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

May 3, 2016

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
NextEra Energy
P.O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: TURKEY POINT NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000250/2016001, 05000251/2016001, AND 05000250/2016501, 05000251/2016501

Dear Mr. Nazar:

On March 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Plant Units 3 and 4. On April 14, 2016, the NRC inspectors discussed the results of the inspection with Mr. Summers and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one self-revealing finding of very low safety significance (Green) in this report. The finding did not involve a violation of NRC requirements.

If you contest the violations or significance of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at Turkey Point Nuclear Generating Station Units 3 and 4.

If you disagree with a cross-cutting aspect assignment, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC resident inspector at the Turkey Point Nuclear Generating Station Units 3 and 4.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," 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's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agency wide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

***/RA/***

LaDonna B. Suggs, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosure:
IR 05000250/2016001, 05000251/2016001,
and 05000250/2016501, 05000251/2016501
w/Attachment: Supplemental Information

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Letter to Mano Nazar from LaDonna B. Suggs dated May 3, 2016

SUBJECT: TURKEY POINT NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000250/2016001, 05000251/2016001, AND 05000250/2016501, 05000251/2016501

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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: | 05000250/2016001, 05000251/2016001 |
| Licensee: | Florida Power & Light Company (FP&L) |
| Facility: | Turkey Point Plant, Units 3 & 4 |
| Location: | 9760 S. W. 344th Street<br>Homestead, FL 33035 |
| Dates: | January 1 to March 31, 2016 |
| Inspectors: | T. Hoeg, Senior Resident Inspector<br>M. Endress, Resident Inspector<br>J. Patel, Resident Inspector<br>D. Mas-Peñaranda, Senior Project Engineer<br>S. Sanchez, Senior Emergency Preparedness Inspector<br>C. Fontana, Emergency Preparedness Inspector<br>J. Hickman, Emergency Preparedness Inspector (trainee) |
| Approved by: | LaDonna B. Suggs, Chief<br>Reactor Projects Branch 3<br>Division of Reactor Projects |

Enclosure

## SUMMARY

IR 05000250/2016001, 05000251/2016001; 01/01/2016 – 3/31/2016; Turkey Point Nuclear Plant, Units 3 & 4; Event Follow-up.

The report covered a three-month period of inspection by the resident inspectors and specialist inspectors from the Region II office. One Green finding was identified. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP) dated April 29, 2015. The cross-cutting aspects were determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements were dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green: A self-revealing finding was identified for the licensee's failure to provide complete instructions in Maintenance Support Package (MSP) 06-053 for the Isophase Bus Enclosure Collar replacement modification in the Turkey Point switchyard. Specifically, the control power circuitry termination points in the 8W43 switchyard breaker were not identified and documented in the associated MSP for removal as required by procedure QI 3-PTN-1, Design Control. As a result, a direct current (DC) ground was introduced to the back-up protection relay by a 'b' contact when the 8W43 breaker was opened during a planned bus switching sequence. The DC ground on the back-up protection circuitry actuated the protection relay and caused both the supply breakers for the Unit 3 startup transformer (SUT) to open resulting in a loss of off-site power (LOOP) for Unit 3. The licensee entered this performance deficiency in their corrective action program (CAP) as action request (AR) 02092653.

  The performance deficiency was more than minor because it was associated with the procedure quality attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. Specifically, the failure to apply procedure QI 3-PTN-1 in its entirety allowed for a DC ground to be introduced to the DC back-up protection relay circuit resulting in a LOOP. Because this finding caused a LOOP and a resultant loss of residual heat removal (RHR), a detailed risk evaluation was required per IMC-0609, Appendix G, "Shutdown Operations Significance Determination Process." A Senior Reactor Analyst assessed the risk significance and concluded it was of very low safety significance (Green). The risk of the event was mitigated by the multiple means that the licensee had available to them to either: 1) restore electrical power to the safety related buses, or; 2) establish alternate means of heat removal either via the steam generators or

via primary “feed and bleed.” The inspectors did not identify a cross-cutting aspect associated with this finding because it was not indicative of current performance since the modification package was implemented greater than three years ago. (Section 4OA3)

Licensee Identified Violations

None

## REPORT DETAILS

Summary of Plant Status

Unit 3 began this inspection period at 100 percent of Rated Thermal Power (RTP) where it remained throughout the inspection period.

Unit 4 began this inspection period at 100 percent of RTP where it remained until March 28, 2016, when it was shut down for a planned refueling outage (RFO).

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (IP 71111.04)

.1 Partial Equipment Walk downs (Quarterly)

a. Inspection Scope

The inspectors conducted three partial alignment verifications of the safety-related systems listed below. These inspections included reviews using plant lineup procedures, operating procedures, and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions of the 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 or barriers by entering them into the CAP. Documents reviewed are listed in the Attachment.

- 4B Emergency Diesel Generator (EDG) while 4A EDG was Out of Service (OOS)
- 3A and 3C Emergency Containment Coolers (ECC) while the 3B was OOS
- 3B EDG while 3A EDG was OOS

b. Findings

No findings were identified.

1R05 Fire Protection (IP 71111.05AQ)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors toured the following five plant areas to evaluate conditions related to control of transient combustibles, ignition sources, 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 (CR) 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 3 and Common Computer Room Fire Zone 062
- Unit 3A EDG Fuel Oil Day Tank Room Fire Zone 075
- 4B EDG Control Room Fire Zone 135
- Unit 4 Charging Pump Room Zone 045
- Unit 4 High Head Safety Injection Pump Room Fire Zone 052

b. Findings

No findings were identified.

1R06 Flood Protection Measures (IP 71111.06)

a. Inspection Scope

.1 Internal Flooding

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 Turkey Point Updated Final Safety Analysis Report (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 and included structural integrity, sealing of penetrations, sump pump configurations, and control of debris. Operability of sump systems, including alarms were verified to be in working order.

