Nuclear Operating Company

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

December 28, 2006
NOC-AE-06002097
10CFR50.73

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
Licensee Event Report 2006-005,
Quadrant Power Tilt Ratio Surveillance Not Performed As Required By TS 3.3.1 Action 2

Pursuant to 10 CFR 50.73(a)(2)(i)(B), STP Nuclear Operating Company submits the attached Unit 1 Licensee Event Report 2006-005 regarding the failure to perform TS 3.3.1 Action 2 requirements associated with an inoperable Power Range Excore Nuclear Instrumentation channel.

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

There are no commitments contained in this event report. Resulting corrective actions will be implemented in accordance with the Corrective Action Program.

If there are any questions regarding this submittal, please contact S. M. Head at (361) 972-7136 or me at (361) 972-7849.

Edward D. Halpin
Site Vice President &
Plant General Manager

jrm/

Attachment: South Texas Unit 1 LER 2006-005

IE22

STI: 32102936

cc:
(paper copy)

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NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 06/30/2007

Estimated burden per response to comply with this mandatory collection request: 50 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)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
South Texas, Unit 1	05000498	1 OF 5

4. TITLE

TS 3.3.1 Action 2 requirements not performed.

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
										05000
11	06	2006	2006	- 005 -	00	12	28	2006	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE

1

10. POWER LEVEL

078

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

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
James R. 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

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

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

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

On November 6, 2006, at 1718 hours, Unit 1 was operating at 78% power when it was discovered that the Technical Specification Actions with one Power Range Nuclear Instrument out of service had not been performed as required. Technical Specification 3.3.1 Action 2 requires either (1) thermal power to be restricted to less than 75% and the Power Range Neutron Flux Trip setpoints be reduced to less than or equal to 85% power within 4 hours or (2) monitor Quadrant Power Tilt Ratio (QPTR) once per 12 hours per Specification 4.2.4.2. Neither of these actions was performed and the 12 hour requirement elapsed before the condition was discovered.

The cause of the missed TS Action requirements was inconsistent adherence to procedural requirements regarding the logging and tracking of TS requirements.

Subsequent to the discovery of the missed TS Action, Power Range Nuclear Instrument NI-43 was returned to operable status, and a QPTR surveillance was performed with satisfactory results.

This condition did not have an adverse affect on the health and safety of the public.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
South Texas, Unit 1	05000498	2006	005	00	2 OF 5

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

I. DESCRIPTION OF REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

This event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications (TS). With one inoperable Power Range Excore Nuclear Instrumentation (NI) Detector Channel, Action 2 of TS 3.3.1 requires that either (1) Thermal Power be reduced to less than 75% and the Power Range Neutron Flux Trip setpoints be reduced to less than or equal to 85% power within 4 hours, or (2) Monitor Quadrant Power Tilt Ration (QPTR) once per 12 hours per Surveillance Requirement 4.2.4.2.

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

At the time of discovery, Unit 1 was operating at approximately 78% in power ascension operations following refueling outage 1RE13.

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

Power Range Excore Nuclear Instrumentation Channel NI-43 was inoperable.

D. NARRATIVE SUMMARY OF THE EVENT, INCLUDING DATES AND APPROXIMATE TIMES

On November 5, 2006 at 1331 hours, Unit 1 was operating at approximately 63% power in power ascension operations following refueling outage 1RE13. At this time, the Loop 3 Overtemperature / Delta Temperature (OT/ΔT) channel spiked high. In response to this spike, the Loop 3 temperature channel was declared inoperable, placed in bypass mode, and corrective maintenance activities were initiated.

On November 6, 2006 at 0126 hours, with Unit 1 at approximately 78% power, Power Range Excore Nuclear Instrumentation channel NI-43 was declared inoperable to perform axial flux difference (AFD) calibrations. Power Range NI-43 provides the nuclear power input into the Loop 3 OT/ΔT Reactor Trip circuitry.

At approximately 0330 hours, Instrumentation & Control (I&C) Technicians working on the Loop 3 temperature channel encountered a problem with a tester card which would extend this work for another ten to twelve hours. Shortly afterward, I&C Technicians working on NI-43 notified the Control Room that the NI-43 AFD calibration was complete. However, NI-43 could not be returned to service because bistables associated with Loop 3 OT/ΔT were in bypass, leaving NI-43 inoperable.

On November 6, 2006, at 1718 hours, during turnover of Control Room personnel, it was discovered that the Technical Specification actions required with one Power Range Nuclear Instrument out of service had not been performed. Technical Specification 3.3.1 Action 2 requires either (1) thermal power to be restricted to less than 75% and the Power Range Neutron Flux Trip setpoints be reduced to less than or equal to 85% power within 4 hours or (2) monitor Quadrant Power Tilt Ratio (QPTR) once per 12 hours per Surveillance Requirement 4.2.4.2. The on-shift crew promptly commenced power reduction to less than 75% power and initiated actions to reduce the flux trip setpoints to less than 85% power. Management personnel were notified and the Unit entered into Technical Specification 3.0.3 due to missing the action requirements.

