



Post Office Box 2000, Decatur, Alabama 35609-2000

October 27, 2025

10 CFR 50.73

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

Browns Ferry Nuclear Plant, Unit 2
Renewed Facility Operating License No. DPR-52
NRC Docket No. 50-260

Subject: **Licensee Event Report 50-260/2025-003-01**

Reference: **Letter from TVA to NRC, "License Event Report 50-260/2025-003-00," dated July 29, 2025 (ML25210A472)**

The enclosed Licensee Event Report provides details of a Primary Containment Isolation and Manual Reactor Trip Due to Dual Recirculation Pump Trips. The Tennessee Valley Authority is submitting this report in accordance with Title 10 of the Code of Federal Regulations (10 CFR) 50.73(a)(2)(iv)(A), as a manual actuation of the Reactor Protection System and the Primary Containment Isolation System.

There are no new regulatory commitments contained in this letter. Should you have any questions concerning this submittal, please contact David J. Renn, Site Regulatory Compliance Manager, at (256) 729-2636.

Respectfully,

A handwritten signature in black ink, appearing to read "D. Komm", with a long horizontal stroke extending to the right.

Daniel A. Komm
Site Vice President

Enclosure: Licensee Event Report 50-260/2025-003-01 – Primary Containment Isolation and Manual Reactor Trip Due to Dual Recirculation Pump Trips

cc (w/ Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant
NRC Project Manager - Browns Ferry Nuclear Plant

**Browns Ferry Nuclear Plant
Unit 2**

Licensee Event Report 50-260/2025-003-01

**Primary Containment Isolation and Manual Reactor Trip Due to Dual Recirculation Pump
Trips**

See Enclosed

NRC FORM 366 (04-02-2024)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB: NO. 3150-0104		EXPIRES: 04/30/2027						
 LICENSEE EVENT REPORT (LER) (See Page 2 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 Infocollections.Resource@nrc.gov , and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503. 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 Browns Ferry Nuclear Plant, Unit 2				☒ 050 ☐ 052		52. Docket Number 00260						
3. Page 1 OF 6												
4. Title Primary Containment Isolation and Manual Reactor Trip Due to Dual Recirculation Pump Trips												
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	Docket Number		
05	30	2025	2025	- 003 -	01	10	27	2025	N/A	05000XXX		
									Facility Name	Docket Number		
									N/A	05000XXX		
9. Operating Mode 1						10. Power Level 039						
11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)												
10 CFR Part 20		☐ 20.2203(a)(2)(vi)		10 CFR Part 50		☐ 50.73(a)(2)(ii)(A)		☐ 50.73(a)(2)(viii)(A)		☐ 73.1200(a)		
☐ 20.2201(b)		☐ 20.2203(a)(3)(i)		☐ 50.36(c)(1)(i)(A)		☐ 50.73(a)(2)(ii)(B)		☐ 50.73(a)(2)(viii)(B)		☐ 73.1200(b)		
☐ 20.2201(d)		☐ 20.2203(a)(3)(ii)		☐ 50.36(c)(1)(ii)(A)		☐ 50.73(a)(2)(iii)		☐ 50.73(a)(2)(ix)(A)		☐ 73.1200(c)		
☐ 20.2203(a)(1)		☐ 20.2203(a)(4)		☐ 50.36(c)(2)		☒ 50.73(a)(2)(iv)(A)		☐ 50.73(a)(2)(x)		☐ 73.1200(d)		
☐ 20.2203(a)(2)(i)		10 CFR Part 21		☐ 50.46(a)(3)(ii)		☐ 50.73(a)(2)(v)(A)		10 CFR Part 73		☐ 73.1200(e)		
☐ 20.2203(a)(2)(ii)		☐ 21.2(c)		☐ 50.69(g)		☐ 50.73(a)(2)(v)(B)		☐ 73.77(a)(1)		☐ 73.1200(f)		
☐ 20.2203(a)(2)(iii)				☐ 50.73(a)(2)(i)(A)		☐ 50.73(a)(2)(v)(C)		☐ 73.77(a)(2)(i)		☐ 73.1200(g)		
☐ 20.2203(a)(2)(iv)				☐ 50.73(a)(2)(i)(B)		☐ 50.73(a)(2)(v)(D)		☐ 73.77(a)(2)(ii)		☐ 73.1200(h)		
☐ 20.2203(a)(2)(v)				☐ 50.73(a)(2)(i)(C)		☐ 50.73(a)(2)(vii)						
☐ OTHER (Specify here, in abstract, or NRC 366A).												
12. Licensee Contact for this LER												
Licensee Contact M. W. Oliver, Sr. Nuclear Licensing Program Manager								Phone Number (Include area code) 256-729-7874				
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	AD	CNTR	GE	Y	N/A	N/A	N/A	N/A	N/A			
4. Supplemental Report Expected)					15. Expected Submission Date					Month	Day	Year
☒ No										N/A	N/A	N/A
☐ Yes (If yes, complete 15. Expected Submission Date												
16. Abstract (Limit to 1326 spaces, i.e., approximately 13 single-spaced typewritten lines)												
On May 30, 2025, Recirculation (Recirc) Pump Variable Frequency Drive (VFD) 2A and 2B 120VAC Auxiliary Power Distribution had a contactor fail to transmit power from the normal source and fail to transfer to the alternate source resulting in the loss of Normal and Alternate power to the VFD Cooling Fans. Subsequently, excessive temperatures in VFD cabinets caused multiple VFD cells to auto bypass which caused automatic trips of both Recirc Pumps and, ultimately, an insertion of a manual reactor scram in accordance with 2-AOI-68-1, Recirc Pump Trip/Core Flow Decrease. The power loss was caused by an incorrect risk evaluation/preventative maintenance strategy for a contactor. Corrective actions included contactor replacement, which allowed the reactor to restart and sync to the electrical grid on June 6, 2025. Preventative actions include similar contactor replacements, evaluations, and maintenance strategies as well as the future addition of power supply redundancies. The Tennessee Valley Authority is submitting this report in accordance with Title 10 of the Code of Federal Regulations (10 CFR) 50.73(a)(2)(iv)(A), as any event or condition that resulted in manual or automatic actuation of the Reactor Protection System and the Primary Containment Isolation System.												

