



September 29, 2026
NOC-AE-26004181
10 CFR 50.73
STI: 35923024

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

South Texas Project
Unit 2
Docket No. STN 50-499
Licensee Event Report 2026-001-01
Supplement to Unplanned Automatic Reactor Trip and Turbine Trip Due to
Main and Auxiliary Transformer Lockout, Followed by Auxiliary Feedwater Actuation

Reference: Letter, R. Norris (STP) to Document Control Desk (NRC); "Licensee Event Report 2026-001-00 Unplanned Automatic Reactor Trip and Turbine Trip Due to Main and Auxiliary Transformer Lockout, Followed by Auxiliary Feedwater Actuation;" August 13, 2026; (NOC-AE-26004173) (ML26225A414)

On August 13, 2026, STP Nuclear Operating Company (STPNOC) submitted the referenced Licensee Event Report. This letter is a supplement to the report to provide updates as a result of the causal evaluation. The updated information is denoted by revision bars located in the right-hand margin. The report is submitted in accordance with 10 CFR 50.73.

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

There are no commitments in this letter.

If there are any questions regarding this submittal, please contact Stephanie Rodgers at 361-972-4527 or me at 361-972-7566.

A handwritten signature in black ink, appearing to read "R. Norris".

Robert B. Norris
Site Vice President

Enclosure: Unit 2 LER 2026-001-01, Supplement to Unplanned Automatic Reactor Trip and Turbine Trip Due to Main and Auxiliary Transformer Lockout, Followed by Auxiliary Feedwater Actuation

cc:
Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
1600 E. Lamar Boulevard
Arlington, TX 76011-4511

Enclosure

Unit 2 LER 2026-001-01

Unit 2 LER 2026-001-01, Supplement to Unplanned Automatic Reactor Trip and Turbine Trip
Due to Main and Auxiliary Transformer Lockout, Followed by Auxiliary Feedwater Actuation



LICENSEE EVENT REPORT (LER)

(See Page 3 for required number of digits/characters for each block)

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1. Facility Name

South Texas Project, Unit 2



050



052



053

2. Docket Number

00499

3. Page

1 OF 6

4. Title

Unplanned Automatic Reactor Trip and Turbine Trip Due to Main and Auxiliary Transformer Lockout, Followed by Auxiliary Feedwater Actuation

5. Event Date

6. LER Number

7. Report Date

Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year
06	17	2026	2026	- 001 -	01	09	29	2026

8. Other Facilities Involved

Facility Name	☐ 050	Docket Number
N/A		N/A
Facility Name	☐ 052	Docket Number
N/A		N/A
Facility Name	☐ 053	Docket Number
N/A		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)

☒ 10 CFR Part 20	☐ 20.2203(a)(3)(i)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(C)	☐ 53.1640(a)(2)(ii)(A)	☐ 73.77(a)(1)(ii)
☐ 20.2201(b)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 53.1640(a)(2)(ii)(B)	☐ 73.77(a)(2)(i)(A)
☐ 20.2201(d)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 53.1640(a)(2)(iii)	☐ 73.77(a)(2)(i)(B)
☐ 20.2203(a)(1)	☒ 10 CFR Part 21	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(viii)(A)	☐ 53.1640(a)(2)(iv)	☐ 73.1200(a)
☐ 20.2203(a)(2)(i)	☐ 21.2(c)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(B)	☐ 53.1640(a)(2)(v)	☐ 73.1200(b)
☐ 20.2203(a)(2)(ii)	☒ 10 CFR Part 50	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(ix)(A)	☐ 53.1640(a)(2)(vii)(A)	☐ 73.1200(c)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(x)	☐ 53.1640(a)(2)(viii)(A)	☐ 73.1200(d)
☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(1)(ii)(A)	☒ 50.73(a)(2)(iv)(A)	☒ 10 CFR Part 53	☐ 53.1640(a)(2)(viii)(B)	☐ 73.1200(e)
☐ 20.2203(a)(2)(v)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 53.1640(a)(2)(i)(A)	☐ 53.1640(a)(2)(ix)	☐ 73.1200(f)
☐ 20.2203(a)(2)(vi)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 53.1640(a)(2)(i)(B)	☒ 10 CFR Part 73	☐ 73.1200(g)
			☐ 53.1640(a)(2)(i)(C)	☐ 73.77(a)(1)(i)	☐ 73.1200(h)



OTHER (Specify here, in abstract, or NRC 366A).

