January 5, 1978

Docket No.: 50-289

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Metropolitan Edison Company
ATTN: Mr. J. G. Herbein
Vice President
P. O. Box 542
Reading, Pennsylvania 19603

Gentlemen:

By letter dated November 18, 1977, you requested amendment of Facility Operating License No. DPR-50 for Three Mile Island Nuclear Station, Unit No. 1 (TMI-1). The requested amendment would change the code safety valve capacity stated in the basis for Technical Specification 3.1.1.3.

In the attachment to the above letter you state that the need for the change arises from the discovery that relief rate of the code safety valves as stated on the valve nameplate is less than the relief rate used in the original calculation of maximum reactor coolant system pressure following a postulated feedwater line break. The attachment to your letter also supplies the results of new calculations performed using the corrected relief rate and a trip string pressure delay time characteristic of the pressure sensors currently installed at TMI-1. These calculations indicate that the effect of these changes is to increase the peak reactor coolant system pressure from 2734.2 psig to 2734.5 psig. Because the corrected peak pressure remains below the safety limit of 2750 psig, as stated in Specification 2.2.1, and because the increase in peak pressure is only 0.3 psi, we conclude that there is no significant adverse effect on the health and safety of the public and no significant reduction in safety margin. Accordingly, we further conclude that there is no need to modify the facility limiting safety system settings as a result of discovery of this error.

Because the basis portion of facility technical specifications merely provides an explanation of the technical basis for license requirements, revision of the basis section does not require amendment of the license unless there are corresponding changes in operating requirements. Because the present change in this basis does not require a change in operating requirements, we are not amending the TMI-1 license, but rather are issuing the attached corrected page 3-2.

Sincerely,

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Attachment:
Corrected Page 3-2

cc w/attachment: See next page

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OFFICE ➤	ORB#4:DOR	ORB#4:DOR	C-ORB#4:DOR			
SURNAME ➤	RIngram	GZwetzig:rm	RReid			
DATE ➤	1/5/78	1/5/78	1/5/78			

Metropolitan Edison Company

cc w/enclosure(s):

G. F. Trowbridge, Esq.
Shaw, Pittman, Potts, & Trowbridge
1800 M Street, N.W.
Washington, D.C. 20036

GPU Service Corporation
Richard W. Heward, Project Manager
Mr. T. Gary Broughton, Safety and Licensing Manager
260 Cherry Hill Road
Parisppany, New Jersey 07054

Pennsylvania Electric Company
Mr. R. W. Conrad
Vice President, Generation
1001 Broad Street
Johnstown, Pennsylvania 15907

Mr. Weldon B. Arehart, Chairman
Board of Supervisors of Londonderry Township
RFD #1, Geyers Church Road
Middletown, Pennsylvania 17057

Miss Mary V. Southard, Chairman
Citizens for a Safe Environment
P. O. Box 405
Harrisburg, Pennsylvania 17108

Government Publications Section
State Library of Pennsylvania
Box 1601 (Education Building)
Harrisburg, Pennsylvania 17126

Dr. Edward O. Swartz
Board of Supervisors
Londonderry Township
R.F.D. #1 - Geyers Church Road
Middletown, Pennsylvania 17057

Mr. Harry B. Reese, Jr., Chairman
Board of County Commissioners of Dauphin County
Dauphin County Court House
P. O. Box 1295
Harrisburg, Pennsylvania 17120

Department of Environmental Resource
ATTN: Director, Office of Radiological Health
P. O. Box 2063
Harrisburg, Pennsylvania 17105

Chief, Energy Systems
Analyses Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agenc
Room 645, East Tower
401 M Street, S.W.
Washington, D.C. 20460

U. S. Environmental Protection Agenc
Region III Office
ATTN: EIS COORDINATOR
Curtis Building (Sixth Floor)
6th and Walnut Building
Philadelphia, Pennsylvania 19106

cc w/enclosure(s) & incoming dtd.: 11/18/77
Governor's Office of State Planning and Development
ATTN: Coordinator, Pennsylvania State Clearinghouse
P. O. Box 1323
Harrisburg, Pennsylvania 17120

Bases

The limitation on power operation with one idle RC pump in each loop has been imposed since the ECCS cooling performance has not been calculated in accordance with the Final Acceptance Criteria requirements specifically for this mode of reactor operation. A time period of 24 hours is allowed for operation with one idle RC pump in each loop to effect repairs of the idle pump(s) and to return the reactor to an acceptable combination of operating RC pumps. The 24 hours for this mode of operation is acceptable since this mode is expected to have considerable margin for the peak cladding temperature limit and since the likelihood of a LOCA within the 24 hour period is considered very remote.

A reactor coolant pump or decay heat removal pump is required to be in operation before the boron concentration is reduced by dilution with makeup water. Either pump will provide mixing which will prevent sudden positive reactivity changes caused by dilute coolant reaching the reactor. One decay heat removal pump will circulate the equivalent of the reactor coolant system volume in one half hour or less.

The decay heat removal system suction piping is designed for 300°F and 370 psig; thus, the system can remove decay heat when the reactor coolant system is below this temperature. (2, 3)

One pressurizer code safety valve is capable of preventing overpressurization when the reactor is not critical since its relieving capacity is greater than that required by the sum of the available heat sources which are pump energy, pressurizer heaters, and reactor decay heat. (4) Both pressurizer code safety valves are required to be in service prior to criticality to conform to the system design relief capabilities. The code safety valves prevent overpressure for a rod withdrawal or feedwater line break accidents. (5) The pressurizer code safety valve lift set point shall be set at 2500 psig ±1% allowance for error and each valve shall be capable of relieving 280,800 lb/h of saturated steam at a pressure not greater than three percent above the set pressure.

References

(1) FSAR, Tables 9-10 and 4-3 through 4-7

(2) FSAR, Sections 4.2.5.1 and 9.5.2.3

(3) FSAR, Section 4.2.5.4

(4) FSAR, Sections 4.3.10.4 and 4.2.4

(5) FSAR, Section 4.3.7

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