-4-747B piping to the 16 inch CCW piping. The licensee repaired the failed weld while Unit 4 was in a forced refueling outage in November 2011. The licensee entered the issue into the corrective action program as AR 1709153 and performed an apparent cause evaluation that determined the weld leak was due to fatigue caused by flow induced vibration acting on RV-4-747B piping when residual heat removal (RHR) was placed in service. A corrective action was assigned to engineering to evaluate the need for pipe supports to reduce the affects from the flow induced vibration on the piping. The engineering evaluation was not completed, nor was any other action taken to address the flow induced vibration issue. On November 18, 2012, plant personnel identified a weld leak of 5 to 10 drops per minute at the same relief valve RV-4-747B piping branch connection on the 16 inch CCW piping. This leak was at the same location where the weld had been previously repaired in November 2011. Additionally, the licensee identified another weld leak at the RV-4-747B inlet flange on the same piping assembly. The licensee entered the November 2012 leak into the corrective action program as AR 1824939, and performed another apparent cause determination that also concluded there was significant movement of the unit 4 CCW

relief valve RV-4-747B piping while RHR was in service and failure of the weld was due to fatigue caused by flow induced vibration. In February 2013, the licensee repaired the branch connection weld leak and the RV-4-747B flange weld leak while unit 4 was in a refueling outage.

Analysis: The failure to implement corrective actions that addressed low stress high cycle fatigue of CCW relief valve RV-4-747B piping caused by flow induced vibration was a performance deficiency. The performance deficiency was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to implement corrective actions to address CCW system flow induced vibration resulted in weld cracks and CCW system pressure boundary leakage in November 2012. The inspectors evaluated the finding under the mitigating systems cornerstone and used Inspection Manual Chapter (IMC) 0609, Appendix G, Attachment 1, Shutdown Operations Significance Determination Process Phase 1, Checklist 4, PWR Refueling Operation, dated May 25, 2004. The inspectors determined the finding was of very low safety significance (Green) because the finding did not require a quantitative assessment of risk significance since each item on the Checklist 4 was met during the time the condition existed and while the 4B RHR train was removed from service to repair the weld leak. The finding was associated with a cross-cutting aspect in the corrective action program component of the problem identification and resolution area because the licensee did not complete engineering evaluations necessary to support modifications that would prevent CCW system RV-4-747B piping weld failures caused by flow induced vibration. [P.1(c)]

Enforcement: 10 CFR Appendix B, Criterion XVI, Corrective Action, requires in part that measures shall be established to assure conditions adverse to quality are promptly identified and corrected. Contrary to the above, in November 2011, the licensee identified that the 4B CCW relief valve piping to the 4B RHR heat exchanger was susceptible to failure due to low stress high cycle fatigue caused by flow induced vibration on the line (a condition adverse to quality), but failed to implement effective corrective actions to address the adverse condition, which resulted in weld failures in the CCW relief valve piping in November 2012 due to flow induced vibration. The licensee repaired the new weld failures and installed a pipe support on the line to minimize flow induced vibration in February 2013. This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy, because it was of very low safety significance and was entered in the licensee's corrective action program as AR 1852259 to address recurrence. (NCV 05000251/2013002-04 Failure to Correct Flow Induced Vibration Leads to CCW Piping Weld Failures).

.3 Annual Sample

3A Diesel Oil Pump Failed to Make Up to Day Tank

a. Inspection Scope

The inspectors selected AR 01832175, "3A Diesel Oil Pump Failed to Make Up to Day Tank," for a more in-depth review of the circumstances and the corrective actions that followed. On December 12, 2012, the licensee performed periodic surveillance test 3-OSP-023.1, 3A Emergency Diesel Generator Quarterly Operability Test, to check the diesel fuel oil transfer pump automatic function to transfer fuel oil from the main storage tank to the smaller day tank. During the test the transfer pump failed to start and the licensee determined that the transfer pump motor rotor and stator were corroded causing the two components to become mechanically bound. The licensee declared the emergency diesel generator inoperable and entered the applicable technical specification limiting condition of operation until repairs were completed. The licensee determined that rain water had leaked into the motor housing through metal rivets used to hold vendor labels to the outside of the motor.

