Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

February 18, 2014
NOC-AE-14003088
10 CFR 50.73

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

South Texas Project
Unit 2
Docket No. STN 50-499
Licensee Event Report 2013-004-00
Manual Actuation of Main Steam Isolation Valves that was
Not Part of a Preplanned Sequence During Testing or Reactor Operation

Pursuant to 10 CFR 50.73(a)(2)(iv)(A), STP Nuclear Operating Company (STPNOC) submits the attached South Texas Project (STP) Unit 2 Licensee Event Report (LER) 2013-004-00 regarding a manual actuation of the Main Steam Isolation Valves (MSIVs) performed to support breaking vacuum in response to failure of the turbine bearing lift pump.

This event did not have an adverse effect on the health and safety of the public.

The attached LER provides preliminary information and will be followed by a supplement after completion of the cause investigation which will identify corrective actions.

There are no commitments in this letter. Corrective actions will be implemented in accordance with the STP Corrective Action Program.

If there are any questions, please contact Jim Morris at (361) 972-8652, or me at (361) 972-7566.

G. T. Powell
Site Vice President

jrm

Attachment: Unit 2 LER 2013-004-00

IE22
NRR

STI 33827855

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NRC FORM 366 (02-2014) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 01/31/2017

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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
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4. TITLE

Manual Actuation of Main Steam Isolation Valves that was Not Part of a Preplanned Sequence During Testing or Reactor Operation

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	N/A
12	19	2013	2013	- 004	- 00	02	18	2014	FACILITY NAME N/A	DOCKET NUMBER N/A

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
3	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
0	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
Jim Morris, Licensing Engineer	361-972-8652

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

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☒ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☐ NO		03	20	2014

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

On December 19, 2013, while in Mode 3 preparing the Unit 2 secondary plant for startup, conditions occurred where it became necessary to break vacuum on the main condenser. The Operator closed the Main Steam Isolation Valves (MSIVs) using the Main Steam Isolation Actuation switch instead of the individual valve switches, so the MSIVs close signal was processed through the solid state protection system (SSPS). The procedures for this condition did not specifically require that the valves should be closed by initiating a main steam isolation signal.

The manual actuation of the MSIVs is reportable under 10 CFR 50.73(a)(2)(iv)(A).

The risk significance of the event is considered to be very small. This event did not result in any offsite release of radioactivity or increase the offsite dose rates, and there were no personal injuries or damage to any safety-related equipment associated with this event.

A supplement to this LER will be submitted following the completion of the cause evaluation and identification of corrective actions.

I. DESCRIPTION OF EVENT

A. REPORTABLE EVENT CLASSIFICATION

This event is reportable pursuant to 10 CFR 50.73(a)(2)(iv)(A), any event or condition that resulted in the valid manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B) that was not part of a pre-planned sequence during testing or reactor operation. The listed system is the Main Steam Isolation Valves (MSIVs).

B. PLANT OPERATING CONDITIONS PRIOR TO EVENT

Unit 2 was operating in Mode 3 at 0% power.

C. STATUS OF STRUCTURES, SYSTEMS, AND COMPONENTS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT

The event resulted from the manual actuation of the MSIVs initiated through the solid state protection system (SSPS). There were no other structures, systems, or components that were inoperable at the start of the event that contributed to the event.

D. NARRATIVE SUMMARY OF THE EVENT

On December 19, 2013 at approximately 2200 hours, while in Mode 3 preparing the Unit 2 secondary plant for startup, conditions occurred where it became necessary to break vacuum on the main condenser. After approximately 30 minutes with no turbine rotation, the Control Room staff was unable to place the turbine on the turbine gear due to inadequate shaft lift oil pressure. Given that the main turbine could not be rotated, the associated annunciator response procedure guided the staff to secure the main condenser vacuum and turbine gland seal steam to minimize main turbine rotor bow.

The notes in the annunciator response procedure state that the procedure used to secure main condenser vacuum and turbine gland seal steam depends on the type of unit shutdown. Normal shutdown would require the use of normal operating procedures and the off-normal procedure for secondary plant stabilization, and its associated Conditional Information Page (CIP) for the "Condenser Unavailable" condition, would be used following a reactor trip.

An additional note in annunciator response procedure states that the main turbine should to be rotated at least 180 degrees every 15 minutes if possible. The situation was considered urgent because 30 minutes had already elapsed while attempting to restore the turning gear.

This situation did not qualify as a normal shutdown nor as a reactor trip, however all crew members agreed that the actions needed to be performed promptly and the CIP for "Condenser Unavailable" was followed. The Unit Supervisor gave the CIP procedural direction to the crew to isolate the Main Steam Lines (MSL). The Reactor Operator repeated the direction back and turned the Main Steam Isolation Actuation switch to close the MSIVs.

The Control Room staff closed all four MSIVs at once using the Main Steam Isolation Actuation switch, rather than closing each valve individually, due to the urgency to prevent damage to the main turbine.

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NARRATIVE

It should be noted that the off-normal procedure states "ENSURE MSIVs and MSIBs are closed", but does not specifically call for the use of the Main Steam Isolation Actuation switch.

By using the Main Steam Isolation Actuation switch instead of the individual valve switches, the main steam valves close signal was processed through the solid state protection system (SSPS), which is an Engineered Safety Feature (ESF) actuation and is reportable.

E. METHOD OF DISCOVERY

The manual actuation of the MSIVs via the SSPS was self-revealing when the action was performed in the Control Room.

II. EVENT-DRIVEN INFORMATION

A. SAFETY SYSTEMS THAT RESPONDED

The MSIVs closed in response to the manual actuation of the Main Steam Isolation circuitry. No other safety systems were affected by this event.

B. DURATION OF SAFETY SYSTEM INOPERABILITY

No safety systems were inoperable as a result of this event.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

The event did not have an adverse effect on the health and safety of the public.

A risk assessment was performed for this event. At the time of the event, the plant was in Mode 3, preparing the Unit 2 secondary plant for startup. The plant had not been critical for almost a month, which means decay heat was low. There was no initiating event or impact to the capability of mitigating systems or other plant equipment to perform required safety functions. Therefore, there is no incremental core damage or large early release risk associated with this event.

III. CAUSE OF THE EVENT

The cause of the event is still under investigation. A supplement to this LER will be submitted following completion of the cause evaluation and identification of corrective actions.

IV. CORRECTIVE ACTIONS

A supplement to this LER will be submitted following completion of the cause evaluation and identification of corrective actions.

V. PREVIOUS SIMILAR EVENTS

There have been no similar reportable events at STP within the last three years that have occurred for the same reason as this event.

VI. ADDITIONAL INFORMATION

None