



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

February 08, 2021

Mr. Don Moul
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: ST. LUCIE UNITS 1 & 2 – INTEGRATED INSPECTION REPORT
05000335/2020004 AND 05000389/2020004 AND INDEPENDENT SPENT
FUEL STORAGE INSTALLATION (ISFSI) INSPECTION 07200061/2020002

Dear Mr. Moul:

On December 31, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at St. Lucie Units 1 & 2. On January 11, 2021, the NRC inspectors discussed the results of this inspection with Mr. Dan DeBoer, Site Vice President, 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/

Booma Venkataraman, Acting Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos. 05000335, 05000389 and 07200061
License Nos. DPR-67 and NPF-16

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

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05000335/2020004 AND 05000389/2020004 AND INDEPENDENT SPENT
FUEL STORAGE INSTALLATION (ISFSI) INSPECTION 07200061/2020002
dated February 08, 2021

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers: 05000335, 05000389, and 07200061

License Numbers: DPR-67 and NPF-16

Report Numbers: 05000335/2020004, 05000389/2020004, and 07200061/2020002

Enterprise Identifiers: I-2020-004-0048 and I-2020-002-0075

Licensee: Florida Power & Light Company

Facility: St. Lucie Units 1 & 2

Location: Jensen Beach, FL 34957

Inspection Dates: October 01, 2020 to December 31, 2020

Inspectors: T. Morrissey, Senior Resident Inspector
S. Roberts, Resident Inspector
P. Capehart, Senior Operations Engineer

Approved By: Booma Venkataraman, Acting 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 St. Lucie Units 1 & 2, 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 1 operated at or near rated thermal power (RTP) for the entire inspection period.

Unit 2 began the inspection period at RTP. On November 16, 2020, power was rapidly lowered and stabilized at approximately 92 percent RTP when the 2B heater drain pump tripped due to a low level in the 4B feedwater heater. The 4B feedwater heater level control system was repaired, the 2B heater drain pump was restarted and power was returned to RTP on November 20, 2020. On December 14, 2020, power was lowered to approximately 80 percent RTP to support planned turbine valve testing. Power was restored to RTP that same day. The unit remained at RTP for the remainder of the 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.

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 Disease 2019 (COVID-19), resident 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; conducted plant status activities as described in IMC 2515, Appendix D, "Plant Status"; 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 portions 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

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated and completed a review of the licensee's readiness for seasonal winter weather conditions as required by licensee procedure 0-NOP-99.06, "Cold Weather Preparations," for the following systems:

Unit 1 and 2 emergency diesel generator (EDG) systems
Unit 1 and 2 auxiliary feedwater (AFW) systems

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

- (1) The inspectors evaluated licensee readiness for impending adverse weather conditions due to Tropical Storm Eta approaching the site on November 8, 2020. The site was under a tropical storm warning; however, tropical storm force winds were not experienced on site.

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

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

- (1) Unit 2, 2A component cooling water (CCW) train while the 2B EDG was out of service (OOS) for planned maintenance, on October 13, 2020
- (2) Unit 2, 2B and 2C charging trains while the 2A charging train was OOS for planned maintenance, on November 4, 2020
- (3) Unit 2, 2A and 2C intake cooling water (ICW) trains while the 2B ICW pump was OOS for planned pump replacement, on November 16-18, 2020

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

- (1) The inspectors evaluated system configurations during a complete walkdown of the Unit 2 AFW system, on November 4, 2020

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 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 1, reactor auxiliary building, 19.5 foot elevation, on October 11, 2020
- (2) Unit 1, 1A and 1B switchgear rooms, on October 25, 2020
- (3) Unit 2, electrical penetration rooms, on October 31, 2020
- (4) Unit 2, 2A EDG room, on December 23, 2020

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 October 26, 2020, 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.

