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

November 22, 2019

EA-19-099

Mr. Eric Larson, Site Vice President
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION – FOLLOW-UP OF STANDBY SERVICE WATER SIPHON LINE ISSUE INSPECTION REPORT 05000416/2019013; REVISED NON-CITED VIOLATION

Dear Mr. Larson:

On June 20, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed a heat sink performance inspection at your Grand Gulf Nuclear Station (Grand Gulf). The results of that inspection were discussed with Mr. M. Lingenfelter, Director, Engineering, and other members of your staff, and documented in NRC Integrated Inspection Report 05000416/2019002 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19226A236).

During the inspection, the NRC reviewed a previously issued Green non-cited violation (NCV 05000416/2012003-04) related to the Entergy Operations, Inc. (Entergy) failure to establish a surveillance requirement to demonstrate the operability of the Grand Gulf standby service water system siphon line, contrary to Title 10 *Code of Federal Regulations* (CFR) 50.36, "Technical Specifications." The violation was issued in NRC Inspection Report 05000416/2012003, dated August 1, 2012 (ADAMS Accession No. ML12215A174). Because of questions related to whether Entergy adequately restored compliance to NCV 05000416/2012003-04, the NRC performed an in-office review of your corrective actions, which was completed on August 31, 2019.

Upon further review of NCV 05000416/2012003-04, the NRC determined that while testing of the standby service water system siphon line is necessary to demonstrate that this system will perform acceptably when in service, a change to the Grand Gulf Technical Specifications is unnecessary. Consequently, the NRC concluded this violation is more appropriately characterized as a violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." Accordingly, NCV 05000416/2012003-04 is being re-issued with a revised characterization which is included in the enclosed inspection report. A final exit briefing regarding the resolution of this issue was conducted telephonically with you and other members of your staff on November 4, 2019.

As discussed above, the enclosed report documents one finding of very low safety significance (Green) which is the revised characterization of NCV 05000416/2012003-04. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or significance of the violation 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.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding.”

Sincerely,

/RA/

Vincent G. Gaddy, Chief
Engineering Branch 1
Division of Reactor Safety

Docket No. 05000416
License No. NPF-29

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

GRAND GULF NUCLEAR STATION – FOLLOW-UP OF STANDBY SERVICE WATER SIPHON LINE ISSUE INSPECTION REPORT 05000416/2019013; REVISED NON-CITED VIOLATION – November 22, 2019

DISTRIBUTION:
SMorris, RA
MShaffer, DRA
AVegel, DRP
TInverso, DRP
RLantz, DRS
GMiller, DRS
DCylkowski, RC
JQuichocho, RIV/OEDO
VDricks, ORA
JWeil, OCA
SLingam, NRR
AMoreno, RIV/OCA
BMaier, RSLO
RAzua, IPAT
PVossmar, DRP
CYoung, DRP
DProulx, DRP
TSteadham, DRP
MThomas, DRP
CStott, DRP
AElam, DRP
PJayroe, IPAT
BCorrell, IPAT
MHerrera, DRMA
R4Enforcement

ADAMS ACCESSION NUMBER: ML19326C277

☒ SUNSI Review By: VGG | ADAMS: ☒ Yes ☐ No | ☐ Non-Publicly Available ☒ Publicly Available | ☒ Non-Sensitive ☐ Sensitive | Keyword: NRC-002

OFFICE	RI:EB1	SRI:EB1	C:EB1	C:ACES	PM:NRR/DORL	ES:OE
NAME	DReinert	GGeorge	VGaddy	JGroom	SLingam	DJones
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA/	/RA/
DATE	11/18/19	11/18/19	11/22/19	11/19/19	10/31/19	11/1/19

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000416
License Number:	NPF-29
Report Number:	05000416/2019013
Enterprise Identifier:	I-2019-013-0015
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Port Gibson, MS
Inspection Dates:	July 1 to November 4, 2019
Inspectors:	D. Reinert, Reactor Inspector W. Sifre, Senior Reactor Inspector
Approved By:	Vincent G. Gaddy, Chief Engineering Branch 1 Division of 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

Failure to Establish a Test to Demonstrate that the Standby Service Water System Siphon Line Will Perform Acceptably in Service			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000416/2012003-04 Closed EA-19-099	None (NPP)	71152
The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's failure to establish a testing program to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures.			

