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

February 11, 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: TURKEY POINT UNITS 3 & 4 – INTEGRATED INSPECTION REPORT 05000250/2020004 AND 05000251/2020004 AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION INSPECTION (ISFSI) 07200062/2020002

Dear Mr. Moul:

On December 31, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Turkey Point Units 3 & 4. On January 14, 2021, the NRC inspectors discussed the results of this inspection with Mr. Michael Pearce, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC Resident Inspector at Turkey Point Units 3 & 4.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; and the NRC Resident Inspector at Turkey Point Units 3 & 4.

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

Enclosure:
As stated

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SUBJECT: TURKEY POINT UNITS 3 & 4 – INTEGRATED INSPECTION REPORT 05000250/2020004 AND 05000251/2020004 dated February 11, 2021

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NAME	R. Reyes	D. Orr	J. Hamman	B. Venkataraman	
DATE	02/10/2021	02/10/2021	02/10/2021	02/11/2021	

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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:	05000250/2020004, 05000251/2020004, and 07200062/2020002
Enterprise Identifier:	I-2020-004-0039 and I-2020-002-007
Licensee:	Florida Power & Light Company
Facility:	Turkey Point Units 3 & 4
Location:	Homestead, FL 33035
Inspection Dates:	October 01, 2020 to December 31, 2020
Inspectors:	P. Cooper, Senior Reactor Inspector C. Dykes, Senior Health Physicist M. Magyar, Reactor Inspector D. Orr, Senior Resident Inspector R. Reyes, Resident Inspector J. Rivera, Health Physicist
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 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

Inadequate procedural compliances during erecting of scaffold caused damage to safety-related motor operated valve during operation			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000251/2020004-01 Open/Closed	[H.8] - Procedure Adherence	71111.15
A self-revealed, Green finding and associated, non-cited violation (NCV) of Technical Specification 6.8.1 was identified when the licensee failed to follow procedure MA-AA-100-1002, Scaffold Installation, Modification, and Removal Requests, when the licensee erected a scaffold that interfered with operation of plant equipment. During testing of motor-operated valve, MOV-4-861B, containment south recirculation sump isolation valve, the valve stem local position indicator impacted a scaffold in the B residual heat removal (RHR) pump room and caused damage to the position indicator requiring MOV-4-861B to be taken out of service for corrective maintenance.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000250/2020-004-00	LER 2020-004-00 for Turkey Point Unit 3 re Manual Reactor Trip in Response to Automatic Trip of the 3B Steam Generator Feedwater Pump	71153	Closed
LER	05000250/2020-003-00	LER 2020-003-00 for Turkey Point, Unit 3, Automatic Reactor Trip due to High Source Range Flux during Reactor Startup	71153	Closed

PLANT STATUS

Unit 3 began the inspection period at near rated thermal power. Unit 3 experienced an automatic turbine runback to 83% power on November 7, 2020, in response to several feedwater system control valves failing and causing the heater drain pumps to trip. Unit 3 was down-powered to 25% on November 21, 2020, to facilitate repairs to the Distributed Control System which was the cause for several feedwater system control valves failing on November 7, 2020. Unit 3 was returned to rated thermal power on November 23, 2020. Unit 3 was down-powered to 42% rated thermal power on December 2, 2020, to facilitate an emergent repair to a protective relay associated with the 3C transformer. The 3C transformer supplies electrical power to the 3C condensate and 3B steam generator feedwater pumps. Unit 3 was returned to rated thermal power on December 5, 2020. Unit 3 was down-powered to 50% power on December 16, 2020, when operators entered an off-normal procedure for high sodium concentrations in all three steam generators. Unit 3 power was increased to 55% on December 24 and remained at that power level for the remainder of the inspection period to facilitate main condenser tube inspections and plugging to eliminate the source of sodium contamination in the condensate system.

Unit 4 began the inspection period in end-of-cycle coastdown at 95% rated thermal power and was shutdown on October 3, 2020, to begin refueling outage T4R32. Unit 4 was restarted on November 14, 2020, and returned to rated thermal power on November 22, 2020, and remained 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.