- Unit 3 and 4 Switchgear Rooms

.2 Underground Cables

The inspectors performed a review of underground cable manhole inspection documentation including checking for accumulated water and cable inspections in accordance with maintenance work order (WO) 40332596. The following areas were verified inspected by the licensee and associated records reviewed:

- Manhole 310, 410

b. Findings

No findings were identified.

1R07 Heat Sink Performance (IP 71111.07)

a. Inspection Scope

The inspectors selected the Unit 3 component cooling water (CCW) heat exchangers to verify that the licensee was performing non-routine maintenance and performance test inspections in accordance with required surveillance procedures. The inspectors observed portions of the heat exchanger surveillance data collection and reviewed the applicable data sheets for completeness. The inspectors reviewed completed licensee procedure 3-OSP-030.4, "Component Cooling Water Heat Exchanger Performance Test," to ensure the heat exchanger was tested satisfactorily with no deficiencies. The inspectors walked down portions of the Unit 3 CCW cooling system for integrity checks and to assess operational lineup and material condition of the heat exchangers, pumps, motors, and associated valves and piping.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (IP 71111.11)

a. Inspection Scope

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification

The inspectors performed the following inspection sample of a simulator observation and assessed licensed operator performance while training. These observations included procedural use and adherence, response to alarms, communications, command and control, and the coordination and control of the reactor plant operations.

On March 7, 2016, the inspectors assessed licensed operator performance in the plant specific simulator during a licensed operator continuing training scenario. The training scenario was started with Unit 3 at full power and steady state conditions. The scenario was a steam generator tube rupture (SGTR) followed by a LOOP. Emergency procedures used by the crew to safely mitigate the events included 3-EOP-E-0, "Reactor Trip," 3-EOP-ES-0.1, "Reactor Trip Response," 3-ONOP-046.1, "Emergency Boration," and 3-EOP-FR-H.1, "Loss of Secondary Heat Sink." The inspectors specifically checked that the simulated emergency classification of Site Area Emergency (SAE) 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
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by shift supervisor, including ability to identify and implement appropriate Technical Specifications (TS) actions
- 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 Resident Inspector Quarterly Review of Licensed Operator Performance in the Actual Plant/Main Control Room

a. Inspection Scope

The inspectors observed the following two focused control room observations and assessed licensed operator performance in the plant and control room during periods of heightened activity or risk and where the activities could affect overall plant safety. These observations routinely included surveillance testing, response to alarms, communications, and coordination of activities. These observations were conducted to verify operator compliance with station operating protocols as described in licensee procedure OP-AA-100-100, "Conduct of Operations." 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 procedure place keeping and narrative logs
- Supervision of activities, including risk and reactivity management

On March 13, 2016, the inspectors did a focused observation on Unit 4 consisting of a reactor coolant system (RCS) primary water dilution per 0-OP-046, Enclosure 6, "Chemical Volume Control System Boron Concentration Control." Specifically, the inspectors observed the reactor operators performing the pre-job brief per 0-ADM-200, Attachment 7, "Planned Reactivity Manipulations for Maintaining Steady State Plant Conditions," and verified the operators complied with the applicable procedure during the evolution.

On January 15, 2016, the inspectors performed a focused observation on Unit 4 during a periodic moderator temperature coefficient (MTC) surveillance test per procedure 4-OSP-040.12, "MTC Testing." Specifically, the inspectors observed the reactor operators performing the pre-job brief and verified the operators complied with the applicable

procedure during the evolution. The inspectors also observed the reactor operators return the plant to a normal line-up and condition per the applicable procedure following the evolution.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (IP 71111.12)

a. Inspection Scope

The inspectors reviewed problems associated with the two ARs listed below. The inspectors reviewed the licensee's activities to meet the requirements of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and licensee procedure ER-AA-100-2002, "Maintenance Rule Program Administration." The inspectors focused on maintenance rule scoping, characterization of maintenance problems and failed components, risk significance, determination of a(1) or a(2) performance criteria classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also interviewed responsible engineers and observed or reviewed corrective maintenance activities. The inspectors verified that problems were being identified and appropriately entered into the licensee CAP. The inspectors used the licensee maintenance rule data base, system health reports, maintenance rule unavailability status reports, and the CAP as sources of information on tracking and resolution of issues.

- AR 02101753, Unit 4 Spent Fuel Pool (SFP) Exhaust Damper Failure
- AR 02113371, 3B CCW Pump Suction Line Test Connection Failure

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (IP 71111.13)

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 (NUMARC) 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 procedure OP-AA-104-1007, "Online Aggregate Risk." The inspectors

discussed the on-line risk monitor (OLRM) results with the control room operators and verified all applicable OOS equipment was included in the OLRM calculation. The inspectors evaluated the following four risk assessments during the inspection period:

- Unit 3 Feedwater System Steam Leak Repair, Unit 3 Channel IV steam pressure instrument OOS
- Auxiliary Feedwater (AFW) Train I, B Steam Generator (SG) Standby Feedwater Pump OOS
- 4A CCW Pump, 4A Intake Cooling Water Pump OOS
- 3B EDG, 3B Charging Pump OOS

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (IP 71111.15)

a. Inspection Scope

.1 Operability and Functionality Review

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 for the five operability evaluations described in the ARs listed below. The inspectors reviewed applicable sections of the UFSAR to determine if 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 affected equipment remained capable of performing its design function. The inspectors also reviewed a sampling of CRs to verify that the licensee was routinely identifying and correcting any deficiencies associated with operability evaluations. The following five ARs were reviewed by the inspectors:

- AR 02099723, Unit 3 AFW Train I and II Flow Controller Misadjusted
- AR 02100672, 4A EDG Lube Oil Pump Relay Failure
- AR 02101841, Unit 3 High Head Safety Injection Piping Gas Void
- AR 02105806, Unit 4 SFP Area Radiation Monitor Failure
- AR 02120548, Unit 4 Rod Control Urgent Failure Alarm

b. Findings

No findings were identified.

