



E. D. Dean III  
Vice President – Plant Hatch

Plant Edwin I Hatch  
11028 Hatch Parkway North  
Baxley, GA 31513  
912.537.5859 tel  
912.366.2077 fax

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Docket Nos.: 50-366

NL-20-0230

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

Edwin I. Hatch Nuclear Plant Unit 2  
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)(i)(B), 10 CFR 50.73 (a)(2)(ii)(A), and 10 CFR 50.73 (a)(2)(v)(C), 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 912.537.2342

Respectfully submitted,

E. D. Dean  
Vice President – Hatch

EDD/JEL/SCM

Enclosure: LER 2020-001-00

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

**Edwin I. Hatch Nuclear Plant Unit 2**

**Licensee Event Report 2020-001-00**

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

**Enclosure**

**LER 2020-001-00**



**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 Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 or by e-mail to [InfoCollect.Resource@nrc.gov](mailto:InfoCollect.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NE08-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>1. Facility Name</b> Edwin I. Hatch Nuclear Plant Unit 2	<b>2. Docket Number</b> 05000 366	<b>3. Page</b> 1 OF 3
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**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	Rev No.	Month	Day	Year	Facility Name	Docket Number
01	04	2020	2020	001	00	3	2	2020	Facility Name	Docket Number 05000

**9. Operating Mode** 1

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

<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)

**10. Power Level** 100

<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> Other (Specify in Abstract below or in NRC Form 366A)	

**12. Licensee Contact for this LER**

<b>Licensee Contact</b> Jimmy Collins - Licensing Manager	<b>Telephone Number (Include Area Code)</b> 912 - 537 - 2342
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**13. Complete One Line for each Component Failure Described in this Report**

Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES
X	BB	ISV	F130	Y					

**14. Supplemental Report Expected**  Yes (If yes, complete 15. Expected Submission Date)  No

**15. Expected Submission Date**

Month	Day	Year

**Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)**

On January 4, 2020 at 1109 EST, with Unit 2 operating at 100% rated thermal power, 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.

Engineering troubleshooting efforts identified the degraded primary containment penetration and noted that leakage past two primary containment isolation valves (PCIVs) was causing La to be exceeded under postulated accident conditions. Additional valves downstream of the PCIVs were closed to return primary containment back to operable status.

The cause of the PCIV failures is currently unknown and will be determined during valve disassembly during a planned outage. At that time, the PCIVs will be repaired and returned 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/>)

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1. FACILITY NAME  Edwin I. Hatch Nuclear Plant Unit 2	2. DOCKET NUMBER  05000- 366	3. LER NUMBER		
		YEAR 2020	SEQUENTIAL NUMBER 001	REV NO. 00

**NARRATIVE**

**EVENT DESCRIPTION**

On January 4, 2020, at 1109 EST, with Unit 2 operating at 100% rated thermal power, it was determined that the maximum allowable primary containment leakage rate (La) as specified in the Technical Specifications and defined in 10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors", had been exceeded under postulated accident conditions.

Engineering troubleshooting efforts identified that leakage past the drywell ventilation penetration inboard and outboard isolation valves was causing La to be exceeded under postulated accident conditions. This represented a failure of the referenced penetration to maintain primary containment integrity. Compensatory measures were implemented to close and deactivate isolation valves downstream of the Primary Containment Isolation valves (PCIVs) (ISV) to isolate the leaking penetration and return primary containment to operable status. The downstream valves are safety-related and constructed to ASME Section III Class 2 with satisfactory Local Leak Rate Tests (LLRTs).

**Failed Components Information:**

Master Parts List Number: 2T48F319 and 2T48F320

Manufacturer: Fisher Controls Company

Model Number: Model 9220

Type: Isolation Valves

This event is reportable per 10 CFR 50.73(a)(2)(ii)(A) due to one of the plant's principle safety barriers being seriously degraded. This event is also reportable per 10 CFR 50.73(a)(2)(v)(C) for an event or condition that could have prevented fulfillment of a safety function that is needed to control the release of radioactive material. This event has been classified as a Safety System Functional Failure under NEI 99-02. This event is also reportable per 10 CFR 50.73(a)(2)(i)(B) for a condition prohibited by Technical Specifications because primary containment was inoperable in excess of the allotted Limited Condition of Operation (LCO) timeframe.

**EVENT CAUSE ANALYSIS**

The cause of the PCIV failures cannot be confirmed until valve disassembly. During a planned outage, the PCIVs will be repaired and returned to operable status.

**ASSESSMENT OF SAFETY CONSEQUENCES**

There was no radioactive release to the public, so there were no actual safety consequences as a result of this event. Upon identification of the excessive leakage rate, the operating crew responded correctly by isolating the leakage path. The applicable Technical Specifications were properly entered, and required actions were taken within the specified completion time.

The leakage through the degraded primary containment penetration for the as-found condition was determined to exceed La under postulated accident conditions. However, the primary containment leakage rate was below the level required to significantly impact the Core Damage Frequency and Large Early Release Frequency and was of low safety consequence. Additionally, any leakage past the degraded PCIVs during an actual event would have been filtered through SGBT and released through the main stack at an elevated level.



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1. FACILITY NAME  Edwin I. Hatch Nuclear Plant Unit 2	2. DOCKET NUMBER  05000- 366	3. LER NUMBER		
		YEAR 2020	SEQUENTIAL NUMBER 001	REV NO. 00

**NARRATIVE**

**CORRECTIVE ACTIONS**

During an upcoming planned outage, the referenced PCIVs will be repaired and returned to operable status.

**PREVIOUS SIMILAR ISSUES**

On February 7, 2017, with Unit 2 in a refueling outage, the same drywell ventilation penetration inboard isolation valve failed LLRT. On February 19, 2017, while still in the refueling outage, the same drywell ventilation penetration outboard isolation valve failed LLRT. This condition represented a failure of the associated penetration to maintain primary containment integrity due to both PCIVs in this penetration flow path exceeding La.

The cause of the PCIVs exceeding La was attributed to inadequate conditions related to the disc sealing ring that was found on both valves. Corrective actions included replacing the ring assemblies and adjusting the set screws on both PCIVs. A satisfactory LLRT was subsequently performed for both valves.