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam administered on October 28, 2020.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (2 Samples)

- (1) The inspectors observed and evaluated licensed operator performance in both Unit 1 and Unit 2 control rooms during the performance of reactor protection system (RPS) logic matrix testing, on October 15, 2020
- (2) The inspectors observed and evaluated licensed operator performance in the Unit 2 control room during a rapid down power to 88 percent RTP after the 2B heater drain pump tripped due to low level in the 4B feedwater heater, on November 16, 2020

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

- (1) On October 5, 2020, the inspectors observed a licensed operator requalification crew's annual exam evaluation on the control room simulator.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

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

- (1) Unit 1, charging system, on November 05, 2020

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (3 Samples)

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

- (1) Unit 2, elevated risk due to 2B EDG planned maintenance on October 13, 2020
- (2) Unit 1, elevated risk with 1A low pressure safety injection (LPSI) train and 1A EDG OOS due to planned maintenance, on November 2, 2020
- (3) Unit 2, elevated risk with the 2B ICW pump OOS for a planned pump replacement, on November 15-19, 2020

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (5 Samples)

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

- (1) Action Request (AR) 2370547, Unit 2, Ventilation supply damper to 2A3 switchgear has broken blades, on October 20, 2020
- (2) AR 2370424, Unit 2, EDG 2A2 direct current (DC) turbo oil pump cycling on and off, on October 21, 2020
- (3) AR 2373267, Unit 1, corroded ICW system makeup piping to spent fuel pool, on October 28, 2020
- (4) AR 2370765, Unit 1 emergency core cooling system (ECCS) room ventilation damper found 1/2 inch open, on November 24, 2020
- (5) AR 2372698, Unit 2, 2B ICW header corrosion, on December 6, 2020

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

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

- (1) Unit 2, work order (WO) 40743733, Replace RPS L10 reactor coolant flow channel trip bistable, on October 1, 2020
- (2) Unit 2, WO 40271976, Replace FCV-25-16, control room outside air intake isolation valve, on October 7, 2020
- (3) Unit 1, WO 40512363, Replace 1A RPS hi containment pressure bistable, on October 14, 2020
- (4) Unit 2, WO 40599616, 2B ICW pump overhaul, on December 8, 2020
- (5) Unit 2, WO 40752367, 2C charging pump check valve, V2167, stuck open, on December 15, 2020

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) Unit 1, 1-OSP-99.08B, "B Train Quarterly Check Valve Cycle Test," for power-operated relief valve (PORV) BLOCK V1403, on October 1, 2020
- (2) Unit 2, 2-OSP-66.01, "Control Element Assembly Exercise," On October 29, 2020

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 1 (October 1, 2019 through September 30, 2020)
- (2) Unit 2 (October 1, 2019 through September 30, 2020)

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

- (1) Unit 1 (October 1, 2019 through September 30, 2020)
- (2) Unit 2 (October 1, 2019 through September 30, 2020)

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

- (1) Unit 1 (October 1, 2019 through September 30, 2020)
- (2) Unit 2 (October 1, 2019 through September 30, 2020)

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

- (1) Unit 1 (October 1, 2019 through September 30, 2020)
- (2) Unit 2 (October 1, 2019 through September 30, 2020)

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

- (1) Unit 1 (October 1, 2019 through September 30, 2020)
- (2) Unit 2 (October 1, 2019 through September 30, 2020)

71152 - Problem Identification and Resolution

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

- (1) The inspectors reviewed the licensee's corrective action program (CAP) for potential adverse trends that might be indicative of a more significant safety issue.

Annual Follow-up of Selected Issues (IP Section 02.03) (2 Samples)

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

- (1) AR 2364361, Unit 1, MV-21-03, A train ICW to turbine cooling water (TCW) heat exchanger (HX) isolation valve, failed to close when attempting to backflush the TCW HX
- (2) AR 2368736, Unit 1, electric-hydraulic control (EHC) leak for 1A intercept valve, resulting in down power

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

60855.1 - Operation of an Independent Spent Fuel Storage Installation at Operating Plants (1 Sample)

- (1) The inspectors evaluated the licensee's activities related to long-term operation and monitoring of their independent spent fuel storage installation, on December 15, 2020

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 11, 2021, the inspectors presented the integrated inspection results to Mr. Dan DeBoer, Site Vice President, and other members of the licensee staff.