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)
LASALLE COUNTY STATION	0 5 0 0 0 3 7 3	1 OF 0 2

TITLE (4)

APRM READING LOW

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)
									N/A	0 5 0 0 0
0 1 2 1	8 4		8 4	— 0 0 6	— 0 0	0 2 1 7	8 4			0 5 0 0 0

OPERATING MODE (9)	2	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 5	20.402(b)	20.405(c)	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)	XX 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

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	
X	I G	A M P	G 0 8 0	Y							

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

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

At about 5% power during Unit 1 startup two Average Power Range Monitoring)APRM) channels were reading lower than expected. A half scram was taken on the applicable trip system. Investigation of the problem found defective operational amplifiers in four APRM channels. The op amps were replaced and APRM's satisfactorily tested.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

I. EVENT DESCRIPTION:

With Unit 1 at about 5% power during startup (Mode 2), APRM (IG) channels B and F were found to be reading lower than expected (time: 1050 on 1-21-84). At 1145 the B trip system (both channels B and F are in trip system B)was placed in the tripped condition in accordance with Technical Specification 3.3.1. The APRM's were repaired under work request L32196, satisfactorily tested and returned to service later that day.

II. CAUSE:

Investigation showed that the operational amplifiers OA1 on the DC Amplifier card was degraded so that the amplifier would not give adequate gain. Along with the initial problems on channels B and F, the same op amp problems were later found on channels A and E. The problem was believed to be due to normal aging.

III. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

Since the DC Amplifier card was supplying less than the desired gain, the degraded APRM channels would indicate less than the actual power. An RPS (JC) trip on high power would still occur, however, since APRM channels C and D were still reading correctly in RPS channels A and B respectively. Even the degraded channels would respond to increasing flux, though the trips would not occur at the design point.

IV. CORRECTIVE ACTION:

The immediate corrective action was to place the B RPS trip system in the tripped condition.

The problem of the degraded amplifiers would be detected by operational surveillance LOS-AA-S1 even if the failure was not severe enough to cause a downscale. This surveillance requires the APRM gain adjustment factors (GAF's) to be set to 1.00 $\pm$ 0.02, so that the APRM's indicate actual core power. This surveillance is performed every shift when reactor power is above 25%. The op amps in channels C and D were verified to be operating properly. LIS-NR-11 checks this also.

V. PREVIOUS EVENTS:

No previous similar failure has been noted.

VI. NAME AND TELEPHONE NUMBER OF PREPARER:

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February 17, 1984

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

Dear Sir:

Reportable Occurrence Report #84-006-00, Docket #050-373 is being submitted to your office in accordance with 10 CFR 50.73(d).

C E Spiegel

G. J. Diederich
Superintendent
LaSalle County Station

GJD/GW/rg

Enclosure

cc: NRC, Regional Director
INPO-Records Center
File/NRC

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