



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

August 7, 2023

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

SUBJECT: ST. LUCIE UNITS 1 & 2 – INTEGRATED INSPECTION REPORT
05000335/2023002 AND 05000389/2023002

Dear Bob Coffey:

On June 30, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at St. Lucie Units 1 & 2. On July 24, 2023, the NRC inspectors discussed the results of this inspection with Mr. Rob Craven, Nuclear 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,

A handwritten signature in cursive script that reads "David E. Dumbacher".

Signed by Dumbacher, David
on 08/07/23

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

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

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

B. Coffey

SUBJECT: ST. LUCIE UNITS 1 & 2 – INTEGRATED INSPECTION REPORT
05000335/2023002 AND 05000389/2023002 Dated August 07, 2023

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OFFICE	RII/DRP	RII/DRP	RII/DRP	RII/DRP	
NAME	J. Hamman	J. Hickman	S. Roberts	D. Dumbacher	
DATE	08/05/2023	08/07/2023	08/07/2023	08/07/2023	

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

Docket Numbers: 05000335 and 05000389

License Numbers: DPR-67 and NPF-16

Report Numbers: 05000335/2023002 and 05000389/2023002

Enterprise Identifier: I-2023-002-0044

Licensee: Florida Power & Light Company

Facility: St. Lucie Units 1 & 2

Location: Jensen Beach, FI 34957

Inspection Dates: April 01, 2023 to June 30, 2023

Inspectors: J. Hickman, Senior Resident Inspector
D. Orr, Senior Resident Inspector
S. Roberts, 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 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 operated at or near RTP until the unit was down powered to 75 percent RTP for an oil leak on the main generator seal oil drain cooling system, on June 30, 2023. Unit 2 returned to near RTP on June 30, 2023, and remained there 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 activities described in IMC 2515, Appendix D, "Plant Status," observed risk significant activities, and completed on-site portions of IPs. 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

71111.01 - Adverse Weather Protection

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

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of hurricane season on May 30, 2023, for the following systems:
 - Unit 1 and 2 intake cooling water (ICW)
 - Offsite and alternate alternating current power systems

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 component cooling water (CCW) system while the 2C CCW pump was out of service (OOS) May 16 - 18, 2023
- (2) Unit 2 CCW system following critical maintenance management outage on 2A CCW heat exchanger on June 1, 2023
- (3) Unit 2 2A CCW header following restoration from planned maintenance on June 8, 2023

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

- (1) The inspectors evaluated system configurations during a complete walkdown of the unit 2A and 2B emergency diesel engine (EDG) system on June 30, 2023.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (5 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) Fire zones (FZ) 6 and 7, Unit 1 EDG 1A and 1B rooms, on April 13, 2023
- (2) FZs 34 and 35, Unit 1 emergency core cooling system (ECCS) pump 1A and 1B rooms, on April 13, 2023
- (3) FZs 8 and 9, Unit 2 EDG 2A and 2B rooms, on April 14, 2023
- (4) FZ 16, Unit 2 ECCS 2A and 2B pump rooms, on April 17, 2023
- (5) FZs 51W and 51E, Unit 1 reactor auxiliary building (RAB) 19.5' elevation main hallway west end and cable loft area, and hallway east of column RAH, on April 26, 2023

71111.06 - Flood Protection Measures

Flooding Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated internal and external flooding mitigation protections in the: Unit 1 RAB on May 26, 2023

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:
 - 2-OSP-09.01B, 2B Auxiliary Feedwater Pump Code Run on May 25, 2023
 - 2A CCW heat exchanger and 2A CCW pump restoration in accordance with 2-NOP-14.02, CCW System Operation on June 1, 2023

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

- (1) The inspectors observed and evaluated a licensed operator continuing training evaluation in the control room simulator on May 30, 2023.

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 remain capable of performing their intended function:

- (1) Action request (AR) 2455049 LIC-9023D, 1B steam generator D safety channel level indicator controller, drifting causing entry into 1-AOP-99.01, Loss of Tech Spec Instrumentation, review completed on June 28, 2023

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 2 elevated risk while 2C auxiliary feedwater (AFW) pump was inoperable while repairing the trip and throttle valve on May 12, 2023
- (2) Unit 2 elevated risk while 2C CCW and the 2D instrument air compressor were OOS for maintenance on May 16 - 18, 2023
- (3) Unit 1 elevated Risk while 1B EDG was OOS for maintenance on May 21-23, 2023
- (4) Unit 2 elevated risk while 2A CCW heat exchanger was OOS for maintenance on May 30 - June 1, 2023
- (5) Unit 2 elevated risk while 2B EDG was OOS for maintenance on June 20 - 26, 2023

