

JUL 18 1984

B&W 298

NRC Form 366 (9-83) U.S. NUCLEAR REGULATORY COMMISSION
 APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/85
 190616 LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Three Mile Island Unit 2 DOCKET NUMBER (2) 05000320 PAGE (3) 1 OF 03

TITLE (4) Examination and Evaluation of ~~Pressure and~~ Level Transmitters for Core Flood Tanks

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)
04	01	84	84	008	00	06	20	84			050000
04	00	84									050000

OPERATING MODE (9) N THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

POWER LEVEL (10) 01010	20.402(b)	20.406(c)	50.73(a)(2)(iv)	73.71(b)
	20.406(a)(1)(i)	50.36(a)(1)	50.73(a)(2)(v)	73.71(c)
	20.406(a)(1)(ii)	50.36(a)(2)	50.73(a)(2)(vii)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	Information Report
	20.406(a)(1)(iv)	50.73(a)(2)(iii)	50.73(a)(2)(viii)(B)	
	20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Russell D. Wells	AREA CODE 717 948-8461

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
B	B	P	P	D	I	T	B	0415	N

SUPPLEMENTAL REPORT EXPECTED (14) YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15) MONTH 12 DAY 30 YEAR 85

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

In July 1981, Core Flood Tank "B" Pressure Transmitter CF-1-PT3 and Level Transmitter CF-2-LT3 were removed from the Three Mile Island Unit 2 (TMI-2) Reactor Building and evaluated by EG&G Idaho, Inc., at the Idaho National Engineering Laboratory (INEL). CF-1-PT3, a Foxboro type E11GM-HSAD1 Style B unit, was determined to be in operating condition; however, CF-2-LT3, a Bailey Meter Company type BY8231X-A unit, was inoperable due to significant internal corrosion. Subsequently, in June 1983, one pressure transmitter and two level transmitters for Core Flood Tank "A" were removed from the TMI-2 Reactor Building and evaluated at INEL. The Foxboro unit, CF-1-PT1, was evaluated to be operable, whereas the two Bailey units, CF-2-LT1 and CF-2-LT2, were inoperable as a result of extensive internal corrosion. The cause of the failures of the Bailey units is believed to be due to leakage of water into the transmitter housing by way of the electrical conduits. The results of these evaluations are reported in GEND INF 029, Volume I and II published in February 1983 and April 1984, respectively.

9.10.84

IE22

8406280304 840620
 PDR ADDOCK 05000320
 S PDR

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Three Mile Island Unit 2	DOCKET NUMBER (2) 0500032084	LER NUMBER (3)			PAGE (3) 02 OF 03
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		84	08	00	

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

In July 1981, a Foxboro type E11GM-HSAD1, Style B, pressure transmitter (CF-1-PT3) and a Bailey Meter Company type BY8231X-A differential pressure level transmitter (CF-2-LT3) were removed from the Three Mile Island Unit 2 (TMI-2) Reactor Building and evaluated by EG&G Idaho Inc., at the Idaho National Engineering Laboratory (INEL). CF-1-PT3 had been utilized to monitor pressure in Core Flood Tank "B" (IEEE Code - BP), and CF-2-LT3 had been utilized to measure the level of Core Flood Tank "B". Both transmitters were located at the 324' elevation, which was significantly higher than the water level mark in the Reactor Building as a result of the TMI-2 accident. The following is a summary of the examination of the two pressure transmitters.

- CF-1-PT3 was found to be in excellent operating condition and still in calibration. Contaminants found in the junction box mounted externally on the transmitter housing indicated that water also entered the junction box by way of the conduit. The manufacturer's seal between the transmitter housing and the junction box prevented water from damaging the transmitter's electrical and mechanical components. Additionally, the change in the transmitter's sensitivity to pressure (output scan) was, according to the manufacturer, below that of a typical change in a transmitter output.
- CF-2-LT3 was found to have significant internal corrosion, rendering the unit inoperable. The failure was believed to be due to leakage of water into the transmitter housing by way of the electrical conduits.
- The radiation environment resulting from the accident did not appear to cause any permanent damage to the Foxboro transmitter, while its effect on the Bailey transmitter could not be determined because of extensive water damage to the transmitter.

The results of the examination and evaluation of CF-1-PT3 and CF-2-LT3 were reported in GEND INF 029, Volume I published in February 1983.

Subsequently, as a continuation of the above effort, Pressure Transmitter CF-1-PT1, and Level Transmitters CF-2-LT1, and CF-2-LT2 were removed from the TMI-2 Reactor Building in June 1983 and evaluated at the INEL. CF-1-PT1, a similar type Foxboro transmitter, had been used to measure the pressure in Core Flood Tank "A". CF-1-LT1 and CF-1-LT2, both similar type Bailey transmitters, had been utilized to measure the water level in Core Flood Tank "A". All three transmitters were located at the 324' elevation. The following is a summary of the examination of the three transmitters:

- The Foxboro Transmitter, CF-1-PT1, was adequately sealed by the manufacturer which prevented moisture damage to the internal mechanisms and the electronic module. The radiation environment appeared to have no effect on the long-term operation of the transmitter. Laboratory evaluation indicated that this unit was still in calibration. The change in transmitter's output scan was also below the typical change for this type transmitter.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Three Mile Island Unit 2	DOCKET NUMBER (2) 05000320	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		84	-008	-000	03	Of 03

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

The two Bailey Transmitters, CF-2-LT1 and CF-2-LT2, exhibited extensive internal corrosion resulting from inadequate sealing. The major source of water into the housings was through the electrical conduits leading into the housing. One of the transmitters appeared to have a faulty seal around the cover plate which may have permitted some moisture to enter the transmitter housing. The water in the housing resulted in extensive corrosion and degradation of the electronic module. Both units were inoperable. Considering the condition of the transmitters upon removal, it was not possible to determine what effect, if any, the radiation exposure from the accident had on these transmitters.

The results of the examination and evaluation of CF-1-PT1, CF-2-LT1, and CF-2-LT2 are reported in GEND INF 029, Volume II published in April 1984. These results confirm the earlier findings reported in GEND INF 029, Volume I.

EG&G Idaho Inc., intends to have additional transmitters removed during the fourth quarter of 1984 and examined to determine the water intrusion mechanisms.

Due to the potential generic implications, this report is being submitted as an informational Licensee Event Report.



GPU Nuclear Corporation
Post Office Box 480
Route 441 South
Middletown, Pennsylvania 17057-0191
717 944-7621
TELEX 84-2386
Writer's Direct Dial Number:

(717) 948-8461

4410-84-L-0080
Document ID 0009A

June 20 , 1984

US Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

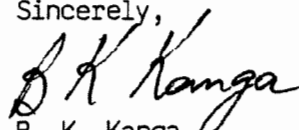
Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Licensee Event Report 84-08

Attached is Licensee Event Report 84-08 providing results of the examination and evaluation of the TMI-2 "A" and "B" Core Flood Pressure Transmitters CF-1-PT1, CF-1-PT3, and Level Transmitters CF-2-LT1, CF-2-LT2, and CF-2-LT3 by the Idaho National Engineering Laboratory.

This data is being submitted as an information Licensee Event Report.

Sincerely,


B. K. Kanga
Director, TMI-2

BKK/RDW/jep

Attachments

cc: Regional Administrator - Office of I & E, Dr. T. E. Murley
Program Director - TMI Program Office, Dr. B. J. Snyder
Deputy Program Director - TMI Program Office, Mr. L. H. Barrett

IE22
11