



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

May 3, 2012
NOC-AE-12002852
File No.: G25
10 CFR 50.73
STI: 33524434

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
Licensee Event Report 1-2011-001, Revision 1
Technical Specification Requirement Not Met Regarding Unborated Water Sources

Reference: L. W. Peter, STP Nuclear Operating Company, to NRC Document Control Desk,
"Licensee Event Report 1-2011-001, Technical Specification Requirement Not Met
Regarding Unborated Water Sources," dated July 11, 2011 (NOC-AE-11002698)
(ML11200A304)

Pursuant to 10 CFR 50.73, STP Nuclear Operating Company (STPNOC) submitted the referenced Unit 1 Licensee Event Report (LER) regarding the identification of valves which were not secured in the closed position, contrary to the requirements of Technical Specifications 3.4.1.4.2.b. and 3.9.1.

This condition was considered reportable under 10 CFR 50.73(a)(2)(i)(B), any operation or condition prohibited by the plant's Technical Specifications. The subject LER is being revised to indicate that the corresponding valves in Unit 2 were similarly affected by this condition.

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

There are no commitments contained in this LER. Corrective actions have been implemented in accordance with the STP Corrective Action Program.

If there are any questions on this submittal, please contact either J. R. Morris at (361) 972-8652 or me at (361) 972-7158.

A handwritten signature in black ink, appearing to read "L. W. Peter", is written over a horizontal line.

L. W. Peter
Plant General Manager

JRM

Attachment: LER 1-2011-001, Revision 1

1 E28
NRC

cc:

(paper copy)

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NRC FORM 366 (10-2010)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB: NO. 3150-0104 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. NEOB-10202. (3150-1104), 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)																																														
1. FACILITY NAME South Texas Unit 1					2. DOCKET NUMBER 05000498			3. PAGE 1 OF 4																																						
4. TITLE Technical Specification Requirement Not Met Regarding Unborated Water Sources																																														
5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED																																					
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9. OPERATING MODE 5			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR§: (Check all that apply) <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> 20.2201(b)</td> <td><input type="checkbox"/> 20.2203(a)(3)(i)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(C)</td> <td><input type="checkbox"/> 50.73(a)(2)(vii)</td> </tr> <tr> <td><input type="checkbox"/> 20.2201(d)</td> <td><input type="checkbox"/> 20.2203(a)(3)(ii)</td> <td><input type="checkbox"/> 50.73(a)(2)(ii)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(viii)(A)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(1)</td> <td><input type="checkbox"/> 20.2203(a)(4)</td> <td><input type="checkbox"/> 50.73(a)(2)(ii)(B)</td> <td><input type="checkbox"/> 50.73(a)(2)(viii)(B)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(i)</td> <td><input type="checkbox"/> 50.36(c)(1)(i)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(iii)</td> <td><input type="checkbox"/> 50.73(a)(2)(ix)(A)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(ii)</td> <td><input type="checkbox"/> 50.36(c)(1)(ii)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(iv)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(x)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(iii)</td> <td><input type="checkbox"/> 50.36(c)(2)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(A)</td> <td><input type="checkbox"/> 73.71(a)(4)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(iv)</td> <td><input type="checkbox"/> 50.46(a)(3)(ii)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(B)</td> <td><input type="checkbox"/> 73.71(a)(5)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(v)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(C)</td> <td><input type="checkbox"/> OTHER</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(vi)</td> <td><input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(D)</td> <td>Specify in Abstract below or in NRC Form 366A</td> </tr> </table>								<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)	<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 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 checked="" 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
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10. POWER LEVEL 000																																														
12. LICENSEE CONTACT FOR THIS LER																																														
FACILITY NAME Jim Morris, Licensing Engineer								TELEPHONE NUMBER (Include Area Code) 361-972-8652																																						
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																																					
14. SUPPLEMENTAL RESPONSE EXPECTED					15. EXPECTED SUBMISSION DATE		MONTH	DAY	YEAR																																					
<input type="checkbox"/> YES (if yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO																																														
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) On April 30, 2011, South Texas Project (STP) Unit 1 was in refueling outage 1RE16, with the unit in Mode 5, Reactor Coolant System loops not filled. In support of a planned evolution to transfer water from the 1B Recycle Holdup Tank (RHT) to the Volume Control Tank, a Senior Reactor Operator (SRO) assigned to review atypical plant conditions during the outage identified a potential dilution source that was not included in the plant surveillance procedure used to confirm compliance with Technical Specification 3.4.1.4.2 regarding unborated water sources. Although the valves were not secured closed as required by TS, the valves were closed and no dilution occurred. Technical Specifications were revised in 2003 to remove references to specific valves required to be isolated with respect to unborated water sources and replaced with more generic language. However, the impact of using the RHT as a fill source was not adequately addressed with respect to compliance with the new TS requirements, and thus the surveillance procedure used to ensure compliance did not address all unborated water sources. Because the same TS, plant procedures, and administrative controls applied to both units, Unit 2 was similarly affected. The corrective action was to revise the plant surveillance procedure used by both Units to ensure compliance with TS 3.4.1.4.2 and TS 3.9.1 to reflect the additional valves that must be secured in the closed position to comply with the TS. This corrective action was implemented in accordance with the STP Corrective Action Program. There were no personnel injuries, no offsite radiological releases, and no damage to safety-related equipment associated with this event. This event did not have an adverse effect on the health and safety of the public.																																														

