



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
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March 29, 2010

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 TRIENNIAL FIRE PROTECTION  
INSPECTION AND EXERCISE OF ENFORCEMENT DISCRETION (REPORT  
NO. 05000250/2010007 AND 05000251/2010007)**

Dear Mr. Nazar:

On February 12, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Nuclear Plant, Units 3 and 4. The enclosed inspection report documents the inspection results, which were discussed with Mr. M. Kiley, Site Vice President and other members of your staff.

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

Based on the results of this inspection, no findings of significance were identified. However, the enclosed report documents one noncompliance that was identified during the inspection for which the NRC is exercising enforcement discretion. The NRC is not taking any enforcement action for this noncompliance because it meets the criteria of the NRC's Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48). In this case, the NRC concluded that (1) Florida Power and Light Company (FPL) entered the noncompliance into its corrective action program and implemented appropriate compensatory measures (including an operability evaluation to demonstrate that safety will be maintained during operation and shutdown); (2) the noncompliance was not associated with a finding that the reactor oversight process significance determination process would evaluate as Red, or it would not be categorized at Severity Level I; (3) it was not willful; and (4) FPL submitted a letter of intent before December 31, 2005, stating its intent to transition to 10 CFR 50.48(c), which includes approaches in National Fire Protection Association Standard 805-2000 Edition. Regarding compensatory measures, FPL incorporated acceptable manual operator actions into applicable procedures to address the finding at the time of the original inspection. In addition, based on the above corrective actions and in accordance with NRC Inspection Manual Chapter 0305, Section 12.01.b, Violations in Specified Areas of Interest Qualifying for Enforcement Discretion, the NRC will also refrain from including the noncompliance in the Agency Action Matrix.

You are not required to respond to this letter. In accordance with 10 CFR 2.390 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/

Rebecca L. Nease, Chief  
Reactor Projects Branch 6  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000250/2010007 and 05000251/2010007  
w/Attachment: Supplemental Information

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Letter to Mano Nazar from Rebecca L. Nease dated March 29, 2010.

SUBJECT: TURKEY POINT - NRC TRIENNIAL FIRE PROTECTION INSPECTION  
REPORT 05000250/2010007 AND 05000251/2010007

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 50-250, 50-251

License Nos.: DPR-31, DPR-41

Report Nos.: 05000250/2010007 and 05000251/2010007

Licensee: Florida Power and Light

Facility: Turkey Point Nuclear Plant, Units 3 and 4

Location: Florida City, Florida

Dates: January 25 – 29, 2010 (Week 1)  
February 8 – 12, 2010 (Week 2)

Inspectors: N. Merriweather, Senior Reactor Inspector (Lead Inspector)  
K. Miller, Reactor Inspector  
R. Rodriguez, Senior Reactor Inspector  
N. Staples, Reactor Inspector

Approved by: Rebecca L. Nease, Chief  
Engineering Branch 2  
Division of Reactor Safety

Enclosure

## SUMMARY OF FINDINGS

IR 05000250/2010-007, 05000251/2010-007; 01/25 - 29/2010 and 02/8 - 12/2010; Turkey Point Nuclear Plant, Units 3 and 4; Fire Protection.

This report covers an announced two-week period of inspection by a triennial fire protection team composed of four regional inspectors. No findings of significance were identified. The United States Nuclear Regulatory Commission's (NRC's) program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee Identified Violations

None

## REPORT DETAILS

### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R05 Fire Protection

This report presents the results of a triennial fire protection inspection of the Turkey Point Nuclear Plant (TPN) Units 3 and 4. The inspection was conducted in accordance with NRC Inspection Procedure (IP) 71111.05TTP, "Fire Protection-National Fire Protection Association (NFPA) 805 Transition Period (Triennial)," dated December 24, 2009. The objective of the inspection was to review a minimum sample of 3 risk-significant fire areas to verify implementation of the fire protection program (FPP) and to verify site specific implementation of at least one B.5.b mitigating strategy as well as the storage, maintenance, and testing of B.5.b mitigating equipment. The three fire areas (FAs) and associated fire zones (FZs) were selected after reviewing available risk information as analyzed by a Senior Reactor Analyst from Region II, previous inspection results, plant walk downs of fire areas, relational characteristics of combustible material to targets, and location of equipment needed to achieve and maintain safe shutdown (SSD) of the reactor. In selecting the B.5.b mitigating strategy sample, the team reviewed licensee submittal letters, safety evaluation reports, licensee commitments, B.5.b implementing procedures, and previous NRC inspection reports. Section 71111.05-05 of the IP specifies a minimum sample size of three fire areas and one B.5.b implementing strategy for addressing large fires and explosions. This inspection fulfilled the requirements of the procedure. The specific FAs/FZs chosen for review were:

1. FA X (FZ 71), Unit 3 4160 Volt Switchgear 3A Room, Elev. 18.00 feet
2. FA II (FZ 101), Unit 4 "B" DC Equipment Room, Elev. 30.00 feet
3. FA HH (FZ 98 and 132), Units 3 and 4 Cable Spreading Room, Elev. 30.00 feet

The team evaluated the licensee's FPP against applicable requirements, including TPN Units 3 and 4 Renewed Operating License Condition 3.D, "Fire Protection"; Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix R, "Fire Protection Program For Nuclear Power Facilities Operating Prior To January 1, 1979"; 10 CFR 50.48; commitments to Appendix A of Branch Technical Position (BTP) Auxiliary and Power Conversion Systems Branch (APCSB) 9.5-1; TPN Updated Final Safety Analysis Report (UFSAR); related NRC safety evaluation reports (SERs); and plant Technical Specifications. The review of the B.5.b mitigating strategies was based on the TPN Units 3 and 4 Renewed Operating License Condition 3.G, "Mitigation Strategy License Condition," licensee B.5.b submittals, and related NRC SERs. The team evaluated all areas of this inspection, as documented below, against these requirements. Specific licensing basis documents reviewed are listed in the Attachment.



.01 Protection of Safe Shutdown Capabilities

a. Inspection Scope

The team reviewed the Appendix R Safe Shutdown Analysis (SSA), Appendix R Essential Equipment List, Appendix R Safe Shutdown Analysis Manual Action List, pre-fire plans, and post-fire operating procedures to verify that equipment required for post-fire safe shutdown was adequately protected from fire damage in accordance with 10 CFR Part 50, Appendix R Section III.G.2. The reviews were performed to verify that hot and cold shutdown could be achieved and maintained from the main control room (MCR) with and without the availability of offsite power for postulated fires in FZ 71 and FZ 101. The inspection activities focused on ensuring the adequacy of systems selected for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring instrumentation, and support system functions. The team reviewed the systems and components credited for use during this shutdown method to verify that they would remain free from fire damage.