The inspectors reviewed the licensee's apparent cause evaluation of the event and the associated corrective actions taken or planned. The inspectors reviewed licensee performance attributes associated with complete and accurate information of the problem, 10 CFR 50.72 reporting requirements, identification of the apparent and contributing causes, and planning or completion of assigned corrective actions. The inspectors interviewed plant personnel and evaluated the licensee's administration of this selected condition report in accordance with their corrective action program as specified in licensee procedures PI-AA-204, "Condition Identification and Screening Process," and PI-AA-205, "Condition Evaluation and Corrective Action."

b. Findings and Observations

No inspector findings were identified. The licensee determined the apparent cause of the event was due to water intrusion through rivets used by the motor vendor to apply labels to the motor housing. The licensee sealed the rivet heads with a specified silicone material on the new installed motor to prevent a repeat event. The inspectors noted that the licensee concluded that the transfer pump motors for Unit 3 are located in an open area subject to heavy rains and Unit 4 motors are located within a building structure protected from rain requiring no corrective action. The licensee created a corrective action to evaluate the suitability of installing a structure above the Unit 3 motors to limit rain water from contacting the motor assemblies. Immediate corrective actions for this event included replacing the failed 3A motor and verifying the 3B motor was unaffected and an extent of condition review performed to determine if other safety related outdoor motors may have the same rivet configuration. The inspectors did not identify any trends not already identified by the licensee.

4OA3 Event Follow-up (IP 71153)

.1 (Closed) Licensee Event Report (LER) 50-250/2012-002-00 Noncompliance with Technical Specification (TS) 3.4.9.3 due to Manual Isolation Valve Found in Incorrect TS Configuration

On June, 25, 2012, Unit 3 was in Mode 5 with its high head safety injection system flow path to the reactor coolant system isolated by means of cold leg injection valves MOV-3-843A and MOV-3-843B closed and deenergized as required by technical specification surveillance requirement 4.4.9.3.3. In addition, manual isolation valve 3-867 was in the closed unlocked position. Valve 3-867 is located downstream of the high head safety injection pumps and upstream of the MOV valves. The TS required the isolation flow path to be isolated by either a locked closed manual valve or by motor operated valves (MOV) closed and deenergized. The licensee used the MOV closed and deenergized option to meet the TS requirement. At approximately 1710 hours on June 25, 2012, the licensee energized valves MOV-3-843-A and MOV-3-843B during the performance of safeguards testing without first locking valve 3-867 closed as required by TS.

The licensee's root cause analysis documented in action request (AR) 1781044 identified a weakness in their safeguards procedure OSP-203, Safeguards Testing, which lacked the appropriate guidance to preclude unisolating the safety injection flow path while performing the required valve operations. The licensee took additional actions to correct and prevent this event from occurring in the future by revising the safeguards procedure to provide further guidance on ensuring adequate isolation of the injection flow path including locking of manual valve 3-867. The inspector determined that the technical specification non-compliance was of minor significance since it did not result in an open flow path to the RCS or have the potential to lead to a more significant safety concern. The LER is closed.

.2 Personnel Performance During Unplanned Plant Trips

a. Inspection Scope

The inspectors reviewed personnel performance during or after reactor trips on Unit 3 that occurred on February 11, February 18, and March 12. The inspectors observed or reviewed operator response was in accordance with licensee operating procedures 3-SOP-ES-0.1, "Reactor Trip Response", 3-EOP-E-0, "Reactor Trip", and 3-GOP-103, "Power Operations to Hot Standby." The inspectors obtained an understanding of plant status, equipment and personnel performance associated with the reactor trips and post trip actions to place the reactor plant in a safe condition. The inspectors reviewed plant strip chart recorders, operator logs, interviewed operators, attended post trip review meetings, and verified emergency operating procedure compliance. The February 11 reactor trip was automatic resulting from a loss of condenser vacuum while operating at full power. The February 18 reactor trip was a manual trip initiated from 70 percent reactor power when the 3A reactor coolant pump shaft seal leaked in excess of 6.0 gallons per minute. The March 12 reactor trip was an automatic trip due to a turbine control valve closure logic malfunction from 3 percent reactor power. Licensee event reports for these trips will be issued by the licensee in the second quarter of 2013.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the plant inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspection activities.

b. Findings

No findings were identified.

