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

July 23, 2025

Brad Kapellas, Site Vice President
Entergy Operations, Inc.
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION – COMPREHENSIVE ENGINEERING TEAM INSPECTION REPORT 05000416/2025010

Dear Brad Kapellas:

On June 25, 2025, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Grand Gulf Nuclear Station and discussed the results of this inspection with Jeff Hardy and other members of your staff. The results of this inspection are documented in the enclosed report.

Two findings of very low safety significance (Green) are documented in this report. Two of these findings involved violations 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 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 Grand Gulf Nuclear 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 Grand Gulf Nuclear 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 Bloodgood, Michael
on 07/23/25

Michael R. Bloodgood, Chief
Engineering Branch 1
Division of Operating Reactor Safety

Docket No. 05000416
License No. NPF-29

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

GRAND GULF NUCLEAR STATION – COMPREHENSIVE ENGINEERING TEAM
INSPECTION REPORT 05000416/2025010 – DATED JULY 23, 2025

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ADAMS ACCESSION NUMBER: **ML25195A263**

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000416
License Number:	NPF-29
Report Number:	05000416/2025010
Enterprise Identifier:	I-2025-010-0039
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Port Gibson, MS
Inspection Dates:	April 28, 2025 to June 25, 2025
Inspectors:	D. Bryen, Reactor Inspector W. Cullum, Senior Reactor Inspector R. Kumana, Senior Project Engineer W. Monk, Senior Reactor Inspector J. Talavera, Reactor Inspector F. Thomas, Reactor Inspector C. Wynar, Senior Resident Inspector
Approved By:	Michael R. Bloodgood, Chief Engineering Branch 1 Division of Operating Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a comprehensive engineering team inspection at Grand Gulf Nuclear 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.

List of Findings and Violations

Failure to Adequately Implement Operator Actions in Site Procedures			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000416/2025010-01 Open/Closed	[H.6] - Design Margins	71111.21M
The inspectors identified a Green finding and associated Non-cited Violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR), Appendix B, Criterion V, "Instructions, Procedures, and Drawings", when the licensee failed to properly implement an engineering change that relied on manual operator actions to compensate for a deficient structure system and component (SSC) using procedures. Specifically, the applicable quality related procedures did not prescribe the actions to be taken within the time assumed by the associated analysis.			

Failure to Meet Technical Specification 3.8.1 Surveillance Requirements			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000416/2025010-02 Open/Closed	[H.7] - Documentation	71111.21M
The inspectors identified a Green finding and associated Non-cited Violation (NCV) of Technical Specification (TS) 3.8.1, "AC Sources - Operating". Specifically, during a scheduled surveillance of the emergency power system, the licensee failed to verify that all required loads were automatically shed and sequenced in accordance with Surveillance Requirements (SRs) 3.8.1.11 and 3.8.1.19.			

Failure to Update the Updated Final Safety Analysis Report			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000416/2025010-03 Open/Closed	Not Applicable	71111.21M
The inspectors identified a Severity Level IV Non-cited Violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) 50.71(e), "Maintenance of Records, Making of Reports", when the licensee failed to update the Updated Final Safety Analysis Report after revising the minimum required standby service water (SSW) flow values for the residual heat removal and diesel generator jacket water heat exchangers.			

Additional Tracking Items

None.

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 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

71111.21M - Comprehensive Engineering Team Inspection

The inspectors evaluated the following components and listed applicable attributes, permanent modifications, and operating experience:

Structures, Systems, and Components (SSCs) (IP section 03.01) (8 Samples)

(1) 16BB4, 480V Load Center

- Updated final safety analysis report, technical specifications, and technical specifications bases document.
- Visual inspection of switchgear for as-built configuration and material condition
- Environmental conditions for equipment
- Voltage analysis and short circuit calculations
- Protection settings and coordination study
- Vendor manual for conformance with manufacturer instructions for installation and maintenance
- Preventive maintenance and periodic verification testing
- Component maintenance history and corrective action program documents
- Schematic and wiring drawings
- System health report
- Corrective action program documents

