



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

March 30, 2018

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
Florida Power & Light Co.
Mail Stop: EX/JB
700 Universe Blvd.
Juno Beach, FL 33408

**SUBJECT: TURKEY POINT NUCLEAR GENERATING STATION – NRC TEAM INSPECTION
REPORT 05000250/2018011 AND 05000251/2018011**

Dear Mr. Nazar:

On March 8, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Nuclear Generating Station, Units 3 and 4. The NRC inspectors discussed the results of this inspection with Mr. Hamm and other members of your staff. The results of this inspection are documented in the enclosed report.

The inspection examined activities conducted under your license as they relate to the implementation of mitigation strategies and spent fuel pool instrumentation orders (EA-12-049 and EA-12-051) and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans, your compliance with the Commission's rules and regulations, and with the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and records, observation of activities, and interviews with station personnel.

The NRC inspectors did not identify any finding or violation of more than minor significance.

M. Nazar

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This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Shane Sandal, Chief
Reactor Projects Branch 6
Division of Reactor Projects

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

Enclosure:
IR 05000250, 251/2018011

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SUBJECT: TURKEY POINT NUCLEAR GENERATING STATION – NRC TEAM INSPECTION
REPORT 05000250/2018011 AND 05000251/2018011 March 30, 2018

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ADAMS Accession No. ML18089A127

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Numbers: 50–250, 50–251

License Numbers: DPR–31, DPR–41

Report Numbers: 05000250/2018011, 05000251/2018011

Enterprise Identifier: I-2018-011-0035

Licensee: Florida Power & Light Company (FPL)

Facility: Turkey Point Nuclear Generating Station, Units 3 and 4

Location: Homestead, FL

Inspection Dates: March 5 - 8, 2018

Inspectors: R. Rodriguez, Senior Project Engineer (Team Leader)
S. Freeman, Senior Reactor Analyst
S. Seaton, Project Engineer
S. Sanchez, Senior Reactor Inspector

Approved By: S. Sandal, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Enclosure

SUMMARY

The NRC continued monitoring licensee's performance by conducting a Temporary Instruction 2515/191, "Implementation of Mitigation Strategies and Spent Fuel Pool (SFP) Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans," inspection (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15257A188) at Turkey Point Nuclear Generating Station, Units 3 and 4, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

No findings were identified.

Additional Tracking Items

Type	Issue number	Title	Report Section	Status
TI	TI 2515/191	Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans	Other Activities	Closed

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INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedure (IP) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Documents reviewed by inspectors are listed in the documents reviewed section of this report. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

TI 2515/191 - Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans

Inspectors verified plans for complying with NRC Orders EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12056A045) and EA-12-051, "Order Modifying Licenses With Regard to Reliable Spent Fuel Pool Instrumentation," (ML12054A679) were in place and were being implemented by the licensee. Additionally, the inspection verified implementation of staffing and communications information provided in response to the March 12, 2012, request for information letter (ML12053A340) and multiunit dose assessment information provided per COMSECY-13-0010, "Schedule and Plans for Tier 2 Order on Emergency Preparedness for Japan Lessons Learned," dated March 27, 2013 (ML12339A262).

- (1) Based on samples selected for review, the inspectors verified that the licensee satisfactorily implemented appropriate elements of the Diverse and Flexible Coping Strategies (FLEX) as described in the plant specific submittals and the associated safety evaluation (ML16279A455) and determined that the licensee is in compliance with NRC Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML12056A045). The inspectors verified the licensee satisfactorily:
 - a) developed and issued FLEX Support Guidelines (FSGs) to implement the FLEX strategies for postulated external events;
 - b) integrated their FSGs into their existing plant procedures such that entry into and departure from the FSGs were clear when using existing plant procedures;
 - c) protected FLEX equipment from site-specific hazards;
 - d) developed and implemented adequate testing and maintenance of FLEX equipment to ensure their availability and capability;
 - e) trained their staff to assure personnel proficiency in the mitigation of beyond-design basis events; and