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

(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 Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503. 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 Browns Ferry Nuclear Plant, Unit 2	☒ 050	2. DOCKET NUMBER 00260	3. LER NUMBER		
	☐ 052		YEAR 2025	SEQUENTIAL NUMBER - 003	REV NO. - 01

NARRATIVE**I. Plant Operating Conditions before the Event**

At the time of this event, Browns Ferry Nuclear Plant (BFN) Unit 2 was in Mode 1 at approximately 39 percent Rated Thermal Power (RTP).

II. Description of Event**A. Event Summary**

On May 30, 2025, at 2247 hours CST with Unit 2 operating in Mode 1 at 39% Reactor Power due to the trip of the Reactor Recirculation [AD] Pump (2A), the reactor was manually tripped due to a trip of the only operating Reactor Recirculation Pump (2B).

The reactor shutdown was uncomplicated with all systems responding as designed. Operations responded and stabilized the plant. The Primary Containment Isolation System (PCIS) [JM] received an actuation signal for Groups 2, 3, 6, and 8 on reactor water level at +2 inches. All primary containment systems that received an actuation signal performed as designed. Reactor water level control was via Condensate [SD] and Feedwater [SJ] and reactor cooldown was completed using turbine bypass valves to the main condenser [SG].

Due to manual actuation of the Reactor Protection System (RPS) [JC] while critical, this event was reported as a four-hour non-emergency notification per Title 10 of the Code of Federal Regulations (10 CFR) 50.72(b)(2)(iv)(B). The actuation of RPS and PCIS also required an eight-hour non-emergency report per 10 CFR 50.72(b)(3)(iv)(A). Refer to Event Notification report 57737.

The Tennessee Valley Authority (TVA) is submitting this report in accordance with 10 CFR 50.73(a)(2)(iv)(A), as an automatic actuation of the RPS and the PCIS.

B. Status of structures, components, or systems that were inoperable at the start of the event and that contributed to the event

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

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NARRATIVE**C. Dates and approximate times of occurrences**

<u>DATE AND APPROXIMATE TIMES</u> (Central Time)	<u>OCCURRENCE</u>
May 30, 2025, at 2247	Unit 2 Reactor Operators inserted a manual reactor scram following a trip of the second Recirc Pump. (Event Notification report 57737 was reported to the NRC for this event.)
June 6, 2025, at 0745	Following replacement of the failed contactor, Unit 2 was synced to the grid.

D. Manufacturer and model number of each component that failed during the event

The component that failed was identified as 2-CONT-068-0002, contactor [CNTR] for VFD [DRIV] 2A and 2B 120VAC Aux Power Distribution (GE CL08AB00MJ).