(2) ESF Transformer 21

- Updated final safety analysis report, technical specifications, and technical specifications bases document.
- Electrical drawings
- Component maintenance history and corrective action program documents
- Procedures for transformer inspection, maintenance, and testing
- Thermography procedure and results
- Visual inspection of transformer for as-built configuration and material condition
- Vendor manual for transformer rating
- Load flow and voltage analysis
- Preventive maintenance and periodic verification testing
- Condition monitoring for transformer

- System health report

(3) 1P41F001B, Standby Service Water Pump B Discharge Valve Loop B
- Updated final safety analysis report, technical specifications, and technical specifications bases document
- Piping and instrument diagrams
- Valve design basis calculations including required actuator torque and thrust
- Preventative maintenance schedule and work orders
- Vendor manual recommendations
- Corrective action program documents
- Physical walkdown of valve condition
- System operating procedures

(4) 1E51C001, Reactor Core Isolation Cooling Pump
- Updated final safety analysis report, technical specifications, and technical specifications bases document
- Piping and instrument diagrams
- Physical walkdown of the pump
- Vendor manual recommendations
- Completed maintenance and surveillance testing
- Corrective action program documents
- System operating procedures
- Design pump flow calculations

(5) M41-F034, Containment Cooling Exhaust to Containment Vent Air Operated Valve
- Updated final safety analysis report, technical specifications, and technical specifications bases document
- Valve diagrams
- Physical walkdown of the valve
- Vendor manual
- Completed maintenance and surveillance testing
- Corrective action program documents
- System operating procedures
- Operator actions

(6) 11DA, Div 1 125 VDC Bus, and 1A3, Div 1 125 VDC Battery
- Final Safety Analysis Report, Technical Specifications, and Technical Specifications bases document
- Visual inspection of configuration and material condition
- Battery and charger sizing calculation
- Sizing and equipment protection calculation
- Maintenance and testing history
- System health report

(7) B21-F051B, Safety Relief Valve
- Updated final safety analysis report, technical specifications, and technical specifications bases document
- Valve diagrams
- Vendor manual

- Completed maintenance and surveillance testing
- Corrective action program documents
- System operating procedures
- Operator actions
- Calculations

(8) DG11, Division 1 Emergency Diesel Generator
- Updated Final Safety Analysis Report, Technical Specifications, and Technical Specifications Bases Document
- Vendor Manual
- Completed Maintenance and Surveillance Testing
- Corrective Action Program Documents
- System Operating Procedures
- Calculations

Modifications (IP section 03.02) (4 Samples)

(1) GGN-EC-0000089711, Upgrade of EDG Tachometer Transmitters
(2) GGN-EC-0000092214, Eliminate 1E51F064 Reactor Core Isolation Cooling Steam Supply Drywell Outboard Isolation Valve Inactive Leakoff Line and Evaluate the Acceptability of a Graphite Pressure Seal
(3) GGN-EC-0054116067, Add Supplemental Oiler to Reactor Recirculation Pump
(4) GGN-EC-0054011116, 52-170124, HPCS SVC WTR PMP, Circuit Breaker Equivalent Replacement

10 CFR 50.59 Evaluations/Screening (IP section 03.03) (11 Samples)

(1) EC 91828, Evaluate SRV Position Indication Being Reclassified as a Type D, Category 3 Variable Endorsed by NRC
(2) EC 89023, Remove Hydrogen Analyzer from the EQ Program
(3) EC 91791, Remove three pump trips off the FPCCU pumps 1G41C001A/B
(4) EC 95068, B21 NSR Reactor Vessel ATWSRPT Trip Allowable Value and Nominal Trip Setpoint
(5) EC 91464, GGN Appendix J Program Scope Reduction Evaluation EC
(6) EC 54210660, Update EQ documents for RCIC room temps CR-GGN-2023-17187-00008
(7) EC 54161574, Drywell Temperature Uncertainty Removal
(8) EC 93223, Evaluate Elevated Auxiliary Steam Tunnel Temperature Equipment Impacts for Cycle 24
(9) EC 54126301, Evaluate Plant Startup on Single Service Transformer
(10) EC 90299, Engineering Evaluation to Proceduralize Standing Order 20-016 to Manually Start the SSW Pump House Ventilation Systems Upon Declaration of a Tornado Warning
(11) EC 88859, Revise Standby Service Water Calculations

