NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Calvert Cliffs, Unit 1	0 5 0 0 0	1 OF 0 3

TITLE (4)
Inadvertent Initiation of Steam Generator Isolation

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)
										0 5 0 0 0
0 4	0 6	8 5	8 5	0 0 5	0 0	0 4	2 9	8 5		0 5 0 0 0

OPERATING MODE (9)	3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)					
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)		73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)		50.73(a)(2)(v)		73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		
		20.405(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		
		20.405(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Charles Walker, Procedural Development Co-ordinator	3 0 1 — 2 6 0 - 4 7 0 6

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

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

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

At 0400 a plant cooldown from 532°F to 500°F was commenced. The cooldown progressed normally until approximately 0512, when a Steam Generator Isolation Signal (SGIS) Block Permitted Alarm was received. At this time the operator realized the keys necessary to block the SGIS were not in their respective key operated handswitches. Before the operator could get the necessary keys inserted and effect a Block of the SGIS, a SGIS Signal was initiated. To prevent recurrence of this incident the plant cooldown procedure will be modified to make inserting the block keys an initial action step of the plant cooldown procedure.

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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 0400 on April 4, 1985 a plant cooldown from 532°F to 500°F was commenced. The cooldown continued normally until approximately 0512 when a Steam Generator Isolation Signal (SGIS) (JE) Block Permitted Annunciator (ANN) was received. At this point, the operator realized the keys necessary to block the SGIS were not inserted in their respective keyswitches (HS). The operator then obtained the block keys from the control room key locker and blocked the channel A SGIS. The operator had difficulty inserting the channel B SGIS block key and returned to the control room key locker to ensure he had the correct key. After verifying he did have the correct key, he returned to effect a block of SGIS channel B, but before he could effect the block a SGIS actuation occurred.

The SGIS logic is part of the Engineered Safety Features Actuation System (JE) and block of SGIS is permitted when three of four steam generator pressure channels reach approximately 767 PSIA by use of two keyswitches, one for channel A and one for channel B. If SGIS is not blocked during a plant cooldown a SGIS actuation will occur when two of four steam generator pressure channels reach approximately 703 PSIA. Actuation of either SGIS channel A or Channel B causes identical actions which are to shut the Main Feedwater and Main Steam Isolation Valves and to trip the Steam Generator Feed Pumps, the Heater Drain Pumps and the Condensate Booster Pumps. The SGIS logic is shown in Figure 1.

This event may have been avoided had the operator terminated the cooldown as soon as it was discovered that the SGIS Block keys were not inserted, if the keys had been inserted prior to the start of the plant cooldown or if the keys would have been easier to insert.

This incident was not a threat to the safety of the public or the plant. The Steam Generator Isolation System functioned as designed. The Auxiliary Feedwater system (BA) and, Main Steam Safety Valves (SB) and the atmospheric steam dumps remained available to maintain the steam generators as a heat sink.

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

To prevent recurrence of this type or similar events the following corrective actions will be taken:

1. Revise the plant cooldown procedure to make insertion of the keys which block SGIS an initial action step in the procedure.

2. Evaluate the repair or replacement of the SGIS block key switches so that the keys are easier to insert.

3. Review plant procedures to ensure adequate guidance is given to prepare for blocking all engineered safety features signals that are required to be blocked during plant cooldown. Guidance will be added to the procedures to instruct the operator to stop cooldown or depressurization during a plant cooldown if an engineered safety features signal cannot be blocked promptly once a block permitted condition is reached.

4. Make all operators aware of this incident.

The contact for this event is C. Walker, 301-260-4706.