1R18 Plant Modifications (IP 71111.18)

a. Inspection Scope

The inspectors reviewed a permanent plant modification technical evaluation for modifying the Unit 3 charging pump relief valves to limit the outlet discharge flow rate. The inspectors reviewed the 10 CFR 50.59 screening and technical evaluation to verify that the modification had not affected system operability or availability. The inspectors reviewed associated plant drawings and UFSAR documents impacted by this modification and discussed the changes with licensee personnel to verify that the installation was consistent with the modification documents. Additionally, the inspectors verified that pressure boundary integrity was not compromised, as well as verified that problems associated with modifications were being identified and entered into the CAP.

- EC 280761, Unit 3 Charging Pump Relief Valve Modification

b. Findings

No findings were identified.

1R19 Post Maintenance Testing (IP 71111.19)

a. Inspection Scope

For the five post maintenance tests and associated WO 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 verified that the requirements in licensee procedure 0-ADM-737, "Post Maintenance Testing," were incorporated into the test requirements. The inspectors reviewed the following WOs consisting of five inspection samples:

- WO 40443378, Unit 4 Leading Edge Feed Flow Meter Maintenance
- WO 40417070, 4A CCW Pump Maintenance
- WO 40147199, 3B ECC Breaker Replacement
- WO 40450545, Control Room Ventilation System Filter Replacement
- WO 40455822, Unit 3 TI-3-463, Power Operated Relief Valve Tail Pipe Temperature Instrument Maintenance

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (IP 71111.20)

.1 Unit 4 Refueling Outage PT4-29 (one sample)

a. Inspection Scope

Outage Planning, Control and Risk Assessment

Unit 4 shutdown for a planned RFO on March 28, 2016. The inspectors reviewed the risk reduction methodology employed by the licensee during RFO PT4-29 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 during PT4-29 in accordance with administrative procedure ADM-051, "Outage Risk Assessment and Control," to verify if 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 personnel during the outage to ensure system, structure, and component configurations, and work scope were consistent with TS requirements, site procedures, and outage risk controls.

Monitoring of Shutdown Activities

The inspectors performed partial walk downs of important systems and components used for RHR from the reactor core during the shutdown period including the intake cooling water system, CCW system, and RHR pumps.

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 operation
- Evaluated implementation of reactivity controls
- Reviewed control of containment penetrations

Reactor Shutdown and Mode Changes

The inspectors reviewed operator narrative logs and plant conditions to determine if Mode changes were performed in accordance with licensee procedure 4-GOP-103, "Mode 1 to Hot Standby Operations."

b. Findings

No findings were identified.

1R22 Surveillance Testing (IP 71111.22)

a. Inspection Scope

The inspectors either reviewed or observed the following seven surveillance tests to verify that the tests met the TS requirements, the UFSAR description, the licensee's procedural requirements, and demonstrated that systems were capable of performing their intended safety functions and operational readiness. In addition, the inspectors evaluated the effect of the testing activities on the plant to ensure that conditions were adequately addressed by the licensee staff and that after completion of the testing activities, equipment was returned to the positions/status required for the system to perform its safety function. The inspectors verified that surveillance issues were documented in the licensee CAP. The inspectors reviewed the following tests:

Surveillance Test:
- 3-OSP-030.1, 3A CCW Pump Test
- 3-OSP-059.13, Unit 3 Reactor Core Flux Mapping
- 4-OSP-059.5, Power Range Nuclear Instrument Shift Check and Daily Calibrations

In-Service Tests:
- 3-OSP-062.2, 3A Safety Injection Pump Comprehensive Pump Test
- 4-OSP-030.4, Unit 4 CCW Heat Exchangers Performance Test
- 4-OSP-047.1, Unit 4 RCS Excess Letdown Heat Exchanger Control Valve Stroke Test

RCS Leak Detection Test:
- 4-OSP-041.1, Unit 4 RCS Leak Rate Calculation

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Evaluation (IP 71114.02)

a. Inspection Scope

The inspectors evaluated the adequacy of the licensee's methods for testing and maintaining the alert and notification system (ANS) in accordance with NRC Inspection Procedure 71114, Attachment 02, "Alert and Notification System Evaluation." The applicable planning standard, 10 CFR Part 50.47(b)(5) and its related 10 CFR Part 50, Appendix E, Section IV.D requirements were used as reference criteria. The criteria contained in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, were also used as a reference.

The inspectors reviewed various documents which are listed in the Attachment, interviewed personnel responsible for system performance, and observed aspects of periodic siren maintenance and testing. This inspection activity satisfied one inspection sample for the ANS on a biennial basis.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (IP 71114.03)

a. Inspection Scope

The inspectors reviewed the licensee's Emergency Response Organization (ERO) augmentation staffing requirements and process for notifying the ERO to ensure the readiness of key staff for responding to an event and timely facility activation. The qualification records of key position ERO personnel were reviewed to ensure all ERO qualifications were current. A sample of problems identified from augmentation drills or system tests performed since the last inspection was reviewed to assess the effectiveness of corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, "Emergency Response Organization Staffing and Augmentation System." The applicable planning standard, 10 CFR 50.47(b)(2), and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspectors reviewed various documents which are listed in the Attachment. This inspection activity satisfied one inspection sample for the ERO staffing and augmentation system on a biennial basis.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (IP 71114.04)

a. Inspection Scope

Since the last NRC inspection of this program area, one change was made to the Radiological Emergency Plan and Emergency Action Levels (EALs), along with changes to several implementing procedures. The licensee determined that, in accordance with 10 CFR 50.54(q), the Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The inspectors reviewed these changes to evaluate for potential reductions in the effectiveness of the Plan. However, this review was not documented in a Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 04, EAL and Emergency Plan Changes. The applicable planning standards of 10 CFR 50.47(b), and its related requirements in 10 CFR 50, Appendix E, were used as reference criteria.

