UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

November 3, 2022

Kent Scott
Site Vice President
Entergy Operations, Inc.
5485 U.S. Highway 61N
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION – INTEGRATED INSPECTION REPORT 05000458/2022003 AND 07200049/2022001

Dear Kent Scott:

On September 30, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at River Bend Station. On October 3, 2022, the NRC inspectors discussed the results of this inspection with Bruce Chenard, General Manager Plant Operations, 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. One Severity Level IV violation without an associated finding is documented in this report. We are treating these violations as non-cited violations (NCVs) consistent with section 2.3.2 of the NRC Enforcement Policy.

Licensee-identified violations which were determined to be of very low safety significance and Severity Level IV are documented in this report. We are treating these violations as NCVs consistent with section 2.3.2 of the NRC Enforcement Policy.

If you contest the violations or the significance or severity of the violations 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 IV; the Director, Office of Enforcement; and the NRC Resident Inspector at River Bend Station.

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 IV; and the NRC Resident Inspector at River Bend Station.

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,

Signed by Josey, Jeffrey
on 11/03/22

Jeffrey E. Josey, Chief
Projects Branch C
Division of Operating Reactor Safety

Docket Nos. 05000458 and 07200049
License No. NPF-47

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

RIVER BEND STATION AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION – INTEGRATED INSPECTION REPORT 05000458/2022003 AND 07200049/2022001 – DATED NOVEMBER 3, 2022

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000458 and 07200049
License Number:	NPF-47
Report Number:	05000458/2022003 and 07200049/2022001
Enterprise Identifier:	I-2022-003-0011 and I-2022-001-0003
Licensee:	Entergy Operations, Inc.
Facility:	River Bend Station
Location:	St. Francisville, Louisiana
Inspection Dates:	July 1, 2022, to September 30, 2022
Inspectors:	L. Brookhart, Senior Spent Fuel Storage Inspector T. Farina, Senior Operations Engineer G. George, Senior Reactor Inspector S. Hedger, Senior Emergency Preparedness Inspector R. Kumana, Senior Resident Inspector D. Nani, Project Engineer R. Williams, Operations Engineer C. Wynar, Resident Inspector D. You, Operations Engineer
Approved By:	Jeffrey E. Josey, Chief Projects Branch C Division of Operating Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at River Bend Station, 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. Licensee-identified NCVs are documented in report section 71153.

List of Findings and Violations

Inadequate Corrective Actions for Design Control Issues			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000458/2022003-01 Open/Closed	[H.11] - Challenge the Unknown	71152A
The inspectors identified a Green finding and associated non-cited violation of 10 CFR 50, appendix B, criterion XVI, "Corrective Action," when the licensee failed to take adequate corrective action for a failure to verify the high pressure core spray (HPCS) unit cooler met its design required airflow. Specifically, the licensee's corrective actions relied on testing that did not adequately demonstrate the cooler's performance, and no other corrective actions were taken to address the condition.			

Failure to Maintain Accurate Information in the Updated Safety Analysis Report			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000458/2022003-02 Open/Closed	Not Applicable	71152A
The inspectors identified a Severity Level IV non-cited violation of 10 CFR 50.71(e) when the licensee failed to update the updated safety analysis report to assure that the information included in the report contains the latest information developed. Specifically, the licensee failed to ensure that all components required to achieve safe shutdown by 10 CFR 50, appendix R, were listed as such in the updated safety analysis report section 7.4, Table 7.4-1, "Remote Shutdown System."			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000458/2021-004-00	Core Monitoring System Software Modeling Error Resulted in Conditions Prohibited by Technical Specifications	71153	Closed
LER	05000458/2021-005-00	Potential Loss of Safety Function due to Inoperable Reactor Core Isolation Cooling Steam Flow Transmitter	71153	Closed

