

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **Calvert Cliffs, Unit 2** DOCKET NUMBER (2) **050003181** PAGE (3) **1 OF 03**

TITLE (4) **Violation of Tech. Spec. for Pressurizer Overpressure Protection during Cold Shutdown Conditions**

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)			
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)		
1	0	2	0	8	5	8	6	0	0	0	0	0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9) 5	20.402(b)	20.408(a)	80.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0, 0, 0	20.408(a)(1)(i)	80.38(a)(1)	80.73(a)(2)(v)	73.71(a)
	20.408(a)(1)(ii)	80.38(a)(2)	<input checked="" type="checkbox"/> 80.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 388A)
	20.408(a)(1)(iii)	80.73(a)(2)(i)	80.73(a)(2)(vii)(A)	
	20.408(a)(1)(iv)	80.73(a)(2)(ii)	80.73(a)(2)(vii)(B)	
	20.408(a)(1)(v)	80.73(a)(2)(iii)	80.73(a)(2)(viii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME **Randolph Androsik, Surveillance Test Coordinator** TELEPHONE NUMBER **301 261-1431**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPPDS
X	ALB	IPIT	II 2014	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On January 15, 1986, while reviewing the completed Unit 2 Pressurizer Relief Valve Channel Calibration Surveillance Test Procedure, the Surveillance Test Coordinator determined the out of tolerance results (obtained Nov. 6, 1985) for the Pressurizer Pressure Low Range Pressure Transmitters revealed that this measurement function would not have: (1) provided Pressurizer Overpressure protection in accordance with the Plant's Technical Specifications (T.S. 3.4.9.3); (2) enabled Safety Injection System by opening outlet isolation valves in accordance with Tech Spec Surveillance Requirement 4.5.1.e.1; and (3) isolated the shutdown cooling system from the Reactor Coolant System when the Reactor Coolant System pressure was above 300 psia (Tech Spec Surveillance Requirement 4.5.2.e.1).

It is suspected that the out of tolerance results are due to generic drift in the output of the transmitter's pressure measurement for the first two to three years of operation in this application of this particular type of transmitter. It is planned to check these transmitters prior to the next time the output of these transmitters would be required to perform their function in accordance with the aforementioned Tech Specs. Also, the procedure will be revised so that as found tolerances will be more readily discernible.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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TEXT: If more space is required, use additional NRC Form 366A (1/77)

On October 18, 1985, Unit 2 was being shut down for a scheduled refueling outage; and, in accordance with Technical Specification Surveillance Requirement 4.4.9.3.1a, a satisfactory channel Functional Test was performed on the Pressurizer Power Operated Relief Valves' (PCV) Actuation Channel. Each Actuation Channel responds to a Pressurizer Pressure Signal and a cold leg Reactor Coolant System (AB) temperature signal. For cold shutdown conditions, the setpoint for this actuation is reduced to 430 psia (Tech Spec limit is less than or equal to 450 psig when AB temperature is less than or equal to 275 degrees F). This protection was required on October 20, 1985 when Unit 2's Reactor Coolant System (AB) entered the minimum temperature condition. On January 15, 1986 while reviewing the completed Unit 2 Pressurizer Relief Valve (PCV) Channel Calibration Surveillance Test Procedure, the Surveillance Test Coordinator determined the out of tolerance results (obtained Nov. 6, 1985) for the Pressurizer Pressure Low Range Pressure Transmitters (PT) revealed that this measurement function would not have provided Pressurizer Overpressure protection in accordance with the Plant's Technical Specifications (T.S. 3.4.9.3). The Shift Supervisor was informed of the results on November 7, 1985 but not the Surveillance Test Coordinator as required by the Surveillance Procedure. The transmitters were recalibrated and the calibration procedure was continued. An assessment of the reportability requirements was made at that time but since the Shift Supervisor was not aware of a possible generic drift with these particular transmitters, in accordance with reportability guidelines, no report was initiated. Calculations of the drift showed that one of the relief valves (ERV-402) would have opened at 479.9 psia; the other relief valve (ERV-404) would have opened at 484.9 psia. It was concluded on January 21, 1986, that this event is reportable.