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

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (1 Sample)

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

(1) 3A, 3B, and 4B high head safety injection pumps; Unit 3 refueling water storage tank; and, the 3A, 3B, and 4B safety-related 4 kilo-Volt (kV) switchgears while the 4A safety-related 4kV switchgear was out of service (OOS) on October 15, 2020

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

(1) Unit 3 and Unit 4 Auxiliary Feedwater Systems on November 4, 2020

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (1 Sample)

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 3A, 3B, 4A and 4B Safety-related 4Kv Switchgears, Fire zones 71, 70, 68 and 67 respectively. Unit 3A, 3B, 3C, 3D, 4A, 4B, 4C, and 4D safety-related 480-Volt Load Centers, Fire zones 095, 096, 093 and 094 respectively, on November 9, 2020

71111.08P - Inservice Inspection Activities (PWR)

PWR Inservice Inspection Activities Sample (IP Section 03.01) (1 Sample)

(1) The inspectors verified that the reactor coolant system boundary, steam generator tubes, reactor vessel internals, risk-significant piping system boundaries, and containment boundary are appropriately monitored for degradation and that repairs and replacements were appropriately fabricated, examined and accepted by reviewing the following activities from October 12 - 16, 2019:

03.01.a - Nondestructive Examination and Welding Activities.

- Ultrasonic Testing (UT)
  - 12"-RC-1401-9, Pressurizer safe end to nozzle weld, ASME Class 1, Report # 5.39-001
  - 3"-CH-1401-37, Elbow to Branch Connection, AUG/MRP-146, ASME Class 1, WO#40679281
- Liquid Penetrant (PT)
  - 4-312A, Replacement of Charging to Reactor Coolant Loop "A" Check Valve, ASME Class 1, WO#40656497
  - 12"-RC-1401-9, Pressurizer safe end to nozzle weld, AUG/LR, ASME Class 1 , WO#40678614
- Radiographic Inspection Technique (RT)
  - 4-312A, Replacement of Charging to Reactor Coolant Loop "A" Check Valve, ASME Class 1, WO#40656497

03.01.c – Pressurized-Water Reactor Boric Acid Corrosion Control Activities.

- 4-298J, RCP C Seal Water Injection Isolation Valve, AR02370233
- CV-4-310A, Charging to RC loop A Control Valve, AR02370232

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 28, 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 71111.11.

(1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam administered on December 2, 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) (1 Sample)

(1) The inspectors observed and evaluated licensed operator performance in the control room during:
    - 4-GOP-305, Hot Standby to Cold Shutdown; 4-ONOP-046.4, Malfunction of Boron Concentration Control System; and, 4-OSP-059.6, Source Range High Flux at Shutdown Setpoint Calibration on October 3, 2020
    - 4-NOP-041.07, Draining the Reactor Coolant System on October 6 - 7, 2020
    - Through wall leak on the Unit 4 emergency boration line and Technical Specification 3.0.3 entry and exit on December 14, 2020

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

(1) The inspectors observed and evaluated an operating crew’s response to a requalification training simulator scenario in the control room simulator on November 19, 2020.

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) AR 2092653, Unit 3 startup transformer lockout (event date on November 18, 2015) and a(1) action plan on December 22, 2020

Quality Control (IP Section 03.02) (1 Sample)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure several safety-related SSCs remained capable of performing their intended function by reviewing multiple work orders and ensuring quality control verifications were properly specified in accordance with the Quality Assurance Program and implemented in:

(1) Work orders 40569949, 40631128, 40669279, 40631121, 40657784, 40670685, 40735938, 40656497, 40669087, 40633489, 40669176, 40668808, 40668806, 40668859, 40744785, 40668907, and 40668875 on December 8, 2020 and December 9, 2020

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (1 Sample)

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 online and Unit 4 shutdown risk assessment while the 4A safety-related 4kV switchgear and associated loads were OOS on October 13 and 16, 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 Requests (ARs) 2372250 and 2372386, 4A sequencer relays model RXMB1 found with cracks on case on October 21, 2020
(2) AR 2370173, Source range nuclear instrument, N-4-31, OOS for drifting indication on October 26, 2020
(3) AR 2374494, Auxiliary building concrete discovered unexpected level of degradation on November 16, 2020
(4) AR 2374542, Charging to reactor coolant loop A check valve, 4-312A, failed post-maintenance back leakage acceptance criteria on November 23, 2020
(5) AR 2369425, Containment south recirculation sump isolation valve, 4-861B MOV, did not travel open on October 1, 2020

