

Update on problems with ultraviolet light fire detectors  
UPDATE REPORT -- PREVIOUS REPORT DATE September 23, 1983

NRC FORM 368  
(7-77)

U. S. NUCLEAR REGULATORY COMMISSION 363

LICENSEE EVENT REPORT

NOV 16 1984

CONTROL BLOCK: 19154116 (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION) B & W

01	P	A	T	M	I	2	2	0	0	-	0	0	0	0	0	0	-	0	0	3	4	1	1	1	1	4	5	
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
LICENSEE CODE														LICENSE NUMBER										LICENSE TYPE				CAT 58

  

01	L	6	0	5	0	0	0	3	2	0	7	0	8	2	7	8	3	8	1	0	1	2	8	4	9	
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
CON'T		DOCKET NUMBER										EVENT DATE					REPORT DATE									

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 On June 21, 1983, the following was determined to be reportable pursuant to Section

03 6.9.1.9(b) of the Tech Specs. Between August 27 and September 12, 1983, the Air

04 Intake Tunnel (AIT) Halon System was partially disarmed on 3 occasions. The dis-

05 arming was intention to protect the system from lightning induced spurious halon

06 discharges. After passage of the storm, the system was restored to a full functional

07 status. These events concern Tech Spec 3.7.10.3, and had no effect on the plant, its

08 operation, or the health and safety of the public. Reference LER's 83-25 and 83-31

09	A	B	11	X	12	Z	13	Z	Z	Z	Z	Z	Z	14	Z	15	Z	16
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
SYSTEM CODE			CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE					COMP. SUBCODE		VALVE SUBCODE				

  

17	8	3	23	0	4	3	27	0	3	29	X	30	1	32
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
LER/RO REPORT NUMBER		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE		REPORT TYPE		REVISION NO.				

  

X	18	F	19	Z	20	Z	21	0	0	0	0	22	Y	23	N	24	Z	25	Z	9	9	9	26
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER							

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27) and 83-014)

10 On 2 occasions (LER's 82-18 and 82-23) the AIT Halon System was set off by lightning

11 flashes. As an interim protective action, the susceptible AIT Halon System zone(s)

12 were disarmed during storms to prevent spurious discharges. Permanent corrective

13 action included installation of AIT structure louvers. Disarming the AIT Halon

14 System has been discontinued.

15	X	28	0	0	0	29	Recovery Mode	30	Z	31	N/A	32
7	8	9	10	11	12	13	14	15	16	17	18	19
FACILITY STATUS		% POWER		OTHER STATUS				METHOD OF DISCOVERY		DISCOVERY DESCRIPTION		

  

16	Z	33	Z	34	N/A	35	N/A	36	N/A
7	8	9	10	11	12	13	14	15	16
ACTIVITY CONTENT		RELEASED OF RELEASE		AMOUNT OF ACTIVITY		LOCATION OF RELEASE			

  

17	0	0	0	37	Z	38	N/A	39
7	8	9	10	11	12	13	14	15
PERSONNEL EXPOSURES		NUMBER		TYPE		DESCRIPTION		

  

18	0	0	0	40	N/A	41
7	8	9	10	11	12	13
PERSONNEL INJURIES		NUMBER		DESCRIPTION		

  

19	Z	42	N/A	43	8410230150	841012	PDR	ADDOCK	05000320	PDR
7	8	9	10	11	12	13	14	15	16	17
LOSS OF OR DAMAGE TO FACILITY		TYPE		DESCRIPTION		PDR		PDR		

  

20	N	44	N/A	45	N/A	46
7	8	9	10	11	12	13
PUBLICITY ISSUED		DESCRIPTION		NRC USE ONLY		

NAME OF PREPARER Russ Wells PHONE (717) 948-8461

88-10-01  
Teresa

Rev. 0  
on file

LER 83-043/03X-1  
EVENT DATE - August 10, 1983

I. EXPLANATION OF THE OCCURRENCE

As a result of discussions with the Nuclear Regulatory Commission TMI Program Office personnel on June 21, 1983, the events described below were determined to reportable pursuant to the requirements of the TMI-2 Technical Specifications.