PLANT STATUS

River Bend Station began the inspection period at rated thermal power. On July 22, 2022, the plant reduced power to approximately 84 percent for a rod pattern adjustment. The plant returned to rated thermal power on July 23, 2022. On August 14, 2022, the plant reduced power to approximately 69 percent for a rod pattern adjustment. The plant returned to rated thermal power on August 15, 2022. On August 19, 2022, the plant reduced power to approximately 75 percent for rod pattern adjustment. The plant returned to rated thermal power on August 20, 2022. On September 9, 2022, the plant reduced power to approximately 84 percent for a rod pattern adjustment. The plant returned to rated thermal power on September 10, 2022. On September 16, 2022, the plant reduced power to approximately 75 percent for a rod pattern adjustment. The plant returned to rated thermal power on September 17, 2022. On September 30, 2022, the plant reduced power to approximately 73 percent for a rod pattern adjustment and remained at that power through the end of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed activities described in IMC 2515, appendix D, "Plant Status," observed risk significant activities, and completed on-site portions of IPs. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

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

(1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal hot temperatures on August 2, 2022, for the following systems:
- offsite AC power
- onsite AC power

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

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

(1) offsite AC power systems on July 6, 2022
(2) division II electrical switchgear ENS-SWG1B breaker alignment on July 26, 2022
(3) reactor plant component cooling water safety loop following restoration on September 7, 2022

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 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) residual heat removal pump B room, fire area AB-3, on August 26, 2022
(2) standby switchgear 1B room, fire area C-14, on August 26, 2022
(3) diesel generator A room, fire area DG-6/Z-1, on August 26, 2022
(4) 125 VDC switchgear room, fire area C-24, on September 25, 2022

Fire Brigade Drill Performance Sample (IP Section 03.02) (1 Sample)

(1) The inspectors evaluated the onsite fire brigade training and performance during an announced fire drill on September 6, 2022.

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

Requalification Examination Results (IP Section 03.03) (1 Sample)

(1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam administered between August 16, 2022, and September 23, 2022.

71111.11B - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Requalification Program (IP Section 03.04) (1 Sample)

(1) Biennial Requalification Written Examinations

The inspectors evaluated the quality of the licensed operator biennial requalification written examination administered between August 16, 2022, and September 23, 2022.

Annual Requalification Operating Tests

The inspectors evaluated the adequacy of the facility licensee's annual requalification operating test.

Administration of an Annual Requalification Operating Test

The inspectors evaluated the effectiveness of the facility licensee in administering requalification operating tests required by 10 CFR 55.59(a)(2) and that the facility licensee is effectively evaluating their licensed operators for mastery of training objectives.

Requalification Examination Security

The inspectors evaluated the ability of the facility licensee to safeguard examination material, such that the examination is not compromised.

Remedial Training and Re-examinations

The inspectors evaluated the effectiveness of remedial training conducted by the licensee and reviewed the adequacy of re-examinations for licensed operators who did not pass a required requalification examination.

Operator License Conditions

The inspectors evaluated the licensee's program for ensuring that licensed operators meet the conditions of their licenses.

Control Room Simulator

The inspectors evaluated the adequacy of the facility licensee's control room simulator in modeling the actual plant, and for meeting the requirements contained in 10 CFR 55.46.

Problem Identification and Resolution

The inspectors evaluated the licensee's ability to identify and resolve problems associated with licensed operator performance.

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 a down power to 85 percent for rod pattern adjustment on September 9, 2022.

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

(1) The inspectors observed and evaluated licensed operator requalification training on September 14, 2022.

71111.12 - Maintenance Effectiveness

Quality Control (IP Section 03.02) (1 Sample)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure the following structure, system, and component (SSC) remains capable of performing its intended function:

(1) commercial dedication of power supply for diesel generator tachometers on September 26, 2022

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

(1) emergent work on reactor plant component cooling water safety loop on July 6, 2022
(2) emergent work on division I emergency diesel generator on July 7, 2022
(3) elevated risk during diesel generator and standby service water maintenance on August 17, 2022
(4) elevated risk during division II main steam isolation valve leakage control quarterly valve operability test on August 26, 2022
(5) elevated risk because of dissimilar bolts on emergency diesel generator division I turbo mounting plate on September 12, 2022

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) diesel generator air start system leakage on September 6, 2022 (CR-RBS-2022-00877)
(2) reactor core isolation cooling (RCIC) governor response during standard operating procedure on September 6, 2022 (CR-RBS-2022-01466)
(3) improperly anchored storage tanks on September 12, 2022 (CR-RBS-2022-04549)
(4) standby service water cooling tower nozzles on September 21, 2022 (CR-RBS-2022-02632)

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) division I emergency diesel generator new speed sensor power supplies on July 18, 2022

Severe Accident Management Guidelines Update (IP Section 03.03) (1 Sample)

(1) The inspectors verified the site Severe Accident Management Guidelines were updated in accordance with the BWR generic severe accident technical guidelines and validated in accordance with NEI 14-01, “Emergency Response Procedures and Guidelines for Beyond Design Basis Events and Severe Accidents,” revision 1.

