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

August 7, 2019

Mr. Don Moul
Vice President, Nuclear Division and Chief Nuclear Officer
Florida Power & Light Company
Mail Stop: NT3/JW
15430 Endeavor Drive
Jupiter, FL 33478

SUBJECT: TURKEY POINT UNITS 3 AND 4 – INTEGRATED INSPECTION REPORT 05000250/2019002 AND 05000251/2019002

Dear Mr. Moul:

On June 30, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Turkey Point Units 3 and 4. On July 24, 2019, the NRC inspectors discussed the results of this inspection with Mr. Stamp and other members of your staff. The results of this inspection are documented in the enclosed report.

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

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/

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

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

Enclosure:
Inspection Report 05000250/2019002 and 05000251/2019002

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SUBJECT: TURKEY POINT UNITS 3 AND 4 – INTEGRATED INSPECTION REPORT 05000250/2019002 AND 05000251/2019002

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ADAMS ACCESSION NUMBER: **ML19219B126**

OFFICE	RII: DRS	RII:DRS	RII: DRP	RII: DRP	RII: DRS	RII: DRP
NAME	WPursley	WLoo	DOrr	RReyes	JRivera	RMusser
DATE	**7/31/2019**	**7/29/2019**	**7/30/2019**	**7/30/2019**	**7/30/2019**	**08/07/2019**

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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:	05000250/2019002 and 05000251/2019002
Enterprise Identifier:	I-2019-002-0020
Licensee:	Florida Power & Light Company (FPL)
Facility:	Turkey Point Units 3 and 4
Location:	9760 SW 344th Street Homestead, FL 33035
Inspection Dates:	April 1, 2019 to June 30, 2019
Inspectors:	W. Loo, Senior Health Physicist J. Orr, Senior Resident Inspector W. Pursley, Health Physicist J. Reyes, Resident Inspector J. Rivera, Health Physicist
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 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 or violations of more than minor significance were identified.

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
URI	05000250,05000251/2018002-01	Unit 3 Emergency Diesel Generator Operability during Fuel Oil Transfer to Unit 4 Fuel Oil Storage Tanks (URI 05000250, 251/2018-002-01)	71111.15	Closed

PLANT STATUS

Unit 3 began the inspection period at rated thermal power. On May 18, 2019, operators manually tripped the unit in response to lowering steam generator feedwater levels. The cause of the event was an electrical grid disturbance that resulted in turbine control valve position deviation faults. All four turbine control valves drifted closed by design in response to the position deviation faults. Unit 3 was returned to rated thermal power on May 20, 2019. On May 22, 2019, Unit 3 was down powered to 82 percent for 3C condensate pump maintenance. The unit was returned to rated thermal power on May 23, 2019, and remained at or near rated thermal power for the remainder of the inspection period.

Unit 4 began the inspection period in a refueling outage. The unit was returned to rated thermal power on April 11. 2019, and operated at or near rated thermal power 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.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

External Flooding Sample (IP Section 03.04) (1 Sample)

(1) The inspectors evaluated readiness to cope with external flooding for the following areas:
- Auxiliary Building
- Control Building
- Unit 3 and Unit 4 Emergency Diesel Generator (EDG) Buildings
- Unit 3 and Unit 4 4kV Switchgear Rooms

Seasonal Extreme Weather Sample (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of hurricane season for the following Units 3 and 4 systems, structures or components:
- Intake cooling water (ICW) systems
- Component cooling water (CCW) systems
- Refuel water storage tanks

- Auxiliary building roof
- 240kV switchyard
- Emergency diesel generators (EDGs)
- Start-up transformers

Summer Readiness Sample (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated summer readiness of offsite and alternate alternating current (AC) power systems.

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) 3B EDG while the 3A EDG was out of service (OOS) on April 2, 2019
(2) Auxiliary feedwater (AFW) system while the C AFW pump was OOS on April 29, 2019
(3) Unit 4 CCW and ICW systems while the 4C CCW heat exchanger was OOS for re-tubing on May 2 - 3, 2019
(4) A AFW pump and train 1 AFW after restoration from surveillance testing on May 21 - 22, 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 4 EDG system on May 6, 15, 17, and 28, 2019, and June 17, 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) 3A 4kV switchgear room (Fire zone FZ 71) and 3B 4kV switchgear room (FZ 70) on April 2, 2019
(2) Unit 3 and 4 AFW pump area (FZ 84), Unit 3 steam generator feed pump (SGFP) area (FZ 69), and Unit 4 SGFP area (FZ 66) on April 4, 2019
(3) Unit 3 and 4 cable spreading room (FZ 98) on April 16, 2019
(4) DC equipment room 3A (FZ 104), DC equipment room 4B (FZ 101), and Units 3 and 4 electrical equipment room (FZ 25) on April 25, 2019
(5) Unit 3 480V load centers A and B room (FZ 95) and Unit 3 480V load centers C and D room (FZ 96) on June 18, 2019