The inspectors reviewed various documents that are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the EAL and emergency plan changes on an annual basis.

b. Findings

No findings were identified.

1EP5 Maintenance of Emergency Preparedness (IP 71114.05)

a. Inspection Scope

The inspectors reviewed the corrective actions identified through the Emergency Preparedness program to determine the significance of the issues, the completeness and effectiveness of corrective actions, and to determine if issues were recurring. The licensee's post-event after action reports, self-assessments, and audits were reviewed to assess the licensee's ability to be self-critical, thus avoiding complacency and degradation of their emergency preparedness program. Inspectors reviewed the licensee's 10 CFR 50.54(q) change process, personnel training, and selected screenings and evaluations to assess adequacy. The inspectors toured facilities and reviewed equipment and facility maintenance records to assess licensee's adequacy in maintaining them. The inspectors evaluated the capabilities of selected radiation monitoring instrumentation to adequately support EAL declarations.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 05, "Maintenance of Emergency Preparedness." The applicable planning standards, related 10 CFR 50, Appendix E requirements, and 10 CFR 50.54(q) and (t) were used as reference criteria.

The inspectors reviewed various documents which are listed in the Attachment. This inspection activity satisfied one inspection sample for the maintenance of emergency preparedness on a biennial basis.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (IP 71114.06)

.1 Emergency Preparedness Drill

a. Inspection Scope

On March 15, 2016, the inspectors observed an emergency preparedness drill and the performance of the licensee's ERO. The drill included a simulated tornado striking within the protected area. The severe weather event within the protected area required an Unusual Event emergency declaration and notification to state and local county officials, and the NRC per licensee procedure 0-EPIP-20101, "Duties of the Emergency Coordinator." The scenario progressed to a SGTR faulted outside of containment resulting in a General Emergency declaration due to the loss the containment barrier. The inspectors observed the crew in the plant simulator, including simulated implementation of emergency procedures. The inspectors observed the ERO staff in the technical support center (TSC) and operations support center (OSC) while they implemented the event classification guidelines and emergency response procedures. The inspectors determined that the emergency classification and notifications were made in accordance with the licensee emergency plan implementing procedure 0-EPIP-20101. The inspectors reviewed the licensee's critique items and discussed inspector observations with the licensee to verify that drill issues were identified and captured in the licensee's CAP.

b. Findings

No findings were identified.

## 4. OTHER ACTIVITIES

### 4OA1 Performance Indicator Verification (IP 71151)

a. Inspection Scope

The inspectors reviewed licensee submittals for the Unit 3 and Unit 4 performance indicators (PI) listed below for the period January 1, 2015, through December 31, 2015, 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, CRs, 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 PI data collection, evaluation, and distribution.

Cornerstone: Initiating Events

- Unit 3 Unplanned Scrams per 7000 Critical Hours
- Unit 4 Unplanned Scrams per 7000 Critical Hours
- Unit 3 Unplanned Scrams With Complications
- Unit 4 Unplanned Scrams With Complications

- Unit 3 Unplanned Power Changes per 7000 Critical Hours
- Unit 4 Unplanned Power Changes per 7000 Critical Hours

The inspectors sampled licensee submittals relative to the PIs listed below for the period January 1, 2015, through September 30, 2015. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, was used to confirm the reporting basis for each data element.

Emergency Preparedness Cornerstone

- Drill/Exercise Performance
- ERO Readiness
- ANS Reliability

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

b. Findings

No findings were identified.

## 4OA2 Problem Identification and Resolution (IP 71152)

### .1 Routine 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 CAP. This review was accomplished by reviewing daily printed summaries of ARs and by reviewing the licensee's electronic AR database. Additionally, RCS unidentified leakage was checked on a daily basis to verify no substantive or unexplained changes. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 Annual Sample: Root Cause Evaluation Associated With an Unplanned Actuation of 3A Safeguards Sequencer and a Loss of Off-Site Power

a. Inspection Scope

The inspectors selected the root cause evaluation (RCE) for AR 02092121, "Actuation of 3A Safeguards Sequencer Results in Unplanned Loss of Off-Site Power to 3A 4kV Bus", for a more in-depth review of the circumstances and the corrective actions that followed. On November 18, 2015, Unit 3 was in Mode 5 during a RFO, when Turkey Point Nuclear Station experienced a LOOP on Unit 3. The LOOP was caused when both supply breakers to the Unit 3 SUT were automatically opened by an unexpected actuation of the breaker failure trip relay protection logic scheme in the Turkey Point switchyard. As a result, both the 3A and 3B EDGs received valid actuation signals. The reactor plant systems responded as designed and the operators stabilized the plant in Mode 5.

The inspectors reviewed the licensee's 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 CR in accordance with their CAP, 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 associated with this RCE. A self-revealing finding of very low safety significance (Green) is documented in section 4OA3 of this report associated with the applicable licensee event report. The licensee's root cause concluded that the event was due to an incomplete modification regarding abandoned equipment in the switchyard that led to a ground being introduced to the protection circuitry. The licensee took immediate corrective actions to lift the leads on the abandoned circuit to remove the grounds from the protective logic scheme to prevent recurrence. The licensee also revised their procedures for modification and abandonment of equipment in the switchyard to include a detailed engineering review and risk determination. The inspectors did not identify any trends not already identified by the licensee.

