



I. Current Activities at Time of Occurrence:

TMI-1 was in a long term cold shutdown condition. Restart modifications involving changes to fire barriers were in progress. The seal problem was identified on 9/17/82 during a Quality Control inspection. A field questionnaire (FQ) on this and several other fire barriers were forwarded to Plant Engineering on 9/27/82. Engineering determined that the seal was non-functional as discussed below.

II. Circumstances Leading to Occurrence:

Plant personnel were in the process of inspecting fire barrier penetration seals to determine their acceptability following modifications. This inspection was in addition to the 18 month and post-maintenance inspections required by T.S. 4.18.7.

III. Description:

Fire barrier penetration seal #275 located in the west wall of the Relay room, 338' elevation Control building, was one of the seals identified as having potential deficiencies. The following engineering review on Oct. 5, 1982 of the inspection results determined that seal #275 was in a non-functional condition. When this condition was identified, the requirements of T.S. 3.18.7.2 were implemented by establishing a fire watch in the Relay room. Seal failure was the result of silicone foam shrinkage at the perimeter of the seal in excess of the separation limits qualified by fire tests and used in seal inspection procedures. Repairs were performed on the 2nd shift 5 Oct. 82 and the fire watch secured. The item is considered reportable under T.S. 6.9.2.B.2 since T.S. 3.18.7 requires seals to be functional "at all times" with no operation in a degraded mode (fire watch) allowed without being reportable. TSCR No. 97 which was submitted to the NRC staff January 26, 1981 provides, among other things, more specific guidance on the reportability of fire barrier penetration seal degradation.

IV. Significant Events as a Result of the Occurrence:

None.

V. Previous Events of a Similar Nature:

There have been previous events concerning failed fire barrier penetration seals, however, the causes have been different (See LER 81-003/03L-0).

VI. Root Cause of the Occurrence:

Cases of foam shrinkage at TMI-1 are rare because fire barrier penetration seal installation procedures require the silicone foam density to be between 17 and 23 lbs/ft<sup>3</sup>. If the foam density is outside this range shrinkage of the seal may take place over an extended period of time (i.e. 6 months or more). Seal No. 275 was installed in November of 1981 and was inspected again in January 1982 with no deficiencies noted.

VII. Immediate Corrective Action:

Operations was immediately informed of the non-functional status when the determination was made by Plant Engineering on 5 October 1982 at approximately 1100. Operations immediately established a fire watch in the Relay Room in accordance with T.S. 3.18.7.2 since the Relay Room equipment is considered to be required as functional for this plant condition (primary parameter monitoring capabilities). A Job Ticket was issued and the seal was restored to a functional status on the 2nd shift, 5 October 82 and the fire watch secured.

VIII. Long Term Corrective Action:

No other corrective action is required. Silicone foam shrinkage has not been observed in TMI-1 because of the corrective action taken in 1978 when foam shrinkage was observed in TMI-2. We consider this an isolated case. We will continue our 18 month and post-maintenance inspections of the fire barrier penetration seals.