Operating Experience Samples (IP section 03.04) (3 Samples)

(1) NOE-HQN-2024-00071, AMETEK Part 21
(2) NOE HQN-2023-00140, Control Rod Drift

(3) NOE-HQN-2023-00298, GEH Part 21

INSPECTION RESULTS

<table>
<tr><td colspan="4">Failure to Adequately Implement Operator Actions in Site Procedures</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 05000416/2025010-01
Open/Closed</td><td>[H.6] - Design Margins</td><td>71111.21M</td></tr>
<tr><td colspan="4">The inspectors identified a Green finding and associated Non-cited Violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR), Appendix B, Criterion V, “Instructions, Procedures, and Drawings”, when the licensee failed to properly implement an engineering change that relied on manual operator actions to compensate for a deficient structure system and component (SSC) using procedures. Specifically, the applicable quality related procedures did not prescribe the actions to be taken within the time assumed by the associated analysis.</td></tr>
<tr><td colspan="4">Description: The inspectors reviewed Engineering Change (EC) 90299 and 10 CFR 50.59 evaluation, EVAL 2022-004, which analyze implementing manual operator actions to compensate for a deficient SSC design condition. The standby cooling tower ventilation system has external dampers that are not rated for the design basis high winds that would occur during a tornado. As a result, in the event of a tornado with design basis wind speed, the dampers could fail to open due to the differential pressure across them. This could fail one or both trains of the ventilation system and render standby service water inoperable. This issue was documented in Inspection Report (IR) 05000416/2022013. To correct this deficiency, the licensee developed manual operator actions to start the ventilation system before a tornado was onsite as a permanent compensatory measure. In the EC, the licensee concluded these manual operator actions should be completed immediately upon issuance of a tornado warning. These actions were to be proceduralized in off normal event procedure (ONEP) 05-1-02-VI-2, “Hurricanes, Tornados, and Severe Weather,” which then directs operators to manually start the ventilation system in accordance with system operating instructions. The licensee’s 50.59 evaluation noted that the time to complete the actions would be approximately ten minutes, but did not evaluate the impact of any delay in starting the actions.

The licensee added a step to manually start the ventilation system in ONEP 05-1-02-VI-2, but the direction to perform these actions is not until step 3.7 of the procedure’s subsequent actions. Prior to performing this step, the operators would be directed to, among other things, stop surveillance tests in progress, make several plant announcements, perform risk assessments, and other supplemental actions. The inspectors reviewed the procedure and concluded that the licensee had not addressed the potential delay after receiving notification of a tornado warning before implementing the compensatory actions in either the engineering evaluation or the associated 50.59 evaluation. The inspectors also noted that a tornado warning is generally issued when a tornado is either reported or potentially imminent and concluded that a design basis tornado could potentially reach the SSW pump house before the actions were completed. Since the licensee had not analyzed or evaluated the potential adverse consequences of the delay or provided reasonable assurance that the actions would be completed prior to a tornado impacting the SSW pump house, this could result in a failure to ensure the safety function of standby service water would be met during a design basis external event.</td></tr>
</table>

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

Corrective Action References: CR-GGN-2025-02222, CR-GGN-2025-02284

Performance Assessment:

Performance Deficiency: The failure to prescribe appropriate compensatory actions in procedures is a performance deficiency. Specifically, the licensee's engineering evaluation described the actions as needing to be performed immediately, but the associated procedures did not implement the actions within the time period assumed by the analysis.

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.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power."

Using Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the issue required a detailed risk evaluation because the degraded condition represented a loss of PRA function. An NRC Senior Reactor Analyst performed the detailed risk evaluation.