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) Engineering change (EC) 295393, Replacement of charging to reactor coolant loop A check valve, 4-312A, on October 29, 2020

71111.19 - Post-Maintenance Testing

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

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

(1) Work order (WO) 40631121-27, 4A Containment Spray Pump 480 V Breaker Replacement and Modification to MasterPac Style. Post-maintenance test (PMT) performed within work order task and reviewed on October 16, 2020.
(2) WO 40669087, Letdown Relief Valve, RV-4-203, Replacement and WO 40746020, Letdown Flow Control Valve, CV-4-200C, Overhaul. PMT performed using 4-OSP-051.5, Local Leak Rate Test (Section 7.14 Containment Penetration 14, Letdown) and reviewed on October 30, 2020.
(3) WO 40400199, Positioner Replacement for FCV-4-489, 4B Feedwater Bypass Flow Control Valve per EC 293060. PMT performed using 4-OSP-074.5, FW Control Valve and Bypass Valve Inservice Test and reviewed on November 11, 2020
(4) WO 40656497, Charging to Reactor Coolant Loop A Check Valve, 4-312A, Replacement. PMT performed using 4-OSP-047.1D, Charging Line Isolation and Check Valve Test and reviewed on November 20, 2020.
(5) WO 40747435, 4B Reactor Coolant Pump Power Cable Electrical Penetration Repair. PMT performed using 4-OSP-051.5, Local Leak Rate Test (Section 7.48 4kV RCP Electrical Penetration) and reviewed on November 23, 2020.
(6) WO 40744940, 4B Main Steam Line Dump to Atmosphere Control Valve, CV-4-1607, Overhaul. PMT performed using 4-OSP-206.1, Inservice Valve Testing - Cold Shutdown (Section 7.1 Main Steam Valve Test) and reviewed on November 23, 2020.

71111.20 - Refueling and Other Outage Activities

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

(1) The inspectors evaluated Unit 4 refueling outage PT4-32 activities from October 3 to November 17, 2020

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

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

(1) 4-OSP-072.6, Main Steam Safety Valve Set Point Surveillance Using Team Trevitest Mark VIII Equipment (for relief valves RV-4-1400, 1403, 1407 and 1412) on October 16, 2020
(2) 4-OSP-203.1, Train A Engineered Safeguards Integrated Test on November 17, 2020

Containment Isolation Valve Testing (IP Section 03.01) (1 Sample)

(1) 4-OSP-051.5, Local Leak Rate Tests, section 7.14, Containment Penetration 14 - Letdown, on October 13, 2020

71114.06 - Drill Evaluation

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

(1) The inspectors evaluated virtual table-top scenarios for the technical support center and emergency operations facility responders on December 16 and 17, 2020

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated how the licensee identifies the magnitude and extent of radiation levels and the concentrations and quantities of radioactive materials and how the licensee assesses radiological hazards.

Instructions to Workers (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated radiological protection-related instructions to plant workers.

Contamination and Radioactive Material Control (IP Section 03.03) (2 Samples)

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material.

(1) Observed licensee perform surveys of potentially contaminated material leaving Unit 4 Containment and the Radiological Control Area (RCA).
(2) Observed workers exiting Unit 4 Containment and the RCA during Unit 4 refueling outage.

Radiological Hazards Control and Work Coverage (IP Section 03.04) (3 Samples)

The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of radiological work activities.

(1) RWP 20-4100 Task 15 Unit 4 Reactor Head Lift, Rev 00
(2) RWP 20-4014 Job Specific, Unit 4 Reactor Sump Entry, Rev 00
(3) RWP 20-4100 Task 1, Unit 4 Upper Internals Lift, Rev 00

High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (3 Samples)

During facility walkdowns, the inspectors reviewed several postings and physical controls for High Radiation Areas (HRAs), Locked High Radiation Areas (LHRAs), and Very High Radiation Areas (VHRAs) located in the following areas:

(1) Unit 4 Auxiliary Building
(2) Unit 4 Containment
(3) Unit 4 Radwaste Building

Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 03.06) (1 Sample)

(1) The inspectors evaluated radiation worker and radiation protection technician performance as it pertains to radiation protection requirements.