Methodology

The team selected a sample of SSD components that were required to be operable for post-fire safe shutdown for a postulated fire in the selected FAs/FZs. The team reviewed the component cable routing (i.e., power and/or control circuits by fire area) to determine if the SSD components could be potentially damaged and made inoperable by a fire in the selected FAs/FZs. The selected sample of SSD components included in the review is listed in the Attachment. The team performed plant walkdowns to verify that the plant configuration was consistent with that described in the fire hazards analysis and the electrical cable routing lists. The inspectors also reviewed the engineering assessments in Plant Change and Modification No. 95-126, Attachments 15, 19, and 20 to identify those electrical raceways that were previously protected with Thermo-Lag electrical raceway fire barriers that had been abandoned and replaced with operator manual actions (OMAs). As for those fire areas where the licensee had implemented OMAs in lieu of cable raceway protection per 10 CFR Part 50, Appendix R, Section III.G.2, the inspectors verified the OMAs were feasible utilizing the guidance of Attachment 2 to IP 71111.05TTP.

Operational Implementation

The team reviewed the adequacy of the Off-Normal Operating Procedures (ONOPs) utilized for post-fire SSD from the MCR for a postulated fire in FA X (FZ 71) and FA II (FZ 101). The review was performed to verify that the shutdown methodology properly identified the components and systems necessary to achieve and maintain SSD conditions. The team assessed the timeliness of the operators in identifying and assessing the initial plant conditions, response to suspected fire, and subsequent actions credited afterwards. The team performed a walk through of procedure steps to ensure the implementation and human factors adequacy of the procedures. The inspectors verified the licensee personnel credited for procedure implementation had procedures available, were trained on implementation, and were available in the event a fire occurred. The team also reviewed selected operator actions to verify that the operators could reasonably be expected to perform the specific actions within the time required to

maintain plant parameters within specified limits. The team reviewed and walked down applicable sections of the following fire response ONOPs:

- 0-ONOP-016.10, Pre-Fire Plan, Fire Zone 71 (FA X/FZ 71)
- 0-ONOP-016.10, Pre-Fire Plan, Fire Zone 101 (FA II/FZ 101)

b. Findings

No findings of significance were identified.

.02 Passive Fire Protection

a. Inspection Scope

For the selected FA/FZs, the team evaluated the adequacy of fire barrier walls, ceilings, floors, mechanical and electrical fire barrier penetration seals, fire doors, fire dampers, and Thermo-Lag 330-1 (upgraded with Thermo-Lag 770-1) electrical raceway fire barrier systems protecting credited safe shutdown circuits. The team compared the installed configurations to the approved construction details, and supporting fire endurance test data, which established the ratings of fire barriers. In addition, the team reviewed licensing basis documentation, such as NRC SERs and deviations from NRC regulations, to verify that passive fire protection features met license commitments.

The team walked down accessible portions of the selected FA/FZs to observe material condition and the design adequacy of fire area boundaries to assess if they were appropriate for the fire hazards in the area. Additionally, the team verified that the as-built configurations met the engineering design, standard industry practices, and were either properly evaluated or qualified by appropriate fire endurance tests. In addition, a sample of completed surveillance and maintenance procedures for selected fire doors, fire dampers, and fire barrier penetration seals were reviewed to ensure that these passive fire barrier features were properly inspected and maintained. The fire protection features included in the review are listed in the Attachment.

b. Findings

No findings of significance were identified

.03 Active Fire Protection

a. Inspection Scope

The team performed in-plant observations of fire detection and suppression systems protecting the FA/FZs selected to assess the adequacy of the design and installation. The team reviewed design documents including fire detection and suppression surveillance instructions, completed surveillance tests, and applicable NFPA codes and standards, to assess the appropriateness of detection and suppression methods for the category of fire hazards in the various areas, and the material condition and operational lineup of fire detection and suppression systems. The team reviewed license documentation, such as NRC SERs and deviations from NRC regulations, to verify that active fire protection features met license commitments. The inspectors walked down the fire detection and alarm systems in the selected FA/FZs to evaluate the

appropriateness of detection methods for the category of fire hazards in the areas relative to the NFPA 72E location requirements.

The team reviewed the fire detection and suppression surveillance instructions as well as the most recently completed surveillance tests for each of the three selected FA/FZs. The team reviewed the fire protection water supply system and operational valve lineups associated with the electric motor-driven fire pump and the diesel engine-driven fire pump.

Fire hose and standpipe systems were evaluated from source to discharge device including NFPA 14 code compliance evaluations performed by the licensee to demonstrate adequate flow, pressure, and water distribution. During plant tours, the team observed placement of the fire hoses and extinguishers to verify they were not blocked and were consistent with the fire fighting pre-plan strategies and FPP documents.

The team reviewed the design, installation, and testing of the Halon 1301 gaseous suppression system in the selected FA/FZs to evaluate compliance with NFPA 12A. The Halon 1301 fire suppression system in FZ 98 was inspected and evaluated. The team walked down the entire Halon system, except for a small inaccessible portion of the supply header external to the protected area. The team reviewed blower door fan testing data for the protected area to ensure that room leakage across the room boundary was minimal, indicating that the room was a tight enclosure. The team verified that the available stored quantity of Halon 1301 was adequate to ensure that the design agent concentration of 6 percent could be achieved and maintained for the required 16 minute hold time period as specified in the UFSAR, Appendix 9.6A, Fire Protection Program Report. The team also reviewed the licensee's program of surveillances to ensure the proper quantity of Halon 1301 was maintained in the storage containers and the minimum required system pressure was verified.

The team reviewed the fire brigade staging and dress-out areas to assess the operational readiness of fire fighting and smoke control equipment. The fire brigade personal protective equipment, self-contained breathing apparatuses (SCBAs) and SCBA cylinder refill capability were reviewed for adequacy and functionality. The team also reviewed operator and fire brigade staffing, fire brigade response reports, offsite fire department communications and staging procedures, fire fighting pre-plan strategies, fire brigade qualification training, and the fire brigade drill program procedures. Fire brigade response-to-drill scenarios and associated brigade drill evaluations/critiques that transpired over the last 12 months for or in the vicinity of the selected FA/FZs were reviewed. Although not required, the team observed a fire drill conducted in a non-safety related area of the facility.

The team reviewed the fire fighting pre-plan strategies for the selected FA/FZs and fire response procedures to verify that pertinent information was provided to fire brigade members to identify potential effects to plant and personnel safety, and to facilitate suppression of an exposure fire that could impact SSD capability. The team walked down the selected FA/FZs to compare the associated fire fighting pre-plan strategy drawings with as-built plant conditions and fire response procedures. This was done to verify that fire fighting pre-plan strategies and drawings were consistent with the fire protection features and potential fire conditions described in the fire hazard analysis. The team also evaluated whether the fire response procedures and fire fighting pre-plan

strategies for the selected FA/FZs could be implemented as intended. The documents included in the reviews are listed in the Attachment.

b. Findings

No findings of significance were identified.

.04 Protection From Damage From Fire Suppression Activities

a. Inspection Scope

Through a combination of in-plant inspection and drawing reviews, the team evaluated the selected FAs/FZs to determine whether redundant trains of systems required for post-fire SSD could be subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems. The team considered the effects of water, drainage, heat, hot gasses, and smoke that could potentially damage redundant trains.

b. Findings

No findings of significance were identified.