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (5 Samples)

(1) The inspectors observed and evaluated licensed operator performance in the Control Room during Unit 4 reactor startup on April 9, 2019
(2) The inspectors observed and evaluated licensed operator performance in the Control Room to 4A reactor coolant pump seal annunciator alarms and entry into off-normal procedure 4-ONOP-041.1, Reactor Coolant Pump Off-Normal on April 9, 2019
(3) The inspectors observed and evaluated licensed operator performance in the Control Room during response to a loss of the 4CM instrument air compressor on May 16, 2019
(4) The inspectors observed and evaluated licensed operator performance in the Control Room during Unit 3 reactor startup on May 19, 2019
(5) The inspectors observed and evaluated licensed operator performance in the Control Room during a routine swap of the operating Unit 3 ICW pumps on June 7, 2019

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

(1) The inspectors observed and evaluated a simulator scenario administered to an operating crew on May 6, 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) FPL's a(3) periodic evaluation documented in AR 2099606 on June 18, 2019
(2) Maintenance rule criteria for a(1) of individual local leak rate test failures documented in AR 2319193 on May 15 and 17, 2019, and June 12 and 14, 2019

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (6 Samples)

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

(1) Unit 3 and Unit 4 online risk with 4C CCW heat exchanger, A and B service water pumps, Unit 4 1B and 2B load center and switchgear rooms air conditioning, and E231 electrical equipment room condensing unit OOSs on May 6, 2019
(2) Unit 3 and Unit 4 online risk with 4A CCW heat exchanger, B service water pump, E231 electrical equipment room condensing unit, 4CM instrument air compressor, and 3A charging pump OOSs on May 22, 2019
(3) Unit 3 and Unit 4 online risk with 3A charging pump, B service water pump, and E231 electrical equipment room condensing unit OOSs on May 28, 2019
(4) Unit 3 and Unit 4 online risk with 3B CCW heat exchanger, 4A charging pump, 4A high head safety injection pump, and 4C ICW pump OOSs on May 30, 2019

(5) Unit 3 and Unit 4 online risk with 3A ICW pump, 4C vital AC inverter, B service water pump and E231 electrical equipment room condensing unit OOSs on June 7, 2019
(6) Unit 3 and Unit 4 online risk with 3A EDG, A AFW pump, and train 1 AFW OOSs during surveillance testing of 4B steam generator protective channel surveillance testing on June 17 & 18, 2019.

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 02.02) (7 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

(1) AR 2307450, 4-312A, charging to reactor coolant loop A check valve, failed inservice back-leakage test on April 1 & 2, 2019
(2) ARs 2309638, 2309664, and 2309781, Unit 4 reactor coolant pump seal anomalies on April 10, 2019
(3) AR 2310933, LI-4-478, 4A steam generator alternate feedwater level indicator controlling low on April 24 - 26, 2019, and June 17, 2019
(4) ARs 2316994, 2317227, and 2317749, foreign material intrusion in 3A ICW pump on June 14 & 17, 2019
(5) ARs 2303183 and 2303168, past operability review for unplanned 72 hour technical specification entry for 4A containment spray pump on June 17, 2019
(6) AR 2294762, inoperable Unit 4 CCW pipe support on June 18 & 19, 2019
(7) AR 2318583, Unit 3 containment air particulate and radioactive gas monitors R11 and R12 inoperable due to a control room power supply failure on June 24, 2019

71111.19 - Post-Maintenance Testing

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

The inspectors evaluated the following post maintenance tests:

(1) 4-OSP-075.6, Auxiliary Feedwater Train 1 Backup Nitrogen Test after replacement of train 1 AFW flow control valve current to pneumatic transducers performed in work order (WO) 40583458
(2) 4-OSP-030.4, Component Cooling Water Heat Exchanger Performance Test after full retube of 4B CCW heat exchanger performed in WO 40583520
(3) VT2 Visual Examination Record and ASME Section XI System Leakage Pressure Test Record for replacement of 4-873D, safety injection to loop A cold leg drain valve, performed in WO 40567305
(4) VT2 Visual Examination Record, ASME Section XI System Leakage Pressure Test Record, and 4-OSP-041.17, RCS/RHR Loop Pressure Boundary Test for repair of 4-876C, residual heat removal to loop C check valve performed in WO 40569659
(5) MA-AA-203-1000, Maintenance Testing after 4Y05 7.5kVA vital inverter maintenance performed in WO 40586715
(6) 3-OSP-075.1, Auxiliary Feedwater Train 1 Operability Verification after A AFW pump lube oil cooling system relief valve replacement performed in WO 40584746
(7) 3-OSP-019.1, Intake Cooling Water Test, after emergent repairs to the 3A ICW pump performed in WO 40586715

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated refueling outage 4PTN31 which began on March 11, 2019 and completed on April 11, 2019.

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Inservice Testing (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 April 17, 2019

Surveillance Tests (other) (IP Section 03.01) (3 Samples)

(1) 0-OSP-059, Core Mapping Following Core Loading results reviewed on April 15, 2019
(2) 4-SMI-072.01A, P-4-468, P-4-474, P-4-484 and P-4-494 Steam Pressures ACOT, Protection Channel II on May 7, 2019
(3) 3-OSP-024.2, Emergency Bus Load Sequencer Manual Test on May 22, 2019

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

(1) Emergency plan implementation during operator license requalification training in the main control room simulator on May 6, 2019.

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

Contamination and Radioactive Material Control (IP Section 02.03) (1 Sample)

(1) The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material. The inspectors verified the following sealed source was accounted for and are intact:
    - J.L. Shepherd and Associates, Model 6810 Calibrator, Serial No. 0308GY

High Radiation Area and Very High Radiation Area Controls (IP Section 02.05) (1 Sample)

(1) The inspectors evaluated risk-significant high radiation area and very high radiation area controls.

Instructions to Workers (IP Section 02.02) (1 Sample)

(1) The inspectors evaluated instructions to workers including radiation work permits used to access high radiation areas:

Radiation Work Packages

- RWP No. 19-0400, Flux Map Detector Replacement - A, B, C, D, & E Detector Changeouts, Troubleshooting and Repair of Flux Mapper Components, Rev. 00
- RWP No. 19-4010, Seal Table and Flux Mapper System Work, Rev. 00
- RWP No. 19-4019, Steam Generator Primary Side Work, Rev. 00
- RWP No. 19-4216, Outage Valve Work in Auxiliary Building, RWB and RCA Yard, Rev. 00
- RWP No. 19-4030, Mechanical Maintenance & Utility Worker Maintenance Support, Rev. 00

Electronic Alarming Dosimeter Alarms

- Exposure Investigation Report, HP-12.6 LOG #s 19-017, 19-027, 19-037, 09-057, 19-058, and 19-062

Labeling of Containers

- Noted marking and labeling of multiple rad material containers located inside the Protected Area, Reactor Buildings, and Low Level Waste Facility.

Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 02.06) (1 Sample)

(1) The inspectors evaluated radiation worker performance and radiation protection technician proficiency.

Radiological Hazard Assessment (IP Section 02.01) (1 Sample)

(1) The inspectors evaluated radiological hazards assessments and controls. The inspectors reviewed the following:

Radiological Surveys

- 4-RCB-14/U4 14’ Elev Cavity Drain Valves/U4, Survey No. PTN-M-20190313-23
- 4-RCB-14/U4 Bottom of Pressurizer/U4 RCB/P, Survey No. PTN-M-20190315-32
- 4-RCB-14/U4 Containment 14” Inside Biowall/U41, Survey Nos. PTN-M-20190311-8, PTN-M-20190314-17, and PTN-M-20190315-19
- Flux Mapper, Survey No. PTN-M-20190318-50
- Flux Mapper U 4 “B” Repair, Survey No. PTN-M-20190412-1
- Full body entry for Ranger removal on C S/G Hot Leg, Survey No. PTN-M-20190320-25
- U-4 Equipment Escape Hatch, Survey PTN-M-20190409-13
- U-4 Pipe & Valve Room Breech Valve 4-202A, Survey PTN-M-20190319-33