The analyst assumed that the standby service water (SSW) ventilation function could be impacted by untimely implementation of the actions prescribed by procedure ONEP 05-1-02-VI-2 in the event of a tornado event. The analyst reviewed the analysis of a related finding documented as NCV 05000416/2022013-01 in NRC Inspection Report 05000416/2022013 dated October 24, 2022 (ADAMS Accession No. ML22297A107). In this previous analysis, it was determined that the affected SSW ventilation dampers would remain functional for events involving wind speeds of up to 274 miles per hour. Based on an estimated frequency of occurrence of such an event being less than 1.0E-7/year, it was determined that the safety significance associated with the degraded condition of the ventilation dampers was Green (very low safety significance). The analyst determined that the potential increase in risk attributable to this performance deficiency involving procedure adequacy for the associated compensatory actions would be bounded by the previously determined significance of the uncompensated degraded condition of the SSW ventilation dampers. Thus, the analyst concluded that this finding is of very low safety significance (Green).

Cross-Cutting Aspect: H.6 - Design Margins: The organization operates and maintains equipment within design margins. Margins are carefully guarded and changed only through a systematic and rigorous process. Special attention is placed on maintaining fission product barriers, defense-in-depth, and safety related equipment. Licensee procedure ONEP 05-1-02-VI-2 was revised to reflect the analysis done in EC 90299 and Eval 2022-004 both of which concluded that manual operator actions needed to be taken to mitigate the risk of the pump house dampers failing during a tornado event. By not incorporating these steps in the immediate actions section or providing more clarifying information in the subsequent actions the licensee reduced the margin for the potential failure of the dampers during a tornado event.

Enforcement:

Violation: 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances.

Contrary to the above, from April 4, 2023 to June 25, 2025, the licensee failed to prescribe activities affecting quality into procedures appropriate to the circumstances. Specifically, Off Normal Event Procedure 05-1-02-V1-2, "Hurricanes, Tornados, and Severe Weather", revision 148, a quality related procedure, failed to provide guidance to immediately initiate the standby cooling tower pump house ventilation system in the event of a tornado warning as required by engineering change 90299.

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

Failure to Meet Technical Specification 3.8.1 Surveillance Requirements			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000416/2025010-02 Open/Closed	[H.7] - Documentation	71111.21M

The inspectors identified a Green finding and associated Non-cited Violation (NCV) of Technical Specification (TS) 3.8.1, "AC Sources - Operating". Specifically, during a scheduled surveillance of the emergency power system, the licensee failed to verify that all required loads were automatically shed and sequenced in accordance with Surveillance Requirements (SRs) 3.8.1.11 and 3.8.1.19.

Description: On March 25, 2022, the licensee conducted a surveillance intended to verify automatic load shedding and sequencing in response to a simulated loss of offsite power. However, the surveillance did not include verification that SSW Cooling Tower Fan A (1P41C003A) and SSW Cooling Tower Fan B (1P41C003B) were automatically shed. While those loads were required to be shed for a loss of offsite power or loss of coolant accident, the test was performed with the loads not running. As a result, testing of the load shed function for SSW Cooling Tower Fan A and SSW Cooling Tower Fan B did not occur.

Verification of successful load shed is required for both SR 3.8.1.11 and 3.8.1.19. After the inspectors questioned whether the SR had been performed successfully in the past, the licensee reviewed past surveillance records to determine when those loads had last been properly tested. The licensee was unable to show any record of testing the load shed function for SSW Cooling Tower Fan A and SSW Cooling Tower Fan B. The surveillance frequency for both requirements is 48 months. The licensee determined that, based on available records, both surveillance requirements had never been performed.

Corrective Actions: The licensee entered SR 3.0.3 due to the never performed surveillance. The licensee performed an evaluation and risk assessment to show reasonable assurance that the loads would shed when required and will perform SR 3.8.1.11 and 3.8.1.19 during the March 2026 refueling outage.

Corrective Action References: CR-GGN-2025-02420, CR-GGN-2025-02882

Performance Assessment:

Performance Deficiency: The failure to verify Division 1 Load Shedding and Sequencing (LSS) tests for all loads as required by TS SR 3.8.1.11 and SR 3.8.1.19 was 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 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, during a scheduled surveillance of the emergency power system, the licensee failed to verify that all required loads were automatically shed and sequenced in accordance with the surveillance procedure and TS requirements.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” The inspectors assessed the significance of the finding using IMC 0609 Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” The inspectors determined the finding to be of very low safety significance (Green) in accordance with Exhibit 2, “Mitigating Systems Screening Questions,” because the finding is a deficiency affecting the design or qualification of a mitigating SSC, but the SSC maintained its operability.

