



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

April 15, 2020

Mr. Ernest J. Kapopoulos Jr.
Site Vice President
H. B. Robinson Steam Electric Plant
Duke Energy Progress, LLC
3581 West Entrance Road, RNPA01
Hartsville, SC 29550

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT – INTEGRATED INSPECTION
REPORT 05000261/2020001

Dear Mr. Kapopoulos:

On March 31, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at H. B. Robinson Steam Electric Plant. On April 13, 2020, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

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

Docket No. 05000261
License No. DPR-23

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT – INTEGRATED INSPECTION
REPORT 05000261/2020001 Dated April 15, 2020

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| NAME | M. Fannon | A. Beasten | A. Wilson | R. Musser | |
| DATE | 04/15/2020 | 04/15/2020 | 04/15/2020 | 04/15/2020 | |

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 05000261

License Number: DPR-23

Report Number: 05000261/2020001

Enterprise Identifier: I-2020-001-0037

Licensee: Duke Energy Progress, LLC

Facility: H. B. Robinson Steam Electric Plant

Location: Hartsville, South Carolina

Inspection Dates: January 01, 2020 to March 31, 2020

Inspectors: A. Beasten, PhD, Resident Inspector
M. Fannon, Senior Resident Inspector

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 H. B. Robinson Steam Electric Plant, 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 |
|------|----------------------|---|----------------|--------|
| LER | 05000261/2019-001-00 | LER 2019-001-00 for H.B. Robinson Steam Electric Plant, Unit 2, Turbine Trip/Reactor Trip due to Main Generator Lockout | 71153 | Closed |

PLANT STATUS

Unit 2 began the inspection period at rated thermal power (RTP) and remained at or near 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 (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 and during that time conducted plant status activities as described in IMC 2515, Appendix D; and observed risk significant activities when warranted. In addition, resident and regional baseline inspections were evaluated to determine if all or portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In the cases where it was determined the objectives and requirements could not be performed remotely, management elected to postpone and reschedule the inspection to a later date.

REACTOR SAFETY

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) 'A' and 'C' charging pumps while 'B' charging pump was out of service for planned maintenance on January 8, 2020
- (2) 'A' motor driven auxiliary feedwater pump (MDAFW) and steam driven auxiliary feedwater (SDAFW) pump while 'B' MDAFW pump was out of service for planned maintenance on January 14, 2020
- (3) 'A' emergency diesel generator (EDG) while 'B' EDG was out of service for emergent jacket water line repair, on January 15, 2020
- (4) 'B' component cooling water (CCW) while protected for spent fuel pool cooling on March 17, 2020

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

- (1) The inspectors evaluated system configurations during a complete walkdown of the auxiliary feedwater (AFW) system on March 9, 2020.

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 Zone 29, Service water intake structure on February 13, 2020
- (2) Fire Zone 14, Diverse and flexible coping strategies (FLEX) EDG area, on March 10, 2020
- (3) Fire Zone 15, Auxiliary building second level, on March 10, 2020
- (4) Fire Zone 6, AFW pump room on March 16, 2020
- (5) Fire Zone 3, Safety injection pump room, on March 30, 2020

71111.06 - Flood Protection Measures

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

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Safety injection and containment spray pump room on March 23, 2020

71111.11Q - Licensed Operator Regualification 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 main control room during a plant down power to 97 percent RTP, restoration to full RTP, MDAFW surveillance testing, and control rod exercise on January 14, 2020.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (3 Samples)

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

- (1) 'B' EDG jacket water leak on January 15, 2020
- (2) 'A' MDAFW unavailability not properly recorded on February 21, 2020
- (3) 'B' MDAFW stopped on low discharge pressure on March 12, 2020

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 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) 'B' MDAFW maintenance on January 14, 2020
- (2) 'B' EDG jacket water leak repair on January 15, 2020
- (3) 'A' EDG cross drive inspection on January 27 and 28, 2020
- (4) SDAFW maintenance on March 10, 2020

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (4 Samples)

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

- (1) Nuclear Condition Report (NCR) 2303605, Dedicated shutdown diesel generator battery capacity test
- (2) NCR 2309295, Battery Cell 5 sample tube plug broken
- (3) NCR 2320234, 'C' CCW seal leak
- (4) NCR 2321523, 'B' EDG fuel oil transfer pump failed to stop

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Engineering change 291818 – Evaluate lack of full thread engagement on 'A' service water pump mounting bolt on February 21, 2020
- (2) Engineering change 413616 – Relocate portable AFW pumps for FLEX strategy on February 24, 2020

71111.19 - Post-Maintenance Testing

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

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

- (1) Work Order (WO) 20234359, 'C' charging pump suction stabilizer relief valve replacement on January 9, 2020
- (2) Work Request 20163068, 'A' EDG carbon dioxide pneumatic release valve adjustment on January 9, 2020
- (3) WO 20342316, Cable spreading room and relay room fan belt re-tensioning on January 14, 2020
- (4) WO 13534386, 'B' MDAFW planned maintenance on January 14, 2020
- (5) WO 20072634, Replace N-35 high level trip and P6 bistables on January 14, 2020

- (6) WO 20342796, 'B' EDG cylinder number 6 jacket water line repairs on January 15, 2020
- (7) WO 20380603, 'A' EDG cross drive inspection and emergent repair of the 'A' EDG output breaker on January 28, 2020

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (4 Samples)

- (1) OST-011, Quarterly control rod exercise on January 14, 2020.
- (2) MST-030, 4 kilovolt (kV) undervoltage to reactor protection system testing on March 17, 2020
- (3) MST-003-1, Average coolant temperature reactor protection system channel testing on March 18, 2020
- (4) OST-401-2, 'B' EDG slow speed start on March 20, 2020

Inservice Testing (IP Section 03.01) (1 Sample)

- (1) OST-202, SDAFW system component test on March 10, 2020.

FLEX Testing (IP Section 03.02) (1 Sample)

- (1) OST-453, Fukushima FLEX diesel generator '1A' and '1B' surveillance test on March 10, 2020.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) Residual heat removal systems (MS09) from January 1, 2019 to December 31, 2019

MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

- (1) Cooling water (MS10) from January 1, 2019 to December 31, 2019

BI02: RCS Leak Rate Sample (IP Section 02.11) (1 Sample)

- (1) Reactor coolant system leak rate (BI02) from January 1, 2019 to December 31, 2019

71152 - Problem Identification and Resolution

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

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

- (1) NCR 2280888, AFW discharge valve loss of control power indication

71153 - Followup of Events and Notices of Enforcement Discretion

Event Report (IP Section 03.02) (1 Sample)

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

- (1) LER 05000261/2019-001-00, Turbine Trip/Reactor Trip due to Main Generator Lockout (ML19282D756): The inspectors determined that it was not reasonable to foresee or correct the cause discussed in the LER. Therefore, no performance deficiency was identified. The inspectors also concluded that no violation of NRC requirements occurred. The circumstances surrounding this LER are documented in Inspection Report 05000261/2019003 Section 71153 (ADAMS Accession No. ML19318F778). This LER is closed.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On April 13, 2020, the inspectors presented the integrated inspection results to Ernest J. Kapopoulos Jr. and other members of the licensee staff.