



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

TERA

APR 18 1981

Docket No. 50-320



Mr. Gale K. Hovey  
Vice President and  
Director of TMI-2  
Metropolitan Edison Company  
P.O. Box 480  
Middletown, Pennsylvania 17057

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-

8104230003

4

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 IWB-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-V48, MDH-V8A, MDH-V88, 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 diaphragm 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 IWB-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 IWB-3000 after initial startup.

Mr. Gale K. Hovey

-3-

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  
TMI Program Office  
Office of Nuclear Reactor Regulation

POOR ORIGINAL

Mr. Dale Harty  
Metropolitan Edison Company

Mr. J. J. Berlin  
Manager, Site Operations, Unit 2  
Metropolitan Edison Company  
P. O. Box 480  
Harrisburg, PA 17107

Mr. E. J. Keller  
100-2 Licensing Supervisor  
Metropolitan Edison Company  
P. O. Box 480  
Harrisburg, PA 17107

Mr. E. S. Mallico  
Public Licensing Manager  
CPU Service Corporation  
100 Interstate Parkway  
Harrisburg, PA 17104

Mr. J. B. Sherman, Esquire  
Berkeco, Inc., 1800 E. Lawrence  
28 Broadway  
Camden, NJ 08104

Mr. S. F. Trumbull, Esquire  
Shaw, Pittman, Watts & Trumbull  
1600 M Street, N.W.  
Washington, DC 20036

Dr. Walter M. Jordan  
881 M. Inter Drive  
Sea View, PA 17136

Dr. Linda M. Little  
5000 Spruill Drive  
Raleigh, NC 27612

Carla A. Carter, Esquire  
509 Executive House  
P. O. Box 215  
Harrisburg, PA 17110

Marjorie Ann Cline  
512 E-3 Main Capitol Building  
Harrisburg, PA 17120

Ellen Wells, Esquire  
Shelton, Warren, Ballman & Wells  
1725 J Street, N.W., Suite 508  
Washington, DC 20006

Mr. Steven C. Thally  
354 S. Market Street  
Harrisburg, PA 17102

Mr. Thomas Gensky  
Bureau of Radiation Protection  
P. O. Box 208  
Harrisburg, PA 17105

Mr. Martin I. Lewis  
6504 Bradford Terrace  
Philadelphia, PA 19148

Mr. Jane Lee  
B. E. J., Box 1521  
Ettus, PA 17116

Walter M. Cohen, Counselor Advocate  
Department of Justice  
Strawberry Square, 18th Floor  
Harrisburg, PA 17107

Robert L. Smith, Esquire  
Assistant Solicitor  
Smith and Andrews  
P. O. Box 2  
427 N. Front Street  
Harrisburg, PA 17102

John E. Braccio, Chairman  
Shapiro Co. Board of Commissioners  
Shapiro County Courthouse  
Front and Market Streets  
Harrisburg, PA 17102

Robert C. Pallard  
Nuclear Energy Alliance  
608 Monaghan Street  
Baltimore, MD 21206

Chauncey Roberts  
John H. Johnson  
Environmental Coalition on Nuclear Power  
411 Dr. King Avenue  
State College, PA 16801

Mr. Frank Berginell, Chairperson  
Coalition for Nuclear Power Plant  
Relocation  
2610 Woodrow Drive  
Washington, DC 20008

Wally S. Katz  
Anti-Nuclear Group Representing 1000  
285 N. Pennsylvania Street  
York, PA 17404

John Lewis, Esquire  
Pennsylvania Public Utilities Commission  
P. O. Box 1261  
Harrisburg, PA 17102

Joseph J. Gendron, Esquire  
Law, Firm and Counselors  
320 N. Second Street  
Harrisburg, PA 17102

Mr. Edy McCaughey  
Three Mile Island Atoms, Inc.  
27 South First Street  
Harrisburg, PA 17102

Mr. Joseph W. Asmet  
B. S. 75  
Cantonville, PA 16829

Mr. Aaron Weisman  
Shelton, Warren, Ballman & Wells  
1725 J Street, N.W., Suite 508  
Washington, DC 20006

Earl B. Hoffman  
Shapiro County Commissioner  
Shapiro County Courthouse  
Front and Market Street  
Harrisburg, PA 17101

Government Publications Section  
State of Library of Pennsylvania  
Box 1801 Education Building  
Harrisburg, PA 17107

Dr. Edward J. Swartz  
Board of Commissioners  
Lancaster, PA  
105 St. George Church Road  
Ephrata, PA 17037

U. S. Environmental Protection Agency  
Region III Office  
ATTN: EIS Coordinator  
Curtis Building (5th Floor)  
6th and Walnut Streets  
Philadelphia, PA 19106

Shapiro County Office (Emergency)  
Emergency  
Court House, Room 7  
Front and Market Streets  
Harrisburg, PA 17101

Department of Environmental Resources  
ATTN: Director, Office of  
Regulatory Action  
P. O. Box 208  
Harrisburg, PA 17105

Commonwealth Office of State  
Planning and Development  
ATTN: Coordinator, Pennsylvania  
Trusteeship  
P. O. Box 157  
Harrisburg, PA 17102

Mr. Ralph D. Carr  
1602 Murray Drive  
Harrisburg, PA 17106

Mr. Richard Roberts  
The Patriot  
812 Market Street  
Harrisburg, PA 17102

Mr. Robert B. Berman  
Berman & Berman  
Nuclear Power Commission Division  
Suite 620, 7735 21st Georgetown Road  
Bethesda, MD 20814

John W. Smith, Esquire  
Atomic Safety and Licensing Board  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Atomic Safety and Licensing Board Panel  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Atomic Safety and Licensing Appeal Panel  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Secretary and Service Section  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

William Leichter  
130 South Lee  
Pennsylvania State University  
University Park, Pennsylvania 16802

Complete Chemicals, Inc./Man  
: Steps for a Safe Environment  
240 Walton Street  
Lancaster, PA 17604