Risk Significant Radiological Work Activities

- ‘A’ and “C’ RCP Seal Replacement
- ‘C’ RCP Motor Replacement

- Sludge Lance equipment installation
- Steam Generator Eddy Current Testing Activities
- U4 Power Entry to Repair “B” Flux Map Detector

Air Sample Survey Records

- Air Calculation Sheet, “C” S/G Platform, Air Sampler Instrument No. 1400, Air Sampler Log Reference No. P0-19-0235, 03/20/19
- Air Calculation Sheet, U4 Flux Mapper, Air Sampler Instrument No. 1673, Air Sampler Log Reference No. P0-19-0183, 03/18/19
- Air Calculation Sheet, U4 Pipe & Valve, Air Sampler Instrument No. 1129, Air Sampler Log Reference No. P0-11-19-0243, 03/19/19
- Air Calculation Sheet, U4 RCB 30’ 6” Flux Map, Air Sampler Instrument No. 1236, Air Sampler Log Reference No. P0-I1-G1-19-0558, 04/12/19

Radiological Hazards Control and Work Coverage (IP Section 02.04) (1 Sample)

(1) The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of radiological work activities. The inspectors also reviewed the following radiological work package for areas with airborne radioactivity:

- Sludge Lance equipment installation
- Steam Generator Eddy Current Testing Activities
- U4 Power Entry to Repair “B” Flux Map Detector

71124.02 - Occupational ALARA Planning and Controls

Implementation of ALARA and Radiological Work Controls (IPSection 02.03) (1 Sample)

(1) The inspectors reviewed ALARA evaluations and radiological work controls. The following activities and evaluations were reviewed:

- RWP 19-4019, Steam Generator Primary Side Work, Unit 4
- RWP 19-4020, Steam Generator Secondary Side Work, Unit 4
- Job In-Progress ALARA Review for Steam Generator Primary Side Work, U4R31 Refueling Outage
- Job In-Progress ALARA Review for BMI Work, U4R31 Refueling Outage
- Post-Job ALARA Review for Refueling Activities, U3R30 Refueling Outage

Radiation Worker Performance (IP Section 02.04) (1 Sample)

(1) The inspectors evaluated radiation worker and radiation protection technician performance and implementation of ALARA techniques and controls for work activities during U4R31 refueling outage.

Radiological Work Planning (IP Section 02.01) (1 Sample)

(1) The inspectors evaluated the licensee’s radiological work planning. The following plans were reviewed:

- ALARA Package No. 18-008, Unit 3 Refueling Activities
- ALARA Package No. 19-006, Unit 4 Steam Generators - Primary

- ALARA Package No. 19-007, Unit 4 Steam Generators - Secondary
- ALARA Package No. 19-008, Unit 4 Bottom Mounted Instrumentation Project (BMI)
- ALARA Package No. 19-009, Unit 4 Refueling Activities

Verification of Dose Estimates and Exposure Tracking Systems (IP Section 02.02) (1 Sample)

(1) The inspectors evaluated dose estimates, exposure tracking and source term reduction effectiveness.

71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

Engineering Controls (IP Section 02.01) (1 Sample)

(1) The inspectors evaluated airborne controls and radioactive monitoring. The inspectors reviewed the following:

Installed Ventilation Systems
- Work Order Package 40508072 02, Control Room Emergency Ventilation System Filter Performance Test, 05/23/17 and 11/14/18; and Control Room Emergency Ventilation Filter Charcoal Sample Analysis, 05/23/17 and 11/15/18

Temporary Ventilation System Setups
- Steam Generator Eddy Current Testing Activities in Containment

Portable or Installed Monitoring Systems
- Observed selected portable AMS-4s in various locations in the Auxiliary and Reactor Buildings

Self-Contained Breathing Apparatus for Emergency Use (IP Section 02.03) (1 Sample)

(1) The inspectors evaluated self-contained breathing apparatus program implementation. The inspectors reviewed the following:

Status and Surveillance Records for Self-Contained Breathing Apparatus
- HP-90, SCBA Inventory, Inspection, and Repair Record, 04/08/19
- HP-93.1, SCBA Air Bottle Inspection and Inventory Record, 04/08/19

Self-Contained Breathing Apparatus Fit for On-Shift Operators
- ERO Qualified Personnel SCBA Status and Expiration Date List for Selected On-Shift Operators on Alpha, Bravo, Charlie, and Delta Shifts