On the indicated dates, part of the TMI-2 Air Intake Tunnel (AIT) Halon System was disarmed.

<u>Date and Time Disarmed</u>	<u>Date and Time Returned to Service</u>
August 27, 1983, 1600 hours	August 27, 1983, 2015 hours
August 28, 1983, 2045 hours	September 12, 1983, at 1831 hours
September 12, 1983, 1630 hours	September 12, 1983, at 1831 hours

The disarming was limited to the zone(s), typically 1 or 2 of 4, susceptible to being tripped by local electrical storm activity (lightning). In addition, the zones were disarmed only to the extent that the automatic halon discharge in the given zone(s) was disarmed. All the remaining system functions remained operational, i.e., detection, trip signals, alarm functions, and trip interlocks with 1) the Air Intake Tunnel water deluge system, 2) the Air Intake Tunnel isolation dampers, and 3) the Auxiliary Building and Fuel Handling Building Ventilation Systems.

This event is considered reportable pursuant to Section 6.9.1.9(b) due to entry into the compliance with the requirements of the Action Statement for Technical Specification 3.7.10.3.

This LER is similar in nature to LER 83-25 and 83-31.

II. CAUSE OF THE OCCURRENCE

The Halon System was intentionally disarmed on the above dates as a preventative measure. This was based on the Halon System susceptibility to being actuated by lightning flashes from thunderstorms in the vicinity of TMI-2. [The Halon System utilizes ultraviolet light and rate of pressure rise detectors to trigger the halon discharge. The ultraviolet detectors of two zones are oriented such that they may be tripped by flashes outside of the Air Intake structure.] (Reference LER's 82-18, 82-23, and 83-14 dated June 1, 1982, June 29, 1982, and June 6, 1983, respectively.) When any zone was discharged, the AIT Halon System was declared inoperable until the discharged zone was recharged. Typically, this took 10 to 14 days as a

result of the type of Halon System used and its installed arrangement. In order to avoid an extended inoperability and thereby ensure maximum availability of the AIT Halon System protective functions, part of the AIT Halon System was disarmed as previously described during the period of time when "spurious" discharges are most likely, i.e., during thunderstorms. This action was an interim measure until permanent corrective action was implemented.

### III. CIRCUMSTANCES SURROUNDING THE OCCURRENCE

At the time of the occurrence, the Unit 2 facility was in a long-term cold shutdown state. The reactor decay heat was being removed via loss to ambient. Throughout the event there was no effect on the Reactor Coolant System or the core.

### IV. CORRECTIVE ACTIONS TAKEN OR TO BE TAKEN

Immediate: The disarmed zone(s) was/were returned to full functional status as indicated for each occurrence.

Long-Term: Louvers were installed in the openings of the Air Intake structure on August 5, 1983. In lieu of any other acceptable method of testing the louvers, a brief survey was conducted of those Control Room personnel who were on duty during the aforementioned times and dates that the AIT Halon System was disarmed in order to determine if the Intake Tunnel Vertical Shaft Fire Alarm sounded during these periods. Annunciation of this alarm would have indicated that a valid trip signal had been received for the disarmed zones. The consensus was that an alarm was not received during the times when the Halon System was disarmed. Thus, GPUNC has determined that the louvers are acceptable for their designed use. The practice of disarming the Halon System during thunderstorms has been discontinued.

### V. COMPONENT FAILURE DATA

N/A



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October 12, 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  
Updated Licensee Event Reports

The Licensee Event Reports listed in Attachment 1 have been updated and are enclosed as Attachment 2 to this letter.

If you have any questions concerning this information, please contact Mr. J. J. Byrne of my staff.

Sincerely,

F. R. Standerfer  
Vice President/Director, TMI-2

FRS/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

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LER UPDATE PACKAGE

82-038/03L-1  
83-007/03X-1  
83-020/03X-1  
83-021/03X-1  
83-022/03X-1  
83-023/01X-1  
83-024/01X-1  
83-025/03X-1  
83-031/03X-1  
83-036/03X-2  
83-040/03X-1  
83-042/01X-1  
83-043/03X-1  
83-044/03X-1  
83-046/03X-1  
83-050/01X-1  
83-051/03X-1  
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