



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

March 22, 2018

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

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT - NRC EVALUATION OF CHANGES,  
TESTS, AND EXPERIMENTS REPORT NUMBER 05000261/2018010

Dear Mr. Kapopoulos:

On March 1, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your H. B. Robinson Steam Electric Plant, Unit 2 and 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.

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/*

Marvin D. Sykes, Chief  
Engineering Branch 1  
Division of Reactor Safety

Docket No. 50-261  
License No. DPR-23

Enclosure:  
Inspection Report 05000261/2018010

cc: Distribution via ListServ

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT - NRC EVALUATION OF CHANGES, TESTS, AND EXPERIMENTS REPORT NUMBER 05000261/2018010

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E-MAIL COPY?	YES    NO	YES    NO	YES    NO	YES    NO	YES    NO

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

Docket Number: 50-261

License Number: DPR-23

Report Number: 05000261/2018010

Enterprise Identifier: I-2018-010-0025

Licensee: Duke Energy Progress, LLC

Facility: H. B. Robinson Steam Electric Plant, Unit 2

Location: 3581 West Entrance Road  
Hartsville, SC 29550

Inspection Dates: February 26, 2018, to March 1, 2018

Inspectors: Eric J. Stamm, Senior Reactor Inspector (Team Lead)  
Teh-Chiun Su, Reactor Inspector  
Nadiyah S. Morgan, Reactor Inspector

Approved By: Marvin D. Sykes, Chief  
Engineering Branch 1  
Division of Reactor Safety

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring Duke's performance by conducting a Title 10 of the *Code of Federal Regulations* (CFR) Section 50.59 inspection at H. B. Robinson Steam Electric Plant, Unit 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.

No findings or more than minor violations were identified.

## INSPECTION SCOPE

Inspections were conducted using the appropriate portions of the inspection procedure (IP) 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 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, conducted walk downs, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

## REACTOR SAFETY

### 71111.17T - Evaluations of Changes, Tests and Experiments (22 Samples)

The inspectors evaluated the following samples for compliance with 10 CFR 50.59, "Changes, tests, and experiments," from February 26, 2018, to March 1, 2018:

#### 10 CFR 50.59 Evaluations

- (1) AR 1945387, Internal Flooding Design Basis
- (2) AR 2037218, Revision to EOP-E-0, Reactor Trip or Safety Injection
- (3) AR 2048601, Addition of a Compensatory Action to Allow Operation of More Than One Letdown Orifice
- (4) AR 2083434, Cycle 31 Reload Design
- (5) AR 2145212, Adoption of GL 87-11 for Postulated Pipe Rupture Outside of Containment
- (6) AR 2156036, HELB CDT Room
- (7) AR 2164438, Installation of 60Q Unbalance Voltage Relays
- (8) AR 2164614, NFPA 805 Switchgear Coordination MCC-9

#### 10 CFR 50.59 Screening/Applicability Determinations

- (9) AR 2159893, Emergency Diesel Generator Reliability Program
- (10) AR 2167783, Alternate Cooling for Charging Pump
- (11) EC 275997, NUS Replacement for HAGAN Special Comparators and Summators
- (12) EC 276618, RHR Pump Seal Replacement
- (13) EC 282503, SW Strainers Backwash and Blow-Off Piping and Valve Replacement

- (14) EC 286500, Add 10 Second Time Delay to 'A' and 'B' MFW Pump Low Flow Trip
- (15) EC 288263, Replace EDG Fuel Oil Day Tank Solenoid Valves
- (16) EC 290728, Move Existing Inverter 'C' loads to Inverter 'A'
- (17) EC 292355, Replace EDG Air Start Dryers
- (18) EC 295035, Addition of Harmonic Filters on Degraded Grid Voltage Relays
- (19) EC 298925, Circulating Water Supply to Steam Driven Auxiliary Feedwater
- (20) EC 300624, Replace Thermal Overloads for SI-864A
- (21) EC 401699, Permanent Installation of EDG 'A' Firing Pressure Test Valves
- (22) LDCR 16-0034, Change to UFSAR 9.2 – CCW System

## **EXIT MEETINGS AND DEBRIEFS**

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

On March 1, 2018, the inspectors presented the inspection results to Mr. Ernest Kapopoulos, and other members of the licensee staff.