71111.19 - Post-Maintenance Testing

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

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

(1) work order (WO) 00568757, repair end cap heat shield for high pressure core spray diesel generator, on August 15, 2022
(2) WO 53004711, WO 00388371, and WO 00584879, penetration valve leakage control system B maintenance, on September 7, 2022
(3) WO 00552546, replace DC to DC converters for engineering change 87792, on September 8, 2022
(4) WO 52951446, division I emergency diesel generator outage, on September 12, 2022
(5) WO 53011515-02, residual heat removal A door seal, on September 15, 2022
(6) WO 00584551, reactor protection system relay replacement, on September 16, 2022

71111.22 - Surveillance Testing

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

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

(1) STP-057-7705, revision 020, “Primary Containment Airlocks Seal Leakage Rate Test,” on July 26, 2022
(2) STP-309-0201, revision 67, “Division I Diesel Generator Operability Test,” on August 31, 2022
(3) STP-201-6310, revision 315, “SLC Pump and Valve Operability Test,” on September 15, 2022

Inservice Testing (IP Section 03.01) (1 Sample)

(1) STP-208-6302, revision 11, “Div II MSIV Leakage Control Quarterly Valve Operability Test,” on August 26, 2022

71114.08 - Exercise Evaluation - Scenario Review

Inspection Review (IP Section 02.01 - 02.04) (1 Sample)

(1) The inspectors reviewed the licensee's preliminary exercise scenario that was submitted to the NRC on August 18, 2022, (ADAMS Accession Nos. ML22238A124 and ML22238A125) for the exercise scheduled to occur on October 18, 2022. The inspectors discussed the preliminary scenario with J. McCoy, Manager, Emergency Preparedness, and other members of the emergency preparedness staff on September 15, 2022. The inspectors’ review does not constitute NRC approval of the scenario.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (1 Sample)

(1) July 1, 2021, through June 30, 2022

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

(1) July 1, 2021, through June 30, 2022

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

(1) July 1, 2021, through June 30, 2022

71152A - Annual Follow-up Problem Identification and Resolution

Annual Follow-up of Selected Issues (Section 03.03) (3 Samples)

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

(1) appendix R components in updated safety analysis report (USAR) on September 1, 2022
(2) flex breaker failure on September 14, 2022
(3) high pressure core spray unit cooler violation on September 16, 2022

71153 - Follow Up 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 05000458/2021-004-00, "Core Monitoring System Software Modeling Error Resulted in Conditions Prohibited by Technical Specifications" (ML21228A240)

The inspection conclusions associated with this LER and an associated Severity Level IV non-cited violation are documented in this report under the Inspection Results section.

(2) LER 05000458/2021-005-00, "Potential Loss of Safety Function due to Inoperable Reactor Core Isolation Cooling Steam Flow Transmitter" (ML21350A425)

The inspection conclusions associated with this LER and an associated non-cited violation are documented in this report under the Inspection Results section.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

60855 - Operation of an Independent Spent Fuel Storage Installation (ISFSI)

The inspectors performed a review of the licensee's ISFSI activities to verify compliance with requirements of the Certificate of Compliance 72-1014, License Amendment 15 and the HI-STORM 100 Final Safety Analysis Report (FSAR), revision 22. The inspectors reviewed selected procedures, corrective action reports, and records to verify ISFSI operations were compliant with the Certificate's technical specifications, requirements in the FSAR, and NRC regulations.