.2 (Closed) NRC Temporary Instruction (TI) 2515/187, Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns

a. Inspection Scope

Inspectors verified that the licensee's walkdown packages listed below contained the elements as specified in NEI 12-07 Walkdown Guidance document.

- 2.16, Hold up tank
- 2.10, Central East elevation (locked high radiation area)
- 2.22, Southeast elevation 10
- 2.30, Electrical penetration room – North of the Unit 4 containment

The inspectors accompanied the licensee on their walkdowns and verified that the licensee confirmed the following flood protection features:

- Observed sand bag wall and sump pump simulations
- Visually inspected electrical conduit seals
- Reviewed procedure 0-ADM-116, "Hurricane Season Readiness," Rev. 7
- Reviewed procedure 0-SMM-102.1, "Flood Protection Stop Logs and Penetration Seal Inspection," Rev. 2

The inspectors independently performed walkdowns and verified that the following flood protection features were in place:

- Portions of the flooding wall

- Manholes 704 and 609
- Sump pumps
- Stop logs (to verify no degradation or obstructions could impede their use)

The inspectors verified that noncompliance with current licensing requirements, and issues identified in accordance with the 10 CFR 50.54(f) letter, Item 2.g of Enclosure 4, were entered into the licensee's corrective action program. In addition, issues identified in response to Item 2.g that could challenge risk significant equipment and the licensee's ability to mitigate the consequences will be subject to additional NRC evaluation.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Kiley and other members of licensee management on April 11, 2013, and on April 17, 2013. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary information. The licensee did not identify any proprietary information.

ATTACHMENT: SUPPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:
C. Cashwell, Radiation Protection Manager
M. Crosby, Quality Manager
P. Czaya, Licensing
M. Epstein, Emergency Preparedness Manager
J. Garcia, Engineering Manager
M. Jones, Operations Manager
M. Kiley, Site Vice-President
G. Mendoza, Chemistry Manager
E. McCartney, Plant General Manager
S. Mihalakea, Licensing
J. Pallin, Maintenance Manager
D. Sluzka, Work Controls Manager
R. Tomonto, Licensing Manager
R. Smith, Engineering

NRC
T. Hoeg, Senior Resident Inspector
M. Barillas, Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000250, 251/2013002-01	NCV	Failure to Implement Timely Corrective Actions to Test Molded Case Circuit Breakers (Section 1R21)
05000250/2013002-02	NCV	Noncompliance with Radiological Barrier (Section 2RS2)
05000250/2013002-03	NCV	Willful Violation of Radiological Barrier (Section 2RS2)
05000251/2013002-04	NCV	Failure to Correct Flow-Induced Vibration Leads to CCW Piping Weld Failures (Section 4OA2.2)

Closed

05000250, 251/2011008-02	URI	Molded Case Circuit Breaker Testing (Section 1R21)

05000250/2012-002-00	LER	Manual Isolation Valve Found in Incorrect Technical Specification Configuration (Section 4OA3.1)
05000250, 251/2515/187	TI	Inspection of Near-Term Task Force Recommendation 2.3 Flood Walkdowns (Section 4OA5.3)

Attachment

LIST OF DOCUMENTS REVIEWED

Section 1R07: Heat Sink Inspections

Procedure No. 0-PMM-030.01, Rev 2, CCW Heat Exchanger Cleaning and Inspection
Procedure No. 3-OSP-030.4, Rev 5, Component Cooling Water Heat Exchanger Performance Test
Procedure No. 3-OSP-019.4, Rev 2, Component Cooling Water Heat Exchanger Performance Monitoring.
Procedure No. 4-OSP-030.9, Rev 1, CCW System Flow Balance
Procedure No. PI-AA-204, Rev 18, Condition Identification and Screening Process
Turkey Point Power Plant PTN-3/September 2012, Final Eddy Current Inspection Report, Component Cooling water, 3A-CCW
Turkey Point Power Plant PTN-4/October 2012, Final Eddy Current Inspection Report, Component Cooling water, 4C-CCW
Turkey Point Unit 3 Intake Cooling Water System Health Report, 1/25/2013AR 01814206, As-Found Condition of the 4C CCW HX
Florida Power and Light Company Turkey Point Units 3 and 4, Design Basis Document, Intake Cooling Water System, 3/5/2006

