

Nuclear

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December 1, 1982
4410-82-L-0061

Office of Inspection and Enforcement
Attn: Mr. Ronald C. Haynes, Director
Region I
US Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Licensee Event Report 82-036/03L-0

Attached please find Licensee Event Report 82-036/03L-0 concerning the inoperability of the River Water Pump House fire detectors on October 28, 1982.

This event concerns Section 3.3.3.8 and is considered reportable under Section 6.9.2 of the Interim Recovery Technical Specifications.

This LER is being submitted after the thirty (30) day Tech Spec requirement as discussed by Mr. S. D. Chaplin of TMI-2 Licensing and Mr. J. Wiebe, Senior Resident Inspector (TMI-2), US Nuclear Regulatory Commission, on November 29, 1982.

Sincerely,



B. K. Kanga
Director, TMI-2

8212150038 821201
PDR ADOCK 05000320
S PDR

BKK/SDC/jep

Attachments

CC: Mr. I. H. Barrett, Deputy Program Director - TMI Program Office
Dr. B. J. Snyder, Program Director - TMI Program Office
Mr. V. Stello, Deputy Executive Director

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LICENSEE EVENT REPORT

Attachment 1
4410-82-L-0061

CONTROL BLOCK: _____ (1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

(01) P A T M I 2 (2) 0 0 - 0 0 0 0 0 0 - 0 0 (3) 4 1 1 1 1 1 (4) _____ (5)

CON'T
(01) REPORT SOURCE (L) (6) 0 5 0 0 0 0 3 2 0 (7) 1 1 0 2 8 8 2 (8) 1 2 0 1 8 2 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)
(02) After initiating the River Water Pump House smoke detector portion of Surveillance
(03) Procedure 4333-SAL "Fire System Detector Instrument Functional Test" at 1500 hours on
(04) October 28, 1982, the smoke detectors tested failed to provide the required trip
(05) functions and alarms. The detectors were declared inoperable and the Action Statement
(06) of Tech Spec 3.3.3.8 was entered. This event is considered reportable per Section
(07) 6.9.2 of the Technical Specifications. This event had no effect on the health and
(08) safety of the public. This LER is similar to LER 82-13.

(09) SYSTEM CODE (A) (11) CAUSE CODE (E) (12) CAUSE SUBCODE (A) (13) COMPONENT CODE (I N S T R U) (14) COMP. SUBCODE (P) (15) VALVE SUBCODE (Z) (16)
(17) LER NO REPORT NUMBER (82) (22) OCCURRENCE CODE (03) (30) REPORT TYPE (L) (37) REVISION NO (0)
(18) ACTION TAKEN (R) (19) FUTURE ACTION (X) (20) EFFECT ON PLANT (Z) (21) SHUTDOWN METHOD (Z) (22) HOURS (0000) (23) ATTACHMENT SUBMITTED (Y) (24) NPRO-4 FORM SUB. (N) (25) PRIME COMP. SUPPLIER (A) (26) COMPONENT MANUFACTURER (P435)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)
(10) Investigation determined that the Fire Indicating Unit (FIU) which controls the smoke
(11) detectors and alarm/trip functions malfunctioned. Specifically, the high voltage dc
(12) power supply of the FIU failed to provide proper voltage due to a capacitor failure.
(13) The capacitor was replaced and the surveillance performed again successfully. The
(14) smoke detectors were declared operable at 2130 hours on November 5, 1982.

(15) FACILITY STATUS (X) (28) POWER (000) (29) OTHER STATUS (30) Recovery mode (31) METHOD OF DISCOVERY (B) (32) DISCOVERY DESCRIPTION (32) Surveillance Test
(16) ACTIVITY CONTENT RELEASED OF RELEASE (Z) (33) AMOUNT OF ACTIVITY (34) N/A (35) LOCATION OF RELEASE (36) N/A
(17) PERSONNEL EXPOSURES NUMBER (000) (37) TYPE (38) DESCRIPTION (39) N/A
(18) PERSONNEL INJURIES NUMBER (000) (40) DESCRIPTION (41) N/A

(19) LOSS OF OR DAMAGE TO FACILITY TYPE (Z) (42) DESCRIPTION (43) 8212150044 821201 PDR ADOCK 05000320 PDR

(20) ISSUED (N) (44) DESCRIPTION (45) N/A (46) PUBLICITY (47) NRC USE ONLY

NAME OF PREPARER Steven D. Chaplin

PHONE (717) 948-8461

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LICENSEE EVENT REPORT
NARRATIVE REPORT
TMI-II
LER 82-036703L-0
EVENT DATE - October 28, 1982

I. EXPLANATION OF OCCURRENCE

At 1500 hours on October 28, 1982, while performing semi-annual surveillance 4333-SAL on the fire detectors in the Unit 2 River Water Pump House (RWPH), all the detectors failed to test satisfactorily. This failure placed the unit in the Action Statement of Technical Specification Limiting Conditions for Operation (L.C.O.) 3.3.3.8, Table 3.3-11.

The detectors were tested satisfactorily and returned to operable status at 2130 hours on November 5, 1982. This event is considered reportable under Technical Specification 6.9.2.

This LER is similar in nature to LER 82-13.

II. CAUSE OF THE OCCURRENCE

While the Unit 2 RWPH fire detectors system design provides multiple detectors and the Tech Spec L.C.O. requires only one to be operable, the system is vulnerable to a common mode of failure in the Fire Indicating Unit (FIU) high voltage power supply. In this case, capacitor C-5 of the high voltage power supply failed thus rendering all of the RWPH fire detectors inoperable.

The high voltage dc power to the fire detectors is electronically supervised to detect either a loss of the 250Vdc supply or a break in the lines to the detectors. If either occurs, a trouble alarm is actuated at both the local FIU panel and in the Control Room. However, the inoperability was a result of a partial failure at the 250Vdc power supply. Apparently, sufficient voltage remained so as to not trip the trouble alarms but still disable the fire detection system.

This LER is similar to LER 82-13 in which the transformer of the high voltage power supply in a Containment Building fire detection system malfunctioned. It resulted in rendering that fire detection system inoperable without generating trouble alarms.

IV. CORRECTIVE ACTIONS TAKEN OR TO BE TAKEN

Immediate

An hourly fire watch was established as required by the Tech Spec L.C.O. Action Statement. Troubleshooting, repairing, and testing were accomplished within the allowable time limit of the Action Statement.

Long Term

GPU is examining the fire detection systems to determine the most appropriate action. This LER will be revised upon completion of the examination.

V. COMPONENT FAILURE DATA

Capacitor C-5 40MFD, 450WV, 85°C, #75254 Manufacturer's Code