71124.08 - Radioactive Solid Waste Processing & Radioactive Material Handling, Storage, & Transportation

Radioactive Material Storage (IP Section 03.01) (1 Sample)

(1) Inspectors evaluated the licensee's performance in controlling, labelling and securing radioactive materials.

Radioactive Waste System Walkdown (IP Section 03.02 (1 Sample)

(1) Inspectors walked down accessible portions of the solid radioactive waste systems and evaluated system configuration and functionality.

Waste Characterization and Classification (IP Section 03.03) (2 Samples)

The inspectors evaluated the licensee's characterization and classification of radioactive waste.

(1) 10 CFR 61 Analysis 2018 DAW
(2) 10 CFR 61 Analysis 2018 RAM

Shipment Preparation (IP Section 03.04) (1 Sample)

(1) The inspectors observed shipment no. PTN-M-20-057 containing LSA-II used laundry, for review against requirements.

Shipping Records (IP Section 03.05) (4 Samples)

(1) W-18-014, UN3321, Radioactive Material, Low specific activity (LSA-II), 7, Depleted Resin in HIC, 10/24/2018
(2) W-18-011, UN3221, Radioactive Material, Low specific activity (LSA-II), 7, DAW, 10/04/2018
(3) W-19-006, UN3221, Radioactive Material, Low specific activity (LSA-II), 7 fissile excepted, DAW, 06/14/2019

(4) W-20-003, UN3221, Radioactive Material, Low specific activity (LSA-II), 7, fissile excepted, 2018 DAW, 03/17/2020

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 3 October 2019 through September 2020
(2) Unit 4 October 2019 through September 2020

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

(1) Unit 3 October 2019 through September 2020
(2) Unit 4 October 2019 through September 2020

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

(1) Unit 3 October 2019 through September 2020
(2) Unit 4 October 2019 through September 2020

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

(1) Unit 3 October 2019 through September 2020
(2) Unit 4 October 2019 through September 2020

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

(1) Unit 3 October 2019 through September 2020
(2) Unit 4 October 2019 through September 2020

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

(1) May 1, 2019 to 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 for potential adverse trends in local leak rate testing failures during the recent Unit 4 refuel outage, PT4-32, that might be indicative of a more significant safety issue. This issue was documented in AR 2372183, System 051, (Containment Isolation), Exceeded Monitoring Criteria, and was evaluated by the licensee using common cause analysis methods. The inspectors review concluded there was no adverse trend.

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 2366359, apply multiplication factor trends to nuclear instrument detector monitoring. This issue was selected for follow-up to verify the licensee's corrective actions were appropriate to address a failure to develop and establish a preventive maintenance schedule to perform source range nuclear instrument detector baseline and trending tests as described in Turkey Points Units 3 and 4 - Special Inspection Report 05000250/2020050 and 05000251/2020050 dated December 9, 2020 (ADAMS Accession No. ML20344A126).
(2) NCV 05000250/251-2019-001-02, Failure to Perform Structures Monitoring Program Inspections IAW License Renewal Commitments, and ARs 2305563, 2306492, and 2304913. The NCV was described in Turkey Point Nuclear Generating Station Inspection Report 05000250/2019001 and 05000251/2019001 dated May 14, 2019 (ADAMS Accession No. ML19134A371). This issue was selected for follow-up to verify the licensee's corrective actions were appropriate to address the performance deficiency and failure to inspect several safety-related structures in accordance with license renewal commitments.

71153 - Followup of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (2 Samples)

The inspectors evaluated the following licensee event reports (LERs):

(1) LER 05000250/2020-003-00, Automatic Reactor Trip due to Source Range High Flux During Reactor Startup, (ADAMS Accession No. ML20274A206). The inspection conclusions associated with this LER are documented in Inspection Report 05000250/2020050 and 05000251/2020050 (ADAMS Accession No. ML20344A126).
(2) LER 05000250/2020-004-00, Manual Reactor Trip in Response to Automatic Trip of the 3B Steam Generator Feedwater Pump, (ADAMS Accession No. ML20281A330). The inspection conclusions associated with this LER are documented in Inspection Report 05000250/2020050 and 05000251/2020050 (ADAMS Accession No. ML20344A126).