Other systems affected were the Safety Injection System (BP) and the Shutdown Cooling System (BP). These include four (4) Safety Injection Tanks' Outlet Isolation Valves and two (2) Shutdown Cooling Header Isolation Valves whose positions are controlled automatically by the two pressure transmitters output. The Safety Injection Tanks' Outlet Isolation Valves are required to open automatically when the AB pressure exceeds 300 psia, and the Shutdown Cooling System is required to be isolated from the AB system if the AB pressure exceeds 300 psia and the average AB temperature is greater than or equal to 300 degrees F.

On October 20, 1985, channel functional tests were performed on the Safety Injection Tank Isolation valves and the Shutdown Cooling Header Isolation valves. The Shutdown Cooling Header Isolation valve test was satisfactory, but a Pressure Indicating Controller (PIC) for two of the Safety Injection Isolation valves yielded out of tolerance results. It was recalibrated and the retest was satisfactory. Calculations based on the Nov. 6, 1985 results show that two of the Safety Injection Isolation Valves would have opened at 342.5 psia, the other two at 352.5 psia. With regard to the Shutdown Cooling Header Isolation valves, one would have shut at 326.5 psia; the other would have shut at 342.5 psia. The setpoint for these valves is 284 +/- 16 psia.

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TEXT (4) THIS SPACE IS RESERVED. USE ADDITIONAL NRC Form 388A (1) (17)

PTs involved are ITT Barton (I204), model 763 and were installed in the spring of 1984. In November of 1984, Calvert Cliffs was advised by Barton that due to the application of these transmitters, a shift in the transmitter calibration would be experienced when exposed to pressures greater than 1600 psi. For the first two to three years of operation, these instruments will not shift back when pressure is reduced.

There were no safety consequences or implications from this event due to the conservatism of the setpoint for the Pressurizer Power Operated Relief Valves to satisfy Tech Spec 3.4.9.3. The lowest service temperature previously calculated from Article NB-2332 (Summer Addenda of 1972) of Section III of the ASME Boiler and Pressure Vessel Code is 160 degrees F. Below this temperature the system pressure must be limited to a maximum of 20% of the system's hydrostatic test pressure of 3125 psia; this pressure is 625 psia. This pressure is reduced, however, by the head difference and system pressure dynamics between the pressurizer and the reactor vessel (net correction is approximately 70 psia) and instrument accuracy (16 psia maximum). The maximum system pressure below the lowest service temperature then becomes approximately 539 psia.

Studies for Calvert Cliffs Unit 2 have shown that the worst case pressure transient below the lowest service temperature would be an energy addition transient as a result of a reactor coolant pump inadvertent start. It has been shown that with only one PCV available, sufficient relief capacity exists to limit the maximum AB pressure to approximately 520 psia with a PCV setting of 465 psia. With a PCV setting of 479.9 psia, the resulting transient would still be below the maximum allowable pressure.

No safety consequences or implications from this event apply to the safety injection Isolation valves. The out of specification results were discovered and corrected prior to the time the valves were required to automatically open. In addition, the drift results were still within the Technical Specifications for Safety Injection Tank operability requirements; the Surveillance Requirement is extremely conservative in support of this limiting condition for operation.

No safety consequences or implications from this event apply to the Shutdown Cooling Header Isolation valves. The Shutdown Cooling System is isolated during the time the pressure transient might occur.

There have been no similar events.

To avoid a recurrence of this event, it is planned to check these transmitters prior to the next time the output of these transmitters would be required to perform their function. Also, the procedure will be revised so that as found tolerances will be more readily discernible.

BALTIMORE GAS AND ELECTRIC COMPANY

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BALTIMORE, MARYLAND 21203

NUCLEAR POWER DEPARTMENT
CALVERT CLIFFS NUCLEAR POWER PLANT
LUSBY, MARYLAND 20657

February 20, 1986

U. S. Nuclear Regulatory Commission Docket No. 50-318
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Washington, D. C. 20555

Dear Sirs:

The attached LER 86-01 is being sent to you as required by
10 CFR 50.73.

Should you have any questions regarding this report, we would be
pleased to discuss them with you.

Very truly yours,



J. R. Lemons
Manager - Nuclear Operations Department

^{RA}
JRL:RA:pah

cc: Dr. Thomas E. Murley
Director, Office of Management Information
and Program Control

Messrs: A. E. Lundvall
J. A. Tiernan
W. J. Lippold

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