.05 Alternative Shutdown Capability

a. Inspection Scope

The team verified that the licensee's alternative shutdown methodology properly identified the components and systems necessary to achieve and maintain SSD conditions for a fire in FA HH (FZ 98 and FZ 132) in accordance with 10 CFR Part 50, Appendix R Section III.G.3. The team reviewed the licensee's UFSAR, SSA, ONOPs, emergency operating procedures (EOP), piping and instrumentation drawings, electrical drawings, and other supporting documents for postulated fires in the selected FA/FZs. The reviews focused on ensuring that the required functions for post-fire SSD and the corresponding equipment necessary to perform those functions were included in the procedures. The team also made a comparison of the SSA and the SSD procedures with regard to credited SSD equipment to verify that the two were consistent.

The team assessed the timeliness of the operators in identifying and assessing the initial plant conditions, response to suspected fire, and subsequent actions credited afterwards. The inspectors verified the licensee personnel credited for procedure implementation had procedures available, were trained on implementation, and were available in the event a fire occurred. Reviews included verification that alternative shutdown could be accomplished with or without offsite power.

Operational Implementation

The team reviewed the training lesson plans of licensed and non-licensed operators to verify that the training reinforced the shutdown methodology in the SSA, off-normal procedures, and EOPs for the selected FZs. The team also conducted interviews, reviewed shift turnover logs and shift manning to verify that personnel required for SSD

using alternative shutdown systems and procedures were available onsite, exclusive of those assigned as fire brigade members.

The team performed tabletop reviews of post-fire SSD procedure (0-ONOP-016.10, Pre-Fire Plan, Fire Zone 98 (FA HH/FZ 98 and 132) and also performed a walk through of procedure steps to ensure the implementation and human factors adequacy of the procedures. The team checked whether the SSD procedures included steps to prevent or mitigate the consequences of spurious operations. The team walked down the in-plant location of all operator actions specified in the ONOP procedures with operations personnel to evaluate the expected ambient conditions, relative difficulty and operator familiarization associated with each operator action. The team reviewed the systems and components credited for use during this shutdown method to verify that they would remain free from fire damage. The team reviewed selected operator actions to verify that the operators could reasonably be expected to perform the specific actions within the time required to maintain plant parameters within specified limits.

b. Findings

No findings of significance were identified.

.06 Circuit Analyses

a. Inspection Scope

This segment is suspended for plants in transition, because a more detailed review of cable routing and circuit analysis will be conducted as part of the fire protection program transition to NFPA 805. However, to support this inspection, a limited scope review of a select sample of SSD components was conducted to verify that the existing fire response procedures were adequate for a postulated fire in any of the selected FAs. The cables examined were based upon a list of SSD components selected by the team. The team reviewed the electrical control wiring diagrams and identified the cables associated with the SSD components and examined in detail the cable routing and potential for fire damage and the effects on the circuit. The specific components reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

.07 Communications

a. Inspection Scope

The team reviewed plant communication capabilities to evaluate the availability of the communication systems to support plant personnel in the performance of local OMAs to achieve and maintain SSD conditions. The team also reviewed the communication systems available at different locations within the plant that would be relied upon to support fire event notification and fire brigade fire fighting activities to verify their availability at different locations. During this review the team considered the effects of ambient noise levels, clarity of reception, reliability and coverage patterns. The team

inspected the contents of designated emergency storage lockers and reviewed the alternative shutdown procedure to verify that dedicated alternative shutdown communications system was available, operable, and adequate for the performance of designated activities. The team also reviewed preventive maintenance and surveillance test records to verify that the communication equipment was being properly maintained.

b. Findings

No findings of significance were identified.

.08 Emergency Lighting

a. Inspection Scope

The team inspected the placement and aiming of emergency lighting units installed to provide illumination for operators carrying out the SSD procedures for the selected fire areas. The team also performed plant walkdowns with licensee staff of the selected areas to observe if the placement and coverage area of fixed eight-hour battery pack emergency lights provided reasonable assurance of illuminating access and egress pathways and any equipment requiring local operation and/or instrumentation monitoring for post fire safe shutdown.

The team reviewed maintenance and design aspects including manufacturer's information and vendor manuals for the fixed and portable emergency lighting units to verify that the battery power supplies were rated with at least an 8-hour capacity as described in UFSAR Appendix 9.6A, Section 3.7, "Emergency Lighting." Preventive maintenance procedures and completed surveillance tests were reviewed to ensure adequate surveillance testing and periodic battery replacements were in place to ensure continued reliable operation of the fixed and portable emergency lights. The team reviewed the completed eight-hour discharge test records for the fixed and portable emergency lights to verify they met the minimum rating of at least eight-hour capacity. The team verified that portable eight-hour battery powered emergency lights were located in storage lockers throughout the plant and were available for operator use to illuminate access and egress routes, and to perform local OMAs required by plant fire response procedures. The team also reviewed the system health reports and discussed with the licensee the maintenance rule status of the emergency lighting systems.

b. Findings

No findings of significance were identified.

.09 Cold Shutdown Repairs

a. Inspection Scope

The licensee's analysis did not identify a need for post-fire repairs to achieve a cold shutdown condition. Thus, cold shutdown repairs were not reviewed during this inspection.

b. Findings

No findings of significance were identified.

.10 Compensatory Measures

a. Inspection Scope

The team reviewed the administrative controls for out-of-service, degraded, and/or inoperable fire protection features (e.g., detection and suppression systems and equipment, passive fire barriers, or pumps, valves or electrical devices providing SSD functions or capabilities). The team reviewed selected items on the fire protection impairment log and compared them with the FAs/FZs selected for inspection. The compensatory measures that had been established in these areas/zones were compared to those specified for the applicable fire protection feature to verify that the risk associated with removing the fire protection feature from service was properly assessed and adequate compensatory measures were implemented in accordance with the approved FPP. Additionally, the team reviewed the licensee's short term compensatory measures to verify that they were adequate to compensate for a degraded function or feature until appropriate corrective actions could be taken, and that the licensee was effective in returning the equipment to service in a reasonable period of time.

b. Findings

No findings of significance were identified.

.11 B.5.b Inspection Activities

a. Inspection Scope

The team reviewed, on a sampling basis, the licensee's spent fuel pool mitigation measures for large fires and explosions to verify that the measures were feasible, personnel were trained to implement the strategies, and equipment was properly staged and maintained. Through discussions with plant staff, review of documentation, and a plant walkdown, the team verified the engineering basis to establish reasonable assurance that the makeup capacity could be provided for the minimum time using the specified equipment and water sources. The team reviewed the licensee's capability to provide a reliable and available water source and the ability to provide the minimum fuel supply. The team performed a walkdown of the storage area for the B.5.b equipment to verify that equipment identified for use in the current procedures were available and maintained. The team reviewed training records of the licensee's staff to verify that operator training/familiarity with the strategy objectives and implementing guideline was accomplished according to the established training procedures.

b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA2 Identification and Resolution of Problems

###### a. Inspection Scope

The inspectors reviewed printouts from the licensee's condition report data base of both open and closed fire protection related condition reports and selected a sample of fire protection condition reports for detailed inspection to verify that the corrective actions were appropriate, timely and effective. The fire impairment log dated February 8, 2010, was also reviewed to verify that appropriate compensatory measures had been implemented for any degraded fire protection feature. The documents reviewed are listed in the Attachment.