Self-Contained Breathing Apparatus Maintenance Check
- Posi3 USB Test Results, Functional Test, FPL Turkey Point 2017, Regulators: 89200080, 07/26/17; 89200102, 07/25/17; and 89200147, 07/25/17

Use of Respiratory Protection Devices (IP Section 02.02) (1 Sample)

(1) The inspectors evaluated respiratory protection. The inspectors reviewed the following:

Evaluations for the Use of Respiratory Protection

- Evaluated individuals who used respiratory protection devices for Unit 4 Steam Generator Eddy Current Testing Activities

Respiratory Protection Use During Work Activities

- Hot Leg "C" Steam Generator Eddy Current Testing Activities

Medical Fitness for Use of Respiratory Protection Devices

- ERO Qualified Personnel SCBA Status and Expiration Date List for Selected Chemistry, Electrical, I&C, Mechanical, and Radiation Protection Technicians

Observation of Donning, Doffing and Functional Test

- No observations were available during this inspection period

Respiratory Protection Device Evaluation

- Evaluated selected respiratory protection devices that were staged and ready for use at the Control Room, Operations Support Center, and Radiation Contamination Area Control Point

71124.04 - Occupational Dose Assessment

External Dosimetry (IP Section 02.02) (1 Sample)

(1) The inspectors evaluated the external dosimetry program implementation.

Internal Dosimetry (IP Section 02.03) (1 Sample)

(1) The inspectors evaluated the internal dosimetry program implementation. As available, the inspectors reviewed records for whole body counts, in-vitro internal monitoring, and dose assessments performed using air sampling and derived air concentration- hour monitoring for select individuals while on site.

Source Term Categorization (IP Section 02.01) (1 Sample)

(1) The inspectors evaluated the licensee’s characterization of the source term and use of scaling factors for the use of hard-to-detect radionuclide activity.

Special Dosimetric Situations (IP Section 02.04) (1 Sample)

(1) The inspectors evaluated special dosimetric situations. As available, the inspectors reviewed records for declared pregnant workers, effective dose equivalent exposures, shallow dose equivalent assessments, and neutron dose assessments for select individuals while on site.

71124.05 - Radiation Monitoring Instrumentation

Calibration and Testing Program (IP Section 02.02) (1 Sample)

(1) The inspectors evaluated the calibration and testing program implementation.

Alarm setpoint and calibration method check of personnel contamination monitors, portal monitors and small article monitors

Calibration of GEM-5 HPI# 1563 at Security Building Exit, 01/02/2019
Calibration of CRONOS Serial # 0912-039, 11/30/2018
Calibration of ARGOS-5AB Serial # 0904-108, 05/22/2018
Calibration of GEM-5 HPI# 1563 at Security Building Exit, 01/02/2019

Failure to meet calibration or source check acceptance criteria

- None were available that had significantly failed (>50%) source checks or calibrations for the inspection period.

Walk Downs and Observations (IP Section 02.01) (1 Sample)

(1) The inspectors evaluated radiation monitoring instrumentation during plant walkdowns.

Portable survey instruments

- Miriam Telepole #1144
- Ludlum 9-3 Ion Chamber #1658
- Ludlum 12 Count Rate Meter #1442
- Eberline ASP1 Rem Ball #775
- Thermo Scientific Rad Eye Neutron Rem Ball #1671
- Ludlum 2200 Scalar #1460
- F&J Model LV-14M HPI# 1399 Calibration, 10/18/2018
- RADECO H809V HPI# 1608 Calibration, 03/27/2019

Source check demonstration

- Miriam Telepole #1144
- Ludlum 9-3 Ion Chamber #1658
- Thermo Scientific Rad Eye Neutron Rem Ball #1671

Area radiation monitors and continuous air monitors

- Eberline AMS 4, HPI# 1215 in Auxiliary Building, 03/06/2019
- Area Radiation Monitors RD-1410, RD-1412, RD-3-1413, RD-4-1414, RD-3-1415, RD-4-1416, RD-1417 and RD-1418 in the Auxiliary Building and RD-1420 in the Control Room.

