



John H. Weissinger
Vice President – Plant Hatch

Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513
912 537 5859 tel
912 366 2077 fax

Date: April 5, 2023

Docket Nos.: 50-366

NL-23-0232

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

Edwin I. Hatch Nuclear Plant
Primary Containment Penetration Exceeded Maximum Allowable Primary Containment
Leakage Rate (La)

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(ii)(A), 10 CFR 50.73(a)(2)(v)(C), and 10 CFR 50.73(a)(2)(i)(B), Southern Nuclear Operating Company hereby submits the enclosed Licensee Event Report.

This letter contains no NRC commitments. If you have any questions, please contact the Hatch Licensing Manager, Jimmy Collins, at 912.453.2342.

Respectfully submitted,

John H. Weissinger
Vice President – Hatch

JMH

Enclosure: LER 2023-001-00

Cc: Regional Administrator, Region II
NRR Project Manager – Hatch
Senior Resident Inspector – Hatch
RTYPE: CHA02.004

Edwin I. Hatch Nuclear Plant Unit 1 and 2

Licensee Event Report 2023-001-00

**Subject Primary Containment Penetration Exceeded Maximum Allowable Primary
Containment Leakage Rate (La)**

Enclosure

LER 2023-001-00



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 email 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; email: oir_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 Edwin I. Hatch Nuclear Plant Unit 2		<input checked="" type="checkbox"/> 050 <input type="checkbox"/> 052	2. Docket Number 00366	3. Page 1 OF 2
---	--	---	---------------------------	-------------------

4. Title
Primary Containment Penetration Exceeded Maximum Allowable Primary Containment Leakage Rate (La)

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
02	07	2023	2023	- 001 -	00	04	05	2023		<input type="checkbox"/> 050
									Facility Name	Docket Number
										<input type="checkbox"/> 052

9. Operating Mode: 5
10. Power Level: 000

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 checked="" 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 checked="" 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 Jimmy Collins - Licensing Manager	Phone Number (Include area code) 912-453-2342
---	--

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
B	BD	ISV	F130	Y					

14. Supplemental Report Expected

<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date)	15. Expected Submission Date	Month	Day	Year
--	--	------------------------------	-------	-----	------

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

At 1738 EST on 02/07/2023, while in MODE 5 at 0% power, during planned Local Leak Rate Testing (LLRT) it was determined that the primary containment leakage rate exceeded the allowable limit, La, defined in 10CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors" and specified in the Technical Specifications. Two primary containment isolation valves (PCIVs) in a single penetration failed LLRT which represents a failure to maintain primary containment integrity.

Troubleshooting and investigation efforts identified that the vendor supplied T-rings were manufactured incorrectly causing excessive LLRT leakage. As a corrective action correctly manufactured T-rings were installed in the affected valves, LLRTs were performed satisfactorily, and primary containment was restored to operable status.



**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 email 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; email: oir_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 Edwin I. Hatch Nuclear Plant Unit 2	<input checked="" type="checkbox"/> 050	2. DOCKET NUMBER 00366	3. LER NUMBER		
	<input type="checkbox"/> 052		YEAR 2023	SEQUENTIAL NUMBER 001	REV NO. 00

NARRATIVE

EVENT DESCRIPTION
At 1738 EST on 02/07/2023, while in MODE 5 at 0% power, during planned Local Leak Rate Testing (LLRT) it was determined that the primary containment leakage rate exceeded the allowable limit, La, defined in 10CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors" and specified in the Technical Specifications. Two primary containment isolation valves (PCIVs) (EIS: ISV) in a single penetration failed LLRT requirements which represents a failure to maintain primary containment integrity. This leakage also caused a failure of Integrated Leak Rate Testing (ILRT).

Failed NUREG Components Information:
Master Parts List Number: 2T48F319 and 2T48F320
Manufacturer: Fisher Controls Company
Model: Fisher Series 9200 Butterfly Valves
Type: Isolation Valves

This event is reportable per 10 CFR 50.73(a)(2)(ii)(A), 10 CFR 50.73(a)(2)(v)(C), 10 CFR 50.73(a)(2)(i)(B), and has been classified as a Safety System Functional Failure under NEI 99-02.

EVENT CAUSE ANALYSIS
These LLRT failures were caused by using a vendor supplied T-ring that was incorrectly manufactured, leading to the T-ring rotating away from the valve disc when in operation. All PCIVs of the same model that passed LLRTs had T-rings that did not have the manufacturing defect.

SAFETY ASSESSMENT
There were no actual safety consequences as a result of this event. Although the leakage rate through the degraded primary containment penetration for the as-found condition exceeded La, the exposure time of the penetration inoperability can reasonably be limited to just prior to shutting down the Unit 2 reactor for the refueling outage. Additionally, any leakage past the degraded PCIVs during an actual event would have been filtered through Standby Gas Treatment and released through the main stack.

CORRECTIVE ACTIONS
Correctly manufactured T-rings were obtained and installed in the affected valves, LLRTs were performed satisfactorily, and primary containment was restored to operable status.

PREVIOUS SIMILAR EVENTS
On January 4, 2020, it was determined that the maximum allowable primary containment leakage rate (La) as defined in 10CFR50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors" had been exceeded under postulated accident conditions. Troubleshooting efforts identified the degraded primary containment penetration and noted that leakage past two PCIVs was causing La to be exceeded. The cause was that the set screws that support the T-ring inside the PCIVs were backing out. The root cause corrective action to prevent recurrence was to add to the maintenance procedure to apply Loctite 222 to each set screw threads. This prevented the set screws that support the T-ring from backing out (LER 2020-001-00). The current issue did not involve repetitive failures from previous cycles; all previous corrective actions taken in response to previous LLRT failures of these valves have been effective.