



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

April 20, 2022

Mr. Robert Franssen
Site Vice President
Entergy Operations, Inc
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION – LICENSE RENEWAL PHASE 1
NRC INSPECTION REPORT 05000416/2022012

Dear Mr. Franssen:

On March 11, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Grand Gulf Nuclear Station and discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Nicholas H. Taylor".

Signed by Taylor, Nicholas
on 04/20/22

Nicholas H. Taylor, Chief
Engineering Branch 2
Division of Operating Reactor Safety

Docket No. 05000416
License No. NPF-29

Enclosure:
Inspection Report 05000416/2022012

GRAND GULF NUCLEAR STATION – NRC INSPECTION REPORT 05000416/2022012
 DATED – APRIL 20, 2022

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

Docket Number: 05000416

License Number: NPF-29

Report Number: 05000416/2022012

Enterprise Identifier: I-2022-012-0000

Licensee: Entergy Operations, Inc

Facility: Grand Gulf Nuclear Station

Location: Port Gibson, MS

Inspection Dates: March 7 to 11, 2022

Inspectors: M. Chisolm, Reactor Inspector
G. Pick, Senior Reactor Inspector

Approved By: Nicholas H. Taylor, Chief
Engineering Branch 2
Division of Operating Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a NRC 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

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

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.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

71003 - Post-Approval Site Inspection for License Renewal

The inspectors evaluated the material condition of Unit 1 in the spring 2022 while the plant was shut down for Refueling Outage R23. This period allowed the inspectors to evaluate inaccessible areas prior to entry into the period of extended operation and to evaluate the licensee conducting aging management reviews. The period of extended operation is the additional 20 years beyond the original 40-year licensed term and begins after midnight on November 1, 2024.

In addition, the inspectors performed this inspection to evaluate whether the licensee: (1) completed the necessary actions to comply with the license condition and commitments that are a part of the renewed operating license; (2) implemented the aging management programs as described in the updated final safety analysis report; and (3) implemented programs that agreed with those approved in the safety evaluation report and described in the updated final safety analysis report. Specific activities evaluated during this inspection are described in the following paragraphs.

The inspectors evaluated whether the licensee implemented the aging management programs described in NUREG-2211, "Safety Evaluation Report Related to the License Renewal of Grand Gulf Nuclear Station, Unit 1," (ML16288A185). The inspectors verified that the licensee implemented procedures, documented inspection results, and initiated corrective action documents.

The inspectors reviewed supporting documents including implementing procedures, work orders, inspection reports, engineering evaluations, and condition reports; conducted interviews with licensee staff; and visually inspected structures, systems, and components including those not accessible during power operation to verify that the licensee completed the necessary actions to comply with the license conditions stipulated in the renewed facility operating license.

Post-Approval Site Inspection for License Renewal (1 Sample)

- (1) The inspectors evaluated the aging management programs described below and walked down selected areas of the facility while performing this Phase 1 license renewal inspection.

A.1.23 Inservice Inspection Program

The Inservice Inspection Program manages aging effects for ASME Class 1, 2, and 3 pressure-retaining components including welds, pump casings, valve bodies, integral attachments, and pressure-retaining bolting using volumetric, surface, or visual examination as specified in ASME Section XI code. Every ten years this program is updated to the latest ASME Section XI code edition and addendum approved by the NRC in 10 CFR 50.55a.

The inspectors reviewed this program to ensure that the licensee would continue to manage the effects of aging during the period of extended operation. The inspectors verified that this program had no enhancements and no exceptions. The inspectors identified no issues during review of this aging management program.

A.1.34 One-Time Inspection – Small-Bore Piping Program and Commitment 24

This program provides a one-time volumetric inspection of a sample of Class 1 piping locations that are susceptible to cracking. The program includes pipes, fittings, branch connections, and all full and partial penetration (socket) welds with a nominal pipe size diameter less than 4 inches (NPS < 4) and greater than or equal to NPS 1 in systems that have not experienced cracking of ASME Code Class 1 small-bore piping.

Commitment 24 specified, “Implement the One-Time Inspection – Small-Bore Piping Program for Grand Gulf Nuclear Station (GGNS) as described in License Renewal Application (LRA) Section B.1.34.”

Because the licensee had not had any failures of their small-bore piping welds after 30 years of operation, the licensee decreased their sample population as allowed by the Generic Aging Lessons Learned report. The licensee decreased the sample size for their volumetric examinations from 10 percent, with a maximum of 25, of the socket welds and 10 percent, with a maximum of 25, of the butt welds to 3 percent with a maximum of 10 socket welds and 3 percent with a maximum of 10 butt welds. The inspectors determined that, during ultrasonic examination of a 3-inch carbon steel butt weld (DBA-23, FW-11), the licensee had identified an internal diameter connected flaw. The licensee documented this deficiency in Condition Report GGN-2022-02194. Because the licensee had an initial sample population of seven welds, the licensee doubled the sample population.

Based on review of the actions implemented related to the Small-Bore Piping Program, the inspectors could not determine whether the licensee met their commitment since all the inspections had not been completed at the time of the inspection. This commitment will be reviewed during the Phase 2 inspection.

Plant Condition Monitoring Walkdowns

The inspectors walked down the facility looking at the structures, systems, and components for signs of aging, such as corrosion on piping and supports, corrosion of cable trays, water intrusion, cracking, and spalling of concrete.

Specific areas walked down and components evaluated during this inspection included:

- Drywell – multiple elevations
- Suppression Pool
- Turbine Condenser Bay
- Inside Turbine-Generator Bioshield

During the walk downs of the areas, the inspectors did not identify any signs of aging that affected the structures, systems, or components.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On March 11, 2022, the inspectors presented the NRC inspection results to Robert Franssen and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision
71003	Corrective Action Documents	CR-GGN-	2022-02113, 2022-02194	
	Drawings	M-1070A	Standby Diesel Generator System	46
	Engineering Evaluations	GGNS-EP-08-LRD05	Aging Management Program Evaluation Report Class I Mechanical, Section 4.8, Inservice Inspection	3
		GGNS-ME-19-00023	Review of the Inservice Inspection Program for License Renewal Implementation	0
		GGNS-ME-19-00034	Review of One-Time Inspection - Small-Bore Piping Program for License Renewal Implementation	0
		GGNS-ME-19-00042	Review of the Structures Monitoring Program for License Renewal Implementation	0
	Miscellaneous	NUREG-2211	Safety Evaluation Report Related to the License Renewal of Grand Gulf Nuclear Station, Unit 1	
	Procedures	CEP-ISI-100	ASME Section XI, Division 1, Fleet Administrative Controls for Inservice Inspection Program	6
		EN-DC-150	Condition Monitoring of Maintenance Rule Structures	15
		EN-DC-351	Inservice Inspection Program Duties and Responsibilities	5
		EN-FAP-LR-024	One-Time Inspection	8
		EN-MA-145	Maintenance Standard for Torque Applications	11
		LMT-21-PAUT-029	Encoded Phased Array Ultrasonic Examination of Small Bore Austenitic and Ferritic Socket Welds (= 2.0? OD NPS)	0
		SEP-ISI-GGNS-001	ASME Section XI, Division 1, GGNS Inservice Inspection Program	10
	Work Orders		00541780	