###### b. Findings

No findings of significance were identified.

##### 4OA5 Other Activities

###### .1 (Closed) Unresolved Item (URI) 05000250, 251/2004007-05, Failure to Prevent Spurious Operation of Charging Pump Suction from Refueling Water Storage Tank (RWST) Valves LCV-3-115B and LCV-4-115B

###### a. Inspection Scope

The team reviewed the facts of the subject URI as well as evaluations and corrective actions taken by the licensee.

###### b. Findings

Introduction: A noncompliance was identified for failure to protect control circuits that could cause maloperation of level control valves (LCV) LCV-3-115B in Unit 3 and LCV-4-115B in Unit 4 (RWST to charging pump valves) as required by 10 CFR 50, Appendix R, Section III.G.2 for fires in FA T (FZ 63) on Unit 3 and FA U (FZ 67) on Unit 4. The violation meets the criteria of NRC Enforcement Policy, "Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)" for enforcement discretion.

Description: During the baseline triennial fire protection inspection conducted January 26-30, 2004 and February 9-13, 2004, the inspectors determined that the control circuits for valves LCV-3/4-115B (RWST to charging pump valves) were not protected and were not prevented from spurious operation during a fire in FZ 63 and FZ 67. If LCV-3/4-115B spuriously closes due to a fire-induced thermal insult, loss of the RWST as a suction source could lead to charging pump damage. Per the SSA, charging pump flow from the RWST is the assured method for providing makeup water to the reactor coolant system (RCS). These valves are air powered, solenoid-controlled, and are installed in a flow path between the RWST and the charging pumps suction header. They are powered by 125 volts direct current, and the logic is "energize to open." The valves can be controlled from the MCR or the alternate shutdown panel. Because the control cable for these valves are unprotected in FZ 63 and FZ 67, thermal insult to the control circuit



could cause the valves to spuriously close. The team noted procedure 0-ONOP-016.10 directed the operators to stop the 3A charging pump, if it is running, immediately after the start of a fire in FZ 63 (4A charging pump for FZ 67). Operators are directed to open LCV-3/4-115B within one hour from the control room to establish the RWST as a suction source for the charging pumps. Procedure 0-ONOP-016.10 then directed operators to start the 3A charging pump (4A charging pump for FZ 67). If valve LCV-3/4-115B spuriously closes due to a fire-induced thermal insult, loss of the RWST as a suction source could lead to charging pump damage. Two other charging pumps exist as part of the original design. In the event of a fire in FZ 63, the 3B charging pump would not be available if 3A charging pump is damaged; however, the 3C charging pump would be available to provide RCS makeup flow. In the event of a fire in FZ 67, the 4B pump may not have power, because it is powered from the 4B 4160 V bus which is in FZ 67. The 4C pump, a Train A/B swing pump, would not be available because its power supply is procedurally tripped due to diesel generator loading considerations. The licensee entered this finding into its corrective action program as CR 2004-0683, and revised procedure 0-ONOP-016.10 to provide clear direction to manually open LCV-3/4-115B bypass valve 3/4-358 and to change the sequence of the realignment from the volume control tank to the RWST as a compensatory measure.

Analysis: The failure to protect one train of cables and equipment necessary to achieve post-fire safe shutdown from fire damage, as required by 10 CFR Part 50, Appendix R, Section III.G.2, is a performance deficiency. The noncompliance is considered to be more than minor, because it is associated with the protection against external factors (i.e. fire) attribute and degraded the reactor safety Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent consequences. The team assessed the noncompliance using the Fire Protection Phase 1 Worksheet contained in Manual Chapter 0609, Appendix F, Attachment 1, and it did not screen out as very low significance. The team continued the assessment with the Fire Protection Phase 2 Worksheet. The team performed inspections of the affected cables in Fire Zones 61, 63, 67, 70, 98 and 132 and looked for possible ignition sources (both fixed and transient) that could damage the target cables in accordance with the zone of influence charts given in Tables 2.3.2 and 2.3.3 of IMC 0609, Appendix F. The team determined that the ignition sources in the cable spread room are sufficiently far from the target cables and that the fire brigade would have sufficient time to respond before the cables would be impacted. The team excluded those ignition sources that fell outside the zone of influence for the target cables. The lack of automatic fire suppression systems for these FAs was taken into account in the analysis. For both FZs 67 and 70, the team determined that no credible ignition sources would impact the unprotected cables for the 4C/3C charging pumps, respectively. As previously mentioned, the team determined that the 3C charging pump would be available to provide RCS makeup flow for fires in FZ 63 and FZ 70. For fires in FZ 61 and FZ 67, the team concluded that operators would most likely recover the 4C charging pump. Furthermore, additional mitigating capability such as auxiliary feedwater, and safety injection would remain free of fire damage in these FZs. Based on this review, the team concluded that this item would not be associated with a finding of high safety significance (Red). The inspectors found that this performance deficiency did not have a cross-cutting aspect, because it does not represent current licensee performance.

Enforcement: 10 CFR 50.48 (b)(1) requires, in part, that all nuclear power plants licensed to operate prior to January 1, 1979, must satisfy the applicable requirements of

10 CFR Part 50, Appendix R, Section III.G. Section III.G.2 states, in part, that where cables or equipment, including associated non-safety circuits that could prevent operation or cause maloperation due to hot shorts, open circuits, or shorts to ground, of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area outside of primary containment, one of three means of ensuring that one of the redundant trains is free of fire damage shall be provided. The three means of protection consist of a configuration of passive barriers or physical separation with detection and/or suppression.

Contrary to the above, on February 13, 2004, the inspectors identified that the licensee failed to protect control circuits and cables that could cause maloperation of valves LCV-3-115B and LCV-4-115B. This condition has existed since at least February 9, 2001, on Unit 3 and since at least May 9, 2001, on Unit 4, when the applicable procedure pages were last revised. The licensee initiated CR 2004-0683 to address this issue and the corrections were implemented on February 24, 2004.

Because the licensee committed, prior to December 31, 2005, to adopt NFPA 805 and change their fire protection licensing bases to comply with 10 CFR 50.48(c), the NRC is exercising enforcement and reactor oversight process (ROP) discretion for this issue in accordance with the NRC Enforcement Policy, "Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)." Specifically, it was likely this issue would have been identified and addressed during the licensee's transition to NFPA 805, it was entered into the licensee's corrective action program and immediate corrective action and compensatory measures were taken, was not likely to have been previously identified by routine licensee efforts, was not willful, and was not associated with a finding of high safety significance (Red).

The unresolved item is now closed.