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 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 22, 2020

INSPECTION RESULTS

Inadequate procedural compliances during erecting of scaffold caused damage to safety-related motor operated valve during operation			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section

Mitigating Systems	Green NCV 05000251/2020004-01 Open/Closed	[H.8] - Procedure Adherence	71111.15

A self-revealed, Green finding and associated, non-cited violation (NCV) of Technical Specification 6.8.1 was identified when the licensee failed to follow procedure MA-AA-100-1002, Scaffold Installation, Modification, and Removal Requests, when the licensee erected a scaffold that interfered with operation of plant equipment. During testing of motor-operated valve, MOV-4-861B, containment south recirculation sump isolation valve, the valve stem local position indicator impacted a scaffold in the B residual heat removal (RHR) pump room and caused damage to the position indicator requiring MOV-4-861B to be taken out of service for corrective maintenance.

Description: On September 26, 2020, at 0412 hours, normally closed MOV-4-861B failed its surveillance test to stroke full open. Control room operators declared MOV-4-861B inoperable and Unit 4 entered a 72-hour shutdown action statement for an inoperable RHR suction flow path from the south containment sump. MOV-4-861B is a containment south recirculation sump suction isolation valve for the RHR system located in the B RHR pump room. The safety-related functions of MOV-4-861B are to: 1) open during the loss of coolant accident (LOCA) recirculation phase to allow the RHR pumps to take suction from the containment south recirculation sump; 2) remain closed during the LOCA injection phase to provide containment isolation and isolate the RHR pumps from the containment south recirculation sump; and 3) as a normally closed RHR system boundary valve, it passively maintains the RHR system pressure boundary integrity.

After MOV-4-861B failed to fully open, plant operators identified that the local stem position indicator impacted a scaffold beam. The local position indicator is a metal rod welded on the end of the valve stem. The valve stem is in a protective shroud and the metal rod travels outside the protective shroud to provide local indication. The as-found valve condition identified the metal rod, used for position indication, was bent as a result of interference with a recently erected scaffold. During the open stroke the metal rod contacted the scaffold, causing the rod to bend which then prevented the valve from fully opening. A torque switch actuating in the open direction stopped MOV-4-861B. The licensee completed a past operability review (POR) and determined the valve stem traveled 86 percent open prior to the actuator tripping on the high torque setting. The POR concluded that MOV-4-861B was sufficiently open to perform its safety-related function of opening and supplying adequate flow during the LOCA recirculation phase. A component load path review was additionally completed by the licensee for the stem nut, valve stem and motor actuator. The licensee determined the MOV components were not overstressed due to the motor actuator tripping on the torque setting thus preventing excessive forces on the actuator and valve components. To retest and fully close MOV-4-861B, interim corrective actions were completed and included cutting off the bent portion of the metal rod from the valve stem. On September 26, 2020 at 1706 hours, the post-maintenance tests were satisfactorily completed and MOV-4-861B was returned to service.

The procedure for installation of scaffolding, including areas near safety-related systems, structures and components (SSC), is MA-AA-100-1002, Scaffold Installation, Modification and Removal Requests. Attachment 2 of the procedure, Scaffolding Pre-erection Walkdown and Evaluation, requires performing a scaffold pre-erection walkdown and addressing seventeen questions for the scaffold being built. The licensee found that maintenance personnel had not adequately complied with specific portions of the scaffolding procedure, in that there was no scaffold walkdown and questions 1 and 4 were not adequately completed. Specifically,

Question 1, “Are special requirements for scaffolding construction necessary to reduce the potential adverse impact on adjacent Critical Plant Equipment?” was not correctly answered. Seven items are required to be evaluated under this question. Item 3 specifies “Physical interference with active components such as pumps, motors, and valves, dampers, etc.” The inspectors determined this item was not completed. The scaffold erector did not discuss the potential for interaction with plant equipment with operations personnel and a scaffold pre-erection walkdown with operations personnel was not performed. Question 4 of Attachment 2 states “Will scaffold construction be in proximity to valves or exposed rotating equipment?” Four items are required to be evaluated under this question. Item 2 specifies “Scaffold or scaffold components which could impede the stem travel of air or motor operated valves.” The inspectors determined that this step was performed incorrectly. The scaffold erection lead assumed that the scaffold was erected with sufficient clearance such that the local position indicator rod would not impact the scaffold if the valve opened. Maintenance personnel failed to validate this assumption and did not request that operations personnel perform a walkdown.