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (3 Samples)

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

- (1) AR 2452112, Evaluate Pressurizer Heater Loading on EDG 2B, review completed on April 18, 2023
- (2) ARs 2454665 & 2455049, 2455277, LIC-9023D, 1B Steam Generator D Safety Channel Level Indicator Controller Adverse Decreasing Trend, review completed on April 25, 2023
- (3) AR 2460161, 1A Steam Generator Pressure on engineered safety features activation system ESFAS Cabinet "D" Failed, review completed on June 22, 2023

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) EC 298755, replace ESFAS "MD" 1A steam generator pressure power supply PS409 with Acopian DB15-50 power supply, on June 23, 2023

71111.24 - Testing and Maintenance of Equipment Important to Risk

The inspectors evaluated the following testing and maintenance activities to verify system operability and/or functionality:

Post-Maintenance Testing (PMT) (IP Section 03.01) (8 Samples)

- (1) WO 40852441, Charging Pump 1A Check Accumulator Pressure, review completed on April 12, 2023
- (2) WO 40872242, 480V Pressurizer Heater 480V Breaker 2B3-5B: Implement Engineering Change 298489, review completed on April 20, 2023
- (3) WO 40877437, LIC-9023D, Safety Channel – Adverse Decreasing Trend, review completed on May 2, 2023
- (4) WO 40879265, Maintenance of controlled element assembly (CEA) Motor Generator Control Failed AMR Relay, review completed on May 2, 2023
- (5) WO 40836508, HCV-21-7A, SS-21-1A Backwash Outlet Failed Actuator, review completed on May 9, 2023
- (6) WO 40822589, HCV-3647, Diagnostic Testing and Actuator Inspection, review completed on June 1, 2023
- (7) WO 40834752, MV-21-3, Stem Lube and Full Actuator Inspection, review completed on June 2, 2023
- (8) WO 40632525, Unit 2 MV-08-3, AFW Pump Trip and Throttle Valve, Stem Collar Installed Upside Down, review completed June 15, 2023

Surveillance Testing (IP Section 03.01) (6 Samples)

- (1) 1-SMI-64.06, Linear Power Range Safety and Control Channel Monthly Calibration, review completed on April 6, 2023
- (2) 2-SMI-09.40, Auxiliary Feedwater Actuation System (AFAS) Actuation Relay Test, review completed on April 13, 2023
- (3) 1-OSP-59.01B, 1B EDG Monthly Surveillance/Fast Start, review completed on April 17, 2023
- (4) 0-SME-50.01, 125 Vdc System Safety Related Battery Charger 18 Month Operability Testing, review completed on April 20, 2023
- (5) 1-OSP-59.01A, 1A EDG Monthly Surveillance/Fast Start, review completed on May 8, 2023
- (6) 0-OSP-37.01, Emergency Cooling Water Canal-Periodic Test, review completed on May 11, 2023

Inservice Testing (IST) (IP Section 03.01) (1 Sample)

- (1) 2-OSP-07.04A, 2A Containment Spray Pump Code Run, review completed on May 9, 2023

Reactor Coolant System Leakage Detection Testing (IP Section 03.01) (1 Sample)

- (1) 2-OSP-01.03, Reactor Coolant System Inventory Balance, review completed on May 9, 2023

71114.06 - Drill Evaluation

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

- (1) On May 16, 2023, the inspectors evaluated an emergency response drill that included an unidentified reactor coolant leak, manual reactor trip, loss of offsite power, 2A containment spray pump failure, and reactor coolant system sample line dose rates in excess of levels indicating fuel clad failure. The scenario included situations that

resulted in declarations of Unusual Event, Alert, Site Area Emergency, and General Emergency.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (2 Samples)

- (1) Unit 1, April 1, 2022 through March 31, 2023
- (2) Unit 2, April 1, 2022 through March 31, 2023

BI02: RCS Leak Rate Sample (IP Section 02.11) (2 Samples)

- (1) Unit 1, April 1, 2022 through March 31, 2023
- (2) Unit 2, April 1, 2022 through March 31, 2023

71152A - Annual Follow-up Problem Identification and Resolution

Annual Follow-up of Selected Issues (Section 03.03) (1 Sample)

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

- (1) AR 2450508, unexpected rise in RCS level during reactor head installation

71152S - Semiannual Trend Problem Identification and Resolution

Semiannual Trend Review (Section 03.02) (1 Sample)

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

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On July 24, 2023, the inspectors presented the integrated inspection results to Mr. Rob Craven, Nuclear Site Vice President and other members of the licensee staff.