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

May 10, 2005
NOC-AE-05001878
10CFR50.73

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

South Texas Project
Unit 2
Docket No. STN 50-499
Licensee Event Report 2-05-003
Inoperable Cold Overpressure Mitigation System

Pursuant to 10CFR50.73, the South Texas Project submits the attached Unit 2 Licensee Event Report 2-05-003 regarding inoperability of the Cold Overpressure Mitigation System (COMS) during solid plant operations. The requirements of Technical Specification 3.4.9.3 were not met, in that a Reactor Coolant System vent of at least two square inches was not provided within 8 hours following removal of power to the COMS actuation circuitry. 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 will be 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) 972-7849.

Gary Parkey
Vice President, Generation
and Plant General Manager

PLW
Attachment: LER 2-05-003, Inoperable Cold Overpressure Mitigation System

IE22

LER 2-05-003.doc

STI: 31878114

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NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

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

I. APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
South Texas Unit 2	05000 499	1 OF 4

4. TITLE

Inoperable Cold Overpressure Mitigation System

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									N/A	05000
03	31	2004	2005	- 03	- 00	5	10	2005	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE	5
10. POWER LEVEL	0

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

20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
20.2203(a)(1)	50.36©(1)(i)(A)	50.73(a)(2)(iv)(A)	73.71(a)(4)
20.2203(a)(2)(i)	50.36©(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
20.2203(a)(2)(ii)	50.36©(2)	50.73(a)(2)(v)(B)	OTHER – 10 CFR 21
20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(D)	
20.2203(a)(2)(v) X	50.73(a)(2)(i)(B) X	50.73(a)(2)(vii)	
20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
P. L. Walker	361-972-8392

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 REPORT EXPECTED			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO				

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

On Monday, March 7, 2005, preparations were being made to implement a modification to Unit 1 during its refueling outage. Isolation of two actuation cabinets of the Solid State Protection System was required to complete the modification. Prior to isolation, it was determined that this would make the Cold Overpressurization Mitigation System (COMS) inoperable when Technical Specification 3.4.9.3 required that it be operable. This was resolved by rescheduling the system isolation. Subsequent review found that while installing a similar modification on Unit 2 during the preceding Unit 2 refueling outage, two actuation cabinets were de-energized, making COMS inoperable without compensatory action as required by Technical Specifications. This was found to be reportable on March 11, 2005.

The root cause of this event was that the operational impact on COMS of de-energizing the 'A' and 'B' SSPS actuation cabinets for maintenance was not recognized. Detailed information regarding which equipment/components would be affected was not readily available in a usable format for review.

For corrective action, a load list will be developed for each of the Solid State Protection System actuation cabinets identifying the affected components and their state when the cabinet is de-energized. This information will be included in the applicable operating procedure. As a compensatory action until the corrective action is completed, the system engineer will be contacted to confirm the extent of impact on plant equipment/components prior to implementation of scheduled work activities that include de-energizing SSPS equipment.

This event resulted in no personnel injuries, no offsite radiological releases, and no damage to other safety-related equipment.

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South Texas Unit 2	05000 499	2005	03	00	2 OF 4

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 10CFR50.73(a)(2)(i)(B). The South Texas Project has determined that the Unit 2 Cold Overpressurization Mitigation System (COMS) was inoperable without compensatory actions required by Technical Specifications. The requirements of Technical Specification 3.4.9.3 were not met in that a Reactor Coolant System vent of at least two square inches was not provided within 8 hours following removal of power to COMS actuation circuitry.

This event is also reportable pursuant to 10CFR50.73(a)(2)(vii). This condition made two independent trains inoperable in a single system designed to mitigate the consequences of an accident. Reportability was determined on March 11, 2005.

B. PLANT OPERATING CONDITIONS PRIOR TO EVENT

South Texas Project Unit 2 was in Mode 5.

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

There were no additional inoperable structures, systems, or components that contributed to the event.