Personnel contamination monitors, portal monitors and small article monitors

- GEM-5 Portal Monitors #s 1560, 1561, 1562, and 1563 at Security Exit Point
- ARGOS Personnel Contamination Monitors #s 1302, 1339 and 1341 at RCA Exit
- CRONOS-4 #1513 at RCA Exit
- CRONOS-11 # 1395 at RCA Release Point

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 3 April 2018 through March 2019
(2) Unit 4 April 2018 through March 2019

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

(1) Unit 3 April 2018 through March 2019
(2) Unit 4 April 2018 through March 2019

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

(1) October 2018 through March 2019

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample. (IP Section 02.16) (1 Sample)

(1) April 2018 through March 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 adverse trends in ASME Code inservice testing and inservice inspection that might be indicative of a more significant safety issue on June 14, 15, and 26, 2019. The review concluded there was no adverse trend.

71153 - Followup of Events and Notices of Enforcement Discretion

Event Followup (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated a Unit 3 manual reactor trip in response to lowering feedwater levels in all three steam generators on May 18, 2019. The cause of the event was an electrical grid disturbance that resulted in turbine control valve position deviation faults. All four turbine control valves drifted closed by design in response to the position deviation faults. The inspectors evaluated the operators' response to the event and the plant transient.

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 April 30, 2019

INSPECTION RESULTS

Unresolved Item (Closed)	Unit 3 Emergency Diesel Generator Operability during Fuel Oil Transfer to Unit 4 Fuel Oil Storage Tanks (URI 05000250, 251/2018-002-01)	71111.15

Description: On April 4, 2018, the inspectors inquired about FPL's determination that the 3A EDG was operable during a fuel oil (fuel) transfer to the 4B EDG fuel oil storage tank (FOST). To perform the fuel transfer, operators aligned the 3A EDG fuel transfer system by: 1) removing the 3A EDG fuel transfer pump control switch from the automatic position; 2) closing the air-operated fill valve CV-3-2046A, to the 3A EDG day tank, by isolating and venting its instrument air supply line; and, 3) opening normally locked-closed Unit 3 and Unit 4 fuel transfer valves. FPL did not consider the 3A EDG inoperable in this alignment and credited operator manual actions (OMAs) to restore its day tank to automatic fill operation. FPL entered this issue into its corrective action program as AR 2269269 to complete a design and license basis evaluation of EDG operability during cross unit fuel oil transfers. This issue was described as URI 05000250, 251/2018002-01, Unit 3 EDG Operability during Fuel Oil Transfer to Unit 4 FOSTs in NRC Inspection Report 05000250/2018002 and 05000251/2018002 (ADAMS ML18222A375).

FPL completed the design and license basis evaluation and concluded that an EDG is not operable when its fuel transfer system line-up is not in automatic operation. Specifically, any time the EDG fuel transfer system requires OMAs to perform its function, the associated EDG will be considered inoperable. Using the revised EDG operability interpretation, FPL completed a three-year review to determine if there were any EDG Technical Specification (TS) compliance issues during cross unit fuel oil transfers. There were five fuel transfers completed in 2019: two on February 28; one on April 17; and two on May 1. These fuel transfers did include logging and declaring the diesel out of service as required by the licensee's interim corrective actions and shows the fuel transfers took on average about 1 hour each. Through review of these control room logs, fuel transfer procedures, and operational history of EDG fuel oil transfers, FPL concluded that the fuel transfers were generally and reasonably completed within one to two hours at most. However, FPL determined that over the three-year period prior to 2019, there were multiple examples where a Unit 3 EDG should have been considered inoperable for a cross unit or cross train fuel transfer and TS action statements would have applied. The action statements were administrative in nature and included:

- 3.8.1.1.b. to demonstrate the operability of the required startup transformers and their associated circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter;

- 3.8.1.1.d.1 within 2 hours to verify that all required systems, subsystems, trains, components, and devices (except safety injection pumps) that depend on the remaining required operable diesel generators as a source of emergency power are also operable; and,

- 3.8.1.1.d.2. within 2 hours to verify that at least two safety injection pumps are operable and capable of being powered from their associated operable diesel generators.

Procedure 0-OSP-023.3, Equipment Operability Verification with an Emergency Diesel Generator Inoperable, implements these surveillance requirements. FPL's review identified that eight Unit 3 to Unit 4 fuel oil transfers occurred during a Unit 4 EDG out of service period. The dates of these fuel transfers were: August 17, 2016; August 30, 2016; January 16, 2018; April 4, 2018; April 5, 2018; two on April 24, 2018; and May 22, 2018. Using the revised EDG operability criteria, this now resulted in an inoperable EDG on each unit and the most limiting TS action statement, 3.8.1.1.d. would have applied and required each unit to be in hot standby within the next six hours. However, the inspectors agreed this action statement was never required because the cross unit or cross train fuel oil transfers historically were reasonably completed in one to two hours.

