



Entergy Operations, Inc.  
P. O. Box 756  
Port Gibson, MS 39150

Eric A. Larson  
Site Vice President  
Tel. (601) 437-7500

GNRO-2018/00005

10CFR50.73

March 22, 2018

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

SUBJECT: Supplemental Licensee Event Report 2017-002-02, Loss of Secondary Containment and Inoperability of the Standby Gas Treatment Systems as a result of a damaged power supply  
Grand Gulf Nuclear Station, Unit 1  
Docket No. 50-416  
License No. NPF-29

Dear Sir or Madam:

Attached is Supplemental Licensee Event Report 2017-002-02, Loss of Secondary Containment and Inoperability of the Standby Gas Treatment Systems as a result of a damaged power supply. This supplement corrects an error identified in the reportability statement section of the report. Further, this revision makes a number of grammatical correction and editorial change to the wording of the document. The revisions to the document are denoted by revision bars on the right-hand side of the page.

This letter contains no new commitments. If you have any questions or require additional information, please contact Douglas Neve at 601-437-2103.

Sincerely,

A handwritten signature in black ink, appearing to read "E. A. Larson".

Eric A. Larson  
Site Vice President  
Grand Gulf Nuclear Station  
EAL/ram

Attachment: Licensee Event Report 2017-002-02

cc: see next page

U.S. Nuclear Regulatory Commission  
ATTN: Mr. Siva Lingam  
Mail Stop OWFN 8 B1  
Rockville, MD 20852-2738

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

U. S. Nuclear Regulatory Commission  
ATTN: Mr. Kriss Kennedy, NRR/DORL (w/2)  
1600 East Lamar Boulevard  
Arlington, TX 76011-4511

**Attachment to GNRO-2018/00005**

**Licensee Event Report 2017-002-02**



**LICENSEE EVENT REPORT (LER)**

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
<http://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 Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>1. FACILITY NAME</b> Grand Gulf Nuclear Station, Unit 1	<b>2. DOCKET NUMBER</b> 05000 416	<b>3. PAGE</b> 1 OF 3
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**4. TITLE**  
Loss of Secondary Containment and Inoperability of the Standby Gas Treatment Systems as a result of a damages power supply.

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
2	28	2017		2017-002-02		03	22	2018	N/A	05000 N/A
									N/A	05000 N/A

**11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:** (Check all that apply)

<b>9. OPERATING MODE</b>  MODE 1	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
<b>10. POWER LEVEL</b>  100	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A	

**12. LICENSEE CONTACT FOR THIS LER**

LICENSEE CONTACT Douglas Neve / Manager, Regulatory Assurance	TELEPHONE NUMBER (Include Area Code) (601) 437-2103
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	BH	ED	Bailey	N	N/A	N/A	N/A	N/A	N/A

<b>14. SUPPLEMENTAL REPORT EXPECTED</b>	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO		N/A	N/A	N/A

**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)**

On March 24, 2017 the A Standby Gas Treatment System (SGTS) was not operating as expected. The investigation revealed the Single Nest Power Supply was damaged, resulting in loss of flow control. The power supply had been replaced on February 23, 2017. SGTS A was not run between replacement of the power supply and the time of discovery condition on March 24, 2017. Additionally, SGTS B was removed from service for planned maintenance on February 28, 2017, and returned to service on March 3, 2017. The cause of this event has been determined to be an inadequate design that allowed the standby gas treatment system filter train to not provide annunciation and indication upon power loss to the control room. The power supply was replaced and tested satisfactorily. Implementation of a design modification to ensure the standby gas treatment system filter train will provide annunciators/indication upon power loss to the control room. There were no actual nuclear safety consequences or radiological consequences.



LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
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1. FACILITY NAME	2. DOCKET	3. LER NUMBER		
Grand Gulf Nuclear Station, Unit 1	05000 416	YEAR	SEQUENTIAL NUMBER	REV. NO.
		2017-002-01		

**NARRATIVE**

**DESCRIPTION**

On March 24, 2017, while performing a surveillance on the A train of Standby Gas Treatment System (SGTS) [BH] the SGTS Flow Recorder [FR] was indicated a downscale reading. The Plant Data System [ID] computer points indicated a flow mismatch of approximately 5000 cubic feet per minute (CFM) between the available indications. Due to the mismatch indications and the downscale reading the surveillance was terminated and Standby Gas "A" was returned to standby.

The investigation determined a damaged Single Nest Power Supply [ED] (Bailey Model 771111AAAA1) for SGTS A was replaced on February 23, 2117. Subsequent testing determined that the replacement power supply was not fully functional at the time it was installed, resulting in a loss of the associated train's flow control. This damaged condition was not identified until March 24, 2017, when the A SGTS was tested. The A SGTS was in a standby configuration between the time the damaged power supply was installed and the time of discovery condition. Prior to the power supply being replaced the system had been successfully tested and therefore it was determined that this condition could only have been present since the installation of the new Power Supply was completed on February 23, 2017 and the time of detection on March 24, 2017.

The investigation further revealed that the B SGTS was removed from service for planned corrective and preventive maintenance on February 28, 2017, and returned to service on March 3, 2017.

The above described condition rendered the A SGTS inoperable between February 23, 2017 and March 24, 2017. The B SGTS was inoperable between February 28, 2017 and March 3, 2017. Therefore, both trains were inoperable between February 28, 2017 and March 3, 2017.

**REPORTABILITY**

This condition is reportable as an event that could have prevented the fulfillment of a safety function in accordance with 10 CFR 50.73(a)(2)(v)(C) for the time period when both the A and B SGTSs were inoperable.

The condition is also reportable as a condition prohibited by technical specifications in accordance with 10 CFR 50.73(a)(2)(i)(B) for the A SGTS train being inoperable for a period longer than allowed by technical specifications.

**CAUSE**

The cause of this event has been determined to be an inadequate design that allowed the standby gas treatment system filter train to not provide annunciation and indication upon power loss to the control room.



LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET

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Grand Gulf Nuclear Station, Unit 1	05000 416	YEAR	SEQUENTIAL NUMBER	REV. NO.
		2017-002-01		

**NARRATIVE**

**CORRECTIVE ACTIONS**

The defective power supply was replaced and the system was retested satisfactorily.

Implementation of the appropriate design modification to ensure that the standby gas treatment system filter train will provide annunciators / indication upon power loss to the control room.

**SAFETY SIGNIFICANCE**

The event resulted in a condition that could have prevented the fulfillment of a safety function for Standby Gas Treatment System. The potential consequence to the general public/onsite personnel could have been unanticipated does from an elevated radioactive discharge from the Offgas System. There were no actual consequences to general safety of the public, nuclear safety, industrial safety or radiological safety from this event.

Throughout the time period of the condition the unit conditions were stable and no plant conditions existed that would have resulted in an actual nuclear safety consequences or radiological consequences. The Technical Specification Safety Limits were not violated.

**PREVIOUSLY SIMILAR EVENTS**

- LER 2015-002-00 Loss of Secondary Containment Differential Pressure During Drawdown Testing
- LER 2015-003-00 Technical Specification Surveillance on Primary Containment Isolation Valves
- LER 2016-003-00 Loss of Secondary Containment Safety Function During Routine Roof Inspection

The identified licensee event reports were reviewed and it has been determined that the causes and corrective actions for the previously identified events were sufficiently different that they could not have predicted or prevented the occurrence of this event.