



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

November 3, 2021

Mr. Bob Coffey  
Executive Vice President, Nuclear Division and Chief Nuclear Officer  
Florida Power & Light Company  
Mail Stop: EX/JB  
700 Universe Blvd  
Juno Beach, FL 33408

SUBJECT: TURKEY POINT UNIT 3 & 4 – INTEGRATED INSPECTION REPORT  
05000250/2021003 AND 05000251/2021003

Dear Mr. Coffey:

On September 30, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Turkey Point Unit 3 & 4. On October 12, 2021, the NRC inspectors discussed the results of this inspection with you 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/*

David E. Dumbacher, Chief  
Reactor Projects Branch 3  
Division of Reactor Projects

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

Enclosure:  
As stated

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SUBJECT: TURKEY POINT UNIT 3 & 4 – INTEGRATED INSPECTION REPORT  
 05000250/2021003 AND 05000251/2021003 dated November 3, 2021

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OFFICE	RII/DRP/PB3	RII/DRP/PB3	RII/DRP/PB3	RII/DRP/PB3	
NAME	J. Hamman	M. Endress	R. Reyes	D. Dumbacher	
DATE	11/02/2021	11/02/2021	11/02/2021	11/ /2021	

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

Docket Numbers: 05000250 and 05000251

License Numbers: DPR-31 and DPR-41

Report Numbers: 05000250/2021003 and 05000251/2021003

Enterprise Identifier: I-2021-003-0008

Licensee: Florida Power & Light Company

Facility: Turkey Point Unit 3 & 4

Location: Homestead, FL 33035

Inspection Dates: July 01, 2021 to September 30, 2021

Inspectors: B. Bishop, Senior Project Engineer  
M. Endress, Senior Resident Inspector  
R. Reyes, Resident Inspector

Approved By: David E. Dumbacher, 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 Unit 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

Type	Issue Number	Title	Report Section	Status
NOV	05000250/2020011-01	Incomplete and Inaccurate Information Associated with Auxiliary Feedwater Maintenance	92702	Closed
NOV	05000250,05000251/2021011-01	Failure to Report Mispositioned Plant Component that Caused Charging Pump Trip	92702	Closed
NOV	05000250,05000251/2021011-02	Incomplete and Inaccurate Information Associated with Charging Pump Maintenance	92702	Closed

## **PLANT STATUS**

Unit 3 began the inspection period at or near rated thermal power. Unit 3 experienced a down-power to 73% power on August 5, 2021 when control rods automatically stepped-in in response to #2 Turbine Control Valve going fully closed. Unit 3 was manually tripped on August 13, 2021 and entered a forced outage to repair #2 Turbine Control Valve. Unit 3 was returned to rated thermal power on August 17, 2021 following repair of the #2 Turbine Control Valve and remained at that power level for the remainder of the 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 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. Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident and regional inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week, increasing the amount of time on-site as local COVID-19 conditions permitted. As part of their on-site activities, resident inspectors conducted plant status activities as described in IMC 2515, Appendix D, "Plant Status," and conducted routine reviews using IP 71152, "Problem Identification and Resolution," observed risk significant activities; and completed on-site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or a portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on-site. The inspections documented below met the objectives and requirements for completion of the IP.

## **REACTOR SAFETY**

### 71111.01 - Adverse Weather Protection

#### Impending Severe Weather Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the adequacy of the overall preparations to protect risk-significant systems from impending severe weather from Tropical Storm Elsa on July 4, 2021.

### 71111.04 - Equipment Alignment

#### Partial Walkdown Sample (IP Section 03.01) (4 Samples)

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

- (1) 4A and 4C Intake Cooling Water (ICW) pumps with the 4B ICW pump Out of Service (OOS) for replacement, on July 6, 2021.
- (2) 3A, 3B, 4B High Head Safety Injection (HHSI) Pumps and the Unit 3 and Unit 4 Refueling Water Storage Tank (RWST) flow paths while the 4A HHSI pump and the 4A Emergency Diesel Generator (EDG) were out of service for maintenance, on July 14, 2021.
- (3) 3A and 3B Coolant Charging Pumps (CCPs), Boric Acid Transfer Pumps, and Boric Acid Tanks while the 3C CCP was OOS for maintenance, on September 1, 2021.
- (4) Unit 3 ICW System with the 3B ICW Pump tagged out for unplanned maintenance, on September 2, 2021.

