TENNESSEE VALLEY AUTHORITY

Post Office Box 2000, Decatur, Alabama 35609-2000

November 9, 2026

10 CFR 50.73

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

Browns Ferry Nuclear Plant, Unit 1
Subsequent Renewed Facility Operating License No. DPR-33
NRC Docket No. 50-259

Subject: **Licensee Event Report 50-259/2026-004-00 – Reactor Core Isolation Cooling Turbine Exhaust Stop Check Valve Disc Found Stuck Open**

The enclosed Licensee Event Report provides details of a Reactor Core Isolation Cooling Turbine Exhaust Stop Check Valve Disc Found Stuck Open at Browns Ferry Nuclear Plant, Unit 1. 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)(i)(B), as any operation or condition which was prohibited by the plant's Technical Specifications.

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,

Daniel A. Komm
Site Vice President

Enclosure: Licensee Event Report 50-259/2026-004-00 – Reactor Core Isolation Cooling Turbine Exhaust Stop Check Valve Disc Found Stuck Open

cc (w/ Enclosure):

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

ENCLOSURE

Browns Ferry Nuclear Plant
Unit 1

Licensee Event Report 50-259/2026-004-00

Reactor Core Isolation Cooling Turbine Exhaust Stop Check Valve Disc Found Stuck Open

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See Enclosed

NRC FORM 366 (04-02-2024) U.S. NUCLEAR REGULATORY COMMISSION

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
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APPROVED BY OMB: NO. 3150-0104 EXPIRES: 04/30/2027

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 ail: oira_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		52. Docket Number	3. Page
Browns Ferry Nuclear Plant, Unit 1	☒ 050 ☐ 052	00259	1 OF 7

4. Title
Reactor Core Isolation Cooling Turbine Exhaust Stop Check Valve Disc Found Stuck Open

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
09	10	2026	2026	- 004 -	00	11	09	2026	N/A	05000XXX
									Facility Name	Docket Number
									N/A	05000XXX

9. Operating Mode	10. Power Level
1	95

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)	☐ 21.21(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	Phone Number (Include area code)
Justin K. Garner, Compliance Engineer	256-729-7955

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	BN	V	W030	Yes		N/A	N/A	N/A	N/A	N/A

14. Supplemental Report Expected)		15. Expected Submission Date	Month	Day	Year
☒ No	☐ Yes (If yes, complete 15. Expected Submission Date		N/A	N/A	N/A

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

At 2152 on September 10, 2026, radiography was performed to verify closure of the Turbine Exhaust Stop Check Valve (1-SHV-071-0014). The examination identified that the valve disc was stuck in the mid-position and had not returned to the closed position as expected. Because this valve is required to fully close upon cessation of flow when the Unit 1 RCIC system is in standby, this condition did not meet the acceptance criteria of 1-TI-443 (DI/RT), Testing ASME OM Code and Augmented Inservice Testing (IST) Check Valves.

The cause of this event was determined to be mechanical binding that prevented the valve disc from returning to the closed position. The binding resulted from insufficient assembly instructions for centering the dashpot and bonnet, which did not adequately account for tolerance stack-up that could create internal interference. This interference was sufficient to overcome the force of gravity acting on the valve disc. The valve was disassembled and repaired. In addition, the Technical Instruction and guidance were updated to prevent recurrence.

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)(i)(b), as any operation or condition which was prohibited by the plant's Technical Specifications.

0NARRATIVE

I. Plant Operating Conditions before the Event

At the time of the event, Browns Ferry Nuclear (BFN) Unit 1 was in Mode 1 at approximately 95 percent power.

II. Description of Event

A. Event Summary

On September 10, 2026, at 2152, radiography was performed to verify closure of 1-SHV-071-0014, Reactor Core Isolation Cooling (RCIC)[BN] Turbine Exhaust Stop Check Valve. The results indicated that the valve was stuck open in the mid-position. Because this valve is required to fully close upon cessation of flow when the Unit 1 RCIC system is in standby, this condition did not meet the acceptance criteria of 1-TI-443 (DI/RT), Testing ASME OM Code and Augmented Inservice Testing (IST) Check Valves. A penetrometer comparison further determined that the globe valve disc was approximately 0.5 inches off the seat.

Unit 1 RCIC System was declared inoperable on September 10, 2026, at 2330, when 1-FCV-071-0003 (RCIC Steam Line Outboard Isolation Valve) was closed in preparation for isolating the exhaust line in order to comply with Technical Specification (TS) 3.6.1.3, Primary Containment Isolation Valve (PCIV) Condition A.

A Past Operability Evaluation determined that the Unit 1 RCIC Turbine Exhaust Stop Check Valve, 1-SHV-071-0014, should be considered inoperable for the past three years since it's last satisfactory leak rate testing was completed in October of 2022 for its Primary Containment Isolation function. During this time several mode changes occurred resulting in TS LCO 3.0.4 violations. The Unit 1 RCIC system was inoperable from 09/10/2026 at 0106 to 09/12/2026 at 0305.

The Tennessee Valley Authority (TVA) is submitting this report in accordance with Title 10 of the Code of Federal Regulations (10 CFR) 50.73(a)(2)(i)(B), as any operation or condition which was prohibited by the plant's TS.

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

There were no SSCs whose inoperability contributed to this event.