Operation of an ISFSI (1 Sample)

(1) Inspectors evaluated the licensee's dry cask storage operations from July 25 through 29, 2022, during an on-site inspection. The RBS ISFSI was designed to hold 40 HI-STORM 100S Version B overpacks each containing a Multi-Purpose Canister with 68 fuel assemblies (MPC-68 or MPC-68M). At the time of the routine inspection, the ISFSI pads contained a total of 39 overpacks and the licensee was in the process of loading canister 40.

During the on-site inspection, the inspectors evaluated and observed the following activities:

- walkdown of the ISFSI pad
- heavy load lifts using the cask handling crane to place the canister lid, while under water in spent fuel pool
- heavy load lift to remove the transfer cask from the spent fuel pool
- canister welding and non-destructive testing activities
- canister hydrostatic pressure testing
- canister drying
- canister helium backfill
- transfer cask lift using fuel building crane to accomplish stack-up activity
- downloading of the canister into the overpack
- removal of the transfer cask from the stack-up

The inspectors reviewed and evaluated the following documentation during the inspection:

- fuel selection evaluations for the canisters loaded since the last NRC ISFSI inspection (canisters 31 - 40)
- radiation surveys for radiological dose at the owner-controlled boundary to verify compliance with the requirements of 10 CFR 72.104 for years 2019 - 2021
- selected ISFSI-related condition reports issued since the last NRC ISFSI inspection
- quality assurance program implementation, including recent audits, surveillances, receipt inspection, and quality control activities related to ISFSI operations
- compliance to technical specifications for operational surveillance activities and FSAR required annual maintenance activities
- documentation of annual maintenance activities for the site's cask handling crane and special lifting devices

- selected licensee design changes and program changes to the ISFSI performed under the site's 10 CFR 72.48 program
- changes that had been made by the licensee to the site's 10 CFR Part 72.212 evaluation report since the last inspection, from revision 3 to revision 4.

INSPECTION RESULTS

<table>
<tr><td colspan="4">Inadequate Corrective Actions for Design Control Issues</td></tr>
<tr><td>Cornerstone</td><td>Significance</td><td>Cross-Cutting Aspect</td><td>Report Section</td></tr>
<tr><td>Mitigating Systems</td><td>Green
NCV 05000458/2022003-01
Open/Closed</td><td>[H.11] - Challenge the Unknown</td><td>71152A</td></tr>
<tr><td colspan="4">The inspectors identified a Green finding and associated non-cited violation of 10 CFR 50, appendix B, criterion XVI, “Corrective Action,” when the licensee failed to take adequate corrective action for a failure to verify the high pressure core spray (HPCS) unit cooler met its design required airflow. Specifically, the licensee’s corrective actions relied on testing that did not adequately demonstrate the cooler’s performance, and no other corrective actions were taken to address the condition.</td></tr>
<tr><td colspan="4">Description: During the design basis assurance inspection completed on October 6, 2020, inspectors identified a violation of 10 CFR 50, appendix B, criterion III, for a failure to verify or check the adequacy of design of the HPCS unit cooler HVR-UC5 for the correct airflow. The licensee’s Calculation G13.18.2.1*061, “Auxiliary Building Design Basis Heat Loads and Unit Cooler Sizing Verification,” analyzed that unit cooler HVR-UC5 must provide service water flows from 185 gallons per minute (gpm) to 222 gpm, and the fan must supply an air flow of at least 24,000 cubic feet per minute (cfm). Although the licensee had discontinued performance testing per Generic Letter 89-13, the inspectors noted that the licensee had performed maintenance on the cooler fan in 2000 and 2010 that could impact the airflow but had not demonstrated that the design airflow requirement was still met following the maintenance. The licensee entered this violation into their corrective action procedure under CR-RBS-2020-03024.

In order to verify the unit cooler still met its design requirements, the licensee implemented a corrective action to periodically measure the heat removal capacity of the unit cooler. This was accomplished by measuring the change in room temperature during quarterly surveillance testing of the pump and using a calculation to determine whether the cooler was meeting its design basis heat removal capacity. The calculation showed that the expected range of temperature rise was 15 to 25 degrees Fahrenheit (F). The first performance of this test was performed on June 22, 2021. The results of this test showed a rise of two degrees F. The licensee recognized that the result was unexpected and generated a condition report CR-RBS-2021-04551. As part of the evaluation of that condition report, the licensee accepted the results and suggested removing the lower bound of the acceptance criteria.