- f) developed the means to ensure the necessary off-site FLEX equipment would be available from off-site locations.
- (2) Based on samples selected for review, the inspectors verified that the licensee satisfactorily implemented appropriate elements of the FLEX strategy as described in the plant specific submittals and the associated safety evaluation (ML16279A455) and determined that the licensee was in compliance with NRC Order NRC Order EA-12-051, "Order Modifying Licenses With Regard to Reliable Spent Fuel Pool Instrumentation" (ADAMS Accession No. ML12054A679). The inspectors verified the licensee satisfactorily:
- a) installed the SFP instrumentation sensors, cabling and power supplies to provide physical and electrical separation as described in the plant specific submittals and safety evaluation;
 - b) installed the SFP instrumentation display in the location, environmental conditions and accessibility as described in the plant specific submittals;
 - c) trained their staff to assure personnel proficiency with the maintenance, testing, and use of the SFP instrumentation; and
 - d) developed and issued procedures for maintenance, testing and use of the reliable SFP instrumentation.
- (3) The inspectors reviewed information provided in the licensee's multi-unit dose submittal and in response to the NRC's March 12, 2012, request for information letter (ML12053A340), and verified that the licensee satisfactorily implemented enhancements pertaining to Near-Term Task Force (NTTF) Recommendation 9.3 response to a large scale natural emergency event that results in an extended loss of all alternating current (ac) power (ELAP) to all site units and impedes access to the site. The inspectors verified the following:
- a) the licensee satisfactorily implemented required staffing changes to support a multi-unit ELAP scenario;
 - b) EP communications equipment and facilities are sufficient for dealing with a multi-unit ELAP scenario; and
 - c) the licensee implemented multi-unit dose assessment capabilities (including releases from SFPs) using the licensee's site-specific dose assessment software and approach.

The inspectors verified that noncompliances with requirements, and standards identified during the inspection were entered into the licensee's corrective action program as appropriate.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

No proprietary information was retained by the inspectors or documented in this report.

- On March 8, 2018, the inspectors presented the inspection results to Mr. Hamm and other members of the licensee's staff.

DOCUMENTS REVIEWED

Condition Reports Initiated as a Result of the Inspection

2253128, U3 SFP FLEX Probe Conduit Span

2253131, U3 SFP FLEX Probe Conduit Integrity

2253144, FLEX Tags not Attached to Cable Spreading Room and Inverter Room Penetrations

Procedures

3/4-EOP-ECA-0.0, Loss of All AC Power, Rev. 13

3/4-FSG-01, Long Term RCS Inventory Control, Rev. 1

0-FSG-03, Alternate Low Pressure Feedwater, Rev. 0

0-FSG-04, ELAP DC Load Shed/Management, Rev 1

0-FSG-05, Initial Assessment and Equipment Staging, Rev. 0B

0-FSG-06, Alternate CST Makeup, Rev. 0

0-FSG-07, Loss of Vital Instrumentation or Control Power, Rev. 0

3/4-FSG-08, Alternate RCS Boration, Rev. 0

0-FSG-11, Alternate SFP Makeup and Cooling, Rev. 0

0-FSG-99, FSG Supplemental Guidance, Rev. 0A

0-FSG-99, Attachment 5, Unit 3 RCS Inventory / Boration Control, Rev. 0A

0-FSG-99, Attachment 9, FLEX Well Water to Charging Pump Oil Coolers And CVCS, Rev. 0A

0-ADM-051, Outage Risk Assessment and Control, Rev 38

0-ADM-118, Emergency Response Facilities & Equipment Surveillances, Rev. 11

0-EPIP-20112, Communications Network, Rev. 5A

0-EPIP-20125, Off-Site Dose Assessment Using the Unified RASCAL Interface (URI), Rev. 1

0-ONOP-103.3, Severe Weather Preparations, Rev. 24

0-ONOP-103.3, Severe Weather Preparations, Rev 25

BD-FSG-01, Long Term RCS Inventory Control, Rev. 1

BD-FSG-08, Alternate RCS Boration, Rev. 0

BD-FSG-11, Alternate Spent Fuel Pool Makeup & Cooling, Rev. 0

ER-AA-204, Preventive Maintenance Program Strategy, Rev 9

FLEX-AA-100, FLEX Equipment PM Basis Program, Rev 5

MA-AA-204-1000, Preventive Maintenance and Surveillance Procedure, Rev 12

OM-AA-101-1000, Shutdown Risk Management, Rev 15

EN-AA-202-1001-F01, Scoping & Screening Checklist Engineering Programs & Departmental Reviews, Rev. 11