AR 01814206, As-Found Condition of the 4C CCW HX

CR 1789995, Prompt Operability Determination (POD)
CR 1677185, Unit 3 Loss of Intake Cooling Water

Section 1R21: Component Design Basis Inspection

Corrective Action Program Documents

AR 01788355, U3 Vital AC/DC Breaker Test Summary
AR 1852219, PTN Vital AC/DC Breaker Test Summary

Procedures

0-PME-003.31, Vital 120 VAC and 125 VDC Breaker Maintenance, Rev. 3

Other Documents

Birnbaum Importances for PTN Breakers – Unit 3
Birnbaum Importances for PTN Breakers – Unit 4
Predictive Maintenance Thermograpy Inspection at Turkey Point Nuclear Power Plant, U3 Vital Breakers Inspection-12M Interval DC Panel #D01 9#A) #21-40 Cable Spreading Room, 9/25/12

Section 2RS2: ALARA

Procedures, Guidance Documents, and Manuals
0-HPA-001, Radiation Work Permit Initiation and Termination, Revision (Rev.) 1
0-HPA-072, Installation, Control, and Removal of Permanent and Temporary Shielding, Rev. 2

0-HPA-073, Hot Spot Tracking and Reduction Program, Rev 1
PI-AA-204, Condition Identification and Screening Process, Rev. 18
PI-AA-205, Condition Evaluation and Corrective Action, Rev. 19
RP-AA-104-1000, ALARA Implementing Procedure, Rev. 3
RP-AA-104, ALARA Program, Rev. 1

Records and Data
10 CFR 50.59 Applicability Determination Screening, TSR 09-05, Increase of Temporary Lead Shielding for top of Pressurizer, Dated 03/19/09
ALARA Package Number (No.): 2012-009, All RCP work during the U3R26 RFO refueling outage, Dated 02/23/12
ALARA Package No: 2012-016, Aluminum Reduction in support of Extended Power Up-rate
ALARA Review No: 2012-033 (>125 Percent of Estimate), U4 Reactor Sump – Inspection, Legacy Boron cleaning and coating of Reactor Sump Liner, Dated 12/27/12
ALARA Package No: 2012-042, Steam Generator Bundle Flush, Sludge Lance, and FOSAR during the U4 refueling outage, Dated 10/30/12
ALARA Review No: 2012-006, U3 Reactor Sump – Inspection, Legacy Boron cleaning and coating of Reactor Sump Liner, Dated 02/06/12
ALARA Review No: 2012-035, Insulation Package Lowered for BMI Inspections and Cleaning, Dated 12/17/12
ALARA Review No: 2012-042, S/G Bundle Flush, Sludge Lance, and FOSAR during the U4 refueling outage, Dated 11/21/12
ALARA Suggestion Forms, 13-62, 13-12, 13-134, 13-118, 13-109, 13-84, 13-51, 13-60, 13-61, and 13-64, submitted from 12/11/12 and 02/01/13
Pre-Job ALARA Review for U3 “A” RCP Seal Repair/Replacement, Dated 02/20/13
PTN ALARA Review Board Meeting Minutes, 03/30/12, 05/16/12, 06/27/12, and 10/18/12
PTN Daily Quality Summary, Dated 02/27/13
PTN Nuclear Oversight Report #PTN-12-002, Functional Area:Audit, Radiological Protection – Radwaste, Dated 03/15/12
PTN Quick Hitter Assessment Report #1702436, “Unplanned Exposures from Highly Irradiated In-core Irradiated Components,” Dated 02/14/12
PTN U-3&4 EPRI Survey Data Summary, 2012
PTN Unit 3 Forced Outage Status Report for 02/28/13
PTN Unit 4 Outage Status Report for 02/28/13
PTN 5-Year ALARA Plan 2011-2015 Revised 01/21/13
RP Job Survey #13-2931, U3 Top & Bottom of Pressurizer Cubicle, Dated 02/21/13
RP Job Survey #13-2939, U3 Top & Bottom of Pressurizer Cubicle, Dated 02/21/13
RP Survey #s12-12420, 12-12490 and 12-12461, U4 Steam Generatr Bowl EPRI Shutdown Surveys, Dated 12/04/12
Radiation Safety Bulletin, “Avoidable Violation of High Radiation Area,” Dated 02/28/13
TEDE/ALARA Assessment, RWP No. 12-4014 Task 2, Dated 01/25/13; RWP No. 12-4023 Task 3, Dated 10/26/12; RWP No. 12-4023 Task 4, Dated 10/26/12; RWP No. 12-4039 Task 1, Dated 02/21/13; and RWP No. 12-4009 Task 2, Dated 11/01/12
Temporary Shield Request (TSR) #2013-01, U-3 Top of Pressurizer, Initiated 02/18/13
TSR Log, Updated, 02/27/13
U-4 Charging Pump Room 4C RCS Filter Gamma Spec Analysis, Dated 02/24/13
Units 3 and 4 Radiological Hot Spot Logs, 1st Qtr 2013