D. NARRATIVE SUMMARY OF THE EVENT

A modification affecting the Main Steam Isolation valves was implemented in Unit 1 during refueling outage 1RE12. Implementation of the modification required that two of the Solid State Protection System actuation trains be de-energized. On March 7, 2005, during preparation for the outage, review of the schedule led to a question about operability of the COMS during solid plant operation. The response at the time was that operability would not be affected while the unit was under solid plant conditions. However, further discussion came to the conclusion that de-energizing both of the Solid State Protection System trains would make COMS inoperable. Documentation of the effect on COMS from loss of power to the actuation cabinets is a seldom-used vendor control-wiring diagram. This had not been documented in any procedure or guideline used during the process of implementing the modification. The Unit 1 outage schedule for 1RE12 was rearranged so that COMS operability was no longer a Technical Specification issue. Consequently, there was no violation of Technical Specification requirements by Unit 1. This led to review of the experience for its applicability to Unit 2.

A modification affecting the Feedwater Isolation Valves was implemented in Unit 2 during refueling outage 2RE10 in March 2004. While Unit 2 was in Modes 5 and 6, power was removed from the Solid State Protection System actuation trains for the modification to be performed. It was not realized that de-energizing the two SSPS actuation cabinets would make COMS inoperable. Power was removed at 1922 on March 31, 2004 and not restored until 1115 on April 2, 2004. Technical Specification 3.4.9.3 requires that either two pressurizer power-operated relief valves be operable, or that the Reactor Coolant System be depressurized using a vent of at least two square inches. With both relief valves inoperable, venting through the 2.0 square inch vent is required within the subsequent 8 hours. Power was not restored for approximately 39 hours 53 minutes, exceeding the time allowed by the Technical Specifications.

This was determined to be reportable on March 11, 2005.

E. METHOD OF DISCOVERY OF EACH COMPONENT FAILURE, SYSTEM FAILURE, OR PROCEDURAL ERROR

This condition was identified by reviewing Unit 2 records after the fact following discovery of the potential for the problem during preparations for the Unit 1 outage.

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

Power was removed from the Solid State Protection System actuation cabinets at 1922 on March 31, 2004 and not restored until 1115 on April 2, 2004. Technical Specification 3.4.9.3 requires that either two pressurizer power-operated relief valves be operable, or that the Reactor Coolant System be depressurized using a vent of at least two square inches. With both relief valves inoperable, venting through the 2.0 square inch vent is to be accomplished within the next 8 hours. Power was not restored for approximately 39 hours 53 minutes, exceeding the time allowed under the Technical Specifications.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

This event is significant because it placed the South Texas Project in a condition outside the operating configuration allowed by Technical Specifications. Inadvertently disabling the automatic Cold Overpressurization Mitigation System function during 2RE10 represented a potential challenge to the RCS overpressure protection function. Using a conservative bounding calculation, the increase in risk imposed by the inoperable components was 1.4E-08. If this increase is conservatively assumed to lead directly to a core damage event, the calculated increase in core damage frequency was below the significance determination lower bound of 1E-06.

Defense-in-depth capability was reduced during solid plant operation with both actuation trains disabled. However, because two trains of Residual Heat Removal (RHR) were available with the suction valves open, redundant pressure control functions were available to mitigate an over-pressurized condition via the RHR pump discharge relief valves.

III. CAUSE OF THE EVENT

The root cause of this event was that the operational impact on COMS of de-energizing the 'A' and 'B' SSPS actuation cabinets for maintenance was not recognized. Detailed information regarding which equipment/components would be affected was not readily available in a usable format for review.

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

IV. CORRECTIVE ACTIONS

For corrective action, a load list will be developed for each of the Solid State Protection System actuation cabinets identifying the affected components and their state when the cabinet is de-energized. This information will be included in the applicable operating procedure. As a compensatory action until the corrective action is completed, the system engineer will be contacted to confirm the extent of impact on plant equipment/components prior to implementation of scheduled work activities that include de-energizing SSPS equipment.

V. PREVIOUS SIMILAR EVENTS

None.

VI. ADDITIONAL INFORMATION

None.