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 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 – BASELINE

71152 - Problem Identification and Resolution

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

Standby service water system siphon line surveillance test

INSPECTION RESULTS

<table>
<tr><td colspan="4">Failure to Establish a Test to Demonstrate that the Standby Service Water System Siphon Line Will Perform Acceptably in Service</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 05000416/2012003-04
Closed
EA-19-099</td><td>None (NPP)</td><td>71152</td></tr>
<tr><td colspan="4">The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's failure to establish a testing program to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures.</td></tr>
<tr><td colspan="4">Description: The Grand Gulf Nuclear Station ultimate heat sink consists of two cooling towers each having a concrete cooling tower basin. The combined volume of the two cooling tower basins constitutes the entire ultimate heat sink water inventory; however, one basin alone does not contain enough water inventory for all standby service water system post-accident cooling requirements. Therefore, the two cooling tower basins are interconnected by a siphon line that must function to transfer water between the two cooling tower basins. Depending on the water level in the basins, the siphon line either equalizes the levels or siphons water from one basin to the other. The siphon line must be operable to ensure the availability of enough cooling water to satisfy ultimate heat sink cooling water inventory requirements.

During a 2012 inspection, the NRC identified that the licensee was not testing the standby service water system to confirm the ability of the siphon line to pass an adequate rate of flow from one basin to the other. At the time of the inspector's initial questions, the licensee only performed a periodic preventative maintenance task every three years to demonstrate the</td></tr>
</table>

siphon line was not blocked. The inspectors determined that this activity was not an adequate test to demonstrate that the standby service water basin siphon line would perform satisfactorily in service.

In response to the inspector's concerns, the licensee initiated Condition Report CR-GGN-2012-08257. The licensee added a periodic testing requirement to its Technical Requirements Manual (TRM). In the TRM test, operators raise the water level in one of the two basins and then record water level changes in both basins over a period of several hours to ensure that the siphon line is passing more than the minimum required flow rate from one basin to the other. The inspectors have reviewed the results of the TRM tests and verified that the test demonstrates the operability of the standby service water system siphon line.

Corrective Actions: The licensee has successfully performed the TRM surveillance test four times since 2012. The inspectors reviewed the details of the TRM tests and verified that the TRM test does adequately demonstrate that the siphon line will be capable of adequately passing water from one basin to the other.

Corrective Action References: CR-GGN-2012-08257

Performance Assessment:

Performance Deficiency: The licensee's failure to establish a test to demonstrate the operability of the standby service water system cooling tower basin siphon line is a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the design control 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, without a test that verifies the interconnecting siphon line can perform its safety-related function, the licensee cannot ensure that sufficient cooling water will be available following an accident.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Using Exhibit 2, "Mitigating Systems Screening Questions," the finding screened as having very low safety significance (Green) because the finding did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather.

Cross-Cutting Aspect: Not Present Performance. No cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion XI, requires, in part, a test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures, which incorporate the requirements and acceptance limits contained in applicable design documents. Contrary to the above, prior to May 20, 2012, the licensee did not establish a test program to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. Specifically, the licensee did not establish a test of the interconnecting siphon line between the two standby service water system cooling tower basins to ensure that the siphon line will be capable of transferring water from one basin to the other, thus ensuring that the ultimate heat sink will provide sufficient cooling for at least 30 days without makeup.

Enforcement Action: This violation is being treated as an 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 October 31, 2019, the inspectors presented the NRC inspection results to Mr. M. Lingenfelter, Director, Engineering, and other members of the licensee staff.

- On November 4, 2019, the inspectors presented the exit of the Standby Service Water Siphon Line Issue inspection results to Mr. E. Larson, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision
71152	Corrective Action Documents	Condition Reports (CR-GGN-)	2012-08257, 2012-08537, 2012-09770, 2019-05294, 2019-05990	
	Procedures	06-OP-1P41-O-0001	Standby Service Water Siphon Line Operability Test	101
		EN-LI-100	Process Applicability Determination	11