- .2 (Closed) Apparent Violation (AV) 05000250, 251/2005010-01, Unprotected Post-Fire Safe Shutdown Cables and Related Non-Feasible Local Manual Operator Actions. As discussed in NRC inspection report number 05000250, 251/2005013, the NRC concluded that no enforcement action was required for the above noncompliance pursuant to the Commission's Enforcement Policy and NRC Manual Chapter 0305, which states that under certain conditions, fire protection noncompliances at nuclear power plants that transition their licensing bases to 10 CFR 50.48(c) are eligible for enforcement and ROP discretion. The inspectors have verified that the licensee's compensatory measures are still in place. Furthermore, the NRC approved the licensee's extension request for enforcement discretion in a letter dated November 14, 2008 (ML083180165). In this letter the NRC stated that, "The NRC staff reviewed FPL's request, and has determined that the licensee has made substantial enough progress in their transition to NFPA 805 to grant the additional enforcement discretion." Therefore, AV 05000250, 251/2005010-01 is closed.

#### 4OA6 Meetings, Including Exit

On February 12, 2010, the inspection team leader presented the preliminary inspection results to Mr. M. Kiley, Site Vice President, and other members of the licensee's staff. The licensee acknowledged the results. The licensee also confirmed that proprietary information was not provided or examined during the inspection.

## SUPPLEMENTAL INFORMATION

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

#### Closed

05000250, 251/2004007-05	URI	Failure to Prevent Spurious Operation of Charging Pump Suction from RWST Valves LCV-3-115B and LCV-4-115B (Section 4OA5.1)
05000250, 251/2005010-01	AV	Unprotected Post-Fire Safe Shutdown Cables and Related Non-Feasible Local Manual Operator Actions (Section 4OA5.2)

### KEY POINTS OF CONTACT

#### Licensee personnel

M. Caselli	Engineering Programs Manager
R. Coffey	Maintenance Manager
N. Constance	Training Manager
A. Dunstan	Fire Protection Engineer
D. Farley	Work Control
R. Flynn	Operations Shift Manager/Support
M. George	Fire Protection System Engineer
O. Hanek	Licensing Engineer
M. Jones	Assistant Operations Manager – Work Controls
M. Kiley	Site Vice President
C. Mancha	Fire Protection
V. Rubano	Engineering Fire Protection Chief Engineer
P. Rubin	Plant General Manager
B. Thaker	Appendix R Engineer
B. Tomonto	Licensing Manager

#### NRC personnel

M. Barilias, Resident Inspector, Turkey Point Plant  
R. Nease, Chief, Engineering Branch 2, Division of Reactor Safety, Region II  
J. Stewart, Senior Resident Inspector, Turkey Point Plant

**LIST OF FIRE BARRIER FEATURES INSPECTED**  
**(Refer Report Section 1RO5.02- Passive Fire Barriers)**

**Fire Door Identification**

Fire Door D-025-2, Unit 4 B DC Equipment Room, EL 30'-0"  
Fire Door D-097-1, Unit 4 B DC Equipment Room, EL 30'-0"  
Fire Door D-098-1, Unit 4 B DC Equipment Room, EL 30'-0"  
Fire Door D-132-2, Units 3 and 4 Cable Spreading Room, EL 30'-0"  
Fire Door D-098-2, Units 3 and 4 Cable Spreading Room, EL 30'-0"

**Fire Damper Identification**

Damper FD-74A, Unit 4 A Battery Room, EL 42'-0"  
Damper FD-75A, Unit 3 B Battery Room, EL 42'-0"  
Damper FD-77A, Unit 4 B DC Equipment Room, EL 30'-0"  
Damper FD-78A, Unit 3 A Battery Room, EL 30'-0"  
Damper FD-81A, Unit 4 B DC Equipment Room, EL 30'-0"

**Fire Barrier Penetration Seal Identification**

Penetration Seal Number 095F-E004, 4160V Switchgear 3A Room, EL 18'-0"  
Penetration Seal Number 095F-E007, 4160V Switchgear 3A Room, EL 18'-0"  
Penetration Seal Number 096F-E009, 4160V Switchgear 3A Room, EL 18'-0"  
Penetration Seal Number 098E-E021, Unit 4 B DC Equipment Room, EL 30'-0"  
Penetration Seal Number 101N-E013, Unit 4 B DC Equipment Room, EL 30'-0"

**Thermo-Lag Electrical Raceway Fire Barriers (ERFB) Identification**

B-3A-058-4" 3-Hour Thermo-Lag 770-1 ERFB, 4160V Switchgear 3A Room, EL 18'-0"  
B-3A-064-4" 3-Hour Thermo-Lag 770-1 ERFB, 4160V Switchgear 3A Room, EL 18'-0"  
A-4F-1360-2" 3-Hour Thermo-Lag 770-1 ERFB, Unit 4 B DC Equipment Room, EL 30'-0"

**LIST OF COMPONENTS REVIEWED**  
**(Refer to Report Section 1R05.01 / 1R05.05 / 1R05.06 – Circuit Analyses)**

Valves

MOV-3-1403, AFW Turbine Steam Supply Valve  
MOV-3-1404, AFW Turbine Steam Supply Valve  
MOV-3-1405, AFW Turbine Steam Supply Valve  
LCV-3-115B, RWST Supply to Charging  
LCV-3-115C, VCT Supply to Charging

Pump Motors

3P201B, Charging Pump 3B  
4P201A, Charging Pump 4A  
3P211A, Component Cooling Water Pump 3A  
3P211B, Component Cooling Water Pump 3B  
3P211C, Component Cooling Water Pump 3C  
3P203A, Boric Acid Transfer Pump 3A

Process Instruments

FI-3-122A, Charging Pump Flow  
FI-3-1467, CCW Flow, Normal Containment Coolers (Remote-Pneumatic)

Pressurizer Heaters

Heaters: 3B11, 3B12, 3B13

## LIST OF DOCUMENTS REVIEWED

### Procedures

0-ADM-016, Fire Protection Program, dated 8/27/09  
0-ADM-016.1, Transient Combustible and Flammable Substances Program, dated 11/17/05  
0-ADM-016.2, Fire Brigade Program, dated 1/31/08  
0-ADM-016.3, Fire Protection Impairments, dated 11/9/09  
0-ADM-016.4, Fire Watch Program, dated 4/18/08  
0-ADM-016.5, Hot Work Program, dated 6/4/09  
0-ADM-200, Conduct of Operations, Rev. 2  
0-ONOP-016.8, Response to a Fire/Smoke Detection System Alarm, dated 03/18/08  
0-ONOP-016.10, Pre-Fire Plan Guidelines and Safe Shutdown Manual Actions, dated 10/23/09  
0-ONOP-016.10, Pre-Fire Plan, Fire Zone 63 (FA T/FZ 63), dated 02/24/04  
0-ONOP-016.10, Pre-Fire Plan, Fire Zone 67 (FA U/FZ 67), dated 02/24/04  
0-ONOP-016.10, Pre-Fire Plan, Fire Zone 71 (FA X/FZ 71), dated 02/09/01  
0-ONOP-016.10, Pre-Fire Plan, Fire Zone 98 (FA HH/FZ 98), dated 11/02/00  
0-ONOP-016.10, Pre-Fire Plan, Fire Zone 101 (FA II/FZ 101), dated 05/21/08  
0-ONOP-016.10, Pre-Fire Plan, Fire Zone 132 (FA HH/FZ 132), dated 11/02/00  
0-ONOP-105, Control Room Evacuation, dated 10/30/08  
0-OSP-200.5, Miscellaneous Tests, Checks and Operating Evolutions, dated 07/01/09  
0-SME-104.1, Self Contained, Battery Powered, ELU Quarterly Performance Test, dated 07/28/09  
0-SME-104.2, Self Contained, Battery Powered, ELU Performance Test, dated 05/12/08  
3-ONOP-041.1, Reactor Coolant Pump Off-Normal, dated 11/27/07

