

D. R. Madison (Dennis)
Vice President - Hatch

**Southern Nuclear
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June 13, 2007



Docket No.: 50-366

NL-07-1221

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

Edwin I. Hatch Nuclear Plant – Unit 2
Licensee Event Report 2-2007-006
Corrosion Induced Bonding
Results in Safety Relief Valve Setpoint Drift

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B), Southern Nuclear Operating Company (SNC) is submitting the enclosed Licensee Event Report concerning safety relief valve (SRV) setpoint drift due to corrosion-induced bonding.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

A handwritten signature in black ink that reads "Dennis Madison". The signature is written in a cursive style.

D. R. Madison
Vice President – Hatch
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

BJG/MNW/daj

Enclosure: LER 2-2007-006

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. D. H. Jones, Vice President – Engineering
RTYPE: CHA02.004

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Hatch
Mr. J. A. Hickey, Senior Resident Inspector – Hatch

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-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.

1. FACILITY NAME Edwin I. Hatch Nuclear Plant, Unit 2	2. DOCKET NUMBER 05000366	3. PAGE 1 OF 4
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4. TITLE
Corrosion Induced Bonding Results in Safety Relief Valve Lift Setpoint Drift

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(S)
04	17	2007	2007	006	0	06	13	2007		05000
									FACILITY NAME	DOCKET NUMBER(S)
										05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § : (Check all that apply)			
	20.2201(b)	20.2203(a)(3)(i)	50.73(a)(2)(i)(C)	50.73(a)(2)(vii)
10. POWER LEVEL 100	20.2201(d)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(A)
	20.2203(a)(1)	20.2203(a)(4)	50.73(a)(2)(ii)(B)	50.73(a)(2)(viii)(B)
	20.2203(a)(2)(i)	50.36(c)(1)(i)(A)	50.73(a)(2)(iii)	50.73(a)(2)(ix)(A)
	20.2203(a)(2)(ii)	50.36(c)(2)(ii)(A)	50.73(a)(2)(iv)(A)	50.73(a)(2)(x)
	20.2203(a)(2)(iii)	50.36(c)(2)	50.73(a)(2)(v)(A)	73.71(a)(4)
	20.2203(a)(2)(iv)	50.46(a)(3)(ii)	50.73(a)(2)(v)(B)	73.71(a)(5)
20.2203(a)(2)(v)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(C)	OTHER	
20.2203(a)(2)(vi)	x 50.73(a)(2)(i)(B)	50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A	

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME Edwin I. Hatch / Kathy A. Underwood, Performance Analysis Supervisor	TELEPHONE NUMBER (Include Area Code) (912) 537-5931
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	SB	RV	T020	Yes					

14. SUPPLEMENTAL REPORT EXPECTED				15. EXPECTED SUBMISSION DATE			
YES (If yes, complete 15. EXPECTED SUBMISSION DATE)	X	NO			MONTH	DAY	YEAR

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On April 17, 2007, Unit 2 was at 100 percent power. On that day it was identified during bench testing that two Safety Relief Valves (SRVs) experienced setpoint drift that exceeded the allowable plant Technical Specifications (TS) limit. At the conclusion of bench testing, a total of five of the eleven SRVs were identified as having setpoint drift in excess of the TS limit.

The root cause of the SRV setpoint drift is corrosion-induced bonding between the pilot disc and seating surface.

Immediate corrective actions for this event included replacement of all of the eleven valves with refurbished pilot valves. In addition, the pilot discs on all of the eleven valves that were removed for testing will be replaced with pilot discs made from Stellite 21, which is more resistant to corrosion bonding in this application. Evaluation of additional actions to further improve SRV performance will be tracked under the plant's corrective action program.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor
Energy Industry Identification System codes appear in the text as (EIIS Code XX).

