



June 12, 2023
L-2023-081
10 CFR 50.73

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Re: Seabrook Station
Docket No. 50-443
Reportable Event: 2023-001-00
Date of Event: April 12, 2023

Automatic Actuation of 'B' Emergency Diesel Generator Emergency Power Sequencer

The attached Licensee Event Report 2023-001 is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Respectfully,

A handwritten signature in black ink, appearing to read "Dianne Strand".

Dianne Strand
General Manager, Regulatory Affairs

Attachment

cc: Seabrook Station NRC Senior Resident Inspector
Seabrook Station NRC Program Manager



LICENSEE EVENT REPORT (LER)

(See Page 3 for required number of digits/characters for each block)
(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

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, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk all: oina_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name Seabrook Station	2. Docket Number 05000443	3. Page 1 of 3
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4. Title
Automatic Actuation of 'B' Emergency Diesel Generator Emergency Power Sequencer

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Name	Docket Number
4	12	2023	2023	001	00	6	12	2023	n/a	05000
									Facility Name	Docket Number
									n/a	05000

9. Operating Mode 6 **10. Power Level** 0%

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

<input type="checkbox"/> 10 CFR Part 20	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.36(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	10 CFR Part 73
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.69(g)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(i)	10 CFR Part 21	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(1)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 21.2(c)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(i)
<input type="checkbox"/> 20.2203(a)(2)(iii)	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"/> 73.77(a)(2)(ii)
<input type="checkbox"/> 20.2203(a)(2)(iv)	<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"/> 20.2203(a)(2)(v)	<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)	

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

12. Licensee Contact for this LER

Licensee Contact Bob Murrell, Licensing Engineer	Telephone Number (Include area code) 319-651-9496
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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	JE	PR	W120	Y					

14. Supplemental Report Expected **15. Expected Submission Date**

YES (If yes, complete 15. Expected Submission Date) NO

Month	Day	Year

Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

On April 12, 2023, at 11:07, while in Mode 6 at 0% power, a valid actuation of the 'B' Emergency Diesel Generator (EDG) Emergency Power Sequencer (EPS) occurred due to a loss of power to the 'B' train Emergency Bus E6. Troubleshooting determined that the loss of power resulted from spurious operation of EPS Remote Manual Override (RMO) relays that opened the Unit Auxiliary Transformer (UAT) feeder breaker to Bus E6. Subsequently, the loss of power to Bus E6 resulted in a valid actuation of an EPS starting signal to the 'B' EDG. On April 15, 2023, Emergency Bus E6 Remote Manual Override relays were tested and all functions were found to operate as designed. At the time of this event, the 'B' EDG was removed from service for scheduled maintenance and therefore, did not start. There was minimal impact to the station due the unplanned actuation. However, based on the fact that the 'B' EDG did not actually start, this event had no impact on to the health and safety of the public. In addition, there were no other Structure Systems or Components (SSCs) that contributed to this event.



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

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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<p>1. Facility Name Seabrook Station</p>	<p>2. Docket 05000443</p>	<p>6. LER Number</p>		
		<p>Year 2023</p>	<p>Sequential Number - 001</p>	<p>Rev No. - 00</p>

Narrative

Description

On April 12, 2023, at 11:07, while in Mode 6 at 0% power, a valid actuation of the 'B' Emergency Diesel Generator (EDG) Emergency Power Sequencer (EPS) occurred due to a loss of power to the 'B' train Emergency Bus E6.

Cause of the Event

Complex troubleshooting was performed in accordance with station processes. All potential faults were analyzed utilizing a Support Refute Matrix. Potential faults included:

1. Undervoltage Control Circuit Failures (refuted)
2. Actual undervoltage condition on Bus E6 (refuted)
3. Human Performance issues (refuted)
4. Faulty Bus E6 Breaker Protection (refuted)
5. EPS Power Supply Interactions (refuted)
6. Spurious Remote Manual Override Actuation (cause of event)
7. EPS Power Supplies (contributor to event)

Spurious actuation of the EPS Remote Manual Override (RMO) relays resulted in opening of the Unit Auxiliary Transformer feeder breaker to Bus E6. This caused a loss of power to Bus E6, which resulted in the valid actuation of the EPS. The spurious actuation of RMO was most likely caused by welding activities being performed in the B Train Essential Switchgear Room. A contributing cause is age related degradation of the B EPS Power Supplies. The electrolytic capacitors were at the end of their service life making the power supplies more susceptible to conducted emissions that were introduced on ground as a result of a welding activity.

Analysis of the Event

This licensee event report is being submitted in accordance with 10 CFR 50.73(a)(2)(iv)(A), Valid System Actuation.

This event did not result in a Safety System Functional Failure.

Safety Significance

At the time of this event, the 'B' EDG was removed from service for scheduled maintenance and therefore, did not start. The station was in a defueled condition with all fuel in the Spent Fuel Pool. Spent fuel pool cooling was not impacted by the event. The unexpected actuation did result in minimal impact to the station. However, since the EDG was removed from service and did not acuate, this event had no impact on the health and safety of the public. In addition, there were no other Structures Systems or Components (SSCs) that contributed to this event.



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Seabrook Station	05000443	Year	Sequential Number	Rev No.
		2023	- 001	- 00

Narrative

Corrective Actions

On April 15, 2023, testing of the EPS RMO relays was performed, and all components were found to operate as designed. In addition, the EPS power supplies were replaced on April 17, 2023.

Similar Events

A review of reportable events dating back 10 years, did not identify any previous events or conditions that involved the same underlying cause as this event.