C. Dates and approximate times of occurrences

DATE AND APPROXIMATE TIMES (CDT)	OCCURRENCE
September 10, 2026, at 2152	Performed radiography of 1-SHV-071-0014 to verify closure in accordance with 1-TI-443(DI/RT) under Work Order (WO) 121777841. The valve was found to be stuck open in the mid-position.
September 10, 2026, at 2330	Operations declared Unit 1 RCIC inoperable when 1-FCV-071-0003 was closed in preparation for isolating the exhaust line in order to comply with TS 3.6.1.3, Primary Containment Isolation Valve (PCIV) Condition A.
September 11, 2026, at 0106	1-FCV-71-3 was re-opened after an authorized RICT calculation was completed. The RCIC exhaust line was not isolated. The RCIC System was declared OPERABLE.
September 11, 2026, at 2100	Unit 1 entered Mode 3 for 1R16 outage
September 11, 2026, at 2328	Unit 1 in Mode 3 with reactor steam dome pressure 150 psig per the Integrated Computer System
September 12, 2026, at 0205	Unit 1 entered Mode 4 for 1R16 outage

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

The failed component was an 8” Walworth 5312 Stop Check Valve.

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 condition was discovered during an IST Condition Monitoring activity to verify valve closure. Specifically, a periodic radiograph is required by the IST Program to verify the valve closes on cessation flow.

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

The disc of 1-SHV-071-0014, Unit 1 RCIC Turbine Exhaust Stop Check Valve, was mechanically bound, preventing the valve disc from returning to the closed position.

H. Operator actions

There were no Operator actions as a result of this event.

I. Automatically and manually initiated safety system responses

There were no automatic or manual safety system responses associated with this event.

III. Cause of the event

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

During disassembly, wear was noted in matching faces on the interface between the inner diameter of the riser on the piston assembly and the stem post, and a similar matching wear pattern on the outer face of the disc riser and the inner diameter of the dashpot. The wear was not even but was localized which indicated that the disc was likely getting pinched and bound between the stem and dashpot.

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

There was no human performance related root cause associated with this event.

IV. Analysis of the event

The ability of the Unit 1 RCIC Turbine Exhaust Stop Check Valve to fulfill its function of providing a flow path for RCIC turbine exhaust steam was not adversely affected by the valve being stuck

open in the mid-position. Because this valve must be open for the RCIC system to operate, the RCIC injection function was not impacted with the valve stuck open in the mid-position. As a result, the RCIC system was capable of injecting water to the reactor vessel and meeting its mission time.

TS 3.6.1.3 requires each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE. Condition A states that when one or more penetration flow paths with one PCIV inoperable, the affected penetration must be isolated by use of at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. The completion time for this action is within 4 hours except for the main steam line and within 8 hours for the main steam line or in accordance with the Risk Informed Completion Time Program for either. In addition to this, the affected penetration flow path must be verified to be isolated once per 31 days (following isolation) for isolation devices outside primary containment and prior to entering MODE 2 or 3 from MODE 4, if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days, for isolation devices inside primary containment.

With the Unit 1 RCIC Turbine Exhaust Stop Check Valve found stuck open in the mid-position, the valve was unable to perform its PCIV function. Isolation of Penetration X-218 is provided by the containment isolation valves associated with Penetration X-212. The As-Found Local Leak Rate Test (LLRT) for Penetration X-212 was performed under WO 125135546 on September 12, 2026, at 19:35. The combined leakage rate for 1-SHV-071-0014 and 1-CKV-071-0580 was 21.36 scfh, which is below the administrative limit of 30 scfh. Therefore, the primary containment function associated with Penetrations X-212 and X-218 was not adversely affected by 1-SHV-071-0014 being stuck open in the mid-position, as 1-CKV-071-0580 remained capable of isolating the penetration.

V. Assessment of Safety Consequences

There is no basic event in the One-Top-Multi-Hazard-Model model for 1-SHV-071-0014 to close. Since the primary containment isolation function of BFN-1-SHV-071-0014 is not modeled in the BFN Probabilistic Risk Assessment, being stuck in an open position does not contribute to Core Damage Frequency or Large Early Release Frequency.

The health and safety of the public was not affected. Sufficient safety systems were available to safely shut down the reactor and ensure the health and safety of the public.

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

The Unit 1 Primary Containment and the primary containment function associated with Penetrations X-212 and X-218 were not impacted by 1-SHV-071-0014 being stuck open in the mid-position, as 1-CKV-071-0580 remained capable of isolating the penetrations.

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

No safety system train was rendered inoperable by the failure.

VI. Corrective Actions

Corrective Actions (CAs) are being managed by the TVA's Corrective Action Program (CAP) under Condition Report (CR) 2110655.

A. Immediate Corrective Actions

Immediate corrective actions were implemented under refurbishment WO 126583767. Maintenance tasks under WO 126583767 in U1R16 addressed this condition by machining additional stem clearances, polishing and cleaning valve surfaces, and ensuring centering on the dashpot and bonnet when re-assembling the valve following maintenance.

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

CR Action 2110655-005 requires that BFN ensures vendor manual (VTD-W030-0050) is updated to allow the stem outer diameter to be cut to a reduced diameter allowed by the vendor for allowing additional clearance for the disc.

CR Action 2110655-007 addresses the same valve on other units and requires that BFN provide similar tolerance stack up dimension sheet to assess internal clearances between the moving components for 2/3-HCV-071-0014. These instructions should evaluate internal clearances between moving valve components during refurbishment to ensure adequate operating clearances are maintained and to minimize the potential for internal binding caused by component misalignment. Action 2110655-015 will verify the valve has been restored by performing a follow up radiograph prior to shutdown for U1R17.

CR Action 2110655-010 updates Condition Monitoring Plans CMP-1-71-3, CMP-2-71-3, and CMP-3-71-3 for 1-SHV-071-0014. 2-HCV-071-0014 and 3-HCV-071-0014 to ensure test plans and maintenance strategies are updated to reflect failure of 1-SHV-071-0014.

VII. Previous Similar Events at the Same Site

There have been no similar events at the site within the last 5 years.

VIII. Additional Information

There is no additional information.

IX. Commitments

There are no new commitments.