.3 (Closed) Unresolved Item (URI) 5000251/2015007-03, Required Appendix R Instrumentation Not Functional on Unit 4 Alternate Shutdown Panel

a. Inspection Scope

The inspectors reviewed additional information provided by the licensee to determine if a performance deficiency existed. In January of 2015, NRC inspectors noted that two of the three wide range pressure indicators on the Unit 4 alternate shutdown panel were OOS for maintenance. The inspectors questioned if this condition was allowed as per the fire hazards analysis and if the appropriate level of corrective actions or compensatory actions were taken. The licensee entered this condition into their CAP and conducted an apparent cause investigation. The results of the investigation indicated that the station procedures for OOS instrumentation at the alternate shutdown were properly followed; however, further procedural enhancements could be made. In addition, the inspectors reviewed the UFSAR and noted that Appendix 9.6A stated, in part, three locally mounted pressure transmitters in conjunction with their respective alternate shutdown instrument cabinet converters and alternate shutdown panel indicators provide SG pressure indication. The ability to monitor SG pressure independent of the OOS indicators at the alternate shutdown panel met the performance requirements of required instrumentation due to the redundancy of the available instrumentation. Based on this review, the inspectors determined that no performance deficiency existed associated with this URI.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notice of Enforcement Discretion (IP 71153)

(Closed) Licensee Event Report (LER) 05000250/2015-001-00, Diesel Generator Start Resulting from Switchyard Protective Relay Actuation

On November 18, 2015, Unit 3 was in Mode 5 during a RFO, when Turkey Point Nuclear Station experienced a LOOP on Unit 3. The LOOP was caused when both supply breakers to the Unit 3 SUT were automatically opened by an unexpected actuation of the breaker failure trip relay protection logic scheme in the Turkey Point switchyard. As a result, both the 3A and 3B EDGs received valid actuation signals. The reactor plant systems responded as designed and the operators stabilized the plant in Mode 5. The licensee's root cause concluded that the event was due to an incomplete modification regarding abandoned equipment in the switchyard that led to a ground being introduced to the protection circuitry. The licensee took immediate corrective actions to lift the leads on the abandoned circuit to remove the grounds from the protective logic scheme to prevent recurrence. The licensee also revised their procedures for modification and abandonment of equipment in the switchyard to include a detailed engineering review and risk determination. The inspectors reviewed the LER to verify its accuracy, completeness, and associated corrective actions taken or planned. These activities constitute completion of one event follow-up inspection sample. This LER is closed.

a. Inspection Scope

During the week of February 1, 2016, the inspectors reviewed the details of this LER. The inspectors reviewed the licensee's RCE for this event documented in AR 02092653. The licensee's root cause concluded that the event was due to an incomplete modification performed in 2006 which abandoned equipment in the switchyard that led to a ground being introduced to the switchyard protection logic circuitry. Corrective actions included lifting the leads on the abandoned circuitry to remove the ground on the protection circuit to prevent recurrence as well as revising procedure 0-ADM-216, "PTN and PTF Shared System Work Control and Switchyard Access," to include additional guidance on modification and abandonment of equipment in the Turkey Point switchyard.

b. Findings

Introduction: A Green self-revealing finding was identified for the licensee's failure to provide complete instructions in MSP 06-053 for the Isophase Bus Enclosure Collar replacement in the Turkey Point switchyard. Specifically, the control power circuitry termination points in the 8W43 breaker were not identified and documented in the associated MSP for removal as required by procedure QI 3-PTN-1, Design Control, dated 12/14/2005. As a result, a DC ground was introduced to the back-up protection relay by a 'b' contact when the breaker 8W43 was opened during a planned bus switching sequence. The DC ground on the back-up protection circuitry actuated the protection relay and caused both the supply breakers for the Unit 3 SUT to open, resulting in a LOOP for Unit 3.

Description: On November 18, 2015, Unit 3 was in Mode 5 during a RFO with off-site power being supplied to the 4160 busses from the Unit 3 SUT. As part of the RFO schedule, the licensee was performing a planned switchyard alignment to isolate the switchyard Southeast 240kV bus. During execution of the switching alignment, when breaker 8W43 was opened in the switchyard, the supply breakers to the Unit 3 SUT also unexpectedly opened resulting in a LOOP to the 3A and 3B 4160 Volt emergency busses. The 3B EDG auto started and energized the 3B 4160 Volt bus. The 3A emergency power sequencer had previously been removed from service to support troubleshooting activities, so bus stripping and automatic start of the 3A EDG did not occur as expected. As a result, the 3A 4160 Volt bus remained de-energized. Operators in the control room manually restarted the 3B RHR pump as designed and started the 3A EDG to restore power to the 3A 4160 Volt bus. Residual heat removal flow was secured for approximately 11 minutes during the event. The station declared an Unusual Event and elevated station shutdown risk to Orange. The supply breakers for the Unit 3 SUT opened due the actuation of the back-up protection electronic design configuration associated with the switchyard installed digital relay control logic concurrent with the introduction of a DC ground on the control circuit.

The licensee entered this event into their CAP as AR 02092653 and conducted a RCE. The RCE determined that the modification performed in 2006 led to the ground being introduced to the back-up protection relay scheme. In 2006, the licensee performed a replacement of the Isophase Bus Enclosure Collar in the Turkey Point switchyard that

included the removal of circuit 8G67, which was the control power feed associated a Motor Operated Disconnect (MOD) between the SUT and the switchyard. As part of this modification package, MSP 06-053, the switchyard equipment associated with the MOD was removed but the control power circuitry terminations were not identified for removal or fully evaluated and were abandoned in place with the leads still connected to the circuit. The DC ground that contributed to the actuation of the back-up protection scheme relay was introduced through the leads that remained connected to the abandoned circuit from 2006. The licensee also determined that the current switchyard breaker protective digital relay design scheme concurrent with the DC ground is what caused the back-up protection relay to actuate. Corrective actions included lifting the leads on the abandoned circuitry to remove the ground on the protection circuit as well as revising procedure 0-ADM-216, "PTN and PTF Shared System Work Control and Switchyard Access," to include additional guidance on modification and abandonment of equipment in the Turkey Point switchyard. The licensee also began work on a permanent design change for Unit 3 to eliminate the Breaker Failure Trip configuration scheme vulnerability which is being tracked by AR 02092653-13.

