



January 23, 2025  
NOC-AE-25004085  
10 CFR 50.73  
STI: 35696158

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

South Texas Project  
Unit 1  
Docket No. STN 50-498  
Licensee Event Report 2024-007-00  
Condition Prohibited by Technical Specifications

Pursuant to reporting requirements in 10 CFR 50.73(a)(2)(i)(B), STP Nuclear Operating Company (STPNOC) hereby submits the attached South Texas Project (STP) Unit 1 Licensee Event Report 2024-007-00.

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 Zachary Dibbern at 361-972-4336 or me at 361-972-8945.

Jason R. Tomlinson  
Site Vice President

Enclosure: Unit 1 LER 2024-007-00, Condition Prohibited by Technical Specifications

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

**Enclosure**

**Unit 1 LER 24-007-00**

Unit 1 LER 2024-007-00, Condition Prohibited by Technical Specifications



## LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

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1. Facility Name  
South Texas Unit 1☒ 050  
☐ 0522. Docket Number  
004983. Page  
1 OF 54. Title  
Condition Prohibited by Technical Specifications

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved		
Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year	Facility Name	<input type="checkbox"/> 050	Docket Number
11	27	2024	2024	- 007 -	00	01	23	2025	Facility Name	<input type="checkbox"/> 052	Docket Number

9. Operating Mode

1

10. Power Level

100

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)

<input checked="" type="checkbox"/> 10 CFR Part 20	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 10 CFR Part 50	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 73.1200(a)
<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 73.1200(b)
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	<input type="checkbox"/> 73.1200(c)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.1200(d)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input checked="" type="checkbox"/> 10 CFR Part 21	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input checked="" type="checkbox"/> 10 CFR Part 73	<input type="checkbox"/> 73.1200(e)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 21.2(c)	<input type="checkbox"/> 50.69(g)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.77(a)(1)	<input type="checkbox"/> 73.1200(f)
<input type="checkbox"/> 20.2203(a)(2)(iii)		<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(2)(i)	<input type="checkbox"/> 73.1200(g)
<input type="checkbox"/> 20.2203(a)(2)(iv)		<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(ii)	<input type="checkbox"/> 73.1200(h)
<input type="checkbox"/> 20.2203(a)(2)(v)		<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)		

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

## 12. Licensee Contact for this LER

Licensee Contact

Zachary Dibbern, Licensing Engineer

Phone Number (Include area code)

361-972-4336

## 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
A	EB	FUB	G080	Yes					

## 14. Supplemental Report Expected

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

## 15. Expected Submission Date

Month	Day	Year
03	27	2025

## 16. Abstract (Limit to 1326 spaces, i.e., approximately 13 single-spaced typewritten lines)

It was discovered on November 27, 2024, that all degraded voltage relays were inoperable for one safety related bus, E1B, and would not have had the required protection afforded to it. The degraded voltage protection for E1B was inoperable for greater than the Technical Specification Allowed Outage Time. The cause was a pull-out fuse block that was not returned to the proper position following maintenance during the 1RE25 refueling outage due to inadequate personnel proficiency on fuse-block alignment and inadequate procedure guidance. Corrective actions include: (1) restoration of the fuse block and confirming proper alignment of equipment and (2) revision of maintenance procedure used for the maintenance on the E1B safety related bus. A root cause evaluation is scheduled to further examine cause of the condition. If additional causes are determined, a supplement will be submitted.

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

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<b>1. FACILITY NAME</b>  South Texas Unit 1	<input checked="checked" type="checkbox"/> <b>050</b>	<b>2. DOCKET NUMBER</b>  00498	<b>3. LER NUMBER</b>		
	<input type="checkbox"/> <b>052</b>		<b>YEAR</b> 2024	<b>SEQUENTIAL NUMBER</b> 007	<b>REV NO.</b> 00

**NARRATIVE**

Narrative:

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

This event is reportable per 10 CFR 50.73(a)(2)(i)(B) as a condition that was prohibited by the Plant's Technical Specifications (TS). The following Technical Specification Limiting Conditions for Operation (LCOs) were not met, and the required TS Action was not met:

TS 3.3.2, Engineered Safety Features Actuation System Instrumentation, LCO states:

"The Engineered Safety Features Actuation System (ESFAS) instruments channels and interlocks shown in Table 3.3-3 shall be OPERABLE with their Trip Setpoints set consistent with the values shown in the Trip Setpoint column of table 3.3-4 and with RESPONSE TIMES as shown in Chapter 16 in the UFSAR."

TS 3.3.2 Action c. states:

"With an ESFAS instrumentation channel or interlock inoperable, take the ACTION shown in Table 3.3-3."

TS 3.3.2, Table 3.3-3, Functional Items 8.b and 8.c, Action 20A.b. states:

"With the number of OPERABLE channels more than one less than the Total Number of Channels, within 1 hour restore at least two Operable status for functions with three channels and restore at least 3 channels to OPERABLE status for functions that have four channels, or apply the requirements, of the CRMP; or be in at least HOT STANDBY within the next 6 hours and be in at least HOT SHUTDOWN within the following 6 hours, and be in COLD SHUTDOWN within the following 24 hours. This action is not required for the surveillance testing provision in the note to Action 20A.a."

The 4160 Volt AC Class 1E Power System pull-out fuse block for degraded voltage relays was left in the off position when Class 1E SWGR E1B was returned to service. This resulted in all four channels for the degraded voltage relays to be inoperable longer than the allowed outage time without taking the required actions. Consequently, Unit 1 was in a condition prohibited by Technical Specifications.