12. Licensee Contact for this LER

Licensee Contact

Stephanie Rodgers, Licensing Engineer

Phone Number (Include area code)

(361)972-4527

LICENSEE EVENT REPORT (LER) (Continued)

Page 2 OF 6

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to IRIS		Cause	System	Component	Manufacturer	Reportable to IRIS
X	KP	DET	PROTECT	Y						

14. Supplemental Report Expected

☒ No ☐ Yes (If yes, complete 15. Expected Submission Date)

15. Expected Submission Date

Month	Day	Year

16. Abstract

On June 17, 2026, while at 100% power, Unit 2 experienced a spurious operation of the Main transformer deluge system with no fire or smoke at the transformer. Approximately 5 minutes later, the reactor tripped following lockout of the main and auxiliary transformers. This caused a partial loss of offsite power and automatic actuation of Standby Diesel Generators (SBDGs) 21 and 23 and all four Auxiliary Feedwater (AFW) pumps. All required Engineered Safety Feature systems responded in the required time frame.

While responding to the transient on June 18, 2026, Steam Generator (SG) level went below the setpoint of 20% which resulted in an additional unplanned actuation of AFW.

The apparent cause of the main and auxiliary transformer lockout is undetected mechanical damage to the Protectowire detection circuit, which produced an electrical short indistinguishable from a genuine thermal signal. This resulted in a spurious deluge actuation on an energized transformer. The corrective action for this apparent cause is to install a new heat detection circuit that can discriminate between a short circuit and a true temperature condition. A contributing cause was no periodic recoating or periodic testing of the water-repelling properties of coatings on bushings. The corrective action for this contributing cause is to identify and implement a coating strategy that minimizes the loss of hydrophobicity on the bushing.

The cause of the unplanned AFW actuation was human performance. Planned corrective actions include enhancements to Operations oversight practices and licensed operator training on crew performance during plant transients.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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1. FACILITY NAME	☒ 050 ☐ 052 ☐ 053	2. DOCKET NUMBER	3. LER NUMBER		
South Texas Project, Unit 2		00499	YEAR 2026	SEQUENTIAL NUMBER 001	REV NO. 01

NARRATIVE**I. Description of Event****A. Reportable Event Classification**

This Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in the valid actuation of the Reactor Protection System (RPS) including reactor trip (10 CFR 50.73(a)(2)(iv)(B)(1)), automatic actuation of Unit 2 SBDGs 21 and 23 (10 CFR 50.73(a)(2)(iv)(B)(8)), and unplanned actuation of AFW (10 CFR 50.73(a)(2)(iv)(B)(6)).

The reactor and turbine trip event was reported to the NRC pursuant to 10 CFR 50.72 (b)(2)(iv)(B) RPS Actuation as a four-hour non-emergency event on June 18, 2026, via the Event Notification System (Event No. 58322).

B. Plant Operating Conditions Prior To Event

Prior to the event on June 17, 2026, STP Unit 2 was at 100% power in Mode 1.

C. Status of Structures, Systems, and Components That Were Inoperable At the Start of the Event and That Contributed To the Event

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

D. Narrative Summary of the Event

On June 17, 2026, at 23:20, Diesel Fire Pump 1 automatically started following coincident fire alarms and water flow indications at Main Transformer 2B; an operator verified no smoke or fire and manually isolated flow to stop the spurious deluge.

On June 17, 2026, at 23:25, STP Unit 2 received a lockout of the Auxiliary Transformer and Main Transformer 2A and 2B which caused the unit to automatically trip.

On June 17, 2026, at 23:26, SBDGs 21 and 23 auto-started with all sequenced loads starting as expected.

On June 18, 2026, at 00:19, Diesel Fire Pump 1 was secured and aligned for automatic operation.

On June 18, 2026, at 00:24, 13.8kV Auxiliary and Standby Buses 2F were energized from Standby Transformer 2.

On June 18, 2026, at 00:35, 13.8kV Auxiliary and Standby Buses 2H were energized from Standby Transformer 2.

On June 18, 2026, at 00:46, 13.8kV Auxiliary Bus 2J was energized from Standby Transformer 1.

On June 18, 2026, at 00:57, 4.16KV buses 2D1 and 2D2 were energized.