Analysis: The licensee's failure to provide complete instructions in MSP 06-053 for the replacement of the Isophase Bus Enclosure Collar in 2006 was a performance deficiency. Specifically, quality instruction procedure QI 3-PTN-1, "Design Control," dated 12/14/2005, section 4.4, "Maintenance Support Packages," states that abandoned equipment will be initiated in accordance with procedure 0-ADM-220, "Abandoned Equipment Program," dated 11/20/2008. Step 5.1.2 of 0-ADM-220 states, in part, that careful consideration shall be performed and documented when abandoning equipment that may affect design boundaries and interface requirements of surrounding non-abandoned equipment. Contrary to this requirement, the inspectors found no indication that careful consideration was given, and associated documentation did not include the removal of control power circuitry terminations in the 8W43 breaker. The inspectors determined that the performance deficiency was more than minor because it was associated with the procedure quality attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. Specifically, the failure to apply procedure QI 3-PTN-1 in its entirety allowed for a DC ground to be introduced to the DC back-up protection relay circuit resulting in a LOOP. Because this finding caused a LOOP and a resultant loss of RHR, a detailed risk evaluation was required per IMC-0609, Appendix G, "Shutdown Operations Significance Determination Process." A Senior Reactor Analyst assessed the risk significance and concluded it was of very low safety significance (Green). The risk of the event was mitigated by the multiple means that the licensee had available to them to either: 1) restore electrical power to the safety related buses, or 2) establish alternate means of heat removal either via the SGs or via primary "feed and bleed." The inspectors did not identify a cross-cutting aspect associated with this finding because it was not indicative of current performance since the modification package was implemented greater than three years ago.

Enforcement: This finding does not involve enforcement action because no violation of a regulatory requirement was identified. The licensee entered this issue into their CAP as AR 02092653. Because this finding does not involve a violation and is of very low safety significance, it is identified as FIN 05000250/2016001-01, "Failure to Fully Implement Procedure QI 3-PTN-1, Design Control."

4OA6 Meetings

Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Summers and other members of your staff on April 14, 2016. 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: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

## KEY POINTS OF CONTACT

Licensee personnel:
B. Bazan, EP Coordinator
B. Stamp, Operations Director
C. Cashwell, Training Manager
C. Domingos, Plant General Manager
D. Barrow, Maintenance Manager
D. Davis, EP Coordinator
D. Sluzka, Work Controls Manager
F. Banks, Nuclear Oversight Manager
J. Chamy, Chemistry Manager
J. Palin, Engineering Director
J. Patterson, EP Coordinator
K. O'Hare, EP Manager
M. Downs, Senior EP Coordinator
M. Guth, Licensing Manager
M. Koch, Work Controls
O. Hanek, Licensing Engineer
P. Czaya, Licensing
P. Polfleit, Emergency Preparedness Corporate Functional Area Manager
S. Mihalakea, Licensing
S. Russ, Performance Improvement Manager
T. Eck, Security Manager
T. Summers, Site Vice President
W. Hinson, Radiation Protection Manager

NRC personnel:
J. Hanna, Senior Risk Analyst, Division of Reactor Safety

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

| | | |
|---|---|---|
| Opened and Closed | | |
| 05000250/2016001-01 | FIN | Failure to Fully Implement Procedure QI3-PTN-1, Design Control (Section 4OA3) |
| Closed | | |
| 05000250/2015001-00 | LER | Diesel Generator Start resulting From Switchyard Protective Relay Actuation (Section 4OA3) |
| 05000251/2015007-03 | URI | Required Appendix R Instrumentation Not Functional on Unit 4 Alternate Shutdown Panel (Section 4OA2) |

## LIST OF DOCUMENTS REVIEWED

**Section 1R04: Equipment Alignment**
P&ID 5613-M-3022, Emergency Diesel Engine and Oil System
4-OP-023, Emergency Diesel Generator
4-NOP-022, Emergency Diesel Generator Fuel Oil System
3-OP-023, Emergency Diesel Generator
3-NOP-022, Emergency Diesel Generator Fuel Oil System
4-OSP-075.5, Auxiliary Feedwater System Flow Path Verification
3-OSP-075.5, Auxiliary Feedwater System Flow Path Verification
P&ID 5613-M-3062, Safety Injection System

**Section 1R05: Fire Protection**
0-ONOP-016.10, Pre-Fire Plan Guidelines and Safe Shutdown Manual Actions

**Section 1R06: Flood Protection Measures**
Drawing 5610-C-1695, Network of Barriers for External Flood Protection
0-SMM-102.1, Flood Protection Stop Log and Penetration Seal Inspection

**Section 1R15: Operability Evaluations**
EN-AA-203-1001, Operability Determinations and Assessments
0-ADM-226, Operability Screening and Condition Reports
0-ADM-213, Technical Specification Related Equipment Out of Service Logbook
OP-AA-108-1000, Operator Burdens Program Management
ODI-CO-040, Oversight and Control of Operator Burdens

**Section 1R18: Plant Modifications**
EN-AA-203-1201, 10CFR Applicability and 10CFR50.59 Screening Reviews
LI-AA-101-1001, 10CFR 50.59 Changes, Tests and Experiments