**B. Plant Operating Conditions Prior to Event**

Prior to the event on November 27, 2024, 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**

There were no inoperable Structures, Systems, or Components at the start of the event that contributed to the event.

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**NARRATIVE****D. Narrative Summary of the Event**

Timeline (Note: All times are in Daylight Savings Time)

10/12/24 (0311) – Control Power to Monitoring Relay 27-1, which is in parallel with the four degraded voltage relays, is de-energized for maintenance during the 1RE25 refueling outage. At this point the four degraded voltage relays would have been inoperable.

11/05/24 (1133) – Unit 1 enters Mode 4.

11/27/24 (1526) – E1B 4160 VAC bus cubicle 2 degraded voltage relays' flags found dropped and would not reset. Investigation of the cause began.

11/27/24 (1634) – The 30A pull-out fuse block that supplies power to the E1B 4160 VAC bus cubicle 2 degraded relays 27E, 27F, 27G, and 27H, was found in the OFF position. Without the 30A pull-out fuse block ON, the E1B bus would not have degraded voltage protection. LCO 3.3.2, Action c., Items 8.b and 8.c, Action 20A.b of Table 3.3-3 entered for all four channels being INOPERABLE.

11/27/24 (1734) – Unplanned entry into Risk Managed TS (RMTS) per the configuration risk management program (CRMP) due to reaching the 1-hour front stop completion time for TS required actions.

11/28/24 (0435) – E1B 4160 VAC ESF Bus degraded voltage relays 27E, 27F, 27G, and 27H declared OPERABLE following satisfactory restoration of control power, channel check, verification of relay flags cleared, and satisfactory package review. Exited TS 3.3.2 and the requirements of the CRMP.

**E. Method of Discovery**

The discovery of the inoperable degraded voltage relays 27E, 27F, 27G, and 27H was self-revealing when it was found that the relays were flagged and could not be cleared during operator rounds on November 27, 2024.

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

Prior to October 12, 2024, at 0311, the degraded voltage relays were OPERABLE, as the control power to the monitoring relay was energized and the 30A pull-out fuse block was in the ON position. The four degraded voltage relays were inoperable when the control power was de-energized to support maintenance and during the course of maintenance the 30A pull-out fuse block was set to the OFF position. When the relays were placed back in service, the 30A pull-out fuse block was not reset to the ON position, and as a result the relays remained inoperable. The mechanism of failure was due to the equipment not being returned to appropriate alignment before returning it to service. Therefore, the degraded voltage protection relays were inoperable on the E1B 4160 VAC bus cubicle 2 from October 12, 2024, until November 28, 2024. The effect of four inoperable degraded voltage relays was that the number of OPERABLE channels was more than one less than the total number of four channels, and would have required Actions per TS Table 3.3-3.

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**NARRATIVE****B. Cause of Component Failure**

There was no material condition associated with the inoperability of the relays; the failure to reset the 30A pull-out fuse block to the ON position and to return the system to proper functioning alignment was the cause of the inoperability. The system was not returned to its functioning alignment due to inadequate personnel proficiency on fuse block alignment and inadequate procedure guidance. A root cause evaluation is scheduled to further examine cause of the condition.

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

The inoperability of the four degraded voltage relays resulted in no degraded voltage protection for the E1B 4160 VAC bus. Other Loss of Power protections, such as Loss of Voltage protection, were still available and would have still sequenced correctly.

**D. Failed Component Information**

There was no component failure.  
System: Medium-Voltage Power System – Class 1E (EB)  
Component: Fuse Block (FUB)  
Manufacturer: General Electric (G080)  
Model: 0116B4078

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

No safety systems responses occurred because of this event.

**B. Duration of Safety System Inoperability**

The degraded voltage relays 27E, 27F, 27G, and 27H were determined to be inoperable from 0311, October 12, 2024, to 0435, November 28, 2024, when the degraded voltage relays were declared OPERABLE following satisfactory restoration of control power, channel check, verification of relay flags clearing, and satisfactory package review. This was a total time of 47 days, 1 hour, and 24 minutes. It should be noted that from 0311, October 12, 2024, through 1133, November 5, 2024, that Unit 1 was in a Mode which would not have required operability of those systems according to TS 3.3.2. Therefore, the total time of the TS not being met would have been 22 days, 17 hour, and 2 minutes.

**C. Safety Consequences and Implications**

A risk evaluation was performed to estimate the Incremental Core Damage Probability (ICDP) associated with this event. The calculated ICDP from the inoperability of the four degraded voltage relays for the E1B 4160 VAC bus was determined to result in a very small change in risk and is of very low safety significance. The 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.

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<b>YEAR</b>	<b>SEQUENTIAL NUMBER</b>	<b>REV NO.</b>					
2024	007	00					

**NARRATIVE****IV. Cause of Event**

The cause of the event was the failure to return the 30A pull-out fuse block for the degraded voltage relays to the ON position post-maintenance. The pull-out fuse block was not returned to proper alignment due to inadequate personnel proficiency on fuse block alignment and inadequate procedure guidance on returning equipment to service following maintenance. A root cause evaluation is scheduled to further examine cause of the condition.

**V. Corrective Actions**

On November 28, 2024, the degraded voltage relays were returned to OPERABLE status with the restoration of control power and satisfactory close-out. The maintenance procedure used to provide instructions on cleaning, inspecting, and performing routine maintenance on Class 1E 4160 V switchgear will be revised to better align it with other switchgear maintenance procedures.

**VI. Previous Similar Events**

There were no previous recent similar events identified.