

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) DONALD C. COOK NUCLEAR PLANT UNIT 2	DOCKET NUMBER (2) 0 5 0 0 0 3 1 6	PAGE (3) 1 OF 0 2
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TITLE (4)
ESF ACTUATION

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	3	8	5	8	5	0	3	3	0	1	0	2	2	7	8	6			0	5	0	0	0
																					0	5	0	0	0

OPERATING MODE (9) **1**

POWER LEVEL (10) **0 2 9**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input checked="" type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(a)(1)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(a)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 388A)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME T. A. KRIESEL - TECHNICAL PHYSICAL SCIENCES DEPARTMENT SUPERINTENDENT	TELEPHONE NUMBER 6 1 6 4 6 5 1 - 5 9 0 1
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	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)

ON OCTOBER 23, 1985 AT 2350 HOURS WITH THE REACTOR COOLANT SYSTEM IN MODE 1 (OPERATING) AT 29 PERCENT REACTOR THERMAL POWER, ERS-2309, THE LOWER CONTAINMENT AIRBORNE MONITOR HIGH RANGE NOBLE GAS CHANNEL, (IEEE/MON) GAVE A SPURIOUS HIGH ALARM SIGNAL. THE HIGH ALARM RESULTED IN AN ESF ACTUATION SIGNAL WHICH WOULD HAVE RESULTED IN AN ISOLATION OF THE CONTAINMENT PURGE SYSTEM HAD THE CONTAINMENT PURGE SYSTEM BEEN IN SERVICE.

THE HIGH ALARM ON ERS-2309 WAS NOT CAUSED BY AN INCREASE IN CONTAINMENT NOBLE GAS LEVELS AS EVIDENCED BY THE RADIATION READINGS AT THE TIME OF THE EVENT.

THE SPURIOUS HIGH ALARM IS THE RESULT OF SOFTWARE ERRORS ASSOCIATED WITH THE NEW EBERLINE MODEL CT-1B SOFTWARE. THE MANUFACTURER WAS CONSULTED REGARDING THE SOFTWARE PROBLEMS. EBERLINE RECOMMENDED THE 4-HOUR LOG OPTION ON THE CONTROL TERMINAL BE DISABLED. THIS RECOMMENDATION WAS IMPLEMENTED ON FEBRUARY 13, 1986. TO DATE, NO FURTHER CLOCK SYNCHRONIZATION ERRORS HAVE OCCURRED.

THE HEALTH AND SAFETY OF THE PUBLIC WAS NOT AFFECTED.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) D. C. COOK NUCLEAR PLANT UNIT 2	DOCKET NUMBER (2) 0 5 0 0 0 3 1 6 8 5	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		0 3 3	0 1	0 2	OF	0 2

TEXT (if more space is required, use additional NRC Form 266A's) (17)

ON OCTOBER 23, 1985 AT 2350 HOURS WITH THE REACTOR COOLANT SYSTEM IN MODE 1 (OPERATING) AT 29 PERCENT REACTOR THERMAL POWER, ERS-2309, THE LOWER CONTAINMENT AIRBORNE MONITOR HIGH RANGE NOBLE GAS CHANNEL (IEEE/MON) GAVE A SPURIOUS HIGH ALARM SIGNAL. THE HIGH ALARM RESULTED IN AN ESP ACTUATION WHICH WOULD HAVE RESULTED IN AN ISOLATION OF THE CONTAINMENT PURGE SYSTEM HAD THE CONTAINMENT PURGE SYSTEM BEEN IN SERVICE.

THE HIGH ALARM ON ERS-2309 WAS NOT CAUSED BY AN INCREASE IN CONTAINMENT NOBLE GAS LEVELS. THE RECORDED VALUE FOR THE CHANNEL AT THE TIME OF THE HIGH ALARM WAS 1.73E+00 MICRO CURIES/CC. IN ADDITION, NO HIGH ALARMS WERE RECEIVED ON THE LOW OR MID RANGE NOBLE GAS CHANNELS AS WOULD BE EXPECTED HAD A REAL INCREASE IN CONTAINMENT RADIOACTIVITY OF LARGE PROPORTION OCCURRED.

THE HIGH ALARM APPEARS TO BE ASSOCIATED WITH THE CLOCK AND CONTROLLER SYNCHRONIZATION THAT OCCUR ON THE CONTROL TERMINAL AROUND MIDNIGHT. THE CONTROL TERMINAL AND EACH MONITOR HAVE INDEPENDENT INTERNAL CLOCKS WHICH RECEIVE A CLOCK SYNCHRONIZATION MESSAGE FROM THE CONTROL TERMINAL SOFTWARE EACH NIGHT AT APPROXIMATELY MIDNIGHT. WHEN ANY MONITOR IS NOT IN SYNCHRONIZATION, THE SOFTWARE ATTEMPTS TO FIT ANY DATA PRESENT IN THE CHANNEL INTO AN ARBITRARY TIME FRAME. THIS CAN RESULT IN A FALSE CHANNEL STATUS WHICH MAY OR MAY NOT BE A HIGH ALARM.

THE CLOCK SYNCHRONIZATION PROBLEM IS A SOFTWARE ERROR ASSOCIATED WITH THE NEW EBERLINE MODEL CT-1B SOFTWARE.

THE MANUFACTURER (EBERLINE) WAS CONSULTED REGARDING THE SOFTWARE PROBLEMS. EBERLINE RECOMMENDED THE 4-HOUR LOG OPTION ON THE CONTROL TERMINAL BE DISABLED BASED ON SIMILAR EXPERIENCES IN OTHER PLANTS. THIS RECOMMENDATION WAS IMPLEMENTED ON FEBRUARY 13, 1986. TO DATE NO FURTHER CLOCK SYNCHRONIZATION ERRORS HAVE OCCURRED.

THE HEALTH AND SAFETY OF THE PUBLIC WAS NOT AFFECTED.

PREVIOUS OCCURRENCES OF A SIMILAR EVENT INCLUDE: 316/84-011;
316/84-008.