The inspectors reviewed the results of the testing and the licensee’s evaluation that accepted the results to determine why the results were outside the range of predicted performance. The inspectors determined that the licensee’s testing methodology failed to account for design basis accident conditions. For example, under the test conditions, the service water flow and temperatures were reflective of a normal service water alignment with a service water temperature of 81 degrees F. The design basis conditions would have service water in</td></tr>
</table>

the standby alignment with worst case design basis temperature of 95 degrees F. Furthermore, during a design basis accident, there would be additional heat load from the HPCS piping when aligned to the suppression pool following condensate storage tank depletion, as well as higher temperatures in the adjacent rooms. The licensee had not accounted for these differences when evaluating the temperature rise during normal test conditions.

The licensee's corrective actions for the failure to verify the unit cooler met its design requirements following maintenance included measuring room temperature increases to provide reasonable assurance that the cooler was meeting its design requirements. The inspectors determined that the methodology used to measure the room temperature increase was insufficient to demonstrate that the cooler met the required minimum airflow and therefore did not correct a condition adverse to quality. Additionally, the licensee failed to recognize the methodology used to measure the room temperature increase was insufficient during the evaluation of CR-RBS-2021-04551 and implement appropriate additional corrective action.

Corrective Actions: The licensee entered the issue into their corrective action program. They performed an operability evaluation to determine that the cooler was still operable given ambient service water temperatures.

Corrective Action References: CR-RBS-2022-05725

Performance Assessment:

Performance Deficiency: Title 10 CFR Part 50, Appendix B, criterion XVI, "Corrective Action," requires measures to be established to assure that conditions adverse to quality are corrected. The failure to take adequate corrective actions to correct a design control issue, not demonstrating that the design airflow requirement for the HPCS unit cooler (HVR-UC5) was met following maintenance, was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Procedure Quality 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. Specifically, the testing procedure developed as their corrective action was not adequate to ensure the HPCS room unit cooler can meet its design air flow following maintenance.

Significance: The inspectors assessed the significance of the finding using IMC 0609, appendix A, "The Significance Determination Process for Findings At-Power." Using IMC 0609, attachment 4, the inspectors determined the finding affected the Mitigating Systems cornerstone. Using IMC 0609, appendix A, exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the finding was of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating SSC, but the SSC maintained its operability or probability risk assessment functionality.

Cross-Cutting Aspect: H.11 - Challenge the Unknown: Individuals stop when faced with uncertain conditions. Risks are evaluated and managed before proceeding. Specifically, when the results of the initial testing were well outside the expected range, the licensee failed to challenge the results and perform an adequate review of the test methodology used to measure temperature increases and simply accepted the results.

Enforcement:

Violation: Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, appendix B, criterion XVI, “Corrective Action,” requires measures to be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are corrected.

Contrary to the above, from October 6, 2020, through November 30, 2022, the licensee failed to correct a condition adverse to quality. Specifically, the licensee failed to demonstrate that the design airflow requirement for the HPCS unit cooler (HVR-UC5) was met following maintenance when they used a testing methodology to measure increases in room temperature that was insufficient to demonstrate that the airflow requirement for the HPCS room cooler was met.

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

Failure to Maintain Accurate Information in the Updated Safety Analysis Report			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000458/2022003-02 Open/Closed	Not Applicable	71152A

The inspectors identified a Severity Level IV non-cited violation of 10 CFR 50.71(e) when the licensee failed to update the updated safety analysis report to assure that the information included in the report contains the latest information developed. Specifically, the licensee failed to ensure that all components required to achieve safe shutdown by 10 CFR 50, appendix R, were listed as such in the updated safety analysis report section 7.4, Table 7.4-1, “Remote Shutdown System.”

Description: The licensee modified the USAR in January 2007 to replace the previous list of required RSS components with Table 7.4-1. The table lists all the components required for the RSS and provides a column labeled safe shutdown to designate those components also required to achieve safe shutdown in accordance with the requirements of 10 CFR 50, appendix R. The inspectors identified a discrepancy between the components listed as required safe shutdown equipment for the remote shutdown system (RSS) and the associated design basis. The inspectors provided the discrepancies to the licensee for review. The licensee reviewed their design basis as described in the USAR and confirmed that River Bend USAR, Table 7.4-1, “Remote Shutdown System,” has multiple components that should be included in the description as required RSS components but were not listed as being required for appendix R safe shutdown. Overall, the licensee determined that 17 components required for both the RSS and appendix R safe shutdown were not marked as being required for appendix R safe shutdown.