Cross-Cutting Aspect: H.7 - Documentation: The organization creates and maintains complete, accurate and up-to-date documentation. The inspectors assigned a cross-cutting aspect in the area of Human Performance – Documentation (H.7) because the licensee failed to create and maintain complete, accurate, and up-to-date documentation during performance of the surveillance. Specifically, the surveillance procedure allowed required loads to be marked as “not running” if they were not operating at the time of testing without establishing a clear path to ensure those loads were eventually verified. This procedural allowance led to the SSW Cooling Tower Fan A and SSW Cooling Tower Fan B loads being excluded from the test without subsequent evaluation or documentation.

Enforcement:

Violation: Technical Specification 3.8.1, "AC Sources - Operating," requires that surveillances be performed in accordance with the associated Surveillance Requirements. SR 3.8.1.11 and 3.8.1.19 both include a requirement to verify load shedding from emergency buses for Divisions 1 and 2.

Contrary to the above, from March 25, 2022, to June 25, 2025, the licensee failed to verify load shedding of SSW Cooling Tower Fan A and SSW Cooling Tower Fan B in accordance with SRs 3.8.1.11 and 3.8.1.19. The loads were marked "not running" in the surveillance procedure, and the licensee did not perform subsequent testing to verify load shedding would occur.

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

Failure to Update the Updated Final Safety Analysis Report

Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000416/2025010-03 Open/Closed	Not Applicable	71111.21M

The inspectors identified a Severity Level IV Non-cited Violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) 50.71(e), "Maintenance of Records, Making of Reports", when the licensee failed to update the Updated Final Safety Analysis Report after revising the minimum required standby service water (SSW) flow values for the residual heat removal and diesel generator jacket water heat exchangers.

Description: The inspectors reviewed Engineering Change (EC) #000088859, "Revise SSW Calculations" and identified that minimum standby service water (SSW) flow values for multiple safety related systems were revised as part of this EC through calculation MC-Q1P41-99031, “Standby Service Water Flow Evaluation,” which replaced the previous calculation, MC-Q1P41-97020, “Determination of Minimum Allowable SSW Flows (LOCA Lineup) to Safety Related Heat Exchangers,” as the design basis calculation.

The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) to verify that appropriate changes were made to sections affected by the change. The inspectors found that UFSAR Table 6.2-2, “Engineered Safety Systems Information for Containment Response Analyses,” and Table 9.5-3, “Diesel Generator Cooling Water System Component Data,” contained values for required SSW flow through the residual heat removal (RHR) and diesel generator jacket water heat exchangers.

SSW flow through the RHR heat exchangers is required to maintain containment integrity during a design basis accident. The value in the Table 6.2-2 is 3.93X10^6 lb/hr, or approximately 7900 gpm. Additionally in the licensee's Technical Specification Bases for Technical Specification 3.7, it specifically references 7900 gpm for SSW flow to the RHR heat exchangers as inputs to accident analysis. However, the minimum allowable value in calculation MC-Q1P41-99031 is 7413 gpm.

SSW flow through the diesel generator jacket water heat exchangers is required to ensure the diesel generator can supply the required electric power during a design basis accident. Table 9.5-3 identifies the duty flow of SSW for the emergency diesel generator jacket water cooling system as 2400 gpm. However, the minimum allowable value in calculation MC-Q1P41-99031 is 1550 gpm.

Title 10 of the Code of Federal Regulations (10 CFR) Section 50.34 says in part that the UFSAR shall contain a description and analysis of the structures, systems, and components of the facility, with emphasis upon performance requirements. The inspectors determined that the flow rates for SSW through these specific safety related heat exchangers that demonstrate they can accomplish their safety functions are performance requirements that are required to be included in the UFSAR. As a result of the EC, these values no longer reflected the minimum performance requirements for these heat exchangers.

The inspectors reviewed the most recent SSW A and SSW B flow performance test results and did not identify any safety concerns with the current performance of the affected heat exchangers.

Corrective Actions: The licensee entered the discrepancy between the UFSAR and their design basis calculations into their corrective action program (CAP).

