



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

January 30, 2020

Mr. Don Moul
Vice President, Nuclear Division and Chief Nuclear Officer
Florida Power & Light Company
15430 Endeavor Drive
Jupiter, FL 33478

SUBJECT: TURKEY POINT UNITS 3 & 4 – INTEGRATED INSPECTION REPORT
05000250/2019004 AND 05000251/2019004 AND INDEPENDENT SPENT
FUEL STORAGE INSTALLATION INSPECTION (ISFSI) REPORT
07200062/2019001

Dear Mr. Moul:

On December 31, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Turkey Point Units 3 & 4. On January 16, 2020, the NRC inspectors discussed the results of this inspection with Mr. Brian Stamp, Site Director, and other members of your staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

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 Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Randall A. Musser, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos. 05000250, 05000251, and 07200062
License Nos. DPR-31 and DPR-41

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

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07200062/2019001 Dated January 30, 2020

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NAME	A. Wilson	R. Musser			
DATE	1/28/2020	1/29/2020			

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers: 05000250, 05000251, and 07200062

License Numbers: DPR-31 and DPR-41

Report Numbers: 05000250/2019004, 05000251/2019004 and 07200062/2019001

Enterprise Identifier: I-2019-004-0020 and I-2019-001-0148

Licensee: Florida Power & Light Company

Facility: Turkey Point Units 3 & 4

Location: Homestead, FL 33035

Inspection Dates: October 01, 2019 to December 31, 2019

Inspectors: D. Bacon, Senior Operations Engineer
M. Bates, Senior Operations Engineer
J. Orr, Senior Resident Inspector
J. Reyes, Resident Inspector

Approved By: Randall A. Musser, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Turkey Point Units 3 & 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 or violations of more than minor significance were identified.

Additional Tracking Items

None.

PLANT STATUS

Unit 3 operated at or near rated thermal power for the entire inspection period.

Unit 4 operated at or near rated thermal power for the entire inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) 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>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515, Appendix D, "Plant Status," and conducted routine reviews using IP 71152, "Problem Identification and Resolution." 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.

REACTOR SAFETY

71111.04Q - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (2 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 3 start-up transformer (SUT) and the 4A and 4B emergency diesel generators (EDGs) while the Unit 4 SUT was out of service (OOS) for testing on November 05, 2019
- (2) 3A EDG and the 3A, 4A, and 4B safety injection pumps while the 3B EDG was OOS for maintenance on October 09 and 12, 2019

71111.04S - Equipment Alignment

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations during a complete walkdown of the Unit 3 and Unit 4 charging and boric acid storage tank systems on November 01, 07, 08, 12, and 13, 2019.

71111.05Q - Fire Protection

Quarterly Inspection (IP Section 03.01) (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Fire zones (FZs) 019, 020, 026 and 027 for the Unit 3 south and west electrical penetration rooms (EPRs) and the Unit 4 north and west EPRs on November 05, 2019
- (2) FZ 079A for the auxiliary building breezeway on November 08, 2019
- (3) FZ 010 for the auxiliary building 10-foot elevation outside of the high radiation areas on November 12, 2019
- (4) FZs 093 and 094 for the safety-related Unit 4A/4B and 4C/4D 480-volt load centers on December 12, 2019
- (5) FZs 067 and 068 for the safety-related 4A and 4B 4kV switchgear rooms on December 20, 2019

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 02.02a.) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Units 3 and 4 residual heat removal pump and heat exchanger rooms on November 4 - 7, 2019

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

Requalification Examination Results (IP Section 03.03) (1 Sample)

The licensee completed the annual requalification operating examinations required to be administered to all licensed operators in accordance with Title 10 of the *Code of Federal Regulations* 55.59(a)(2), "Requalification Requirements," of the NRC's "Operator's Licenses." During the week of December 23, 2019, the inspector performed an in-office review of the overall pass/fail results of the individual operating examinations, the crew simulator operating examinations, and the biennial written examinations in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." These results were compared to the thresholds established in Section 3.02, "Requalification Examination Results," of IP 71111.11.

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam administered on December 26, 2019.

71111.11B - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Requalification Program (IP Section 03.04) (1 Sample)

The inspectors completed an inspection to verify the licensee's ability to evaluate the performance of their licensed operators during the conduct of examinations, to assess their ability to properly develop and administer requalification annual operating tests and biennial written examinations, to evaluate the performance of the control room simulator and their testing and maintenance of the simulator, to ensure that licensed individuals satisfy the conditions of their licenses, and to assess their effectiveness in ensuring that operator license conditions are satisfied.

(1) Biennial Regualification Written Examinations

The inspectors evaluated the quality of the licensed operator biennial requalification written examination administered on November 18, 2019.

Annual Regualification Operating Tests

The inspectors evaluated the adequacy of the facility licensee's annual requalification operating test.

Administration of an Annual Regualification Operating Test

The inspectors evaluated the effectiveness of the facility licensee in administering requalification operating tests required by 10 CFR 55.59(a)(2) and that the facility licensee is effectively evaluating their licensed operators for mastery of training objectives.

Regualification Examination Security

The inspectors evaluated the ability of the facility licensee to safeguard examination material, such that the examination is not compromised.

Remedial Training and Re-examinations

The inspectors evaluated the effectiveness of remedial training conducted by the licensee, and reviewed the adequacy of re-examinations for licensed operators who did not pass a required requalification examination.

