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10 CFR 50.73

GNRO2022/00036

December 19, 2022

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Grand Gulf Nuclear Station, Unit 1 Licensee Event Report 2022-002-00, Loss of Secondary Containment during Standby Gas Treatment System Testing due to boundary leakage.

Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
Renewed License No. NPF-29

Attached is Licensee Event Report 2022-002-00, Loss of Secondary Containment during Standby Gas Treatment System Testing due to boundary leakage. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(v)(C) for an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the Release of Radioactive Material.

This letter contains no new Regulatory Commitments. Should you have any questions concerning the content of this letter, please contact Jeff Hardy, Regulatory Assurance Manager at 802-380-5124.

Sincerely,

JAH/trj

Attachments: Licensee Event Report 2022-002-00

cc: NRC Senior Resident Inspector
Grand Gulf Nuclear Station
Port Gibson, MS 39150

U.S Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Attachment
Licensee Event Report 2022-002-00

NRC FORM 366 (08-2020) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See Page 3 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

APPROVED BY OMB: NO. 3150-0104 **EXPIRES: 08/31/2023**

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Library, and Information Collection Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oira_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name	2. Docket Number	3. Page
Grand Gulf Nuclear Station, Unit 1	50-416	1 OF 3

4. Title

Loss of Secondary Containment during Standby Gas Treatment System Testing due to boundary leakage

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Rev No.	Month	Day	Year	Facility Name	Docket Number
									N/A	05000 N/A
10	20	2022	2022	002	00	12	19	2022	Facility Name N/A	Docket Number 05000 N/A

9. Operating Mode	10. Power Level
1	100

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*

10 CFR Part 20	☐ 20.2203(a)(2)(vi)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(A)	**10 CFR Part 73**
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(4)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(i)(A)	☒ 50.73(a)(2)(v)(C)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(i)	**10 CFR Part 21**	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(1)(i)
☐ 20.2203(a)(2)(ii)	☐ 21.2(c)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(i)
☐ 20.2203(a)(2)(iii)	**10 CFR Part 50**	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	☐ 73.77(a)(2)(ii)
☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	
☐ 20.2203(a)(2)(v)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	

☐ **Other** (Specify here, in Abstract, or in NRC 366A).

12. Licensee Contact for this LER

Licensee Contact	Phone Number (Include Area Code)
Jeffery A. Hardy	802-380-5124

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable To IRIS	Cause	System	Component	Manufacturer	Reportable To IRIS
X	NG	NA	NA	Y	N/A	N/A	N/A	N/A	N/A

14. Supplemental Report Expected	15. Expected Submission Date	Month	Day	Year
☒ No ☐ **Yes** (If yes, complete 15. Expected Submission Date)				

16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

Between October 20 and October 27, 2022, Grand Gulf Nuclear Station, Unit 1 (GGNS) experienced two similar events. During the performance of the Standby Gas Treatment System Train A surveillance test GGNS was unable to maintain Secondary Containment pressure, as required by Technical Specification Surveillance Requirement 3.6.4.1.4, greater than or equal to 0.266 inches of water vacuum for 1 hour at a flow rate of less than or equal to 4000 cubic feet per minute (cfm). During both events the test was secured. Secondary Containment was declared inoperable and Technical Specification 3.6.4.1 A.1 was entered. Secondary Containment was restored to operable status by restoring the configuration to a previously known operable condition. The direct cause of these events was the cumulative inleakage of the Secondary Containment Boundary.

Following corrective actions including repairing the source of inleakage the surveillance testing was successfully completed on December 9, 2022.

There were no consequences to the safety of the public, nuclear safety, industrial safety, or radiological safety. No radiological releases occurred due to this event. This report is made in accordance with 10 CFR 50.73(a)(2)(v)(C) for an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the Release of Radioactive Material.