## **DOCUMENTS REVIEWED**

### Corrective Action Documents Written as a Result of the Inspection

AR 02188102, OST-100-2 R002 Improperly Excluded  
 AR 02188374, PRR for AD-LS-ALL-0007  
 AR 02188385, AR 2046897 Statement Inaccuracy  
 AR 02188386, AR 2156036 Statement Unclear

### Procedures

AD-DC-ALL-0201, Development and Maintenance of Controlled Procedure Manual Procedures, Rev. 21  
 AD-DC-ALL-0202, Writer's Manual for Procedures and Work Instructions, Rev. 9  
 AD-EG-ALL-1157, Engineering of Plant Digital Systems and Components, Rev. 0  
 AD-LS-ALL-0005, UFSAR Updates, Rev. 4  
 AD-LS-ALL-0007, Applicability Determination Process, Rev. 5  
 AD-LS-ALL-0008, 10 CFR 50.59 Review Process, Rev. 0  
 AD-NF-ALL-0807, Reload Design Process, Rev. 5  
 EOP-E-0, Reactor Trip or Safety Injection, Revs. 7 and 8  
 EOP-E-0-BD, Reactor Trip or Safety Injection Basis Document, Rev. 8  
 PM-008, Emergency Diesel Generator Inspection Number 2 (24 Months), Rev. 75  
 OST-100-2, Alternate Cooling for Charging Pump 'B' Oil Cooler, Rev. 2

### Drawings

5379-05374, 480V One Line Diagram, Rev. 030A  
 G-190190, General Arrangement Reactor Auxiliary Building – Plan, Rev. 35  
 G-190204D SH00002, Fuel Oil System Flow Diagram, Rev. 28  
 HBR2 – 11260 SH00002, Zone Map for Environmental Parameters, Reactor Aux. Bldg. EL 226, Rev. 08

### Calculations

8328-IS0-B-8, Steam Generator Blowdown Piping for Addition of Fire Wrap as Penetration Seals to Stress Report, Rev. 3  
 RNP-M/MECH-1910, RAB Chemical Drain Tank SG Blowdown Line Break, Rev. 0

Self-Assessment Reports

AR 2099529, Self-Assessment for 10 CFR 50.59 Inspection Readiness

Corrective Action Documents

0216452	0715248	2007953	2069204	2146252
0588240	0745280	2012658	2070418	2156036
0650894	0748613	2034864	2083433	2158201
0691519	0750132	2041041	2091483	2160687
0702405	1945383	2046897	2107024	2165442
0714437	1973696	2057862	2137853	

Miscellaneous Documents

728-251-51, Instructions and Parts List for Type "W," Rev. 25  
 728-589-13, Instruction Manual for Control and Protection Instrumentation, Rev. 045  
 729-005-74, Diesel Generator Air Dryers, Rev. 5  
 729-063-16, Fairbanks Morse Power Systems, Rev. 87  
 CGISE01, EPRI CGI Joint Utility Task Group Commercial Grade Item Evaluation for Mechanical Seals, Rev. 0  
 DBD/R87038/SD05, Sys DBD – Emergency Diesel Generator System, Rev. 14  
 EC 076618, RHR Pump Seal Replacement, Rev. 9  
 EC 275997, NUS Replacement for Hagan Special Comparator and Summators, Rev. 018  
 EC 282101, Internal Flooding Design Basis Reconstitution, dated 9/24/2015  
 EC 403230, Adoption of GL 87-11 for Postulated Pipe Rupture Outside of Containment, Rev. 0  
 GID-R87038-0006, Postulated Pipe Failure Letter from AEC to CP&L, dated December 15, 1972  
 OMM-043, Simulator Validation for AOP-016, Rev. 24  
 PDO 2155152-01, Assessment of CDT Room Environmental Condition Due to Postulated Crack, dated 10/10/2010  
 UFSAR Section 9.2.2.3.1, Leakage Provisions