### Calculations, Analyses and Evaluations

5610-M-722, Appendix R Safe Shutdown Analysis, Rev. 31  
5610-M-723, Appendix R Essential Equipment List, Rev. 24  
Manual Action Timelines and Feasibility Evaluation, Rev. 0  
FPL-FPER-89-001, Rev. 4, Fire Protection Evaluation for Minor Modifications and Attachments to Fire Doors  
PTN-FPER-97-023, Rev. 0, Thermo-Lag Fire Barrier System Upgrades in the 4160 Volt Switchgear Room 3A  
PTN-FPER-99-005, Rev. 13, Penetration Seal Evaluations  
PTN-FPER-07-010, Rev. 0, Code Compliance Evaluation, NFPA 10 – Portable Fire Extinguishers  
PTN-FPER-07-012A, Rev. 0, Code Compliance Evaluation, NFPA 12A – Halon 1301 Fire Extinguishing Systems  
PTN-FPER-07-13A, Rev. 0, Code Compliance Evaluation, NFPA 13 – Installation of Sprinkler Systems, Charging Pump Rooms, Component Cooling Water Pumps, North- South Breezeway, and Unit 3 EDG Building  
PTN-FPER-07-13C, Rev. 0, Code Compliance Evaluation, NFPA 13 – Installation of Sprinkler Systems, Code Compliance Evaluation, NFPA 13 – Standard for the Installation of Sprinkler Systems, 4A/4B EDG Building  
PTN-FPER-07-13D, Rev. 0, Code Compliance Evaluation, NFPA 13 – Standard for the Installation of Sprinkler Systems, Turbine Building  
PTN-FPER-07-14, Rev. 0, Code Compliance Evaluation, NFPA 14 – Stand and Hose Systems  
PTN-FPER-07-15A, Rev. 0, Code Compliance Evaluation, NFPA 15, Standard for Water Spray

Fixed Systems for Fire Protection, All Areas Except C-Bus Transformers  
 PTN-FPER-07-15B, Rev. 1, Code Compliance Evaluation, NFPA 15, Standard for Water Spray  
 Fixed Systems for Fire Protection, C-Bus Transformers  
 PTN-FPER-07-20A, Rev. 1, Code Compliance Evaluation, NFPA 20 – Standard for the  
 Installation of Centrifugal Fire Pumps  
 PTN-FPER-07-24, Rev. 0, Code Compliance Evaluation, NFPA 24, Outside Protection  
 PTN-FPER-07-30, Rev. 0, Code Compliance Evaluation, NFPA 30, Flammable and  
 Combustible Liquids Code  
 PTN-FPER-07-072D, Rev. 1, Code Compliance Evaluation, NFPA 72D – Proprietary Protective  
 Signaling Systems  
 PTN-FPER-07-072E, Rev. 1, Code Compliance Evaluation, NFPA 72E – Automatic Fire  
 Detectors, Plant Areas Except 4A/4B Generator Building  
 PTN-FPER-07-072E2, Rev. 0, Code Compliance Evaluation, NFPA 72E – Automatic Fire  
 Detectors, 4A/4B Generator Building  
 PTN-FPER-07-080, Rev. 0, Code Compliance Evaluation, NFPA 80, Fire Doors and Windows  
 PTN-FPER-07-090A, Rev. 0, Code Compliance Evaluation, NFPA 90A, Standard on Air  
 Conditioning and Ventilating Systems [Fire Dampers]  
 PTN-FPER-08-009, Rev. 0, Exclusion Boundaries as Alternative Compensatory Measures  
 PTN-FPER-08-012, Rev. 0, Application of RIS 2005-07 Guidance to Use of Cameras for  
 Detection  
 M08-265-17, Rev. 0, Fire Suppression Systems – Fire Water Delivery Verification and Halon  
 Design Assumptions  
 JPN-PTN-SEMJ-89-057, Rev. 0, Safety Evaluation for Modifications to Fire Doors  
 Cable Spreading Room Halon Analysis, dated 11/12/07  
 PTN-ENG-SENJ-06-039, Rev. 0, Resolution of Interim Compensatory Measure B.5.b, Phase 2  
 PTN-ENG-SENJ-07-001, Rev. 2, Resolution of Interim Compensatory Measure B.5.b, Phase 3  
 PTN-ENG-SEMS-97-096, Rev. 1, Safety Evaluation for Fire Rated Penetration Seals

### **Drawings**

5610-A-60, Sheet 1, Floor Plan at EL. 10'-0" Showing Fire Walls, Doors, Dampers &  
 Fireproofing, Rev. 14  
 5610-A-61, Sheet 1, Floor Plan at EL. 18'-0" Showing Fire Walls, Doors, Dampers &  
 Fireproofing, Rev. 19  
 5610-A-61, Floor Plan at EL. 18'-0" Showing Detection, Suppression, and Lightning, Sheet 2,  
 Rev.14  
 5610-A-62, Sheet 1, Floor Plan at EL. 30'-0" Showing Fire Walls, Doors, Dampers &  
 Fireproofing, Rev. 9,  
 5610-A-62, Floor Plan at EL. 30'-0" Showing Detection, Suppression, and Lightning, Sheet 2,  
 Rev.7  
 5610-A-62, Emergency Lighting Tabulation E, Sh. 3, Rev. 22  
 5610-A-63, Sheet 1, Floor Plan at EL. 42'-0" Showing Fire Walls, Doors, Dampers &  
 Fireproofing, Rev. 12  
 5610-A-178, Sheet 2F, Detail E-1 Silicone Elastomer Typical Electrical Pen. Seals (Walls &  
 Floors), Rev. 2  
 5610-A-178, Sheet 174, Fire Barriers and Penetrations, Zone 093-F, Rev. 10  
 5610-A-178, Sheet 183, Fire Barriers and Penetrations, Zone 095-F, Rev. 7  
 5610-A-178, Sheet 188, Fire Barriers and Penetrations, Zone 096-F, Rev. 7  
 5610-A-178, Sheet 196-1, Fire Barriers and Penetrations, Zone 098-E, Rev. 19  
 5610-A-178, Sheet 200, Rev. 18, Fire Barriers and Penetrations, Zone 101-N  
 5610-E-249, Communication Diagram, Rev.8