#### 71111.05 - Fire Protection

##### Fire Area Walkdown and Inspection Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Unit 3 and Unit 4 Turbine Building 42 Foot Elevation (Fire Zone (FZ) 117), on August 17, 2021.
- (2) Unit 3 and Unit 4 480V Load Center Rooms A&B (FZs 093 & 094), on August 17, 2021.
- (3) Unit 3 3A and 3B EDG rooms, fuel-oil day tank rooms, and radiator fan rooms, and Unit 4 4A and 4B EDG buildings (FZs 073 and 072), on August 25, 2021.
- (4) Unit 3 and Unit 4 Condensate Pump pits (FZs 092 and 091), and Unit 3 and Unit 4 Turbine Lube Oil Reservoirs area (FZs 081 and 076), on August 30, 2021.
- (5) Unit 3 and Unit 4 Condensate Storage Tank and Auxiliary Feed Water (AFW) piping room (FZs 116 and 113), on September 1, 2021.
- (6) Unit 3 and Unit 4 Main Steam platforms (FZs 115 and 114), on September 8, 2021.

#### 71111.06 - Flood Protection Measures

##### Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Unit 3 and Unit 4 Residual Heat Removal (RHR) Pump Rooms, on September 22, 2021.

#### 71111.11Q - Licensed Operator Requalification 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 the following activities:

- Operator response following failure of the Unit 3 Turbine Control Valve and resulting automatic turbine runback and fast load reduction to 75% power, on August 5, 2021.
- 3B EDG monthly operability run briefing, coordination, and performance, on August 12, 2021.
- Planned Unit 3 power decrease to 18%, reactor manual trip, entry in Emergency Operating Procedure E-0, and stabilizing the plant for decay heat removal, on August 13, 2021.
- Unit 3 startup after repairs completed on the failed turbine control valve, on August 16, 2021.

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 August 23, 2021.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) AR 2392108 and EVAL-PTN-013-LD-02363, 3CD Instrument Air Compressor entered into Maintenance Rule (a)(1)
- (2) AR 2385529 and EVAL-PTN-089-02482, Maintenance Rule Evaluation of U3 Reactor Trip during restoration from Reactor Protection System (RPS) testing

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Unit 3 and Unit 4 on-line risk assessment with the following equipment OOS: 4A EDG, AHU-V78 North Water Chiller for the electrical equipment room, MOV-4-535 Pressurizer Power Operated Relief Valve (PORV) block valve, 4A HHSI pump, 4B Service Water pump, and PCV-4-456 PORV, on July 12, 2021.
- (2) Unit 3 and Unit 4 on-line risk assessment with the following equipment OOS: 4B Component Cooling Water (CCW) Heat Exchanger, AHU-V78 North Water Chiller for the electrical equipment room, MOV-4-535 Pressurizer PORV block valve, and PCV-4-456 pressurizer PORV, on July 21, 2021.
- (3) Unit 3 and Unit 4 on-line risk assessment with the following equipment OOS: 3E208A A CCW Heat Exchanger, 3P16A A Primary Water makeup pump, 4D32 125-Volt DC static battery charger, 4D34 125-Volt station battery, E233 water chiller unit for the electrical equipment room, P235B Service Water Pump B, and P235D Diesel Service Water pump, on August 10, 2021.

- (4) Unit 3 and Unit 4 on-line risk assessment with the following equipment OOS: 4A CCW heat exchanger, MOV-4-535 Pressurizer PORV block valve, and PCV-4-456 Pressurizer PORV, on August 26, 2021.
- (5) Unit 3 and Unit 4 on-line risk assessment with the following equipment OOS: 3C CCW Heat Exchanger, 3C CCP, E233 water chiller unit for north electrical equipment room, and Unit 4 PCV-4-456 Pressurizer PORV, on September 1, 2021.

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (7 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) AR 2398329, 4A EDG High Oil Temp Switch Disconnected
- (2) AR 2398530 and AR 2398113, 4B Intake Cooling Water Pump Declared Operable Early/4B ICW Pump IST/PMT Data Requires Evaluation
- (3) AR 2399263, No Packing Leak-off on 4B ICW Pump
- (4) Engineering Evaluation EC 294670 and AR 2167003, Rigging of CCW Chillers and Heavy Load Path Over Safety-Related Equipment.
- (5) AR 2402033, 3C CCP Primary Packing Leaking in Excess.
- (6) AR 2404490, 4A EDG Control Room Air Conditioning Not Working.
- (7) AR 2405251, 3-day Prompt Operability Determination for Control Room Door.

