

UPDATE REPORT -- PREVIOUS REPORT DATE August 22, 1983

NRC FORM 366 (7-77)

Update on problems with ultraviolet light fire detectors

U. S. NUCLEAR REGULATORY COMMISSION

363

LICENSEE EVENT REPORT

NOV 16 1984

B & W

CONTROL BLOCK: 191514113 ①

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

① | P | A | T | M | I | 2 | ② | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | ③ | 4 | 1 | 1 | 1 | 1 | ④ | | | ⑤

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EVENT DESCRIPTION AND PROBABLE CONSEQUENCES ⑩

① | ② | On June 21, 1983, the following was determined to be reportable pursuant to Section
③ | 6.9.1.9(b) of the Tech Specs. Between July 21 and August 5, 1983, the Air Intake
④ | Tunnel (AIT) halon system was partially disarmed on 4 occasions. The disarming was
⑤ | intentional to protect the system from lightning induced spurious halon discharges.
⑥ | After passage of the thunderstorm, the system was restored to a full functional
⑦ | status. These events concern Tech Spec 3.7.10.3, and had no effect on the plant,
⑧ | its operation, or the health and safety of the public (Reference LER 83-25)

① | ② | ③ | ④ | ⑤ | ⑥ | 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 | ㉟ | ㊱ | ㊲ | ㊳ | ㊴ | ㊵ | ㊶ | ㊷ | ㊸ | ㊹ | ㊺ | ㊻ | ㊼ | ㊽ | ㊾ | ㊿

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CAUSE DESCRIPTION AND CORRECTIVE ACTIONS ⑳

① | ② | On ③ occasions, (Reference LER's 82-18 and 82-23) the AIT halon system was set off
④ | by lightning flashes. As an interim protective action, the susceptible AIT halon
⑤ | system zone(s) were disarmed during thunderstorms to prevent spurious discharges.
⑥ | Permanent corrective included installing AIT structure lowers. Lowers should
⑦ | prevent recurrence of the event.

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NAME OF PREPARER Russ Wells

PHONE (717) 948-8461

LER 83-031/03X-1
EVENT DATE - July 21, 1983

I. EXPLANATION OF THE OCCURRENCE

As a result of discussions with Nuclear Regulatory Commission TMI Program Office personnel, on June 21, 1983, the events described below were determined to be 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>
July 21, 1983, 1930 hours	July 21, 1983, 2230 hours
July 23, 1983, 2140 hours	July 24, 1983, 0400 hours
July 30, 1983, 2100 hours	July 30, 1983, 2126 hours
August 5, 1983, 1645 hours	August 5, 1983, 2107 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.

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 Systems' susceptibility to being actuated by lightning flashed from thunderstorms in the vicinity of TMI-2. [The Halon System utilizes ultraviolet (UV) light and rate of pressure rise detectors to trigger the halon discharge. The UV detectors of two zones are oriented such that they may be tripped by flashes outside 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 a 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. These louvers should preclude occurrences of the above events. Disarming the AIT Halon System 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

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83-020/03X-1
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