DESCRIPTION OF EVENT

On April 17, 2007, Unit 2 was at 100 percent power. On that day it was identified during bench testing that two Safety Relief Valves (SRVs) (EIIS Code SB) experienced setpoint drift that exceeded the allowable plant Technical Specifications (TS) limit. At the conclusion of bench testing, a total of five of the eleven SRVs were identified as having setpoint drift in excess of the TS limit. The setpoint for each of the eleven SRVs is 1150 +/- 34.5 psig. The following is a tabulation of the test results for the eleven SRVs:

MPL Number	Pilot Serial Number	As-Found Lift Pressure	Percent Drift
2B21-F013A	1189	1250	108.7
2B21-F013B	306	1169	101.7
2B21-F013C	1231	did not lift	n/a
2B21-F013D	313	1212	105.4
2B21-F013E	304	1169	101.7
2B21-F013F	1006	1178	102.4
2B21-F013G	310	1158	100.7
2B21-F013H	1010	did not lift	n/a
2B21-F013K	1007	1273	110.7
2B21-F013L	1228	1149	99.9
2B21-F013M	1004	1159	100.8

These valves were removed from service during the Spring 2007 refueling outage and replaced with like kind valves that were serviced and tested in accordance with plant procedures.

CAUSE OF EVENT

The cause of the SRV setpoint drift exceeding the allowable plant TS limit is corrosion-induced bonding between the pilot disc and seating surface.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable per 50.73(a)(2)(i)(B) because an event occurred which is prohibited by Technical Specifications. Specifically, multiple test failures of the SRVs is defined as reportable in NUREG-1022, Revision 2, dated October 2000, in section 3.2.2, example 3, titled "Multiple Test Failures."

The 11 SRVs, which are located on the four main steam lines within the drywell between the reactor vessel and the inboard main steam isolation valves (MSIV EHS Code SB), are required during Modes 1, 2, and 3 to limit the peak pressure in the nuclear system such that it will not exceed the applicable ASME Boiler and Pressure Vessel Code limits for the reactor coolant pressure boundary. Per TS Surveillance Requirement 3.4.3.1, the valves are tested in accordance with the In-service Testing Program to verify the safety function lift setpoints are within the specified limits. The safety relief valves must accommodate the most severe pressurization transient which, for the purposes of demonstrating compliance with the ASME Code limit of 1375 psig peak vessel pressure, has been defined as a closure of all MSIVs with a failure of the direct reactor protection system trip from the MSIV position switches; the reactor ultimately shutdowns from a high neutron flux trip. Analysis of this event using the as-found bench test results for SRV actuation pressures has demonstrated that the resultant peak pressure was within the ASME Code limit.

Furthermore, the plant Technical Specifications overpressure safety limit of 1325 psig dome pressure must be met during normal operations and for anticipated operational occurrences (AOOs). The analysis of the as-found test results also showed that for the MSIV Closure AOO with the MSIV position switches providing the reactor protection system trip, the resultant dome pressure was within the plant Technical Specifications Safety Limit.

In addition, a non-credited electrical actuation system was installed in 1993 to ensure proper actuation of the SRVs. This system provides a redundant, independent method (i.e., electrical signal) to actuate the SRVs. During the run cycle the redundant electrical system was available. The system was procured to Class 1E environmental and seismic standards, and is deemed highly reliable.

Based on this analysis, it is concluded that this event had no adverse impact on nuclear safety.

CORRECTIVE ACTIONS

All eleven pilot valves have been replaced with refurbished pilot valves.

Each of the eleven pilot discs from the valves removed for testing will be replaced with a pilot disc made from Stellite 21 material. Implementation will be tracked under the corrective action program.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

Evaluation of additional actions to further improve SRV performance will be tracked under the plant's corrective action program.

ADDITIONAL INFORMATION

Other Systems Affected: No systems other than those already mentioned in this report were affected by this event.

Other Systems Affected: None

Failed Components Information:

Master Parts List Number: 2B21-F013
 Manufacturer: Target Rock
 Model Number: 7567F
 Type: Relief Valve
 Manufacturer Code: T020

EIIS System Code: SB
 Reportable to EPIX: Yes
 Root Cause Code: B
 EIIS Component Code: RV

Commitment Information: This report does not create any new permanent licensing commitments.

Previous Similar Events:

LER 1-2006-003, which identified an error in reporting multiple SRV setpoint drift, also described results from the previous three outages where multiple SRV setpoint drift had occurred. Corrective actions for that LER focused on ensuring proper reporting of SRV setpoint drift was performed.