Corrective Actions: The licensee entered the issue into their corrective action program.

Corrective Action References: CR-RBS-2022-01142

Performance Assessment: The inspectors determined this violation was associated with a minor performance deficiency.

Enforcement: The reactor oversight process’s significance determination process does not specifically consider the regulatory process impact in its assessment of licensee

performance. Therefore, it is necessary to address this violation which impedes the NRC's ability to regulate using traditional enforcement to adequately deter non-compliance.

Severity: Because this performance deficiency had the potential to impact the NRC's ability to perform its regulatory function, it is necessary to address this violation using traditional enforcement to adequately deter noncompliance. Using the NRC Enforcement Policy, dated January 14, 2022, the violation was determined to be a Severity Level IV violation in accordance with section 6.1.d.3 because the licensee failed to update the FSAR as required by 10 CFR 50.71(e) and the lack of up-to-date information has a material impact on safety or licensed activities. Specifically, not having the required appendix R safe shutdown equipment properly identified in the USAR could impact regulatory and licensee decisions and processes directly effecting safety actions during a safe shutdown of the plant.

Violation: Title 10 CFR 50.71(e), states, in part, that licensees "shall update periodically, as provided in paragraphs (e)(3) and (4) of 10 CFR 50.71, the final safety analysis report (FSAR) originally submitted as part of the application for the license, to assure that the information included in the report contains the latest information developed".

Contrary to the above, from January 2007 through September 2022, the licensee failed to periodically update the final safety analysis report originally submitted as part of the application for the license, to assure that the information included in the report contains the latest information developed. Specifically, the USAR, section 7.4, did not contain accurate information regarding the components required by 10 CFR 50, appendix R, for safe shutdown.

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

Licensee-Identified Non-Cited Violation	71153
This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with section 2.3.2 of the NRC Enforcement Policy.	
Violation: The licensee identified a Severity Level IV non-cited violation of Technical Specification (TS) 3.2.2, Minimum Critical Power Ratio (MCPR), upon review of operational history and General Electric – Hitachi (GEH) Safety Communication SC 21-04, revision 1, "Fuel Support Side Entry Orifice Meta-Stable for 2 Beam Locations in the BWR/6 Reactors." TS limiting condition of operation (LCO) 3.2.2 requires that all MCPRs shall be greater than or equal to the MCPR operating limits specified in the Core Operating Limits Report. LCO 3.2.2, condition A, states that for any MCPR not within limits, MCPRs are required to be restored within limits in 2 hours. LCO 3.2.2, condition B, states if the required action and associated completion time for condition A is not met, the licensee is required to reduce thermal power to less than 23.8 percent rated thermal power within 4 hours. Contrary to the above, on multiple occasions between June 3, 2018, to November 15, 2020, MCPR was not within limits for greater than 2 hours and the licensee did not reduce thermal power to less than 23.8 percent rated thermal power within 4 hours of the failure to meet the required action and associated completion time for condition A.	

Significance/Severity: No Performance Deficiency. Severity Level IV. The NRC determined this violation was not reasonably foreseeable and preventable by the licensee and therefore is not a performance deficiency. NRC Enforcement Policy section 2.2.4 states that violations with no associated performance deficiency will be dispositioned using traditional enforcement. Therefore, operating reactor violations with no associated performance deficiencies should be assigned a severity level. The inspectors determined the severity of the violation using section 6 of the NRC Enforcement Policy and determined this issue was SL-IV because it most represented the examples in section 6.1.d. The failure to meet the TS LCO and action statement was unknown to the licensee until Safety Communication SC 21-04 was received from GEH and a review of operational history was performed.
Corrective Action References: CR-RBS-2021-04506 and CR-HQN-2021-01048

