

Writer's Direct Dial Number

March 19, 1981
LIL 077



Division of Operating Reactors
Attn: Darrell G. Eisenhut, Director
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Des. Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Response to Appendix R to 10CFR 50

The NRC division of Licensing issued a letter on November 24, 1980 identifying the provisions of Appendix R that are applicable to the fire protection features for TMI-1. The letter established two categories. The first consists of provisions described by Appendix R Section III G, J and O which are to be backfitted in their entirety. The second consists of requirements concerning the "open" items of previous NRC staff fire protection reviews. Attachment 1 is our response to 10CFR 50.48 paragraph C concerning the backfit items and constitutes our initial response to the provisions of Appendix R to 10CFR 50. Attachments 2 and 3 (SER Tables 3.1 and 3.2) outline the project status and (where applicable) the expected completion date for those items which fall into the second category. Project completion dates are within the dates outlined in 10CFR 50.48. An updated summary of staff requirements to resolve open items, which was Enclosure 2 of the NRC letter of November 24, 1980, is included as Attachments 2 and 3 to this letter.

As allowed by 10CFR 50.48 Section b, we submit that the SER for TMI-1 has been accepted by the staff in satisfying the provisions of Appendix A to BTP APOSB 9.5-1. Attachment 4 lists our exemption requests to Appendix R to 10CFR 50.

We have reviewed 10CFR 50 Appendix R and have determined that no additional modifications are necessary to ensure adequate fire protection.

Sincerely,

H. D. Skill
H. D. Skill
Director, TMI-1

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HDH:DCM:lma

Attachments

1. Appendix R Section III G 1, 2 & 3

- a) Our original Fire Hazards Analysis Report (FHAR) was prepared and submitted in accordance with the requirements of APCSB BTP 9.5-1 dated August 23, 1976 and SRP 9.5-1 Rev. 1. The requirements of Appendix R impose additional requirements that were not addressed by our FHAR.

Our plan is to complete and maintain a revised FHAR to ensure that TMI-1 systems and subsequent modifications do not provide conditions that adversely affect the capability to achieve a safe shutdown condition subsequent to a postulated single fire, including an exposure fire.

In addition we will review the revised FHAR and provide such modifications as are required to remove any identified noncompliance with provisions of this section of Appendix R.

Our schedule requires completing the revised FHAR, identifying any areas of jeopardy and preparing design criteria for any modifications necessary to remove noncompliance with the provisions of Appendix R including the open SER items of Attachments 2 and 3 prior to September 15, 1981. We will submit this criteria and our schedule for engineering and installation for the identified modifications prior to 12/15/81.

2. Appendix R Section III J. - Emergency Lighting

As stated in Mr. R. Reid's letter of November 19, 1980, item 3.2.12 "Emergency Lighting" is resolved pending the completion of modifications as noted in our letter of May 30, 1980 (TLL 243). These modifications have been installed and are operational. (See Attachment 3). The installed system meets the Appendix R Section III J requirements.

3. Appendix R Section III O - Exemption Request

The provisions of paragraph C6 of 10CFR 50.48 provides for exemption from the provisions of Appendix R to 10CFR 50. We are invoking these provisions relative to Section III O "Oil Collection System for Reactor Coolant Pump" based on our determination that compliance with the required modification would not significantly enhance fire protection safety in the facility.

License Amendment 44 for the fire protection program at Three Mile Island Unit 1 (TMI-1) included, in SER item 3.1.13 a requirement to demonstrate, "during a safe shutdown earthquake, the affect of the seismic event on the oil collection system will not adversely affect plant safety." The drain piping was installed per our specification S.P. 5578 for small bore piping which adequately addresses the seismic requirements for supporting this size pipe inside the containment building. The oil collection tanks installed at the 281' elevation of the containment building were built to non-nuclear seismic I specifications and meet ASME Section VIII and NFPA 30 requirements. The pump itself is mounted to seismic I requirements and the unit including motor and oil spray shields was purchased as an integral unit. The spray shields and the associated drip pans are lightweight and are not considered to constitute a missle hazard during a safe shutdown earthquake. These design criteria provide adequate assurance that during a safe shutdown earthquake the effects of the seismic event on the system will not adversely affect plant safety."

The Fire Safety Evaluation Report, Supplement 4, dated September 19, 1980 included, "furthermore, as a result of our review of the license's proposed design of the reactor coolant pumps lubricating oil collection system we find that this proposed system meets the requirements of the modification to improve the fire protection program in Amendment 44, Section 3.1.13 titled, 'Reactor Coolant Pump Lubricating Oil Collection System.' We find this item of the program acceptable." We submit the foregoing as being ample justification of a sound technical basis for our assertion for an exemption request in accordance with the regulation.