This URI is closed to a Minor Violation: Unit 3 Emergency Diesel Generator Operability during Fuel Oil Transfer to Unit 4 Fuel Oil Storage Tanks (URI 05000250, 251/2018-002-01)

Minor Violation: Unit 3 Emergency Diesel Generator Operability during Fuel Oil Transfer to Unit 4 Fuel Oil Storage Tanks (URI 05000250, 251/2018-002-01)	71111.15

The inspectors reviewed FPL's operability assessment documented in AR 2290093 and the EDG fuel transfer procedures to verify no other safety-related structures, systems, or components were made inoperable during the fuel transfer process. The inspectors reviewed the timeline for selected examples of EDG inoperability during fuel transfer operations and confirmed the startup transformers and the safety injection pumps were operable during the periods of EDG inoperability. The inspectors reviewed the EDG start and sequencer circuitry and confirmed the EDG was available to start and sequence during fuel transfer operations. The inspectors reviewed calculation PTN-0FSM-19-001 and AR 228977 that determined the required TS minimum 2000 gallons of fuel in the combined day tank and skid tank with a fuel consumption rate of 132 gallons per hour, equates to approximately 15 hours of EDG operation. This provided the fuel capacity for the EDG to operate and supply vital power for 15 hours during a loss of offsite power (LOOP) scenario. Additionally, for a maximum load a single diesel could experience during a station black out event, the consumption rate would be 220 gallons per hour and would equate to 9 hours of EDG operation. Hence, EDG fuel transfer system could be realigned to operable status and function automatically well before fuel transfer to the day tank is required.

The inspectors determined the failure to consider an EDG inoperable during a cross unit or cross train fuel transfer that disabled the automatic fuel transfer operation from the FOST to the associated EDG day tank was a performance deficiency that resulted in several failures to complete TS action statements 3.8.1.1.b, 3.8.1.1.d.1, and 3.8.1.1.d.2.

Screening: TS action statements 3.8.1.1.b, 3.8.1.1.d.1, and 3.8.1.1.d.2. were administrative in nature and the results of the required surveillances would have been satisfied. There was no safety significance to this performance deficiency and this issue is treated as a minor violation. Additionally, this issue is similar to the minor issue described in NRC Inspection Manual Chapter 0612 Appendix E, example 4.I, Procedural Errors in that the failure to implement a TS and procedural requirement had no safety impact was considered a minor issue.

Enforcement: This failure to comply with Technical Specifications 3.8.1.1.b, 3.8.1.1.d.1, and 3.8.1.1.d.2 constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. FPL now declares the EDG inoperable during fuel transfers when the associated fuel transfer system is not aligned for automatic operation and complies with the required TS actions statements during these fuel transfers.