3-PMI-033.03A, Spent Fuel Pool Level Instrumentation LE/LIT-3-651A System Calibration Verification and Maintenance, Rev 0A

Drawings

5610-M-3046, Chemical and Volume Control System Boric Acid System, Rev. 30

5613-M-3047, Chemical and Volume Control System Charging and Letdown, Rev. 58

5610, E-60, Underground Conduit and Grounding EL. 18' – 0" & Above – Area 15, Rev. 5

5610, E- 117, Tray, Conduit and Grounding EL. 18' – 0" & Above – Area 7, Rev. 4

5610, E- 124, Tray, Conduit and Grounding EL. 18' – 0" & Above – Area 14, Rev. 4

5613-M-3018, Condensate Storage System, Rev. 28

5613-M-3075, Auxiliary Feedwater System Auxiliary Feedwater To Steam Generators, Rev. 15

5610-M-3075, Auxiliary Feedwater System Auxiliary Feedwater Pumps, Rev. 22

5614-M-3018, Condensate Storage System, Rev. 29

5610-T-E-1591, Sheet 1, Operating Diagram Electrical Distribution, Rev 79

5610-T-E-1592, Sheet 1, 125VDC & 120VAC Electrical Distribution, Rev 45

5610-M-430-257, Sheet 1, Steam Generator Protection Channel II & III, Rev 9
5610-M-401-345, Field Terminal Wiring Diagram, Rack No 16, Rev 11
5610-E-446, Process & Control Racks 3QR16 – 3QR18, Rev 14
5613-E-11, Sheet 1, Electrical 125VDC & 120V Instrument AC, Rev 20
5614-E-11, Sheet 1, Electrical 125VDC & 120V Instrument AC, Rev 14

Calculations

Work Orders

Work Order Package, 40422269 01, January 6, 2017
WO 40506762 01, FLEX SG Pump A Semiannual Functional Test, dated October 3, 2017
WO 40468968 01, FLEX SG Pump B Annual Performance Test, dated May 13, 2017
WO 40555902 01, FLEX PDG 1 Performance Test, dated February 28, 2018
WO 40555903 01, FLEX PDG 2 Performance Test, dated March 2, 2018

Design Changes

Corrective Action Documents

2247220, 2248020, 2250687, 2252602, 2243531, 2240370, 2239524, 2239478, 2229024,
2225749, 2214579, 2192838, 2154360, 2120232, 2032161, 2035515, 2041917, 2057851,
2068408, 2093731, 2093489, 2093491, 2094443, 2197554, 2247400, 2206994, 2133929,
2037451, 2049928, 2057851, 2208732, 2212324, 2219841, 2221948, 2225657, 2226936

Others

PTN 6908943, Major FLEX Equipment Actions, Rev. 0
PTN 6902943, Major FLEX Equipment Familiarization, Rev. 0
PTN ICM FLEX 1001, FLEX – Spent Fuel Pool Level Indication System, Rev. 0
Piping & Instrumentation Diagram for Unit 3 Spent Fuel Pool Colling System, Sheet 1, Rev. 26
Piping & Instrumentation Diagram for Unit 4 Spent Fuel Pool Colling System, Sheet 1, Rev. 31
Response to NRC Request for Information for Phase 2 Staffing Assessment, dated 9/28/15
Turkey Point Nuclear Plant Unit 3/4 NEI 12-01 Phase 2 Staffing Assessment Report, dated
9/24/15
Turkey Point Nuclear Plant Response Regarding Implementation of Multi-Unit Dose
Assessment Capability, dated 6/14/13
02234889 / 02248169, PTN Readiness for NRC Inspection TI 2515/191 Inspection of Mitigation
Strategies and Spent Fuel Pool Instrumentation Orders (FLEX)