5610-E-2000, Appendix R Essential Cable List, Rev. 40  
 5610-M-430-204, Charging Pump Pressure Discharge Flow & CVCS Hand Controls, Rev. 3  
 5610-M-732, Detector, Piping & Pipe Support Location Plan, Halon Suppression System, Fire Zone 098, 108A, 108B & 132, Rev. 2  
 5610-M-3016, Sheet 3, Fire Protection System, Units 1 thru 4, Fire Pumps, Rev. 20  
 5610-M-3016, Sheet 4, Fire Protection System, Units 1 thru 4, Fire Main Header Loops, Rev. 12  
 5610-M-3016, Sheet 5, Fire Protection System, Units 3 & 4, Turbine Plant Area Loop, Rev. 26  
 5610-M-3016, Sheet 6, Fire Protection System, South Site Area, Rev. 13  
 5610-M-3016, Sheet 9, Fire Protection System, Halon Suppression System, Rev. 3  
 5610-T-E-1591, Sheet 1, Operating Diagram Electrical Distribution, Rev. 60  
 5610-T-E-1592, Sheet 1, 125 D.C. and 120 VAC Instrument Electrical Distribution, Rev. 44  
 5613-E-25, Sheet 7A, Reactor Auxiliaries Pressurizer (PZR) Heater (HTR) Backup Group 3A Breaker (BKR) 30307, Rev. 5  
 5613-E-25, Sheet 7A1, Reactor Auxiliaries PZR HTR Backup Group 3A BKR 30307, Rev. 1  
 5613-E-25, Sheet 8A, Reactor Auxiliaries PZR HTR Backup Group 3A BKR 30107, Rev. 4  
 5613-E-25, Sheet 8A1, Reactor Auxiliaries PZR HTR Backup Group 3A BKR 30107, Rev. 2  
 5613-E-25, Sheet 8B, Reactor Auxiliaries PZR HTR Backup Group 3B BKR 30408, Rev. 3  
 5613-E-25, Sheet 8B1, Reactor Auxiliaries PZR HTR Backup Group 3B BKR 30408, Rev. 1  
 5613-E-26, Sheet 12F, Feed & Condensate Auxiliary Feedwater Pump (AFWP) Steam Supply D.C. MOV-3-1403, Rev. 8  
 5613-E-26, Sheet 12F1, Feed & Condensate AFWP Steam Supply D.C. MOV-3-1403, Rev. 3  
 5613-E-26, Sheet 12A, Feed & Condensate AFWP Steam Supply D.C. MOV-3-1404, Rev. 9  
 5613-E-26, Sheet 12G, Feed & Condensate AFWP Steam Supply D.C. MOV-3-1405, Rev. 6  
 5613-E-26, Sheet 12G1, Feed & Condensate AFWP Steam Supply D.C. MOV-3-1405, Rev. 3  
 5613-E-25, Sheet 99B, Reactor Auxiliaries Miscellaneous Power Feeds for Alternate Shutdown, Rev. 3  
 5613-M-3019, Component Cooling Water (CCW), Figure 1, 03/28/06  
 5613-M-3019, Intake Cooling Water Pumps (ICW), Figure 1, 02/09/06  
 5613-M-3019, Unit 3 ICW to CCW Heat Exchangers, Figure 2, 02/09/06  
 5613-M-3019, Unit 3 ICW to Turbine Plant Cooling Water Heat Exchangers, Figure 1, 02/09/06  
 5613-M-3019, Chemical and Volume Control System (CVCS) Charging and Letdown, Figure 1, 06/29/05  
 5613-M-3019, CVCS Makeup Control, Figure 2, 06/21/04  
 5613-M-3019, Volume Control Tank, Figure 8, 02/08/99  
 5613-M-3019, Safeguards Systems, Normal Standby Lineup, Figure 1, 03/21/08  
 5613-M-3019, Safeguards Systems, Recirculation Phase Hot Leg, Figure 6, 03/21/08  
 5613-M-3019, Safeguards Systems, Recirculation Phase Hot Leg, Figure 6A, 03/21/08  
 5613-M-3019, Safeguards Systems, Recirculation Phase Cold Leg, Figure 5, 03/21/08  
 5613-M-3019, Safeguards Systems, Recirculation Phase Cold Leg, Figure 5A, 03/21/08  
 5613-M-3019, Safeguards Systems, Recirculation Phase Cold Leg, Figure 5B, 03/21/08  
 5613-M-3019, Safeguards Systems, Injection Phase, Figure 4, 03/21/08  
 5613-M-3019, Safeguards Systems, Residual Heat Removal Normal Lineup for Low Head Safety Injection, Figure 12, 03/21/08  
 5613-M-3019, AFW Steam Supply & Feedwater Discharge Piping, Figure 1, 05/28/91  
 5613-M-3019, AFW Pump Turbine Steam Supply, Figure 5, 08/30/99  
 5613-M-3019, Main Steam Systems Simplified Drawing, Figure 2A, 06/30/99  
 5613-M-3019, Main Steam Loads, Figure 2, 06/30/99  
 5613-M-3019, Main Steam Supply, Figure 1, 07/05/95  
 5613-M-3019, Extraction Steam, Figure 3, 03/09/98  
 5613-M-3019, CCW, Figure 2, 06/30/99



5613-M-3019, Reactor Coolant System, Figure 2, 08/04/99  
 5613-M-3019, PZR & Relief Valve General Arrangement, Figure 4, 01/03/07  
 5613-M-3047, Sheet 2, CVCS Charging and Letdown, Rev. 49  
 5613-M3072, Sheet 1, Main Steam System, Rev. 33

### **Plant Modifications and Engineering Changes**

Plant Change & Modification (PC/M) 83-146, Change Request No. 4, Penetration Seals for Appendix R Modifications, Change Request 1, 2 & 3, dated 10/24/85  
 PC/M 95-126, Att. 15, Engineering Assessment of Fire Area X-71 for 10 CFR 50, Appendix R Concerns, Rev. 1  
 PC/M 95-126, Att. 19, Engineering Assessment of Fire Area HH-98 for 10 CFR 50, Appendix R Concerns, Rev. 1  
 PC/M 95-126, Att. 20, Engineering Assessment of Fire Area II-101 for 10 CFR 50, Appendix R Concerns, Rev. 0  
 PC/M 07-024, Modifications to Water Supplies for Beyond Design Basis Conditions (B.5.b)  
 PC/M 07-025, Modifications to Water Supplies for Beyond Design Basis Conditions (B.5.b)  
 PC/M 07-065, Change Request M 13007, Revise Section A-A Detail on Drawing 5610-A-178, Sheet 174  
 PC/M 08-071, Change Request M 12521, Change to Incorporate Vendor Data into Plant Documents  
 PC/M 10-007, Change Request M 13034, Update V000895 Tab 1 (AA2445) Per the Continuation Pages Hereto to Reflect Performance Capability with Extended Dry Operation

