UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Docket No. 50-320

Mr. Gale K. Hovey
Vice President and
Director of TMI-2
Metropolitan Edison Company
P.O. Box 480
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SUBJECT: MINI DECAY HEAT REMOVAL SYSTEM SURVEILLANCE REQUIREMENTS

REFERENCES: 1. Letter, from G. K. Hovey to J. T. Collins, TLL 645, December 9, 1980.

2. Letter, from G. K. Hovey to B. J. Snyder, LL2-81-0031, February 13, 1981.

Dear Mr. Hovey:

We have reviewed your letter of February 13, 1981 (reference 2), and have approved your request for relief from the requirements of Section XI of the ASME Boiler and Pressure Vessel Code in accordance with the provisions of 10 CFR, Part 50.55 (a)(g)(6)(i) with the following exceptions.

In addition to its design function as a decay heat removal system, other potential uses for the Mini-Decay Heat Removal System identified to date include a backup means of Reactor Coolant System pressure control in the event of failure of the Standby Pressure Control System, or the inability of the SPC system to maintain RCS pressure and inventory during a gross reactor coolant system leak or small break loss of coolant accident. Even though the MDHRS is one of several back-up modes available, it is identified as the preferred mode in your existing approved procedures. An accident analysis for the MDHRS that was reviewed and approved by the NRC in our Amendment of Order, dated November 14, 1980, assumed MDHRS isolation by the system's main isolation valves (MDH-V1, MDH-V2, MDH-V18, MDH-V19), and a complete draining of the Mini Decay Heat Removal System's volume onto the floor and into the drains of the auxiliary building. This analysis demonstrated that, provided the isolation valves perform their function as designed, the consequences of the postulated accident would be acceptable. This accident analysis also discusses the possibility of electrical energization of all pressurizer heaters (1638 KW) resulting in a volumetric expansion of the reactor coolant and requiring a compensating relief capacity of 8.6 gpm. The MDHRS has an installed relief capacity of 53.5 gpm. The NRC staff reviewed your results of this potential overpres-

surization event and performed an independent check, the results of which agreed with your conclusion. The balance of the valves in the MDHRS are either for maintenance convenience, flow control, or instrumentation isolation. While failure of any of these valves would necessitate the system being shutdown and isolated, they are not relied upon in the safety analysis.

The four isolation valves shall be inservice tested in accordance with the requirements of Article IWV-3000 of Section XI of the ASME Code at least once within 31 days prior to the initial system startup and in accordance with the ASME Code thereafter. In addition, each valve in the main flowpath of the MDHRS shall be locked in its emergency use position and verified to be in that position at least once per 31 days. The only exception to this valve positioning requirement would be for testing the pumps, after which the valves shall be returned to their emergency use position. The four pressure relief valves, MDH-V4A, MDH-V4B, MDH-V8A, MDH-V8B, were tested prior to installation, the results of which have been reviewed by the staff and accepted. Relief from additional testing is granted for these valves because of their passive role during normal system operation and ALARA considerations. It should be noted that we do not concur with your reasoning that additional valve testing promotes valve degradation. Our discussions with the diaphram valve vendor (ITT Grinnell) indicated that the valves in the MDHRS have sufficient conservatism built into their design to permit periodic cycling in accordance with the requirements of the ASME Code. Therefore, with proper operation, periodic cycling of these valves would not have been expected to degrade their reliability or increase their failure probability.

Therefore, based on the above discussion, all Mini-Decay Heat Removal System valves are granted exemption from the inservice testing requirements of the ASME Code with the exception of Main Isolation Valves MDH-V1, MDH-V2, MDH-V18 and MDH-V19.

Also, according to the above discussions on the present modes in which the Mini-Decay Heat Removal System would be used and as stated in existing approved procedures, we grant the requested relief from Article IWP-3000 of Section XI of the ASME Code and concur with your request to test each of the two MDHRS pumps on a 3 month staggered basis with each pump being tested every 6 months. Per your justifications in reference 1, we agree with your proposal to measure inlet pressure, differential pressure, and lubrication level according to the criteria of Article IWP-3000 and to measure vibration amplitude using velocity via the Vibralarm as a method of also monitoring bearing performance.

In summary, the TMIPO concurs with the proposed testing schedule for the Mini-Decay Heat Removal System pumps as discussed in reference 1. Full relief from Article IWV-3000 of the ASME Boiler and Pressure Vessel Code is granted for all valves in the MDHRS with the exception of the four main isolation valves MDH-V1, MDH-V2, MDH-V18 and MDH-V19. The four isolation valves shall be inservice tested in accordance with the ASME Code at least once within 31 days, prior to initial system startup, other than for pump testing, and shall be inservice tested per Article IWV-3000 after initial startup.

It is our position that the above described and approved inservice testing criteria for MDHRS pumps and valves and the positioning criteria shall be implemented (i.e., completion of the first periodic pump test and first verification of valve positions) within 7 days after receipt of this letter.

Sincerely,

Bernard J. Snyder, Program Director
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