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

March 25, 2010
NOC-AE-10002533
File No.: G25
10 CFR 50.73

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Unit 1
Docket No. STN 50-498
Revision to Licensee Event Report 1-2009-002,
Main Steam Isolation Valve Blocked from Closing

Pursuant to 10 CFR 50.73, the STP Nuclear Operating Company (STPNOC) submits the attached revision to Unit 1 Licensee Event Report 1-2009-002 which addresses an incident in which maintenance activities blocked a Main Steam Isolation Valve (MSIV) from fully closing. This condition is reportable under 10 CFR 50.73(a)(2)(v)(C) and 10 CFR 50.73(a)(2)(i)(B). The revision addresses additional reporting criteria and updates corrective action status. Revisions are marked by change bars in the margin.

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

There are no commitments contained in this Licensee Event Report. Corrective actions have been processed in accordance with the STP Corrective Action Program.

If there are any questions on this submittal, please contact either P. L. Walker at (361) 972-8392 or me at (361) 972-7158.

L. W. Peter
Plant General Manager

PLW
Attachment: Revision to LER 1-2009-002, Main Steam Isolation Valve Blocked from Closing

IE22
NRR

STI: 32626581

cc:
(paper copy)

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NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2010

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 Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 reverse for required number of digits/characters for each block)

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4. TITLE
Main Steam Isolation Valve Blocked from Closing

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
09	17	09	2009	- 002 -	1	03	25	2010	FACILITY NAME N/A	DOCKET NUMBER N/A

9. OPERATING MODE
1

10. POWER LEVEL
100%

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

☐ 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)
☐ 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)
☐ 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

NAME	TELEPHONE NUMBER (Include Area Code)
Philip L. Walker, Staff Licensing Engineer	361-972-8392

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
NA									

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* x NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

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

On September 17, 2009, Unit 1 Main Steam Isolation Valve (MSIV) 1D (MS-FSV-7444) was discovered to be inoperable due to restricted movement that kept it from being closed completely. Erection of a work platform around MSIV 1D began on September 14 with decking that was later found to interfere with valve movement. Operability was restored at 14:57 on September 17, 2009, when the interference was removed.

Technical Specification 3.7.1.5 requires that each MSIV be operable in Modes 1, 2, and 3. If one MSIV is inoperable but open, power operation may continue provided that operability is restored within four hours, or the requirements of the Configuration Risk Management Program are met. Otherwise, the unit is to be in at least hot standby within six hours. Because the MSIV was inoperable longer than allowed under the Technical Specifications without taking the appropriate action, this event is reportable under 10 CFR 50.73(a)(2)(i)(B). The event is also reportable under 10 CFR 50.73(a)(2)(v)(C) as a safety system functional failure because MSIV 1D would not have been able to fully isolate a faulted steam generator to mitigate a radioactive release.

The root cause of the event was inadequate procedures for scaffold installation. The procedures did not ensure an adequate review of the impact of the scaffold installation on operation of the plant. Procedures have been revised to improve control over installation of scaffolding.

Only MSIV 1D was affected by this condition. There were no personnel injuries, no offsite radiological releases, and no damage to other safety-related equipment.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

I. DESCRIPTION OF EVENT

A. REPORTABLE EVENT CLASSIFICATION

This event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B). South Texas Project (STP) Technical Specification 3.7.1.5 allows one Main Steam Isolation Valve (MSIV) to be inoperable but open in Modes 1 through 3 for four hours before taking action to begin shutdown without extending the allowed outage time using the Configuration Risk Management Program. However, STP Unit 1 MSIV 1D was determined to have been inoperable longer than the allowed outage time without taking action as required. Consequently, STP Unit 1 was in a condition prohibited by Technical Specifications.

This event is also reportable pursuant to 10 CFR 50.73(a)(2)(v)(C) as a safety system functional failure because MSIV 1D would not have been able to fully isolate a faulted steam generator to mitigate a radioactive release.

B. PLANT OPERATING CONDITIONS PRIOR TO EVENT

STP Unit 1 was in Mode 1 at 100% power.

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

No other inoperable structures, systems, or components contributed to the event.

D. NARRATIVE SUMMARY OF THE EVENT

On September 14, 2009, construction of a wooden deck work platform was begun around MSIV 1D to support implementation of a design change. Construction was completed on September 16. The deck was below the actuator flange and on all four sides of MSIV 1D, a position that would have prevented MSIV 1D from performing its design function of closing on demand. This condition was observed by a Reactor Operator performing his rounds on September 17, 2009, and reported to Engineering and Operations management. Subsequent measurement confirmed that interference between the wooden deck work platform and the valve actuator would prevent valve closure.