### **Completed Surveillance Procedures, Test Records, & Work Orders**

0-SFP-016.1, Fire Barrier Penetration Seal Inspection, dated 6/1/09  
 0-SFP-016.2a, Electrical Raceway Inspection, dated 5/19/08  
 0-SFP-016.2e, Electrical Raceway Inspection, dated 10/29/07  
 0-SME-104.1, Self Contained, Battery Powered, Emergency Lighting Quarterly Performance Test, completed: 12/03/09, 10/19/09, 10/12/09  
 0-SME-104.2, Self Contained, Battery Powered, Emergency Lighting Performance Test, completed: 08/05/08, 12/29/08, 02/18/09, 12/19/09  
 3-OSP-300.1, Alternate Shutdown Panel 3C264 Operability Test, completed: 09/04/07, 03/17/09, 11/26/07, 04/03/09, 04/01/09, 11/03/07, 07/10/09, 03/28/09, 03/17/09, 09/10/07, 11/30/09, 12/01/09, 12/28/09  
 3-OSP-300.2, Pre-Staging Equipment and Alternate Shutdown Panel 3C264 Switch and Instrumentation Alignment Check, Rev. 03/31/09, Performed 01/24/10  
 3-OSP-300.2, Pre-Staging Equipment and Alternate Shutdown Panel 3C264 Switch and Instrumentation Alignment Check, Rev. 03/31/09, Performed 12/27/09  
 3-OSP-300.4, Dedicated Alternate Shutdown Communications System Operability Test, completed: 11/27/09, 06/24/07  
 4-OSP-300.2, Pre-Staging Equipment and Alternate Shutdown Panel 4C264 Switch and Instrumentation Alignment Check, Rev. 05/05/08, completed 01/02/10  
 4-OSP-300.2, Pre-Staging Equipment and Alternate Shutdown Panel 4C264 Switch and Instrumentation Alignment Check, Rev. 05/05/08, completed 01/31/10  
 Work Order 36024065, Task 01, 0-SME-016.4, dated 10/31/06, Fire Damper Inspection, completed 12/14/07  
 Work Order 39007168, Task 01, 0-SMM-016.6, dated 7/24/08, Fire Door Inspection, completed 11/30/09

### **Applicable Codes, Specifications, & Standards**

NFPA 10, Portable Fire Extinguishers, 1975 Edition  
 NFPA 12A, Halon 1301 Fire Extinguishing Systems, 1980 Edition  
 NFPA 13, Standard for the Installation of Sprinkler Systems, 1983 Edition  
 NFPA 13, Standard for the Installation of Sprinkler Systems, 1987 Edition  
 NFPA 13, Standard for the Installation of Sprinkler Systems, 1996 Edition  
 NFPA 14, Standard for the Installation of Standpipe and Hose Systems, 1974 Edition  
 NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection, 1969 Edition  
 NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection, 1982 Edition  
 NFPA 20, Standard for the Installation of Centrifugal Fire Pumps, 1978 Edition  
 NFPA 24, Outside Protection, 1973 Edition  
 NFPA 30, Flammable and Combustible Liquids Code, 1976 Edition  
 NFPA 72D – Proprietary Protective Signaling Systems, 1979 Edition  
 NFPA 72E – Automatic Fire Detectors, 1978 Edition  
 NFPA 72E – Automatic Fire Detectors, 1984 Edition  
 NFPA 80, Standard on Fire Doors and Windows, 1983 Edition  
 NFPA 90A, Standard on Air Conditioning and Ventilating Equipment, 1981 Edition  
 NUREG-1552, Supplement 1, Fire Barrier Penetration Seals in Nuclear Power Plants, dated January 1999  
 Specification No. 5177-265-A-150, Rev. 2, Technical Specification for Design, Technical Services, and Furnishing of Elastomer Penetration Seals and Blockout Closures for Fire Protection for the Florida Power & Light Company TPN Units 3 & 4, dated 6/6/85

### **Technical Manuals & Vendor Information**

Vendor Manual V000867, Emergency Lighting System  
 Vendor Technical Manual AA30, Ruskin Manufacturing Company Instruction for Installation, Operation, Maintenance & Storage for Fire Dampers

### **Audits & Self-Assessments**

FPL Nuclear Division Self-Assessment Report No. 2010-328-01, January 2010  
 Quality Assurance Audit PTN-07-07, "Fire Protection Functional Area Audit, November 15, 2007 through March 7, 2008 issued by Inter-Office Correspondence dated March 18, 2008.

### **License Basis Documents**

TPN Units 3 & 4 UFSAR, Appendix 9.6A, "Fire Protection Program Report," Rev. 8, dated 7/90  
 NRC Fire Protection SER, dated 3/21/1979  
 Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior To January 1, 1979  
 Commitments to Appendix A of BTP APCS 9.5-1  
 TPN Units 3 and 4 Renewed Operating License Condition 3.D, "Fire Protection"  
 TPN Units 3 and 4 Renewed Operating License Condition 3.G, "Mitigation Strategy License Condition"

### **Other Documents**

Job Performance Measure (JPM) 01200011301/SEQ142B, dated 05/31/06  
 JPM 02200004300/SEQ140A, dated 11/01/05

JPM 04 016 029 300, dated 2/10/09  
JPM 04 016 030 300, dated 2/10/09  
Lesson Package No. 3200305, dated 9/18/07  
Lesson Package No. 6902252LOC092, dated 05/27/09  
Shift Staffing Reports for 07/04/09; 08/01/09; and 12/31/09

**LIST OF CONDITION REPORTS (CRS) REVIEWED DURING INSPECTION**

2001-0326-2	2004-0683
2007-3965	2007-6630
2007-10893	2007-18517
2007-28349	2008-13201
2008-15964	2008-32785
2009-14545	2009-23720
2009-33694	2009-34859
2009-35766	

**LIST OF CRS GENERATED AS A RESULT OF THIS INSPECTION**

2010-551	2010-1933
2010-2023	2010-2024
2010-2025	2010-2837
2010-3031	2010-3373
2010-3525	2010-3539

## LIST OF ACRONYMS AND ABBREVIATIONS

AFW	Auxiliary Feedwater
APCSB	Auxiliary and Power Conversion Systems Branch
ASP	Alternate Shutdown Panel
BKR	Breaker
BTP	Branch Technical Position
CAP	Corrective Action Program
CCW	Component Cooling Water System
CFR	Code of Federal Regulations
CR	Condition Report
DC	Direct Current
ELU	Emergency Lighting Unit
EOP	Emergency Operating Procedure
ERFBS	Electrical Raceway Fire Barrier System
FA	Fire Area
FPP	Fire Protection Program
FZ	Fire Zone
HTR	Heater
IR	Inspection Report
IP	NRC Inspection Procedure
JPM	Job Performance Measure
LCV	Level Control Valve
MCR	Main Control Room
NFPA	National Fire Protection Association
NRC	United States Nuclear Regulatory Commission
NUREG	An explanatory document published by the NRC
OMA	Operator Manual Action
ONOP	Off-Normal Operating Procedures
PC/M	Plant Change and Modification
P&IDs	Piping and Instrumentation Diagrams
PM	Preventive Maintenance
PZR	Pressurizer
RCS	Reactor Coolant System
Rev	Revision
ROP	Reactor Oversight Process
RWST	Refueling Water Storage Tank
SCBA	Self-Contained Breathing Apparatus
SER	Safety Evaluation Report
SDP	Significance Determination Process
SSA	Appendix R Safe Shutdown Analysis
SSD	Safe Shutdown
TFPI	Triennial Fire Protection Inspection
TPN	Turkey Point Nuclear Plant
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VAC	Volts Alternating Current
VDC	Volts Direct Current