Met-Ed / GPU

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January 8, 1980
GQL 1558

R. W. Reid, Chief
Operating Reactors Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

Three Mile Island Nuclear Station, Unit I
Operating License No. DPR-50
Docket No. 50-289
Alternate Safe Shutdown Capability

This letter and enclosures are in response to your letter of September 11, 1979, concerning the need for additional information required to complete the review of our alternate safe shutdown capability.

Enclosure A contains responses to items 8a, b, c, d, e, and g. The responses to the remaining items have not been completed. Therefore, we are requesting an extension until January 31, 1980, to submit the unanswered items.

In addition to the questions and responses discussed above, Met-Ed had verbally responded to several questions during two conference calls on November 30 and December 4, 1979, with Mr. DiIanni and others of your staff, Mr. Mitchell of Met-Ed, and engineers from Gilbert Associates. The items discussed and the responses given to the NRC during those calls are listed below.

question 1: Are the valves discussed in item 3.1.10, DH-V1/2, accessable?

response: Valve DH-V2 is accessable.

question 2: Are the components, equipment, and cables of the normal cooling system independent of the Emergency Cooling Valve area per item 3.1.11?

response: Yes, the normal cooling system items are not in the Emergency Cooling Valve rooms.

question 3: Can the normal Reactor Building Cooling System be operated via emergency onsite power?

response: No, emergency onsite power will not operate normal R.B. Cooling.

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question 4: Did the Effects of Water Spray Analysis completed per item 3.2.3, consider modifications or additions to the fire water system identified in the SER?

response: Yes, modifications and additions were considered in the analysis of the effects of water spray.

question 5: Can TMI-I be safely shut down with a fire in the E.S. cabinets?

response: TMI-I can be safely shut down with a fire in the E.S. cabinets when all components operated via those cabinets fail to their E.S. position.

Sincerely,

J. G. Herbein
Vice President
Nuclear Operations

JGH:DGM:hah

Enclosure

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8. Information Required For Staff Review

(a) Description of the systems or portions thereof used to provide the shutdown capability and modifications required to achieve the alternate shutdown capability if required.

(b) System design by drawings which show normal and alternate shutdown control and power circuits, location of components, and that wiring which is in the area and the wiring which is out of the area that required the alternate system.

Response:

Reference Drawings:

| | | |
|---|---|---|
| C-208-148 | C-208-159 | C-208-211 |
| C-208-149 | C-208-160 | C-208-213 |
| C-208-150 | C-208-161 | C-208-215 |
| C-208-151 | C-208-162 | |

The reference drawings depict the modification on the 4160 volt switchgear which provides an alternate shutdown facility at the switchgear cubicles. This change is typical for the alternate shutdown facility on the 480 volt switchgear and motor control centers.

The modification involves the following:

1) A set of fuses is added to the switchgear cubicles. These fuses are connected to the control circuit upon the operator selecting the emergency shutdown mode.

2) The emergency mode, which is selected via a key lockable switch mounted on each cubicle's front panel, disables that part of the switchgear control circuit which is at the relay room. This mode also bypasses those fuses which protect the control circuits to the relay room. The selection of the emergency mode introduces new fuses to the circuit which is now independent of the relay room wiring. Note that the attached reference drawings depict the wiring located in the relay room by broken lines.

(c) Demonstrate that changes to safety systems will not degrade safety systems. (e.g., new isolation switches and control switches should meet design criteria and standards in FSAR for electrical equipment in the system that the switch is to be installed; cabinets that the switches are to be mounted in should also meet the same

criteria (FSAR) as other safety related cabinets and panels; to avoid inadvertent isolation from the control room, the isolation switches should be keylocked, or alarmed in the control room if in the "local" or "isolated" position; periodic checks should be made to verify switch is in the proper position for normal operation; and a single transfer switch or other new device should not be a source for a single failure to cause loss of redundant safety systems).

Response:

All components to be added to the switchgear for this modification are the same type as presently in service. The new components meet all the design criteria and standards set forth in the FSAR for electrical equipment installed in the ES switchgear and motor control center cubicles. As described above, the "Normal-Emergency" selector switch is key lockable.

(d) Demonstrate that wiring, including power sources for the control circuit and equipment operation for the alternate shutdown method, is independent of equipment wiring in the area to be avoided.

Response:

The power source for the control circuits originates at the DC distribution panel which is completely independent of the relay room. The power feeder circuits run directly to the switchgear from the DC distribution panel and are also independent of the wiring in the relay room.

(e) Demonstrate that alternate shutdown power sources, including all breakers, have isolation devices on control circuits that are routed through the area to be avoided, even if the breaker is to be operated manually.

Response: See response to 8(d).

(g) Demonstrate that spare fuses are available for control circuits where these fuses may be required in supplying power to control circuits used for the shutdown method and may be blown by the effects of a cable spreading room fire. The spare fuses should be located convenient to the existing fuses. The shutdown procedure should inform the operator to check these fuses.

Response:

The reference drawings show how spare control circuit fuses are connected to the circuit. These fuses are isolated from the circuit in the normal mode by the "Normal-Emergency" selector switch contacts.