LICENSEE EVENT REPORT (LER)
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I. DESCRIPTION OF EVENT

A. REPORTABLE EVENT CLASSIFICATION

This event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B), as any operation or condition that was prohibited by the plant's Technical Specifications.

B. PLANT OPERATING CONDITIONS PRIOR TO EVENT

South Texas Project (STP) Unit 1 was in Mode 5, with Reactor Coolant System loops not filled, as part of refueling outage 1RE16.

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

No structures, systems, or components were inoperable at the start of the event that contributed to the event.

D. NARRATIVE SUMMARY OF THE EVENT

On April 30, 2011, STP Unit 1 was in refueling outage 1RE16, with the unit in Mode 5, Reactor Coolant System loops not filled. In support of a planned evolution to transfer water from the Boron Recycle System (BRS) 1B Recycle Holdup Tank (RHT) to the Volume Control Tank, a Senior Reactor Operator (SRO) assigned to review atypical plant conditions during the outage identified a potential unborated water source that was not included in the plant surveillance procedure used to confirm compliance with Technical Specifications 3.4.1.4.2 regarding unborated water sources.

Technical Specification (TS) 3.4.1.4.2 (Reactor Coolant System – Cold Shutdown – Loops not Filled) requires in Mode 5 that "Each valve or mechanical joint used to isolate unborated water sources shall be secured in the closed position." Note that a similar requirement in TS 3.9.1 (Refueling Operations – Boron Concentration) applies during Mode 6. The associated surveillance procedure was focused on systems directly coupled to the Chemical and Volume Control System, such as Reactor Makeup Water (RMW), where an opened valve can reduce the RCS boron concentration by the addition of unborated water. The SRO review revealed that transferring water from the RHT to refill the RCS loops indirectly exposed the RCS to unborated water via Demineralized Water (DW) connected to the BRS. The surveillance procedure did not ensure that the connecting valves between the RHT and the DW system were secured closed. Although the valves were not secured closed as required by TS, the valves were closed and no dilution occurred.

Because the same TS, plant procedures, and administrative controls applied to both units, similar valves in Unit 2 were also not secured closed during refueling outages when required by TS 3.4.1.4.2.b and 3.9.1.

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E. METHOD OF DISCOVERY

The non-compliance with Technical Specifications was discovered during Senior Reactor Operator review of planned refueling outage activities.

II. EVENT-DRIVEN INFORMATION

A. SAFETY SYSTEMS THAT RESPONDED

N/A

B. DURATION OF SAFETY SYSTEM INOPERABILITY

N/A

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

The STP at-power risk model cannot be used to obtain either core damage frequency (CDF) or large early release frequency (LERF) data for this event (there is no PRA evaluation of boron dilution during shutdown). However, since the valves of concern in the potential unborated water path were not opened, and no dilution occurred, the potential impact to CDF and LERF from this event is negligible and the event is considered to be of low safety significance.

III. CAUSE OF THE EVENT

In 1997, STP procedures were revised to allow using water from the RHT to refill the RCS loops in addition to using the Refueling Water Storage Tank (RWST) or the Boric Acid Tanks (BATs). Prior to this, only the RWST or BATs were used for RCS refill. This change allowed clean, hydrazine-treated, borated water from the RHT to be used as a water source to refill the RCS during a refueling outage. In 2003, Technical Specifications 3.4.1.4.2 and 3.9.1 were revised to remove references to specific valves that were required to be secured to protect against dilution and replaced with the more generic language discussed in Section I.D above. However, the potential consequences of using the RHT as a fill source was not adequately addressed with respect to compliance with the revised TS requirements, and thus the surveillance procedure used to ensure compliance did not address all potential unborated water sources.

IV. CORRECTIVE ACTIONS

The surveillance procedure used to ensure compliance with TS 3.4.1.4.2 and 3.9.1 requirements will be revised to reflect the additional valves that must be secured in the closed position to comply with the TS.

Tracking and implementation of this action will be controlled in accordance with the STP Corrective Action Program. Action Completed.

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V. PREVIOUS SIMILAR EVENTS

Because the same TS, plant procedures, and administrative controls applied to both units, Unit 2 was also not in compliance with TS. Therefore both Units were in non-compliance with TS 3.4.1.2.b and 3.9.1 when required from the time the TS were amended in 2003 until the plant surveillance procedure was revised.

VI. ADDITIONAL INFORMATION

N/A