Licensee-Identified Non-Cited Violation	71153
This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with section 2.3.2 of the NRC Enforcement Policy.	
Violation: The licensee is required to maintain two operating channels of containment isolation for the RCIC steam line in the event of a downstream line break. TS 3.3.6.1, Primary Containment and Drywell Isolation Instrumentation, requires multiple different actions in the event a channel becomes inoperable, ultimately requiring the unit to be in mode 3 within 37 hours after the channel is discovered to be inoperable. Following identification of degraded wiring in pressure transmitter E31-PDTN084B for channel B, the licensee repaired the wires using non-environmentally qualified tape. The licensee subsequently identified that the tape was not adequate to restore operability after approximately 43 hours. The TS LCO 3.3.6.1 condition A for one or more required channels being inoperable requires them to place the channel in trip within 24 hours. If condition A cannot be met, condition F requires isolation of the affected penetration flow paths within 1 hour. If condition F cannot be met, condition H.1 requires the unit to be placed in mode 3 within 12 hours. Contrary to the above, on October 19, 2021, the licensee identified that the unit was not in mode 3 after 37 hours of operating with required instrumentation inoperable as required by LCO 3.3.6.1 H.1.	
Significance/Severity: Green. The inspectors used IMC 0609, appendix A, “The Significance Determination Process For Findings At Power,” exhibit 3, “Barrier Integrity Screening Questions,” part C, “Reactor Containment,” to screen the finding to Green, because it did not represent an actual open pathway in the physical integrity of reactor containment or a failure of the containment isolation system.	
Corrective Action References: The licensee wrote CR-RBS-2021-6467 and conducted an apparent cause evaluation. The degraded wires were taped with appropriately qualified tape under WO 00569704.	