Following confirmation of the interference, action was initiated to dismantle the platform. The platform was removed at 14:57 on September 17 and MSIV 1D was restored to operable status. The estimated duration of MSIV 1D inoperability is 72 hours.

Because MSIV 1D was inoperable longer than the Technical Specification allowed outage time, the condition is reportable to the NRC under 10 CFR 50.73(a)(2)(i)(B).

MSIV 1D would also have not been able to mitigate a radioactive release from a faulted steam generator; therefore, the condition is also reportable to the NRC under 10 CFR 50.73(a)(2)(v)(C) as a safety system functional failure.

All scaffolds in STP Unit 1 and Unit 2 were subsequently inspected, and no other instance of interference was found.

E. METHOD OF DISCOVERY

This condition was identified by a Reactor Operator making his normal rounds of the Isolation Valve Cubicle.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

II. EVENT-DRIVEN INFORMATION

A. SAFETY SYSTEMS THAT RESPONDED

No safety systems were required to respond during this event.

B. DURATION OF SAFETY SYSTEM INOPERABILITY

Installation of the subject scaffolding began at 1500 on September 14, 2009, and completed September 16 at approximately 1700. The interference with valve movement was discovered September 17, 2009. Operability of MSIV 1D was restored when the interference was removed at 14:57 on September 17. The estimated duration of inoperability is 72 hours.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

Technical Specification Requirements:

Technical Specification 3.7.1.5 requires each MSIV to be operable in Modes 1, 2, and 3. With one MSIV inoperable but open, power operation may continue provided that the inoperable valve is restored to operable status within four hours or the requirements of Configuration Risk Management Program are met. Otherwise, the plant is to be in Hot Standby within the next six hours and in Hot Shutdown within the following six hours.

Design Description:

Main steam isolation valves only provide a safety function and are not required for power operation. These valves are normally open to allow steam flow through the main steam system. They are designed to fail closed to stop forward and reverse steam flow. Valve closure provides containment isolation or to prevent blowdown of more than one steam generator at a time. Isolation is required in response to the following:

- Main steamline break inside containment
- Break outside containment and upstream of the MSIV
- Steam generator tube rupture

MSIV 1D is a 30-inch, ASME Class 2, Wye pattern globe valve actuated by an Air-to-Open/Spring-to-Close actuator. The valve strokes from the fully back-seated position to the fully main-seated position in no more than 5 seconds.

Risk Assessment:

This condition contributed a small change in core damage risk and large early release risk based on the guidance contained in NRC Inspection Manual Chapters 0609 and 0612. Incremental Condition Core Damage Probability is less than 1E-6 per year, and Large Early Release Frequency is less than 1E-7 per year. Therefore, inability to fully close the MSIV during this interval had very low safety significance.

III. CAUSE OF THE EVENT

The root cause of the event was an inadequate procedure for scaffold installation. As exhibited below, the procedure did not ensure an adequate review of the impact of the scaffold installation on the operation of the plant.

- The non-standard scaffolding and decking installation process did not require input from Engineering or Operations to identify and document limitations, restrictions, requirements, or considerations near or around equipment important to plant operations. Additionally, no input was required by these departments to periodically verify that previously approved non-standard scaffold and/or decking sketches are still valid.
- The procedure for erection and use of temporary scaffolding did not contain requirements or attributes with the depth and rigor needed for non-standard scaffold and/or decking installation in areas containing plant equipment important to plant operation. Such work warrants written guidance to ensure adequate job quality and work control.
- The pre-job brief was not required to address application of scaffold installation limitations and restrictions consistent with functional requirements of adjacent equipment.
- The scaffold permit process lacked guidance when addressing special applications such as decks and platforms. The guidance should include restrictions on use while at power, limitations for adjacent equipment operation, and cautions for various plant operational modes.

IV. CORRECTIVE ACTION

Procedures to establish the process and requirements, including pre-job briefs and the permitting process, for installation of scaffolding and other structures in critical areas of the plant have been revised.

V. PREVIOUS SIMILAR EVENTS

There have been no recent events at the South Texas Project applicable to this obstruction by scaffolding.

Similar scaffolding-related events have occurred elsewhere, as documented in recent operating experience reports:

- OE23556: Main Steam Isolation Valve - Scaffold Interference
  [Beaver Valley Unit 2 – 10/01/2006]
- OE25594: Scaffold construction caused inoperable Standby Gas Treatment System Damper
  [Peach Bottom Unit 3 – 08/17/2007]
- OE20423: Scaffold poles struck by Main Steam Isolation Valves when valves are stroked
  [Perry Unit 1 – 03/02/2005]

VI. ADDITIONAL INFORMATION

None.