CAP Documents
AR 01664707
AR 01687273
AR 01694412
AR 01696554
AR 01697000
AR 01838946
AR 01839698

Section 2RS3: In-Plant Airborne Radioactivity Control and Mitigation

Procedures and Guidance Documents
0-ADM-605, Control of Radioactive Material, Approval Date 01/26/11
0-EPIP-20133, Operations Support Center (OSC) Activation and Operation, Approval Date 05/23/12
0-HPA-004, Scheduling of Periodic Radiation Protection Activities, Approval Date 06/30/10
0-HPA-028, High Efficiency Particulate Air (HEPA) Filtration Ventilation Systems in the Radiation Controlled Area, Approval Date 08/22/12
0-HPS-023.1, Vacuum Cleaner Controls Inside the Radiation Controlled Area, Approval Date 08/22/12
0-HPS-027.1, Work Controls in Hot Particle Areas, Approval Date 02/21/11
0-HPS-062.2, Use of the Self-Contained Breathing Apparatus, Dated 01/25/12
0-HPS-063.2, Maintenance and Accountability of Respiratory Protective Equipment, Approval Date 03/02/12
0-HPS-063.4, Selection and Issuance of Respiratory Protection Equipment, Approval Date 03/02/12
0-HPS-065.2, Operation and Maintenance of the Respirator Fit-Test System, Approval Date 08/22/12
0-HPS-090, Inventory of Radiation Protection Emergency Equipment, Approval Date 03/29/11
Design Basis Document, Volume 21, Control Building Ventilation System, Turkey Point Units 3 and 4, Florida Power & Light Company, Revised 08/26/09
PI-AA-204, Condition Identification and Screening Process, Rev. 18
PI-AA-205, Condition Evaluation and Corrective Action, Rev. 19
PTN 3308006, S.C.B.A Training, Rev. 1
RP-SR-105-7001, Eberline AMS-4 Air Monitor Operation and Calibration, Effective Date 02/01/11
RP-TP-102-1000, Alpha Monitoring, Approval Date 06/12/12
RP-TP-105-3005, Calibration and Operation of Low Volume Air Samplers, Approval Date 12/02/11
SAF-AD-011, Testing for Grade D Breathing Air, Approval Date 05/09/11

Records and Data Reviewed
Air Calculation Sheet, U3 RCB Personnel Hatch, Dated 02/23/13
Air Quality Certificates, Air Source: RP/Fire Brigade SCBA, Dated 03/18/11, 06/22/11, 09/26/11, 12/13/11, 03/30/12, 06/22/11, 09/12/12, and 12/12/12
Annual Compressor Inspection, Bauer Air Compressor, Dated 09/29/11, 01/25/12, and 02/27/13
F&J Model LV-1 Low Volume Air Sampler Calibration Record, HPI No. 1153, S/N 3201, Dated 02/14/11; 02/01/13; and 02/19/13