EXIT MEETINGS AND DEBRIEFS

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

- On July 28, 2022, the inspectors presented the ISFSI inspection results to Keith Crissman, Senior Manager, Site Projects and Maintenance Services, and other members of the licensee staff.
- On September 1, 2022, the inspectors presented the technical debrief inspection results to Kent Scott, Site Vice President, and other members of the licensee staff.
- On September 15, 2022, the inspectors presented the emergency preparedness exercise scenario review inspection results to Jack McCoy, Manager, Emergency Preparedness, and other members of the licensee staff.
- On September 28, 2022, the inspectors presented the licensed operator requalification program and licensed operator performance inspection results to Bob Walpole, Director, Performance Improvement and Regulatory Assurance, and other members of the licensee staff.
- On October 3, 2022, the inspectors presented the integrated inspection results to Bruce Chenard, General Manager Plant Operations, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
60855	Corrective Action Documents	CR-2022-03603	Dry Fuel Storage Pad Extension challenges	06/27/2022
	Engineering Changes	EC-91964	Holtec Cask MPC-68M Evaluation	0
	Engineering Evaluations	MPC Fuel Contents	Fuel Characteristics for Canisters 31-40	0
	Miscellaneous	72.212 Report	River Bend Nuclear Station 10 CFR 72.212 Report	4
		CoC 72-1014	Certificate of Compliance 72-1014 Holtec HI-STORM 100 Storage System	Amendment 18
		HI-STORM 100 FSAR	Holtec Final Safety Analysis Report	Rev. 22
	Procedures	DFS-0003	MPC Transfer Operations and HI-STORM Transport	5
		DFS-0005	DFS Rigging Plan	303
		DFS-0140	MPC FHD Operation	6
		EN-LI-100	Process Applicability Determination	32
		EN-LI-112	10 CFR 72.48 Evaluations	16
	Work Orders	WO-RBS-52975496	Crane Inspection	1
71111.11B	Corrective Action Documents	CR-RBS-	2020-03830, 2021-04016, 2021-05397, 2021-06772, 2022-03100	
		DR-20-0039		
		DR-20-0042		
		DR-20-0053		
	Miscellaneous		Steady State Operations Test - 40%	06/16/2021
			Steady State Operations Test - 80%	06/16/2021
			Steady State Operations Test - 100%	06/16/2021
			Transient Test - Manual Scram from 100% Reactor Power	01/24/2022
			Transient Test - Recirc Loop Rupture with LOOP and Div I DG Failure	01/24/2022
			Post-Event Simulator Testing - RBS SCRAM 4/2/2021	04/15/2021
			Various Licensed Operator Reactivations	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Licensee Medical Records	
			Operating Test Overlap Methodology	08/10/2022
			Written Sample Plan	08/10/2022
			Week #3 Job Performance Measures	
		CR-RBS-2022-05065		
		DR-20-0052		
		EN-TQ-210	Conduct of Simulator Training	16
		RSES-OPS-858	Week #3 Scenario	0
		RSES-OPS-859	Week #2 Scenario	0
		RSES-OPS-860	Week #3 Scenario	0
		RSES-OPS-861	Week #2 Scenario	0
		RSES-OPS-862	Week #2 Scenario	0
		RSES-OPS-866	Annual Operating Exam Simulator Scenario Set Quality Checklist - 2022 Week 2	8/31/2022
		RSES-OPS-866	Week #3 Scenario	0
		TQF-114-AOEJPM	Annual Operating Exam JPM Set Quality Checklist - 2022 Week 1	08/02/2022
		TQF-114-AOESIM	Annual Operating Exam Simulator Scenario Set Quality Checklist - 2022 Week 1	08/11/2022
		WTRBS-2020-00120-CA14	Remedial Plan for Licensed Operator	08/30/2022
	Procedures	EN-TQ-202	Simulator Configuration Control	11
		EN-TQ-218	Licensed Operator Requalification Annual and Biennial Exam Development	0
		R-DAD-TQ-024	RBS SIMULATOR PERFORMANCE TESTING	6
		TQF-210-DD01	Simulator Exercise Guide Checklist	10
71111.13	Procedures	STP-208-6302	Div II MSIV Leakage Control Quarterly Valve Operability Test	11
71111.18	Calculations	G13.18.2.1	Diesel Generator Building Design Basis Calculation	November 1999
	Corrective Action Documents	CR-RBS-	2020-04381, 2022-00903, 2022-03801, 2022-03867, 2022-04139	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Engineering Changes	EC 87792	Phase Primary-Switched Power Supply Unit Datasheet and User Manual	10/06/2020
		EC GGN 15970	Approve Dynalco Model SDC-2000 Power Supply as an Equivalent Replacement	08/06/2009
	Miscellaneous		"Supplier Deviation Notification," Engine Systems, Inc.	05/13/2009
		ER 99-0746	Replacement Transformer for Airpax Model 080 105 0017 DC/DC Power Supply	03/12/2001
		FAR-052005	NLI Failure Analysis Report	October 1999
	Work Orders	WO	00552546, 52908260	
71111.22	Procedures	STP-057-7705	Primary Containment Airlocks Seal Leakage Rate Test	020
	Work Orders	WO	50030467-01	
71114.08	Miscellaneous		2022 NRC Ingestion Pathway Exercise, Entergy Corporation, River Bend, 10/18/2022 - 10/19/2022	08/18/2022
	Procedures	EIP-2-001	Classification of Emergencies	30
		EIP-2-006	Notifications	48
		EIP-2-007	Protective Action Recommendation Guidelines	28
71152A	Calculations	G13.18.12.3-190	High Pressure Core Spray Room Heatup with Loss of Unit Cooler	0
		G13.18.2.1*061	Auxiliary Building Design Basis Heat Loads and Unit Cooler Sizing Verification	3
	Corrective Action Documents	CR-RBS-	2020-03649, 2021-04551, 2022-00445, 2022-01142, 2022-02769	
	Engineering Changes	EC-88823	Evaluate Temperature Difference in HPCS Room While HPCS is Running and HVR-UC5 is Running	0
		EC-88864	HVR-UC5 Motor Replacement Design Equivalent Change	0
	Engineering Evaluations	ER-96-0638	Remote Shutdown System	0
	Procedures	STP-203-6305	HPCS Quarterly Pump and Valve Operability Test	35
	Work Orders	WO	52850826, 52985576	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71153	Corrective Action Documents	CR-RBS-	2021-03221, 2021-04506	
	Procedures	EN-MA-130-01	Minor Maintenance and Tool Pouch Work	002
		STP-207-4249	RCIC, RHR Isolation/RCIC Steam Line Flow High Channel Calibration Test and Logic System Functional Test	13