Operator License Conditions

The inspectors evaluated the licensee's program for ensuring that licensed operators meet the conditions of their licenses.

Control Room Simulator

The inspectors evaluated the adequacy of the facility licensee's control room simulator in modeling the actual plant, and for meeting the requirements contained in 10 CFR 55.46.

71111.11Q - Licensed Operator Regualification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during surveillance test 4-OSP-028.6, Rod Control Cluster Assembly (RCCA) Periodic Exercise on October 17, 2019

Licensed Operator Regualification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated a requalification training simulator scenario administered to an operating crew on November 25, 2019

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness Inspection (IP Section 02.01) (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Action requests (ARs) 2316994, 2317227, 2317749, and 2320802, 3A intake cooling water pump stopped due to high amps and motor overload alarm (event date was June 5, 2019) on November 14, 25 and 26, 2019
- (2) AR 2334034, 3C charging pump seal failures (event date was November 1, 2019) on November 26 and 27, 2019

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) 4B charging pump, 3B EDG, and 4B EDG control panel room air conditioning unit 4S231B OOSs on October 4, 7, 8, and 10, 2019
- (2) 4C component cooling water (CCW) pump, 4C intake cooling water (ICW) pump, 3A safety injection pump and safety-related 4D 4kV switchgear OOSs on October 23, 2019
- (3) 3C charging pump and 4C ICW pump OOSs on November 13 and 14, 2019
- (4) Unit 3 start-up transformer, auxiliary feedwater train 1, 4A ICW pump and 4A CCW pump OOSs on November 20 and 21, 2019

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 02.02) (4 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) AR 2331140, RD-3/4-15 Administrative limit for in-leakage found incorrect on October 23, November 05, 06 and 07, 2019
- (2) ARs 2335574, 2335576 and 2335599, Control rod drive mechanism G-3 misaligned during RCCA drive mechanism exercising on November 14, 15 and 26, 2019
- (3) ARs 2336434, 2336438 and 2015046, Gas void identified in high head safety injection system on November 21, 2019
- (4) AR 2338565, 3A EDG fuel oil pressure higher than acceptable criteria on December 17 and 19, 2019

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) 3-OSP-023.1, Diesel Generator Operability Test, after 3B EDG overhaul maintenance, work order (WO) 40518734
- (2) 4-OSP-062.2D, Safety Injection Pump 4A Comprehensive Pump Test, after mechanical seal and oiler replacement, WO 40583620
- (3) 3-OSP-055.1, Emergency Containment Cooler Operability Test, Section 4.2, after CV-3-2908, 3A emergency containment cooler outlet air-operated valve, piston o-ring replacement, WO 40675719
- (4) 4-OSP-019.1, Intake Cooling Water Inservice Test, Section 7.6, after 4C ICW pump discharge check valve replacement, WO 40460905
- (5) 3-OSP-047.1H, Charging Pump 3C Comprehensive Pump Test, after modification and replacement of 3C charging pump seal package, WO 40632602
- (6) 4-NOP-005, 4kV Busses A, B, and D, after repairing oil leaks and replacing relays associated with the Unit 4 startup transformer, WO 40249199

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (1 Sample)

- (1) 3-OSP-075.7, Auxiliary Feedwater Train 2 Backup Nitrogen Test on October 29, 2019

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) 3-OSP-062.2A, Safety Injection Pump 3A Group B Pump Test on December 20, 2019

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS06: Emergency AC Power Systems (IP Section 02.05) (2 Samples)

- (1) Unit 3, October 2018 through September 2019
- (2) Unit 4, October 2018 through September 2019

MS07: High Pressure Injection Systems (IP Section 02.06) (2 Samples)

- (1) Unit 3, October 2018 through September 2019
- (2) Unit 4, October 2018 through September 2019

MS08: Heat Removal Systems (IP Section 02.07) (2 Samples)

- (1) Unit 3, October 2018 through September 2019

- (2) Unit 4, October 2018 through September 2019

MS09: Residual Heat Removal Systems (IP Section 02.08) (2 Samples)

- (1) Unit 3, October 2018 through September 2019
(2) Unit 4, October 2018 through September 2019

MS10: Cooling Water Support Systems (IP Section 02.09) (2 Samples)

- (1) Unit 3, October 2018 through September 2019
(2) Unit 4, October 2018 through September 2019

71152 - Problem Identification and Resolution

Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential trends that might be indicative of a more significant safety issue. The following issue was reviewed in detail to verify an adverse human performance trend did not exist during performance of in-service surveillance testing; AR 2336802, Escalation - Organization, Preparation, Contingency, and Execution of In-service Tests.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

60855.1 - Operation of an Independent Spent Fuel Storage Installation at Operating Plants

Operation of an Independent Spent Fuel Storage Installation at Operating Plants (1 Partial)

- (1) (Partial)
The inspectors evaluated FPL's independent spent fuel storage installation cask loadings on October 22, 2019.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On January 16, 2020, the inspectors presented the integrated inspection results to Mr. Brian Stamp, Site Director, and other members of the licensee staff.
- On December 5, 2019, the inspectors presented the Licensed Operator Requalification Program inspection results to E. Neville, Operations Director, and other members of the licensee staff.

THIRD PARTY REVIEWS

The inspectors reviewed an Institute on Nuclear Power Operations report that was issued on January 28, 2019. The inspectors reviewed the report to ensure that issues identified were consistent with NRC perspectives of licensee performance and to determine if any safety issues were identified that require further NRC inspection or discussion.