METROPOLITAN EDISON COMPANY

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603 TELEPHONE 215 – 929-3601

December 28, 1978
GQL 2070

Director of Nuclear Reactor Regulation
Attn: R. W. Reid, Chief
Operating Reactors Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, DC 20555

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Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Fire Protection Program

This letter addresses the results of several studies conducted in response to commitments summarized in Table 3.2 of the TMI-1 Fire Protection Safety Evaluation Report (FPSER). The responses below are keyed to FPSER item numbers.

3.2.1 Protection of Emergency Feedwater Pumps

An evaluation of fire protection for the emergency feed pump area has been performed. The design of this zone incorporates partial barrier walls and spatial separation of more than 35 feet between the motor-driven and turbine-driven pumps. Combustible loading in the areas is low. Considering these conditions, the existing protection (hand extinguishers and fire hoses), and the proposed detection system, Met-Ed believes that additional protection to preserve the function of at least one emergency feed pump is not necessary.

3.2.3 Effects of Water Spray

All areas containing safety related equipment have been reviewed to determine whether both divisions of safety related equipment would be affected by fire water spray. With the exception of two areas, water spray from fire protection sources will not simultaneously affect divisions of safety related equipment. The following modifications will be made in the Fuel Handling Building and Control Building: Drip shields will be provided for the C-channel motor control center in the Fuel Handling Building and for cabinets on the 338' 6" elevation of the Control Building (including the relay room) where redundant cabinets occupy the same room.

3.2.7 Alarm Circuit Supervision

A review of the installed fire detection signal initiating and alarm circuits has been performed to ensure that all circuits are supervised to detect circuit breaks, ground faults, and power supply failures, and to annunciate in the control room. The presently installed circuits meet the requirements for Class B supervision as defined by NFPA 72 D. The proposed detection system will be

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installed to meet Class B supervision requirements (per staff position relayed by Mr. G. B. Zwetzig of your staff in a November 22, 1978 telecon). Therefore, it is Met-Ed's conclusion that there is no need for further modifications.

3.2.8 Remote Shutdown Stations

The only location where a fire could simultaneously cause loss of local control and control from the control room of any safe shutdown system is the relay room. This room is protected by early warning detectors, an automatic CO_2 suppression system, and will also be covered by manual hoses upon completion of the hose station installation program. Although the fire required to cause loss of control would have to totally engulf the relay room, an alternate shutdown station independent of cables and equipment in the relay room will be provided.

3.2.10 Control Building HVAC Loss

It has been determined that the only major components that could be simultaneously affected by a single fire are ventilating exhaust fans AH-E19A&B (area CB-5a on Fire Hazards Analysis DWG. E-023-016). Accordingly, a test was run with those fans out of service but with doors open to allow maximum flow. From the test data, it was estimated that with outside air temperature at 95°F dry bulb, 78°F wet bulb, and the chilled water system operating, the control room ambient temperature could reach 95°F to 100°F. The Architect-Engineer's Instrumentation and Controls Department stated that they would not anticipate any equipment operating problems because of a 95°F - 100°F ambient temperature. Therefore, Met-Ed plans no additional modifications.

3.2.12 Emergency Lighting

A study has been performed to ensure that adequate emergency lighting is available to accomplish safe shutdown and to fight fires in safety related areas. The results of the review have indicated some potential minor weaknesses in the installed system, i.e., a fire in the vicinity of the distribution panel or certain main lighting circuit feeders. However, a fire in these areas does not affect the ability to bring the plant to safe shutdown from the control room. Also, a fire in these areas does not affect the redundant safe-shutdown equipment. As stated in the TMI-1 Fire Hazards Analysis, p. 5-24, sealed-beam battery-powered portable hand lights are provided for emergency use which can provide adequate lighting to fight a postulated fire in the areas mentioned above. Therefore, it can be concluded that the existing emergency lighting for TMI-1 is adequate to accomplish safe shutdown and to fight fires in safety-related areas.

3.1.21 Alternate Shutdown Capability

By letter of June 12, 1978 (GQL 1068) Met-Ed committed to perform a study to determine the possibility of installing a shutdown station independent of cables and equipment in the relay room and submit the results by December 31, 1978. It has been determined that it is possible to install an alternate shutdown station. A conceptual design will be submitted for NRC review by July 31, 1979.

Sincerely,

J. G. Herbein
Vice President - Generation

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