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Library, and Information Collection Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oira_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Grand Gulf Nuclear Station, Unit 1	50-416	2022	002	- 00

NARRATIVE

PLANT CONDITIONS:
Event # 1 - Mode 1, 100 percent power
Event # 2 - Mode 1, 88 percent power

DESCRIPTION OF EVENTS
Event # 1:
At 0427 on October 20, 2022, Grand Gulf Nuclear Station, Unit 1 (GGNS) was in Mode 1 at 100 percent power when a failure of the Standby Gas Treatment System Train [BH] A draw down surveillance resulted in the inoperability of Secondary Containment [NG]. During the performance of the surveillance GGNS was unable to maintain Secondary Containment pressure, as required by Technical Specification Surveillance Requirement 3.6.4.1.4, greater than or equal to 0.266 inches of water vacuum for 1 hour at a flow rate of less than or equal to 4000cfm.

The test was secured. Secondary Containment was declared inoperable and Technical Specification 3.6.4.1 A.1 was entered at 0427. Secondary Containment was restored to operable status at 0520 by restoring the configuration to a previously known operable condition.

Event # 2:
At 1228 on October 27, 2022, GGNS was in Mode 1 at 88 percent power when a failure of the Standby Gas Treatment System Train A draw down surveillance resulted in the inoperability of Secondary Containment. During the performance of the surveillance GGNS was unable to maintain Secondary Containment pressure, as required by Technical Specification Surveillance Requirement 3.6.4.1.4, greater than or equal to 0.266 inches of water vacuum for 1 hour at a flow rate of less than or equal to 4000cfm.

The test was secured. Secondary Containment was declared inoperable and Technical Specification 3.6.4.1 A.1 was entered at 1228. Secondary Containment was restored to operable status at 1240 by restoring the configuration to a previously known operable condition.

REPORTABILITY
This report is made in accordance with 10 CFR 50.73(a)(2)(v)(C) for an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the Release of Radioactive Material.

CAUSE
Direct Cause:
The direct cause of these events was the cumulative inleakage of the Secondary Containment Boundary in the tested configuration. The two identified sources of inleakage to Secondary Containment are the Railroad Area Door and the Rail Bay Floor Plugs.

CORRECTIVE ACTIONS
1. Replace door seals to improve the seal around the Secondary Containment doors to prevent inleakage to boundary.
2. Replace the Rail Bay Floor Plug gasket with a softer material approved by an Engineering Change.
3. Update the model work order for replacing the floor plug seals or reinstallation of floor plugs with a PMT.
4. Revise model work order to include steps to ensure the mating surface is cleaned and any sealant from past replacements.

SAFETY SIGNIFICANCE

The function of the Standby Gas Treatment System is to ensure that radioactive materials that leak from the primary containment into the secondary containment following a Design Basis Accident are filtered and adsorbed prior to exhausting to the environment.

The Standby Gas Treatment System has two, full capacity, enclosure building recirculation fans, two full capacity exhaust fans; two, full capacity charcoal filter trains; and the associated dampers, ducting, and controls required to minimize release of contaminated air from the boundary region.

There were no actual consequences for this event. There was no radiological release from the Secondary Containment as a result of this event. There were no actual consequences to safety of the general public, nuclear safety, industrial safety and radiological safety.

Standby Gas Treatment System surveillance test was planned, scheduled, and performed using an approved procedure. This procedure directed the declaration of inoperability and included appropriate procedural steps for immediate restoration of Standby Gas Treatment System in the event of a condition requiring system initiation and actuation. The surveillance was performed to demonstrate operability of the system as required by Technical Specifications. The Standby Gas Treatment System was operable before and after both surveillance test. Previous successful tests and subsequent successful tests support that Standby Gas Treatment System did not show any indication of degradation.

The established procedural controls ensure the system would be able to meet its safety function if required. Therefore, in accordance with NEI 99-02, Regulatory Assessment Performance Indicator Guideline, this event is not being counted as a loss of safety function for performance indicator purposes.

PREVIOUSLY SIMILAR EVENTS

A review of internal operating experience for the previous three years identified the following similar event.

LER 2019-006-01 Failure to meet Technical Specifications 5.5.7 for Division II Standby Gas Charcoal Filter Media Efficiency.