

ENCLOSURE (1)

Metropolitan Edison Company
Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Docket No. 50-289
Operating License DPR-50
Supplement to Nonroutine 10-Day Reports 74-02, 03, and 04

Supplementary Information on Three Unplanned
Releases of Radioactive Material Occurring on October 6, 8, and 9-10, 1974

1. Description of Releases

October 6

1. For the first release, the average release rate was 2.3×10^1 m³/sec. and the maximum release rate was 5.74×10^1 m³/sec.
2. For the second release, the average release rate was 1.9×10^1 m³/sec. and the maximum release rate was 5.74×10^1 m³/sec.

October 8

The average release rate was 5×10^3 m³/sec. The maximum release rate was 1.9×10^4 m³/sec., which is lower than the value reported in our telegram of October 9 (4.2×10^4 m³/sec.). This lower value is considered to be more accurate because it was determined from differential pressure readings on the Low Pressure Vent Header. These readings were not available when the telegram was sent.

October 9-10

The average release rate was 8.3×10^3 m³/sec. and the maximum release rate was 2.92×10^4 m³/sec.

The duration of the release was 3.5 hours, which differs from the value reported in our telegram of October 11 (2.5 hours) because a detailed investigation of the release could not be performed in the 24 hours allowed for sending the telegram.

2. Apparent Cause of the Release

October 6

October 8

This release involved the Loop Seal of the Reactor Coolant (RC) Waste Evaporator Storage Tank and not the Miscellaneous Waste Evaporator

1481 208

7910250 658

Storage Tank; however, both Loop Seals were cut and plugged because of a suspected design problem which was first identified on the Loop Seal of the Miscellaneous Waste Evaporator Storage Tank (see Non-routine 10-Day Report 74-01, dated October 3, 1974). It should also be noted, however, that it has been determined that this design problem does not exist on any of the other loop seals of the Radio-active Waste Systems.

October 9-10

Whether or not there was a loose plug on the Loop Seal of the RC Waste Evaporator Feed Tank cannot be verified; but a cracked Rupture Disc was found and is thought to have contributed to the release. Although this was in part a cause of the release, it cannot be verified that this was the sole cause.

3. Analysis of Releases

4. Corrective Action

It should be noted that collected leakage from various sources into the Reactor Coolant Drain Tank (RCDT) had given rise to a higher than normal concentration of radioactive gases in the vent header that is common to the RCDT and the evaporator storage tanks. The leaks have been repaired.

Regarding the design problem with the two loop seals, the Architect Engineer is in the process of proposing a design modification, and with regard to the written report that has been prepared, it is under review.

1481 209