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (7 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Work Order (WO) 40454537, Replace the Unit 4 4B ICW Pump and Pump Discharge Check Valve, and test using per 4-OSP-019.1, Intake Cooling Water Inservice Test, on July 9, 2021.
- (2) WO 40788065, Unit 3 Turbine Control Valve #2 Actuator replacement, on August 16, 2021.
- (3) WO 40614867, Unit 3 3A ICW Pump and Pump Discharge Check Valve following replacement of 3A ICW Pump Motor, on August 18, 2021.
- (4) WO 40790552, Unit 3 3C CCP re-pack, on August 31, 2021.
- (5) WO 40791411, Unit 3 3B ICW Pump replacement, on September 6, 2021.
- (6) WO 40792115, Repair welds on the Unit 4B EDG Fuel-oil Transfer System and test using penetrant inspection Level II and system leak test, on September 15, 2021.
- (7) [List test samples [e.g., 1OP-50, Plant Electric System Operating Procedure after replacement of the 1A NSW pump breaker], [[on date] or [work order #]]

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

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



- (1) 4-OSP-047.1B, Charging Pump 4B Group A Pump Test and 4-OSP-047.1C, Charging Pump 4C Group A Pump Test, on July 09, 2021.

Inservice Testing (IP Section 03.01) (4 Samples)

- (1) 4-OSP-030.1, Component Cooling Water Pump Inservice Test (IST) (Sections 7.2 4B CCW pump and 7.3 4C CCW pump), on July 19, 2021.
- (2) 4-OSP-068.5B, 4B Containment Spray Pump IST, completed on August 4, 2021.
- (3) 4-OSP-019.1, Intake Cooling Water IST (Section 7.3, ICW Pump 4C Test), completed on August 6, 2021.
- (4) 3-OSP-074.5, Feed Water (FW) Control Valve and Bypass Valve IST, completed on August 31, 2021.

FLEX Testing (IP Section 03.02) (1 Sample)

- (1) 0-OSP-083.2B, Periodic Testing of Flex SG Pump B, completed on September 27, 2021.

71114.06 - Drill Evaluation

Select Emergency Preparedness Drills and/or Training for Observation (IP Section 03.01) (1 Sample)

- (1) Inspectors observed an emergency preparedness drill on August 19, 2021 in the emergency operating facility, control room simulator, and the technical support center.

**OTHER ACTIVITIES – BASELINE**

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (2 Samples)

- (1) Unit 3 (July 1, 2020 through June 30, 2021)
- (2) Unit 4 (July 1, 2020 through June 30, 2021)

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) NCV 05000250/2020050-02, Failure to Adequately Manage Reactivity During Reactor Startup and AR 02365970. The NCV was described in Turkey Points Units 3 and 4 - Special Inspection Report 05000250/2020050 and 05000251/2020050 dated December 9, 2020 (ADAMS Accession No. ML20344A126). This issue was selected for follow-up to verify the licensee's corrective actions were appropriate to address the performance deficiency and failure to adequately manage reactivity during reactor startup.

## **OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL**

### 92702 - Follow-Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, and Orders

The inspectors conducted a follow-up inspection of Florida Power & Light's (FPL) response to a Notice of Violation (NOV) EA-20-043 and EA-20-150 issued on April 6, 2021.

### Follow-Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, and Orders (1 Sample)

- (1) The inspectors conducted a follow-up inspection of Florida Power & Light's (FPL) response to a Notice of Violation (NOV) EA-20-043 and EA-20-150 issued on April 6, 2021. The inspectors evaluated the corrective actions that were implemented by FPL to determine whether they were adequate to address the identified deficiencies and to prevent recurrence. The inspectors concluded that FPL's corrective actions were both timely and appropriate. Base on the results of this review, no additional NRC actions are necessary, and the following violations are closed: 05000250/2020011-01, 05000250,05000251/2021011-01 and 05000250,05000251/2021011-02.

## **INSPECTION RESULTS**

No findings were identified.

## **EXIT MEETINGS AND DEBRIEFS**

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

- On October 12, 2021, the inspectors presented the integrated inspection results to Bob Coffey and other members of the licensee staff.
- On August 26, 2021, the inspectors presented the results of 92702 inspection to M. Pearce and other members of the licensee staff.

**DOCUMENTS REVIEWED**

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
92702	Corrective Action Documents	CCE 2323787	Common Cause Evaluation Trend in Integrity Issues	
	Miscellaneous	I-2021-051	Response to Apparent Violations in NRC Inspection Report	03/05/2021
		L-2021-101	Civil Penalty Payment	4/27/2021
	Procedures	PI-AA-100-1006	Common Cause Evaluation	Rev. 16
		PI-AA-104-1000	Condition Reporting	Rev. 29