SER TABLE 3.1

<u>ITEM</u>	<u>STATUS</u>
3.1.1 Fire Detectors System installation - 100% System being tested and undergoing minor detector sensitivity adjustments	Installed/Under test expected operational 11-1-81
3.1.2 Manual Hose Stations	Installed/Operational
3.1.3 Automatic Water Spray System System under installation System scheduled for test 5-1-81	Under Installation expected operational 11-1-81
3.1.4 Automatic Sprinkler Systems or Coating of Electrical Cables Partial Modification accepted by the NRC for 281' Fuel Handling Bldg. Sprinkler System	III.G Under Installation expected operational 11-1-81
3.1.5 Halon Extinguishing System in Computer Room	Installed/Under Test expected operational 11-1-81
3.1.6 Curbs in Reactor Building	Deleted
3.1.7 Fire Dampers	Installed/Operational
3.1.8 Fire Doors	Completed
3.1.9 Fire Barrier Penetrations	Completed
3.1.10 Thermal Insulation on Valves	Deleted
3.1.11 Fire Barriers at R.B. Emergency Cooling Valves	Deleted
3.1.12 Fire Water Valve Seals	Completed
3.1.13 Reactor Coolant Pump Lube Oil Collection System	III.O
3.1.14 Separation of Computer Room From Control Room	Completed
3.1.15 Electrical Cable Penetration Seal	Completed
3.1.16 Battery Room Ventilation Air Flow Monitor	Completed
3.1.17 Fire Fighting Plans	Completed
3.1.18 Smoking	Completed

3.1.19	Control of Combustibles	Completed
3.1.20	Backup Manual Hose Coverage	Installed/Operational
3.1.21	Alternate Shutdown	III.G
3.1.22	Brigade Training	Completed
3.1.23	Communication Cable Penetrations	Completed

<u>TMI-1</u>	<u>TABLE 3.2 SER ITEMS</u>	<u>STATUS</u>
3.2.1	Protection of Emergency Feedwater Pumps	Complete
3.2.2	Cable Separation	III.G
3.2.3	Effects of Water Spray	III.G
3.2.4	Adequacy of Detector System Design	Complete
3.2.5	Fire Protection Inside the Reactor Building	Complete
3.2.6	Unlabeled Fire Doors	Complete
3.2.7	Alarm Circuit Supervision	Complete
3.2.8	Remote Shutdown Stations	Complete
3.2.9	Transient Combustible Study	III.G
3.2.10	Control Building HVAC Loss	Complete
3.2.11	Interior Hose Station Standpipes Less	Complete
3.2.12	Emergency Lighting Installed/operational --	III.J
3.2.13	Protection of Relay Room (Cable Spreading Room)	Complete
3.2.14	Fire Door Supervision	Complete
3.2.15	Engineered Safeguards Cabinets	Complete

EXEMPTIONS

This attachment contains the exemptions from Appendix R to 10CFR 50.

Item 1:

Section N states: "Areas protected by automatic total flooding gas suppression systems shall have electrically supervised self-closing fire doors or... shall be kept closed and electrically supervised at a continuously manned location."

- a. This requirement was not identified in any previous issue of Appendix R made available for comment. The four options listed in Section N are considered adequate to provide protection and our responses to these four options, providing administration controls and locking of doors with some doors supervised (security), were accepted by the NRC in lieu of supervision. This position was accepted by the Commission specifically in TMI-1.

To implement this requirement we would have to supervise the following:

- 1) 3 doors in Relay Room
- 2) Old Chem Supervisor's Office
- 3) AIT (Air Intake Tunnel)

Our basis for exemption is that our options for supervision were accepted by the Commission, this requirement is excessive, and most importantly, was not in any proposed rule made available for review.

Item 2:

Section E states: "Fire hose shall be tested at a pressure of 300 psi or 50 psi above maximum operating pressure, whichever is greater."

- a. The 300 psi value was not in any proposed rule made available for comment. In the comment resolution section describing the development of the ruling, the NRC states that the 300 psi limit comes from NFPA No. 196 - Standard for Fire Hose. They have incorrectly quoted the standard. Volume II of the 1980 Codes Section 1961 does give the 300 psi value for hydros but as an acceptance test by fire hose manufacturers. The correct code is NFPA 1962 for service test hydrostatic pressures. In accordance with this code, TMI has procedures in place to annually hydro all fire hose in use to 250 psi. According to Section E of Appendix R, we will relax the test frequency for hose stored inside to once per three years.