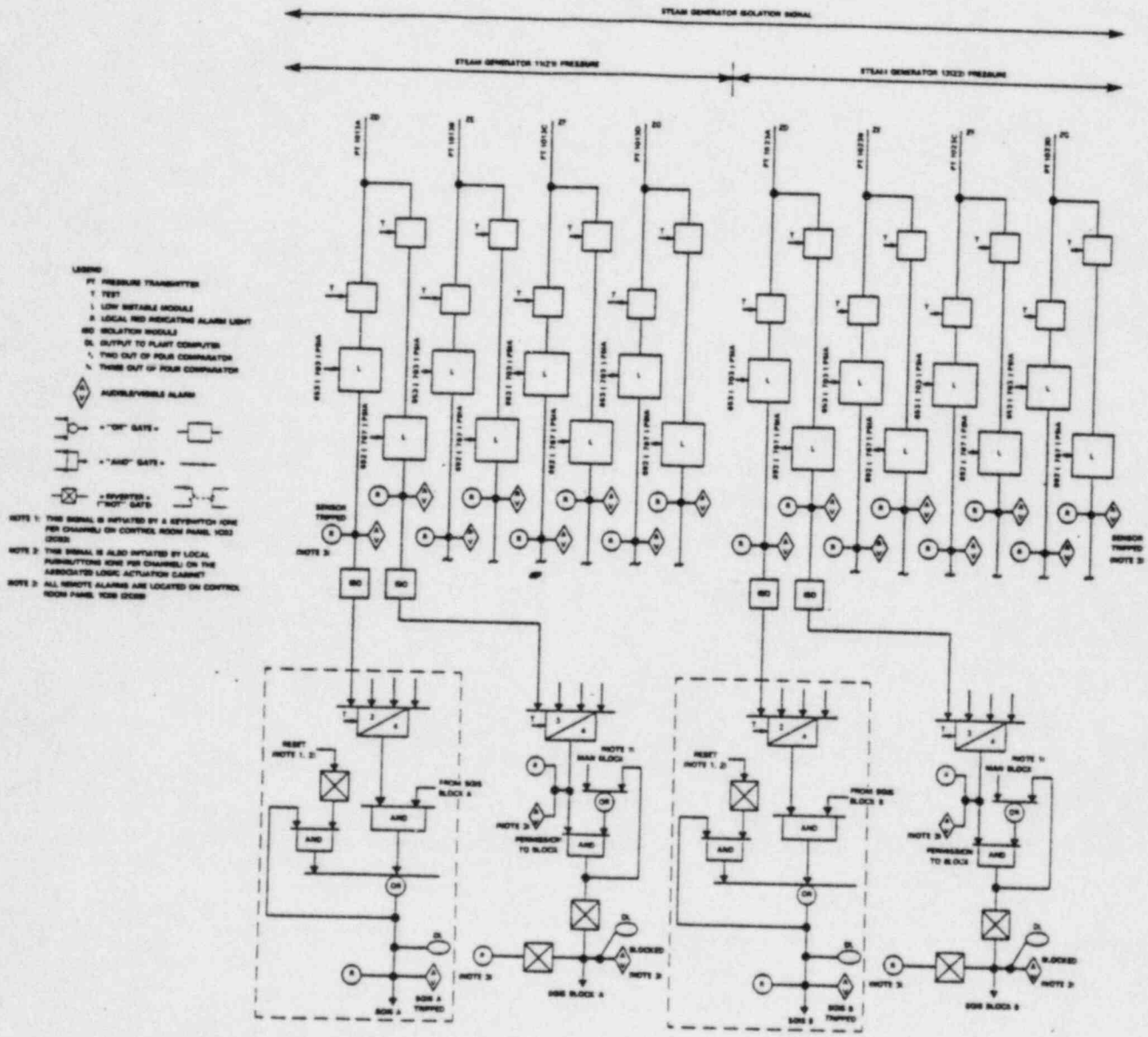
STEAM GENERATOR ISOLATION SIGNAL
STEAM GENERATOR 1 (2) PRESSURE
STEAM GENERATOR 1 (2) PRESSURE
LEGEND
PT PRESSURE TRANSMITTER
T TEST
L LOW SETTABLE MODULE
A LOCAL RED INDICATING ALARM LIGHT
ISO ISOLATION MODULE
TO OUTPUT TO PLANT COMPUTER
2/3 TWO OUT OF FOUR COMPARATOR
3/4 THREE OUT OF FOUR COMPARATOR
AUDIBLE/VISIBLE ALARM
= "OR" GATE =
= "AND" GATE =
= INVERTER = ("NOT" GATE)
NOTE 1: THIS SIGNAL IS INITIATED BY A KEYSWITCH (ONE PER CHANNEL) ON CONTROL ROOM PANEL 1C02 (2C02)
NOTE 2: THIS SIGNAL IS ALSO INITIATED BY LOCAL PUSHBUTTONS (ONE PER CHANNEL) ON THE ASSOCIATED LOGIC ACTUATION CABINET
NOTE 3: ALL REMOTE ALARMS ARE LOCATED ON CONTROL ROOM PANEL 1C09 (2C09)
SENSOR TRIPPED
RESET
FROM SGIS BLOCK A
FROM SGIS BLOCK B
MAIN BLOCK
PERMISSION TO BLOCK
BLOCKED
SGIS A TRIPPED
SGIS B TRIPPED
SGIS BLOCK A
SGIS BLOCK B

Figure 1

BALTIMORE GAS AND ELECTRIC COMPANY

P.O. BOX 1475

BALTIMORE, MARYLAND 21203

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

April 29, 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 85-05 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

L. B. Russell
Plant Superintendent

LBR/CAW/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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