Corrective Action References: CR-GGN-2025-02876

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

Enforcement: The ROP'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: The inspectors determined the issue was Severity Level IV because it met example 6.1.d.3 of the enforcement policy. The violation represented a failure to update the FSAR as required by 10 CFR 50.71(e) and the lack of up-to-date information could have a material impact on safety or licensed activities. Specifically, the information is an input to accident analyses.

Violation: Section 50.71, "Maintenance of Records, Making of Reports," of 10 CFR, paragraph (e) requires, in part, that, "Each person licensed to operate a nuclear power reactor shall update periodically 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." This submittal "shall contain all the changes necessary to reflect information and analyses submitted to the Commission by the applicant or licensee, or prepared by the applicant or licensee pursuant to Commission requirement since the submittal of the original or the last update to the final safety analysis report."

Contrary to the above, from February 18, 2019, to June 25, 2025, the licensee failed to update the final safety analysis report to assure that the information included in the report contained the latest information developed. Specifically, since Calculation MC-Q1P41-97020 and MC-Q1P41-99031 were developed to revise the SSW system load analysis and system acceptance criteria, the UFSAR was impacted and was not revised to reflect the latest information developed for minimum performance requirements.

Enforcement Action: This violation is being treated as a 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 May 15, 2025, the inspectors presented the preliminary results of the comprehensive engineering team inspection to Brad Kapellas and other members of the licensee staff.
- On June 25, 2025, the inspectors presented the comprehensive engineering team inspection results to Jeff Hardy and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.21M	Calculations	3.8.36-A	Standby D.G RM- Heating & Ventilation	10/05/1983
		8.8.19-Q	Air Requirements for Low-Low Set Point	A
		EC-Q1111-17003	GGNS Auxiliary Power System Short Circuit Study	1
		EC-Q1111.17002	GGNS AC Distribution System Voltage Study	1
		EC-Q1L21-85001	Sizing of 125V DC Batteries A & B and Associated Battery	2
		EC-Q1L21-90047	Sizing of 125V DC Division II Battery and Chargers	1
		EC-Q1L62-89002	Determination of Class 1E Inverter Load	0
		EC-Q1R20-91040	Verification of Protective Coordination for Motor Control Centers and Associated Feeders	0
		EC-QIL21-91016	Division 1125 V DC Class 1E Coordination Study	3
		EC-QL11-91011	SBO Evaluation of 125V DC Division I Battery	0
		MC-Q1B21-06002	ADS Makeup Air During an Appendix R Control Room Fire	0
		MC-Q1B21-07001	SRV Tailpipe Temperature	0
		MC-Q1B21-85023	Nitrogen Supply Time for Long Term ADS Makeup	0
		MC-Q1B21-89088	Design Air Flow to Support the Automatic Depressurization System (ADS)	1
		MC-Q1B21-96014	Automatic Depressurization System (ADS) Contained Air Supply Capacity	1
		MC-Q1P41-87193	SSW (P41) Flow to the Standby Diesel Jacket Water Cooler	revision 0
		MC-Q1P41-97020	Determination of Minimum Allowable SSW Flows (LOCA lineup) to Safety Related Heat Exchangers	rev 16
		MC-Q1P41-99031	Standby Service Water Flow Evaluation	rev 002
		MC-Q1P75-84007	Standby Diesel Generator Exhaust Capscrew Replacement	03/30/1984
		MC-Q1P75-86044	Division I Standby Diesel Engine Tension Criteria for the Main Bearing Studs	05/20/1987
		MC-QSP64-	Combustible Heat Load Calculation	Rev. 66