**Section 1R19: Post Maintenance Testing**
0-ADM-737, Post Maintenance Testing
0-CMP-102.01, Troubleshooting and Repair Guidelines

**Section 1EP2: Alert and Notification System Evaluation**
Procedures and Reports
Turkey Point Radiological Emergency Plan, Rev. 62
EP-SR-102-1000, Nuclear Division Florida Alert and Notification System Guideline, Rev. 9
Siren System Transmission and Substation Test Procedure No. 6.80.01, Rev. L
Siren Maintenance Procedure No. 6.80.02, Rev. I
WPS-4000 Series High Power Voice and Siren System Operating and Troubleshooting Manual
PI-AA-204, Condition Identification and Screening Process, Rev. 22
PI-AA-205, Condition Evaluation and Corrective Actions, Rev. 23

Records and Data
Documentation of quarterly siren maintenance for 2014 and 2015
Documentation of bi-weekly siren test summaries and maintenance records for 2014 and 2015
Maintenance records for 1Q2015 – 3Q2015

FPL 2015 Annual Siren Letters to FEMA, dated 1/5/15 and 1/6/16
FEMA acknowledgement letter from FEMA's Technology Hazards Branch, dated 4/1/15

Corrective Action Documents
1934865, 2014 NRC Inspection noted test omitted from siren data report for 3Q2013
1935171, 2014 NRC inspection noted administration errors on siren documentation
1935265, 2014 NRC inspection noted siren data unavailable
1969983, ANS siren S-41 testing failure
1983729, ANS siren failed bi-weekly test
2007331, ANS siren PTN-S-2 had a spurious alarm
2015413, ANS siren PTN-S-45 failed test
2053595, NRC notification of single alarming Emergency Plan siren

**Section 1EP3: Emergency Response Organization Staffing and Augmentation System**
Procedures
Turkey Point Plant Radiological Emergency Plan, Rev. 62
EP-AA-01, Emergency Preparedness Expectations, Rev. 0
EP-AD-006, Maintaining the Emergency Response Directory (ERD) & Requirements for Manual Callout Surveillance, Rev. 15
EP-AD-011, Instructions for Maintaining the Emergency Preparedness NRC Performance Indicators, Rev. 28
EP-AD-012, Autodialer Maintenance and Testing Instructions, Rev. 7
EP-AD-015, Emergency Preparedness ERO Staffing Advisory Committee and Training Committee, Rev. 14

Records and Data
Turkey Point Nuclear Generating Station Units 3 and 4 NEI 12-01 On-Shift Staffing Analysis Report, dated 4/26/13
2014 and 2015 ERO Team Staff Assignments
2015 off-hour augmentation test reports: dated 6/24/14, 7/7/14, 12/31/14, 3/30/15, 6/18/15, 9/28/15, and 12/21/15
Auto-dialer records: dated 3/29/14 – 6/18/15
Various ERO Training Records

Corrective Action Documents
1926742, ERO On-call Members Did Not Respond Correctly to Off-Hours Test
1930062, ERO Position for EOF SEC Manager Dropped to Three Qualified Persons
1935178, ERO Qualification Expired for FIN Mechanic
1949607, ERO Staffing Reduction-Evaluate Combining DCS & ADCS
2080375, ERO Drill Simulator Crew Call-out Deficiency
2102466, Incomplete Radioactive Storage Log
2102679, Off Hours Call-in Drill Incorrectly Annotated as Satisfactory

**Section 1EP4 EAL and Emergency Plan Changes**

Procedures

Turkey Point Radiological Emergency Plan, Rev. 61 & 62
EP-AA-100-1007, Evaluation of Changes to the Emergency Plan, Supporting Documents and Equipment (10 CFR 50.54(Q)), Rev. 3
0-EPIP-20101, Duties of Emergency Coordinator, Rev. 18 & 19
0-EPIP-20201, Maintaining Emergency Preparedness – REP Training, Rev. 2 & 3

Records and Data

10CFR50.54(q) Screening Form for 0-EPIP-20201 Rev. 2, dated 12/2/14
10CFR50.54(q) Evaluation Form for 0-EPIP-20201 Rev. 2, dated 12/2/14
10CFR50.54(q) Screening Form for 0-EPIP-20201 Rev. 3, dated 12/17/14
10CFR50.54(q) Evaluation Form for 0-EPIP-20201 Rev. 3, dated 12/17/14
10CFR50.54(q) Screening Form for 0-EPIP-1102 Rev. 6, dated 12/17/14
10CFR50.54(q) Evaluation Form for 0-EPIP-1102 Rev. 6, dated 12/17/14
10CFR50.54(q) Screening Form for TPN Radiological Emergency Plan Rev. 62, dated 5/15/15
10CFR50.54(q) Evaluation Form for TPN Radiological Emergency Plan Rev. 62, dated 5/15/15
10CFR50.54(q) Screening Form for 0-EPIP-20101 Rev. 19, dated 11/16/15
10CFR50.54(q) Evaluation Form for 0-EPIP-20101 Rev. 19, dated 11/16/15
10CFR50.54(q) Screening Form for 0-EPIP-20126 Rev. 8A, dated 12/14/15
10CFR50.54(q) Evaluation Form for 0-EPIP-20126 Rev. 8A, dated 12/14/15

Corrective Action Documents

1944173, Add radiation worker training and update training requirements for select ERO to 0-EPIP-20201
1952472, Add reference to duties of Emergency Coordinator to 0-EPIP-20201
1936165, Add definition for “Site Boundary” to 0-EP-20201

**Section 1EP5: Maintenance of Emergency Preparedness**

Procedures

0-ADM-117, Equipment Important to Emergency Response, Rev. 8A
0-ADM-118, Emergency Response Facilities & Equipment Surveillances, Rev. 4
0-ADM-533, Corrective Action Program Guidance, Rev. 14
PI-AA-101, Self Assessment & Benchmarking Program, Rev. 20
PI-AA-104-1000, Corrective Action, Rev. 6
PI-AA-203, Action Tracking Management, Rev. 8