HP-44:40.2, FPL-PTN, Miscellaneous Containment U-3, Log No. 13-3061
HP-44:91.1, FPL-PTN, U-3 "A" Reactor Coolant Pump Cubicle, Log Nos. 13-2901, 13-2969, 13-2996, and 13-3052
Radiological Emergency Equipment Inventory Sheets: Operational Support Center, Dated 09/13/12, 10/25/12 and 12/11/12; Technical Support Center, Dated 10/26/12 and 12/06/13; and Units 3 & 4 Control Room, Dated 09/13/12 and 12/06/12
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Section 2RS4: Occupational Dose Assessment

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0-HPA-030, Personnel Monitoring of External Dose, 12/09/11
0-HPS-026.2, Response Protocols for Whole Body Counting Entrance and Exit, 09/23/11
0-HPS-031.1, Whole Body Dosimetry Issue, 02/14/12
0-HPS-031.6, Processing Radiation Exposure Extensions, 01/05/11
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RP-TP-101-1000, Exposure Investigations, Rev. 0A
RP-TP-102-1000, Alpha Monitoring, Rev. 0
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Pack ID 4451, EDE Multibadge Data Sheet, December 2012
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U3 RCB Personnel Hatch, Area Access Log and Air Calculation Sheet, 02/12/13
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Section 2RS5: Radiation Monitoring Instrumentation

Procedures, Guidance Documents and Manuals

0-HPA-010, Radiation Protection Instrument Plan, Rev. 4
0-HPT-011.2, Certification and Operation of the Shepherd Model 89 Shielded Range Calibrator, Rev. 1
0-HPT-013, Portable Survey Instruments, Rev. 0A
0-HPT-016.1, Calibration and Operation of the SAM-9/11, Rev. 2
0-HPT-018, Calibration of Survey Instruments, Rev. 3
0-HPT-072, Calibration and Operation of Canberra Personnel Monitors, 06/11/10
0-HPT-074, Calibration and Operation of the Radiation Protection Abacos-2000 Whole Body Counting Equipment, Rev. 3
0-NCCP-210, SPING and DAM Monitor Channel Checks, Rev. 5
0-NCOP-067, Process Radiation Monitors Setpoint Determination, 01/06/10
3-PMI-67.3, Process Radiation Monitoring System Channel R-3-15 Calibration Procedure, Attachment 2 (page 2 of 21), Approval Date 12/28/09
3-PMI-67.3, Process Radiation Monitoring System Channel R-3-15 Calibration Procedure, Attachment 2 (page 2 of 20), Approval Date 09/25/12
PI-AA-204, Condition Identification and Screening Process, Rev.18
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Section 4OA5.3: Temporary Instruction 2515/187

AR 01854877, Manhole 704 Missing Sealant and Gasket
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LIST OF ACRONYMS

4R27	Unit 4 Refueling Outage Cycle 27
ALARA	As Low As Is Reasonably Achievable
AR	Action Request Number
ARM	area radiation monitor
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CY	calendar year
ED	electronic dosimeter
HRA	High Radiation Area
IP	Inspection Procedure
mrem	millirem
mrem/hr	millirem per hour
No.	Number
ODCM	Offsite Dose Calculation Manual
RaD	air radiation detector
RCA	Radiologically Controlled Area
RCP	Reactor Coolant Pump
RD	radiation detector
Rev.	Revision
RP	Radiation Protection
RWP	Radiation Work Permit
SCBA	Self-Contained Breathing Apparatus
TS	Technical Specification
TYRA	three-year rolling average
U3	Unit 3
U4	Unit 4
UFSAR	Updated Final Safety Analysis

SYNOPSIS

This investigation was initiated by the Nuclear Regulatory Commission (NRC), Office of Investigations (OI), Region II (RII) on June 21, 2012, to determine whether a former Contract Carpenter, Shaw, Florida Power & Light (FP&L), Turkey Point Nuclear Plant (TPNP), willfully violated radiation protection procedures in that he failed to attain the proper high radiation area (HRA) briefing, and deliberately by-passed an installed physical barrier to gain unauthorized access to a HRA.

Based upon the evidence developed during the investigation, OI:RII substantiated that a former Contract Carpenter, Shaw, FP&L, TPNP, deliberately violated radiation protection procedures in that he failed to attain the proper high radiation area (HRA) briefing, and deliberately by-passed an installed physical barrier to gain unauthorized access to a HRA.

Approved for release – SES 4/1/13