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		86058		
		PC-Q1M41-02221	Calculation of the Maximum Differential Pressure for Air Operated Valve 1M41F034 for GGNS AOV Program	Rev. 002
		PC-Q1M41-07014	Calculation of the required operating thrust/torque, actuator output capability, and available actuator capability margin for Air Operated Valve 1M41 F034/F035	Rev. 001
		SDC-X77	Diesel Generator Building Ventilation System, System Design Criteria	08/26/2014
	Corrective Action Documents	(CR-GGN-)	2001-00044, 2004-01110, 2005-02369, 2015-04753, 2016-04246, 2016-04378, 2017-07510, 2018-12452, 2018-12705, 2018-13205, 2018-13205, 2018-13205, 2019-01002, 2019-01047, 2019-01047, 2019-08678, 2019-08748, 2020-00486, 2020-00486, 2020-00809, 2020-06366, 2020-10675, 2020-10908, 2021-00039, 2021-02120, 2021-04364, 2021-05652, 2021-05820, 2022-03221, 2022-03251, 2022-03360, 2022-03360, 2022-04058, 2022-04332, 2023-02632, 2023-14143, 2023-14188, 2023-16508, 2023-16793, 2023-17187, 2024-02042	
	Corrective Action Documents Resulting from Inspection	(CR-GGN-2025-)	02002, 02009, 02012, 02032, 02034, 02036, 02049, 02050, 02052, 02059, 02063, 02063, 02066, 02068, 02070, 02072, 02141, 02177, 02219, 02222, 02235, 02236, 02259, 02268, 02269, 02270, 02271, 02272, 02273, 02276, 02280, 02284, 02314, 02420, 02876, 02882	
	Drawings	E-0001	Main One Line Diagram	058
		E-0121-09	R25 Summary of Relay Settings (ESF), 480V Load Centers 16BB4, 16BB5 & 16BB6, Unit 1	6
		E-0121-11	R25 Summary of Relay Settings (ESF) Voltage Relays on Load Centers, Unit 1	2
		E-0660	Site Raceway Plan, Units 1 & 2	033
		E-1008	One Line Meter and Relay Diagram, 4.16 KV E.S.F System, Buses 15AA and 16AB Unit 1	023
		E-1018	One Line Meter & Relay Diagram, 480 V, Bus 16BB1, 16BB2, 16BB3, 16BB4, Unit 1	11
		E-1091	MCC Tabulation 480V MCC 17B01 Control Building	Rev. 26

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		E-1116-012	Schematic Diagram 480V Load Center ESF Division II, 480V 1C Feeder Breaker 52-16405 to MCC 16B42	8
		E-1116-02	Schematic Diagram, 480V Load Center, ESF Division II, 4.16kV FDR [Feeder] Breaker, 152-1613 for LC [Load Center] 16BB2 & 16BB4 Unit 1	9
		M-1067A	Instrument Air System Unit 1	65
		M-1067M	Instrument Air System Unit 1	5
		M-258.0-Q1-1.2-018	Grand Gulf Nuclear Station Unit 1 Nuclear Plant Engineering, Henry Pratt Company, General Arrangement, NRS Valve, Bettis Cylinder Operator, Replaceable Packing Bonnet, DWG. No. C-2669	Rev. 009
	Engineering Changes	EC-88859	Revise SSW Calculations	03/11/2022
		EC-05401116	52-170124, HPCS SVC WTR PMP, Circuit Breaker Equivalent Replacement	Rev. 0
		EC-54210660	Update EQ Documents for RCIC Room Temps CR-GGN-2023-17187-00008	Rev. 0
		EC-89023	REMOVE HYDROGEN ANALYZERS FROM THE EQ PROGRAM	Rev. 0
		EC-91464	GGNS APPENDIX J PROGRAM SCOPE REDUCTION EVALUATION EC	Rev. 0
		EC-91828	Evaluate SRV Position Indication Being Reclassified as a Type D, Category 3 Variable Endorsed by NRC SE for BWROG TR NEDO-33160	0
	Engineering Evaluations	2022-004-00	Engineering Evaluation to Proceduralize Standing Order 20-016 to Manually Start the SSW pump House Ventilation Systems Upon Declaration for a Tornado Warning	04/04/2023
		ER-GG-2001-0044-000	Evaluate GGNS techniques used to check main bearing stud tension of the DIV 1 D/G	01/30/2001
	Miscellaneous	GLP-OPS-EP07	ONEP/EP Attachments	rev 4
		GLP-OPS-ONEP	Off Normal Event Procedures	rev 19
		GSMS-LOR-372	Security Threat, SBO, ELAP Licensees Operator Requalification Program	07/02/2014
		LAR 166	GRAND GULF NUCLEAR STATION, UNIT 1 - ISSUANCE OF AMENDMENT RE: ELIMINATION OF REQUIREMENTS	06/16/2004