Records and Data

2014 Off Year Exercise Report, dated 2/14/14
2014 4th Quarter Emergency Preparedness Drill Report, dated 11/21/14
2015 1st Quarter HAB Emergency Preparedness Drill Report, dated 1/22/15
2015 Graded HAB Emergency Preparedness Drill Report, dated 3/11/15
2015 2nd Quarter Emergency Preparedness Drill Report, dated 7/16/15
2015 4th Quarter Emergency Preparedness Drill Report, dated 10/21/15
PTN Unit 3 Unusual Event 11-18-15 Final Report, dated 11/19/15
0-ADM-118, Emergency Response Facilities & Equipment Surveillances, dated 12/3/15
PTN-14-012 Turkey Point Nuclear Oversight Report, dated 10/2/14
PTN-15-008 Turkey Point Nuclear Oversight Report, dated 10/1/15

QHSA #2023566-01, EP HAB/NRC Inspection Administration Preparedness, dated 2/6/15
QHSA #2048653-01, DEP Failure History & Drivers, dated 5/18/15
QHSA #2095157, 2016 NRC Baseline EP Program Inspection, dated 12/21/15

Corrective Action Documents
1939031, Scheduling of E-Plan related radiation detectors
1945528, RP instrument left in use past calibration due date
1945621, Various RP instruments out of calibration in E-Plan lockers
2007711, Potential delay to restoration of E-Plan backup equipment
2092492, Late notification to the NRC Operations Center for Unit 3 NOUE
2102466, NRC identified issue regarding incomplete paperwork on a radioactive storage log
2102679, NRC identified issue regarding off hours call in drill reports

**Section 4OA1: Performance Indicator Verification**
Procedures
0-ADM-032, NRC Performance Indicators Turkey Point, Rev. 6

Records and Data
DEP opportunities documentation for 1st, 2nd, and 3rd quarters 2015
Siren test data for 1st, 2nd, and 3rd quarters 2015
Drill and exercise participation records of ERO personnel for 1st, 2nd, and 3rd quarters 2015

Corrective Action Program Documents
1942109, 021714 as found LOCT exam incorrect DEP-PI implementation
2028309, 2015 PTN HAB: Inaccurate PAR determination
2101813, Self-identified error in DEP PI

**Section 4OA2: Problem Identification and Resolution**
Procedures
0-ONOP-105, Control Room Evacuation, Rev. 11
4-NOP-300, Alternate Shutdown Panel, Rev. 0

Design Basis Documents
5610-M-722A, Nuclear Safety Capability Fire Shutdown Analysis Basis Document, Rev. 2
0-BD-ONOP-105, Control Room Evacuation Basis Document

Licensing Documents
Turkey Point Updated Final Safety Analysis Report, Chapter 9

Corrective Action Documents
02027171 - Non-Functional Unit 4 ASP SG Pressure Indicators
02027171-11 - Update Evaluation for Alternate Shutdown Panel Pressure gages
02113537, 1C ICW Pump in Alert Range
02111340, Low Flow During 4B Charging Pump Run
02108153, Total Pump Head Reaching Lower Band of Acceptable Range
02106992, 4A ICW Motor Low Oil Level
02111446, Cracks on Top of 4B Battery Cells
02113352, Name Tag on AFW Valve in AFW Cage Disconnected From Valve

02113590, 4B Charging Pump Low Oil Level in Sight Glass
02113645, Relay for LC-3-926B Failed
02111076, Unit 4 Charging Pump Room Survey Map Not up to Date
02111029, Transient Combustible in Cable Spreading Room
02121507, Inadequate NFPA 805 Transition Condition Evaluation
02106430, CV-4-956A Drops Dead
02105190, Operations EMP Center Violation

## LIST OF ACRONYMS

| | |
|---|---|
| AFW | Auxiliary Feedwater |
| ANS | Alert and Notification System |
| AR | Action Request |
| CAP | Corrective Action Program |
| CCW | Component Cooling Water |
| CFR | Code of Federal Regulations |
| CR | Condition Report |
| DC | Direct Current |
| EAL | Emergency Action Level |
| ECC | Emergency Containment Cooler |
| EDG | Emergency Diesel Generator |
| ERO | Emergency Response Organization |
| IST | In-service Testing |
| LER | Licensee Event Report |
| LOOP | Loss of Off-Site Power |
| MOD | Motor Operated Disconnect |
| MTC | Moderator Temperature Coefficient |
| MSP | Maintenance Support Package |
| NAP | Nuclear Administrative Procedure |
| NCV | Non-Cited Violation |
| NRC | Nuclear Regulatory Commission |
| NUMARC | Nuclear Management and Resource Council |
| OCC | Outage Control Center |
| OLRM | On-Line Risk Monitor |
| OOS | Out of Service |
| OSC | Operations Support Center |
| PI | Performance Indicator |
| RCE | Root Cause Evaluation |
| RCS | Reactor Coolant System |
| RFO | Refueling Outage |
| RHR | Residual Heat Removal |
| RTP | Rated Thermal Power |
| SAE | Site Area Emergency |
| SFP | Spent Fuel Pool |
| SG | Steam Generator |
| SGTR | Steam Generator Tube Rupture |
| SUT | Startup Transformer |
| TS | Technical Specifications |
| TSC | Technical Support Center |
| U3 | Unit 3 |
| U4 | Unit 4 |
| UFSAR | Updated Final Safety Analysis Report |
| URI | Unresolved Item |
| WO | Work Order |
| GOP | General Operating Procedure |
| ONOP | Off Normal Operating Procedure |