

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Calvert Cliffs, Unit 1	DOCKET NUMBER (2) 050003171	PAGE (3) 1 OF 03
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TITLE (4) Reactor Trip on Low Steam Generator Water Level Condition Resulting from a Temporary Loss of Main Feedwater

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)
02	05	85	85	002	00	03	07	85			05000

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 1100	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(a)	<input checked="" type="checkbox"/> 80.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 80.38(e)(1)	<input type="checkbox"/> 80.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 80.38(e)(2)	<input type="checkbox"/> 80.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)						
	<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 80.73(a)(2)(i)	<input type="checkbox"/> 80.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 80.73(a)(2)(ii)	<input type="checkbox"/> 80.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 80.73(a)(2)(iii)	<input type="checkbox"/> 80.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)

NAME Barry Sullivan, Operational Safety Engineer	TELEPHONE NUMBER AREA CODE: 301, NUMBER: 2610-1438
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

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)

At 1658 on February 5, 1985, Calvert Cliffs Unit 1 reactor tripped from 100% power on a Low Steam Generator Water Level condition caused by a temporary reduction and subsequent loss of main feedwater flow. The Unit 1 Auxiliary Building Operator incorrectly deenergized a portion of the Feedwater Regulating System while attempting to deenergize #11 Instrument Air Compressor. This caused the Steam Generator Feed Pumps to slow down even though reactor power remained at 100%. Realizing he had opened the wrong breaker, the Auxiliary Building Operator reshut the breaker to the deenergized portion of the Feedwater Regulating System. This sent the actual 100% feedwater demand signal to the Steam Generator Feed Pumps Speed Control System and caused the Steam Generator Feed Pumps to rapidly accelerate. This extreme transient caused the Steam Generator Feed Pumps to trip on Low Suction Pressure. Unit 1 then tripped on Low Steam Generator Water Level.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

At 1615 on February 5, 1985, while operating in **MODE 1** at 100% power, Calvert Cliffs Unit 1 reactor tripped on a Low Steam Generator Water Level Condition caused by a temporary reduction and subsequent loss of main feedwater flow. This loss of main feedwater was due to incorrect breaker (EIS BKR) operation which temporarily deenergized a portion of the Feedwater Regulating System (FRS) (EIS JB).

The Unit 1 Auxiliary Building Operator (ABO) was verbally instructed by the Unit 1 Control Room Operator (CRO) to open "Motor Control Center 114 Distribution Panel Breaker #9", to deenergize control power to #11 Instrument Air Compressor (EIS LD-CMP) for maintenance. This breaker is located on the Distribution Panel (EIS ED-PL) which is mounted on Motor Control Center 114 (EIS ED-MCC). He mistakenly identified the breaker labeled "Instrument A. C. Transf. 11 #52-11429" (which is also located on Motor Control Center 114) as the breaker for control power to #11 Instrument Air Compressor. He confused the terms "Instrument A. C." and "Instrument Air Compressor" and thought the two were interchangeable. He incorrectly opened breaker Instrument A. C. Transf. 11 #52-11429 which deenergized a portion of the FRS, including a differential pressure (d/p) transmitter (PDT) for one of two feedwater regulating valves (EIS SJ-FCV). As a result of this loss of power, a false high d/p across this feedwater regulating valve was sensed by the FRS. A "decrease speed" signal was then sent to the Steam Generator Feed Pumps Speed Control System, causing both #11 and #12 Steam Generator Feed Pumps (SGFPs) (EIS SJ-P) to slow down. The minimum flow control valves (EIS SJ-XCV) also failed open on the loss of power and numerous alarms were received in the Control Room. After receiving these alarms at various Control Room Panels, and remembering the Unit 1 ABO had recently been instructed to operate Motor Control Center 114 Distribution Panel Breaker #9, the Control Room Supervisor (CRS) concluded that the Unit 1 ABO had opened the wrong breaker. Shortly after opening the breaker, the Unit 1 ABO realized he had operated the wrong breaker and reshut it. The breaker was open for approximately one minute before it was reshut. This returned the input signals for the FRS to their actual values vice the loss of power values which caused the SGFPs to slow down. At this point, Unit 1 was still at 100% power and the FRS sent a 100% Feed Flow Demand Signal to the SGFPs Speed Control System. This caused the SGFPs (which were running at a very slow speed due to the temporary loss of power) to accelerate rapidly.

This rapid acceleration, coupled with the fact that the minimum flow control valves and the feedwater regulating valves were fully open, caused #11 and #12 SGFPs to trip on Low Suction Pressure.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Unit 1 then tripped on Low Steam Generator Water Level at minus 50 inches. The Control Room Operators then carried out the actions of Emergency Operating Procedure 1, "Reactor Trip". All safety systems functioned as expected and no personnel errors were noted during the post-trip actions taken by the operators.

During the post-trip investigation, the Unit 1 ABO, CRO and CRS were interviewed to determine what factors may have caused the incorrect breaker operation to occur. All three agreed that they discussed deenergizing the control power for #11 Instrument Air Compressor during shift turnover. Shortly after assuming the watch, the Unit 1 ABO was instructed to open the breaker for control power to #11 Instrument Air Compressor at Motor Control Center 114. Although he realized this breaker was located on the Distribution Panel mounted on Motor Control Center 114, he mistakenly identified the term "#11 Instrument Air Compressor" as synonymous with "Instrument A. C. Transf. 11".

To prevent a recurrence of this type of incident, the following corrective actions will be taken:

1. This event will be reviewed with all other Operations watchstanders.
2. The General Supervisor-Operations will review, and revise if necessary, the practical breaker operation training given to operators.

A review of reportable events at Calvert Cliffs revealed no similar events.

Contact is B. J. Sullivan, (301) 260-4385.

BALTIMORE GAS AND ELECTRIC COMPANY

P.O. BOX 1475

BALTIMORE, MARYLAND 21203

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

March 7, 1985

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

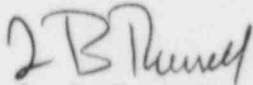
Docket No. 50-317
License No. DPR 53

Dear Sirs:

The attached LER 85-02 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,



L. B. Russell
Plant Superintendent

LBR/^{AS}BJS/pah

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

Messrs: A. E. Lundvall, Jr.
J. A. Tiernan

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