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			FOR HYDROGEN RECOMBINERS AND HYDROGEN MONITORS (TAC NO. MC2177)	
		LAR 209	GRAND GULF NUCLEAR STATION, UNIT 1 - ISSUANCE OF AMENDMENT RE: REVISION OF TECHNICAL SPECIFICATIONS FOR CONTAINMENT LEAK RATE TESTING (CAC NO. MF6310)	02/17/2016
		M-258.0	ASME III Design Specification - Design Specification for Butterfly Valves 20" & Smaller Nuclear Service	Rev. 029
		NEI 94-01	INDUSTRY GUIDELINE FOR IMPLEMENTING PERFORMANCE-BASED OPTION OF 10 CFR PART 50, APPENDIX J	Rev. 3-A
		NOE-HQN-2023-00140	IRIS #544275 - Control Rod Drift into the Reactor Core Browns Ferry	
		NOE-HQN-2023-00297	Operational Experience Condition Report on GEH Part 21 60- Day Interim Report Notification: Failure of the CRD Collet Retainer	09/21/2023
		NOE-HQN-2023-00382-00016	IRIS #562718 - Browns Ferry Unit 1 Control Rod Drift Into Reactor Core	
		PMCR-GGN-	2011-00120422, 2014-00206278, 2019-19013492, 2021-21008175	
		SDC-B21	Nuclear Boiler System	4
		SIL no 139	Control Rod Drive Collet Retainer Tube Cracking	07/18/1975
		System Health Report	P41 Standby Service Water System Health Report	01/30/2025
		Vendor manual #460000154	Manual for Diesel Generator Unit for Grand Gulf	11/18/1976
		Vendor manual #460000469	Indoor Secondary Unit Substations	03/17/1977
	Procedures	04-1-01-M41-1	Containment Cooling System	Rev. 118
		04-1-01-Y47-1	Standby Service Water Ventilation System	07/30/2022
		05-1-02-V-9	Loss of Instrument Air	49
		05-1-02-VI-2	Off-Normal Event Procedure Hurricanes, Tornados, and Severe Weather	rev 148
		06-ME-1B21-R-	Main Steam Safety/Relief Valve Operability Test	108

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		0008		
		06-OP-1B21-O-0004	ADS Air System Valve Test	106
		06-OP-1M61-V-0002	SURVEILLANCE PROCEDURE Local Leak Rate Test - AIR Using Graftel Model 9623-7 Leak Rate Monitor	Rev. 015
		06-OP-1P75-M-0001	Standby Diesel Generator (SDG) Functional Test	07/02/2024
		EN-DC-115	Engineering Change Process	34
		EN-LI-100	Process Applicability Determination	35
		EN-LI-101	10 CFR 50.59 Evaluations	22
		EN-LI-102	Corrective Action Program	54
		EN-OE-100	Operating Experience Program	Rev. 036
		EN-OE-100	Operating Experience Program	Rev. 037
		JA-PI-03	OE Screening	Rev. 017
		SEP-APJ-003	PRIMARY CONTAINMENT LEAKAGE RATE TESTING (APPENDIX J) PROGRAM	Rev. 013
	Work Orders	(WO-GGN-)	00571424, 00571425, 54011153, 54071601, 54071656, 4073947, 54074173, 54208607, 54208701, 54236346, 54236385, 52939834, 52939955, 00370665, 54261505, 00593737, 52758312, 52961849, 52961990, 52990869, 53007938, 53009135, 53009283, 53009426, 53009427, 53035671, 54003322, 54014592, 54044593, 54045255, 54045359, 54145949, 54164066, 54214298, 00259936, 00485040, 52582930, 52722150, 52722150, 52747458, 52870005, 52878091, 52878092, 52878093, 52905990, 52915867, 52956142, 52970467, 52970472, 52970552, 52970670, 52976351, 52976402, 52936588, 52936730, 52937320, 52936831, 52866766, 52936832, 52754959, 52936823, 00448236, 52920058, 52977976, 53000718, 52656198, 52814434, 53011168, 52941071, 52939954	