Subsequent to the discovery of the missed TS action, the Loop 3 temperature channel was taken out of bypass to support restoration of NI-43. Power Range Excore Nuclear Instrument Channel NI-43 was returned to service and a QPTR surveillance was performed with satisfactory results. Power Range NI-43 was declared operable at 2006 hours, and TS 3.0.3 and TS 3.3.1 Action 2 were exited.

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

This failure to perform the surveillance required TS 3.3.1 Action 2 was discovered by Control Room personnel during shift turnover activities.

II. COMPONENT OR SYSTEM FAILURES

A. FAILURE MODE, MECHANISM, AND EFFECTS OF EACH FAILED COMPONENT

This LER discusses the failure to perform a TS required action. No component or system failures occurred.

B. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

Not applicable.

C. SYSTEMS OR SECONDARY FUNCTIONS THAT WERE AFFECTED BY FAILURE OF COMPONENTS WITH MULTIPLE FUNCTIONS

Not applicable.

D. FAILED COMPONENT INFORMATION

Not Applicable.

III. ANALYSIS OF THE EVENT

A. SAFETY SYSTEM RESPONSES THAT OCCURRED

No safety system responses occurred.

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

Not applicable.

C. SAFETY CONSEQUENCES AND IMPLICATIONS

The failure to perform the Quadrant Power Tilt Ratio surveillance required per TS 3.3.1 Action 2 did not have an adverse affect on the health and safety of the public. Subsequent to the discovery of the missed TS action, Power Range Excore Nuclear Instrument Channel NI-43 was returned to service, and a QPTR surveillance was performed with satisfactory results, which demonstrated adequate safety margin had been maintained.

IV. CAUSE OF THE EVENT

The cause of the missed TS Action requirements was inconsistent adherence to procedural requirements regarding the logging and tracking of TS requirements. Past experience with NI calibrations led to the belief that NI-43 would be restored to Operable status in sufficient time to preclude the need for performance of a QPTR using either the Movable Incore Detector System or BEACON power distribution monitoring system per TS Surveillance Requirement 4.2.4.2. This resulted in a lack of attentiveness to ensure Technical Specification surveillance requirements were understood and performed when required, indicating that a conservative bias was not maintained to ensure Technical Specification compliance.

V. CORRECTIVE ACTIONS

Corrective actions regarding this event will be implemented in accordance with the Corrective Action Program. These corrective actions include:

- The Operations surveillance log procedure will be revised to clarify requirements to record the date and time for when the next conditional surveillance (i.e., non-routine TS surveillances required by plant condition or directed by a TS Action) is due.
- Operations Management will discuss this event and management's expectations with respect to its causes as part of Licensed Operator Requalification training.

VI. PREVIOUS SIMILAR EVENTS

There have been two Licensee Event Reports in the past three years regarding missed TS actions.

- Unit 1 LER 2004-005: Engineered Safety Features (ESF) Diesel Generator 12 was not declared Inoperable and verification of ESF power availability was not performed as required by TS 3.8.1.1. Auxiliary Feedwater (AFW) Pump 12 was inoperable for cell switch replacement. A non-functional cell switch on an ESF 4160V load disables the diesel output breaker from auto closing when started in an emergency mode.

  The root cause of this event was inadequate communication among SROs responsible for the configuration management and work implementation processes of this "out-of-the-ordinary" condition where AFW Pump breaker maintenance affects DG operability.

- Unit 2 LER 2005-005: Unit 2 was in Mode 6 with irradiated fuel being moved in the Unit 2 Fuel Handling Building (FHB). Direct Current (DC) Switchboard E2C11 was de-energized without placing the FHB Heating, Ventilation, and Air Conditioning (HVAC) in the Emergency Recirculation mode as required by Technical Specification 3.3.2 Action 30. The FHB HVAC actuation relays are located in Relay Rack (RR) 145C and powered from 125V DC Panel 039C; which is in turn is powered from Switchboard E2C11. These relays require DC power to automatically place the FHB HVAC in the Emergency mode and would not have actuated with Switchboard E2C11 deenergized.

  The root cause of this event was the over-reliance on individuals to plan and schedule electrical bus outages and the failure to develop and implement procedures to provide guidance for these evolutions.

VII. ADDITIONAL INFORMATION

Operations Management will review this and previous events at STP to identify and implement process improvements concerning the tracking of Technical Specification Action Statements in effect.