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Writer's Direct Dial Number

September 8, 1980
TLL 437

TMI Program Office
Attn: Mr. John T. Collins, Deputy Director
U. S. Nuclear Regulatory Commission
c/o Three Mile Island Nuclear Generating Station
Middletown, Pennsylvania 17057

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
MDHR System Operations

Our recent submittal to the Nuclear Regulatory Commission concerning the Technical Specifications and Recovery Operations Plan Change Requests for the MDHR System identifies the MDHR System as the primary method of decay heat removal. This letter is submitted to provide clarification of and our interpretation concerning the definition of "primary method of decay heat removal" and to provide insight concerning our intended method of decay heat removal.

Our submittals concerning the MDHR System identify three (3) diverse methods of decay heat removal. They are:

1) MDHR System

2) Heat Loss to Ambient

3) LTB Cooling System

Of these three decay heat removal methods, the MDHR System and heat loss to ambient represent the more desireable alternatives. Our intent is to use the cooling mode which provides assured decay heat removal and which, concurrently, addresses a number of balance-of-plant considerations, such as preferred heat sink, impact on cleanup activities, and influence on water processing. Addressing these concerns may cause us to use one or the other of these two (2) cooling modes. This operational methodology will permit maintenance of the reactor in a safe shutdown condition and may minimize reliance on the performance of mechanical components in the MDHR System. Said succintly, we view MDHR as a "primary method of decay heat removal" and will be prepared to use the MDHR System. However, we may choose to use a different cooling scheme without employing the MDHR System. Identification of the MDHR System as the "primary heat removal mode" does not necessitate its use.

Furthermore, we anticipate actual decay heat removal from the RCS to occur as a result of loss to ambient. For conditions that require lower RCS temperatures, or when forced cooling flow through the RCS is desired, we will use the MDHR System. We do not intend that any one decay heat removal method be employed exclusively, but that all methods be used as necessary to optimize core cooling.

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The Recovery Operations Plan Change Request that has been issued identifies the performance of MDHR System surveillance testing as follows:

1. Verification that the operating MDHR pump will provide adequate flow to permit the removal of decay heat.

2. Verification that the operating MDHR heat exchanger will adequately provide the necessary heat transfer for the removal of decay heat.

During the development of the logic for the surveillance requirements specified in our submittal, it is recognized that:

1. The MDHR System is not absolutely essential for the removal of decay heat; heat loss to ambient, LTC "B", steaming OTSG A to the condenser, are viable modes of core cooling.

2. The MDHR System contains redundant components; it does not have separate, redundant flow loops.

3. The MDHR System is not a safety-related system as is, for example, the Decay Heat System.

4. The requirement to maintain, and subsequently verify operability of, the idle MDHR System components in a completely ready state for MDHR System service, in our opinion, does not exist.

In view of the above, it is requested that the MDHR System surveillance requirements not be issued to reflect required functional performance testing of the idle MDHR pump and heat exchanger every 31 days. Discussion with Mr. Don Brinkman of the NRC Staff, has indicated that it is the intention of the Commission to require the performance of a functional test by running the idle pump. Our intent is to perform functional testing of the MDHR System components prior to placing them in service to verify operability. After the System is placed in service it is intended that surveillance requirements be imposed only on the operating pump and heat exchanger in the System. These surveillance requirements would provide the following benefits:

1. Verify that the operating pump is providing the necessary core flowrate for the removal of decay heat from the reactor.

2. Verify that the operating heat exchanger is providing adequate heat removal capacity.

3. Ensure that pump seal integrity of the idle pump is not degraded due to the performance of testing.

   (Starting and stopping the idle pump to perform surveillance tests to confirm operability may be deleterious to the integrity of the pump seals).

It is requested, therefore, that the MDHR System Recovery Operations Plan Change Request be approved as written. The performance of unnecessary surveillance testing of the idle pump is neither required from a heat generation standpoint, nor technically justified.

We would be pleased to discuss this important matter with you at your convenience.

Sincerely,

/s/ G. K. Hovey

G. K. Hovey
Director, TMI-2

GKH:LJL:dad

cc: Bernard J. Snyder