EXIT MEETINGS AND DEBRIEFS

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

- On July 24, 2019, the inspectors presented the integrated inspection results to Mr. Stamp and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.01	Corrective Action Documents	02306260	Trend in dose rate alarms on RWP 19-4030 Task 2	03/22/2019
71124.01	Corrective Action Documents Resulting from Inspection	02310062	NRC Identified - Dose Alarm Package Quality	04/11/2019
71124.01	Procedures	0-HPS-021.3	Radiological Controlled Area Exit for Personnel	Rev. No. 7
71124.01	Procedures	RP-AA-102-1001	Area Radiological Surveys	Rev. No. 5
71124.01	Procedures	RP-AA-103-1001	Posting Requirements for Radiological Hazards	Rev. No. 5
71124.01	Procedures	RP-AA-103-1002	High Radiation Area Controls	Rev. No. 9
71124.01	Procedures	RP-AA-107-1003	Unconditional and Conditional Release of Material	Rev. No. 9
71124.01	Procedures	RP-AA-107-1004	Procedure for Radioactive Source Controls and Leak Checking	Rev. No. 2
71124.01	Procedures	RP-TP-101-1003	Personnel Contamination Monitoring and Decontamination	Rev. No. 3
71124.02	Corrective Action Documents	02256389	ALARA post-job reviews lack corrective actions	
71124.02	Corrective Action Documents	02289089	AR not generated for BMI exceeding original dose estimate	
71124.02	Procedures	RP-AA-104	ALARA Program	Rev. 7
71124.02	Procedures	RP-AA-104-1000	ALARA Implementing Procedure	Rev. 15
71124.03	Procedures	0-HPA-028	High Efficiency Particulate Air (HEPA) Filtration Ventilation Systems in the Radiation Controlled Area	Rev. No. 4
71124.03	Procedures	0-HPS-061.2	Air Pack Bottle Charging	Rev. No. 6
71124.03	Procedures	0-HPS-062.2	Use of the Self-Contained Breathing Apparatus	Rev. No. 2
71124.03	Procedures	0-HPS-063.2	Maintenance and Accountability of Respiratory Protection Equipment	Rev. No. 10
71124.03	Procedures	0-HPS-063.4	Selection and Issue of Respiratory Protection Equipment	Rev. No. 6
71124.03	Procedures	RP-AA-106	Respiratory Protection Program	Rev. No. 1
71124.04	Corrective Action Documents	02308452	Personnel contamination - personnel working in U4 containment upper cavity	
71124.04	Corrective Action Documents	02308658	Personnel contamination - equipment hatch forklift driver	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.04	Procedures	0-HPA-030	Personnel Monitoring of External Dose	Rev. 3D
71124.04	Procedures	0-HPA-031.2	Multibadge Exposure Monitoring	Rev. 0D
71124.04	Procedures	RP-AA-101	Personnel Monitoring Program	Rev. 4
71124.05	Calibration Records	HPGE Detector #2	HPGE Detector #2 Calibration	09/04/2018
71124.05	Calibration Records	HPI#1460	Ludlum 2200 HPI#1460 Calibration	01/29/2019
71124.05	Calibration Records	RT-11 Calibrator S/N 028, HPI #635	RT-11 Calibrator	02/02/1993
71124.05	Calibration Records	Shepherd Model 89 Shielded Range Calibrator Radcal Model 1515 HPI #916 Digital Flow Calibrator S/N H817	Annual Certification of Shepherd Model 89 Shielded Range Calibrator Radcal Model 1515 #916 Calibration Digital Flow Calibrator S/N H817 Calibrated	Shepherd Model 89 Shielded Range Calibrator, 02/14/2018, RadCal, 11/12/2018 and Digital Flow Calibrator, 04/03/2018
71124.05	Calibration Records	Tennelec Series 5 XLB	Tennelec Series 5 XLB Calibratrion	03/29/2019
71124.05	Calibration Records	W/O 40350804 01	Containment High Range Radiation Monitor RAD-4-6311A, Calibration	04/11/2016
71124.05	Calibration Records	W/O 40350804 02	Containment High Range Radiation Monitor RAD-4-6311B, Calibration	04/11/2016
71124.05	Calibration Records	W/O 40431727 01	Containment High Range Radiation Monitor RAD-3-6311A, Calibration	04/26/2017

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.05	Calibration Records	W/O 40431727 02	Containment High Range Radiation Monitor RAD-3-6311B, Calibration	04/18/2017
71124.05	Calibration Records	W/O 40470602 01	Containment High Range Radiation Monitor RAD-4-6311A, Calibration	10/05/2017
71124.05	Calibration Records	W/O 40470602 02	Containment High Range Radiation Monitor RAD-4-6311B, Calibration	10/13/2017
71124.05	Calibration Records	W/O 40542021 01	Containment High Range Radiation Monitor RAD-3-6311A, Calibration	10/18/2018
71124.05	Calibration Records	W/O 40542021 02	Containment High Range Radiation Monitor RAD-3-6311B, Calibration	10/26/2018
71124.05	Calibration Records	WBC 1	Canberra FastScan 2 WBC Calibration	10/24/2018
71124.05	Calibration Records	WBC 2	Extended FastScan WBC Calibration	10/24/2018
71124.05	Procedures	0-HPA-010	Radiation Protection Instrument Plan	Revision 8A
71124.05	Procedures	0-HPT-018	Calibration of Survey Instruments	Revision 5
71124.05	Procedures	3-PMI-066.3	Containment HI Range Radiation Monitoring System Channels 6311A/B Calibration	Revision 2
71124.05	Self-Assessments	PTN 18-002	Radiation Protection and Radwaste Assessment	04/11/2018
71151	Miscellaneous		Electronic Dosimeter Alarms Log, 10/01/18 - 03/31/19	
71151	Miscellaneous		Open EMS Effluent Management Software Gas and Liquid 2018 Annual Summary Reports Units 3 and 4	