

ENCLOSURE 1

Metropolitan Edison Company
Three Mile Island Nuclear Station Unit 1 (TMI-1)
Docket No. 50-289
Operating License No. DPR-50

Nonroutine 10-Day Report 75-C4

Report of an Unplanned Radioactive Release of Radioactive Material and
Excessive Concentration of Radioactive Material Occurring on August 21, 1975

Description of Occurrence

On August 21, 1975, between the hours of 0053 and 0231 (one hour and thirty-eight minutes) an inadvertant release of radioactive material occurred due to the loss of the Reclaimed Boric Acid Tank "B" Loop Seal. The radioactive material was released into the Reclaimed Boric Acid Tank/Concentrated Waste Storage Tank Room and subsequently discharged by the ventilation system through the plant vent stack.

Alert level alarms were received from Vent Stack Exhaust Monitor RM-A8 (Gaseous Channel) and Auxiliary Building Vent Exhaust Monitor RM-A6 (Gaseous Channel). Plant operations personnel proceeded to locate the cause of the release, the Reclaimed Boric Acid Tank Loop Seal was re-established, and the release was terminated.

One Instrument and Control Technician in the vicinity of the Reclaimed Boric Acid Tank Loop Seal at the time of the release was monitored and found to be slightly contaminated about the face. Subsequent decontamination reduced contamination to acceptable levels.

Apparent Cause of the Occurrence

Component failure was the apparent cause of the occurrence in that a leak developed at a union fitting in the piping associated with the loop seal sight glass and this in turn caused the loss of the loop seal.

Analysis of Occurrence

For the following reasons it is belived that the unplanned release of radioactive material on the 21st of August did not endanger either the health or safety of the public:

- a. None of the limits in the TMI-1 Technical Specifications were exceeded.
- b. None of the Maximum Permissible Concentration (MPC) limits for non-radiation workers listed in 10CFR20 were exceeded at the site boundary.

Corrective Action

As described above, immediate corrective action was taken to terminate the release. Following this, the leaking union fitting in the piping associated with the loop seal sight glass was repaired.

Failure Data

Union fitting in piping associated with sight glass WDL-LI-208B on "B" Reclaimed Boric Acid Storage Tank.

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Release Data

The total release consisted of 8.51 curies of predominately Xe-133 (100%). This value was obtained from the chart recordings of Vent Stack Exhaust Monitor RM-A8. The gross gaseous release rate was 1.55×10^4 M³/sec., which is below the Technical Specification limit of 1.2×10^5 M³/sec. Analysis of the release data indicates that the 24-hour average concentration of radioactive material in the Reclaimed Boric Acid Tank/Concentrated Waste Storage Tank Room was 3.73×10^{-4} μ Ci/cc, which is reportable under 10CFR20.403(b)(2). The 24-hour average concentration is based on 8.51 curies of Xe-133 released over a one hour and thirty-seven minute period with a room air flow of 560 ft³/min (measured).

Personnel Exposure Data (10CFR20.405)

Station personnel involved in the incident included three individuals who were in the area during the release. The first individual was an instrument and Control Technician who was working in the Reclaimed Boric Acid Tank/Concentrated Waste Storage Tank Room on an unrelated job. The second individual was an Auxiliary Operator who entered the room to investigate the problem. The third individual was the Shift Supervisor, who also entered the room to investigate the problem. Their stay time in the room was less than one minute. Based on a calculated maximum concentration of 1.97×10^{-2} μ Ci/cc and a restricted area MPC of 1×10^{-5} μ Ci/cc (Xe-133 100%), the allowed stay time for these individuals was 1.22 minutes. The TLD's worn by the three individuals were evaluated with results showing all Beta exposures to be less than the minimum detectable (40 MR) and all gamma exposures less than 25 MR; however, it is believed that the gamma exposures are due to other maintenance and inspections during the month rather than to the present releases. In that much of the exposure can be accounted for by previous assignments and by the fact that Xe-133 exposures show as beta exposures due to the energy and in that no beta was detected, it is believed that no additional significant exposures resulted from the incident.

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ENCLOSURE II

PERSONNEL INVOLVED (10CFR20.405(b))

<u>Personnel</u>	<u>Social Security No.</u>	<u>Birth Date</u>	<u>Estimate of Exposure</u>
Edward G. Lawrence	102-38-4137	1-19-47	Zero: exposure on TLD accounted for by other activities during that period.
Joseph T. Wilt	191-32-1888	5-30-40	
Marshall L. Beers	169-24-0035	1-31-28	

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