On June 18, 2026, at 01:11, Pilot Wire Differential Relay 87B actuated, tripping Unit Lockout Relay 86/SY.

On June 18, 2026, at 01:38, a four hour non emergency notification was completed to the NRC under 10 CFR 50.72(b)(2)(iv)(B) for RPS actuation (Event No. 58322).

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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NARRATIVE**D. Narrative Summary of the Event (continued)**

On June 18, 2026, at 03:25, Reactor Coolant Pump (RCP) 2D was started.

On June 18, 2026, at 03:44, the Control Room received A Train Aux Feedwater Actuation due to SG 2A Low-Low Level after RCP 2D start and immediately restored the SG levels back into the prescribed bands.

On June 18, 2026, at 04:51, Maintenance found Protectowire at Main Transformer 2B shorted (having continuity), indicating a true thermal condition or fire. Per local panel and verified by Engineering, the thermal condition occurred at 23:20 on June 17, 2026.

E. Method of Discovery

This event was self-revealed when the reactor and turbine tripped following a lockout of the Main and Auxiliary transformers approximately 5 minutes after a spurious automatic actuation of the transformer deluge system, despite no fire or smoke at the transformer.

II. Component Failures**A. Failure Mode, Mechanism, and Effects of Failed Components**

The failure mode was spurious operation of the transformer deluge system with no fire or smoke at the transformer which caused a reactor trip approximately 5 minutes later following lockout of the Main and Auxiliary Transformers.

B. Cause of Component Failure

The cause of the component failure was undetected mechanical damage to the Protectowire detection circuit, which produced an electrical short indistinguishable from a genuine thermal signal, resulting in a spurious deluge actuation on an energized transformer.

C. Systems or Secondary Functions That Were Affected by the Failure of Components with Multiple Functions

No other safety-related functions were adversely affected.

D. Failed Component Information

System: Fire Protection System (Water) {KP}

Component: Detector {DET}

Manufacturer: Protectowire

Model: PHSC-280-EPR

III. Analysis of the Event**A. Safety System Responses that Occurred**

The safety systems that responded following the main and auxiliary transformer lockouts were the automatic start of the SBDGs 21 and 23 and all four AFW pumps.



LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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	☐ 052		YEAR	SEQUENTIAL NUMBER	REV NO.
	☐ 053		2026	- 001	- 01

NARRATIVE

B. Duration of Safety System Inoperability

There were no safety systems that were inoperable because of this event.

C. Safety Consequences and Implications of the Event

This event resulted in the specified system actuation of SBDGs 21 and 23 and an unplanned AFW actuation. This event did not result in any offsite release of radioactivity or increase of offsite dose rates, and there were no personnel injuries or damage to any other safety-related equipment associated with this event. Therefore, there was no adverse effect on the health and safety of the public.

IV. Cause of the Event

Reactor and Turbine Trip Event

The cause of the event was undetected mechanical damage to the Protectowire detection circuit, which produced an electrical short indistinguishable from a genuine thermal signal, and resulted in a spurious deluge actuation on an energized transformer. The reactor tripped approximately 5 minutes later following lockout of the Main and Auxiliary Transformers.

Auxiliary Feedwater Actuation Event

Operations personnel failed to properly control Steam Generator (SG) level which resulted in an additional unplanned actuation of AFW.

V. Corrective Actions

Completed Corrective Actions include:

Reactor and Turbine Trip Event

Replacement of the damaged Protectowire section and degraded bushings.

Auxiliary Feedwater Actuation Event

Operators reset the AFW Automatic Flow control and throttled AFW flow to re-establish SG level in the prescribed band.

Planned Corrective Actions include:

Reactor and Turbine Trip Event

Upgrade to fault-tolerant heat detection (Protectowire CTI) on Main and Standby Transformers.

Update PM strategy for the Main and Standby Transformers to minimize flashover vulnerability.

Auxiliary Feedwater Actuation Event

Enhancements to Operations oversight practices.

Licensed Operator training on crew performance during plant transients.



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NARRATIVE

VI. Previous Similar Events

Unit 2 Licensee Event Report 2025-002-01, Supplement to Automatic Reactor Trip Due to Main Transformer Lockout, (ML26096A453)
Unit 2 Licensee Event Reports 2024-001-00 and 2024-001-01, Automatic Reactor Trip and Actuation of Two of Three Emergency Diesel Generators (ML24184C083, ML24242A163)