Corrective Actions: The licensee promptly removed the bent portion of the local position indicator rod and retested MOV-4-861B. Engineers evaluated the condition and determined that the MOV components were not overstressed. The licensee plans to require refresher training for all scaffold builders who approve final installations.

Corrective Action References: Action Request 2369425

Performance Assessment:

Performance Deficiency: The failure to adequately comply with procedural instructions and erect a scaffold located near MOV-4-861B that did not interfere with its operation and ability to fully open is a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the inadequately erected scaffold resulted in damage to MOV-4-861B during surveillance testing, requiring the RHR suction flow path from the containment south recirculation sump to be taken out of service to repair and test the MOV-4-861B.

Significance: The inspectors assessed the significance of the finding using Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” The inspectors screened this finding as very low safety significance (Green) using Exhibit 2, Mitigating Systems Screening Questions and answered No to question A.6, Does the degraded condition represent a loss of the PRA function of one or more non-TS trains of equipment designated as risk-significant in accordance with the licensee’s maintenance rule program for greater than 3 days. Specifically, with the stem position at 86 percent full open, MOV-4-861B was determined to be operable and capable of performing its specified safety function.

Cross-Cutting Aspect: H.8 - Procedure Adherence: Individuals follow processes, procedures, and work instructions. The inspectors reviewed this performance deficiency for cross-cutting

aspects as required by IMC 0310, “Aspects Within the Cross-Cutting Areas,” and concluded that maintenance personnel failed to follow procedure instructions and erected a scaffold that interfered with the operation of MOV-4-861B.

Enforcement:

Violation: Technical Specification 6.8.1 requires written procedures specified by the Quality Assurance Topical Report (QATR) to be established, implemented, and maintained. The QATR requires procedures for maintenance listed in Section 9.a., Procedures for Performing Maintenance, of Appendix A of NRC Regulatory Guide 1.33, Quality Assurance Program Requirements, Revision 2, dated February 1978. Section 9.a. requires, in part, that maintenance activities that can affect the performance of safety-related equipment be performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Procedure MA-AA-100-1002, Scaffold Installation, Modification, and Removal Requests, Rev. 12, specifies the procedural process to be used to build temporary scaffolding in areas that can affect the performance of safety-related systems, structures and components, and provides the requirements for control of scaffolds erected. Attachment 2, Scaffold Pre-Erection Walkdown and Evaluation, requires a walkdown of all scaffolding and evaluation of seventeen questions to be completed on the scaffold being built. Question 1 includes a requirement to evaluate for potential physical interferences with active components such as pumps, motors, valves and dampers. Question 4 includes a requirement to evaluate for potential scaffold components which could impede the stem travel of air or motor operated valves. Contrary to the above, in the construction and approval of the scaffold erected and located adjacent to MOV-4-861, from August 31, 2020, to September 26, 2020, a scaffold walkdown was not completed and Question 1 and Question 4 of Attachment 2 were not evaluated for valve stem interference during MOV operation.

Enforcement Action: This violation is being treated as an non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

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

- On January 14, 2021, the inspectors presented the integrated inspection results to Mr. Michael Pearce, Site Vice President, and other members of the licensee staff.
- On October 14, 2020, the inspectors presented the RP inspection exit meeting inspection results to Michael Pearce, Site Vice President and other members of the licensee staff.
- On October 15, 2020, the inspectors presented the Inservice Inspection Exit inspection results to Michael Pearce, Site Vice President and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.01	Radiation Surveys	PTN-M-20200922-10	ISFSI Semi Annual	09/22/2020