E. Other systems or secondary functions affected

No other systems or secondary functions were affected.

F. Method of discovery of each component or system failure or procedural error

The cause of the 2A Recirc Pump trip was being investigated when the 2B Recirc Pump tripped, which, by procedure, required insertion of a manual reactor scram. Subsequent troubleshooting determined that a contactor had failed.

G. The failure mode, mechanism, and effect of each failed component

2-CONT-068-0002, contactor for VFD 2A and 2B 120VAC Aux Power Distribution (GE CL08AB00MJ), failed due to a loss of continuity. This failure resulted in a loss of automatic transfer capability of the Normal and Alternate power to the VFD Cooling Fans, which caused excessive temperatures in VFD cabinets. Subsequently, multiple VFD cells failed to auto-bypass, which caused automatic trips of both Recirc Pumps and, ultimately, an insertion of a manual reactor scram in accordance with plant procedure 2-AOI-68-1, Recirc Pump Trip/Core Flow Decrease.



LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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NARRATIVE

H. Operator actions

Operations personnel stabilized the plant following the reactor scram and subsequently initiated a plant cooldown to Mode 4.

I. Automatically and manually initiated safety system responses

The automatic trips of both Recirc Pumps prompted an insertion of a manual reactor scram in accordance with 2-AOI-68-1, Recirc Pump Trip/Core Flow Decrease.

PCIS Groups 2, 3, 6, and 8 isolation signals were received on reactor water level at +2 inches. All primary containment systems that received an actuation signal performed as designed. All other systems functioned as designed. Reactor water level control was via condensate and feedwater, and the reactor cooldown was performed using turbine bypass valves to the main condenser.

III. Cause of the event

A. Cause of each component or system failure or personnel error

Complex troubleshooting found that one of the contacts within a normally energized relay had failed, causing both trains of cooling to be lost to two trains of VFDs. In this case, both trains of cooling were supplied power from a common power supply. The function of the relay was to swap the power supply to an alternate board if the normal supply was lost.

The power supply loss was caused by an incorrect risk evaluation/preventative maintenance strategy for a contactor. The contactor failure was determined to be most likely age-related and directly related to incorrect component classification resulting in an inadequate preventative maintenance strategy.

B. Cause(s) and circumstances for each human performance related root cause

None. Analysis determined that there was no active error and that any potential human performance issues occurred more than twenty years prior.

IV. Analysis of the event

At 1921 hours on May 30, 2025, BFN experienced 2A and 2B VFD internal heat exchanger fan power alarms followed by multiple cell bypasses that later tripped both drives and both Recirc Pumps and required operators to insert a manual reactor scram.

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NARRATIVE**V. Assessment of Safety Consequences**

The plant responded as designed, while maintaining defense-in-depth for nuclear safety. All nuclear safety systems functioned as designed. This event was of very low nuclear safety significance. At no time was the health and safety of the public at risk.

A. Availability of systems or components that could have performed the same function as the components and systems that failed during the event

N/A

B. For events that occurred when the reactor was shut down, availability of systems or components needed to shutdown the reactor and maintain safe shutdown conditions, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident

This event did not occur when the reactor was shut down.

C. For failure that rendered a train of a safety system inoperable, estimate of the elapsed time from discovery of the failure until the train was returned to service

There was no safety system rendered inoperable.

VI. Corrective Actions

Corrective Actions are being managed by the TVA corrective action program under condition report 2017005.

A. Immediate Corrective Actions

Following replacement of the failed contactor (WO#125365629), the reactor was restarted and synced to the electrical grid on June 6, 2025.

B. Corrective Actions to Prevent Recurrence or to reduce the probability of similar events occurring in the future

Preventative actions include similar contactor replacements, evaluations, and maintenance strategies as well as the future addition of power supply redundancies.

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	☐ 052		<table border="1"><tr><th>YEAR</th><th>SEQUENTIAL NUMBER</th><th>REV NO.</th></tr><tr><td>2025</td><td>- 003</td><td>- 01</td></tr></table>	YEAR	SEQUENTIAL NUMBER	REV NO.	2025
YEAR	SEQUENTIAL NUMBER	REV NO.					
2025	- 003	- 01					

NARRATIVE**VII. Previous Similar Events at the Same Site**

A search of LERs from BFN, Units 1, 2, and 3 over the last five years identified no similar events.

VIII. Additional Information

There is no additional information.

IX. Commitments

There are no new commitments.

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].