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Grand Gulf Nuclear Station
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GNRO-2016/00045

August 12, 2016

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

SUBJECT: Licensee Event Report (LER) 2016-004-00, Automatic Reactor SCRAM
during Turbine Stop and Control Valve Surveillance
Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

Dear Sir or Madam:

Attached is Licensee Event Report (LER) 2016-004-00, which will be supplemented upon completion of the in-progress root cause evaluation. This report is submitted in accordance with Title 10 Code of Federal Regulations 50.73(a)(2)(iv)(A).

This letter contains no new commitments. Should you have any questions or require additional information, please contact James Nadeau at (601) 437-2103.

Sincerely,

JJN/tmm

A handwritten signature in cursive script, appearing to read "James Nadeau".

Attachment: Licensee Event Report (LER) 2016-004-00

cc: (See Next Page)

cc: U.S. Nuclear Regulatory Commission
ATTN: Mr. Jim Kim, NRR/DORL (w/2)
Mail Stop OWFN 8 B1
Rockville, MD 20852-2738

U.S. Nuclear Regulatory Commission
ATTN: Kriss M. Kennedy (w/2)
Regional Administrator, Region IV
1600 East Lamar Boulevard
Arlington, TX 76011-4511

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

Attachment to GNRO-2016/00045

Licensee Event Report (LER) 2016-004-00



LICENSEE EVENT REPORT (LER)
(See reverse for required number of digits/characters for each block)

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/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-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.

1. FACILITY NAME Grand Gulf Nuclear Station, Unit 1	2. DOCKET NUMBER 05000 416	3. PAGE 1 OF 3
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4. TITLE
Automatic Reactor SCRAM during Turbine Stop and Control Valve Surveillance

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
06	17	2016	2016 - 004 - 00			08	12	2016	N/A	05000 N/A
									N/A	05000 N/A

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: <i>(Check all that apply)</i>									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
10. POWER LEVEL 65	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<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)(C)	<input type="checkbox"/> OTHER						
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME James Nadeau / 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	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	N/A	N/A	N/A	Y	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
<input checked="" type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO		11	16	2016

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

On June 17, 2016, at 0256 Central Daylight Time, Grand Gulf Nuclear Station experienced an automatic reactor SCRAM. Prior to the SCRAM, Grand Gulf Nuclear Station was operating in Mode 1 at approximately 65% rated thermal power and performing the Turbine Stop and Control Valve Operability Surveillance. During the surveillance, after the 'B' Turbine Stop valve was closed per procedure, the 'D' Turbine Stop Valve unexpectedly closed. The 'A' and 'C' Turbine Control Valves were then challenged to control Turbine and Reactor pressure resulting in Reactor pressure and power oscillations. Attempts were made to reset the 'B' Turbine Stop Valve followed by power reduction. While driving rods to reduce power, an automatic Reactor SCRAM was received at 0257 on a Neutron Monitoring System Oscillation Power Range Monitoring trip. A reset solenoid valve initiated the event due to a malfunction after it was actuated per the surveillance procedure. The solenoid valve remained in the tripped position during the surveillance which allowed the trip header pressure to be inappropriately vented triggering closure of the 'D' stop valve. The solenoid valve was replaced prior to startup. The root cause is still under investigation. This event posed no threat to public health and safety.

NRC FORM
(11-2015)

366A U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 10/31/2018

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, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollections.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.



LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV. NO.
Grand Gulf Nuclear Station, Unit 1	05000 416		2016-004-00	

NARRATIVE

PLANT CONDITIONS PRIOR TO THE EVENT

At the time of the event, Grand Gulf Nuclear Station (GGNS) Unit 1 was in Mode 1 at approximately 65% rated thermal power due to a planned power reduction to complete a Control Rod sequence exchange, Steam Jet Air Ejector (SJAE) swap, Cooling Tower acid flush, and Main Turbine Stop and Control Valve Operability Surveillance. All systems, structures and components that were necessary to mitigate the consequences of, or limit the safety implications of an event were available. No safety significant components were out of service.

DESCRIPTION

On June 17, 2016, GGNS was in Mode 1 at approximately 65% rated thermal power performing the Main Turbine Stop and Control Valve Operability Surveillance. During the surveillance, the 'B' Turbine Stop Valve was closed, as directed by the surveillance procedure. While the 'B' Turbine Stop Valve was closed, the 'D' Turbine Stop Valve unexpectedly closed, resulting in a Division II Reactor Protection System (RPS) half SCRAM signal.

With the 'B' and 'D' Turbine Stop Valves closed, the remaining 'A' and 'C' Turbine Control Valves were challenged to precisely control Turbine and Reactor pressure. This resulted in Reactor pressure and power oscillations. Although oscillations were occurring, Reactor pressure and water level maintained margin to SCRAM setpoints.

Multiple attempts were made to reset the 'B' Turbine Stop Valve followed by power reduction. While driving rods to reduce power, the Reactor received an automatic SCRAM at 0257 on a Neutron Monitoring System Oscillation Power Range Monitoring (OPRM) trip.

REPORTABILITY

This Licensee Event Report (LER) is being submitted pursuant to Title 10 Code of Federal Regulations (10 CFR) 50.73(a)(2)(iv)(A) for an automatic actuation of the RPS. Telephonic notification was made to the U.S. Nuclear Regulatory Commission (NRC) Emergency Notification System on June 17, 2016, within 4 hours of the event pursuant to 10 CFR 50.72(b)(2)(iv)(B) and 10 CFR 50.72 (b)(3)(iv)(A) for a valid RPS actuation while the reactor was critical.



LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2018
 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, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to 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.

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Grand Gulf Nuclear Station, Unit 1	05000 416	YEAR	SEQUENTIAL NUMBER	REV. NO.
		2016-004-00		

NARRATIVE

CAUSE

Direct Cause: The reset solenoid valve 1N32F514C initiated the event due to a malfunction after it was actuated per the surveillance procedure. The actuation of this reset solenoid valve triggered the loss of trip fluid pressure, and subsequent closure of the 'D' stop valve. During initial investigation, the solenoid valve was found to have remained in the tripped position during the surveillance which allowed the trip header pressure to be inappropriately vented.

Root Cause: Investigation of the root cause is ongoing. A supplemental report to this LER will be provided upon completion of the root cause investigation.

CORRECTIVE ACTIONS

The immediate corrective action was to replace both the 1N32F514C and 1N32F515C solenoid valves.

SAFETY SIGNIFICANCE

The event posed no threat to the health and safety of the general public or to nuclear safety as RPS performed as designed. No Technical Specification safety limits were violated. Industrial safety was not challenged, and there was no potential or actual radiological release during the event.

PREVIOUS SIMILAR EVENTS

Previous similar events will be discussed in the supplemental report upon completion of the root cause investigation.