

A 09/26/78

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50-289

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DOCDATE: 04/20/78  
DATE RCVD: 04/24/78

DOCTYPE: LETTER NOTARIZED: NO

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SUBJECT:

LTR 1 ENCL 0

FURNISHING ADDL INFO TO APPLICANT'S LTR DTD 04/17/78 CONCERNING RESULTS OF A  
BOUNDING ANALYSIS TO JUSTIFY 2405 PSIG HIGH PRESSURE TRIP AND 2500 PSIG  
PRESSURIZER CODE SAFETY VALVE SETTINGS.

PLANT NAME: THREE MILE ISLAND - UNIT 1

REVIEWER INITIAL: XJM

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DISTRIBUTION: LTR 40 ENCL 0  
SIZE: 2P

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\*\*\*\*\* THE END \*\*\*\*\*

1489 001

7910240 79.6 P



METROPOLITAN EDISON COMPANY

POST OFFICE BOX 542 READING, PENNSYLVANIA 19603

TELEPHONE 215 - 929-3601

April 20, 1978  
GQL 0743

Director of Nuclear Reactor Regulation  
Attn: 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 1 (TMI-1)  
Operating License No. DPR-50  
Docket No. 50-289  
High Pressure Trip and Pressurizer Code Safety Valve Settings

Metropolitan Edison Company letter of April 17, 1978, GQL 0669, submitted the results of a bounding analysis to justify 2405 psig High Pressure Trip and 2500 psig Pressurizer Code Safety Valve settings. This bounding analysis assumed the following:

1. High Pressure trip occurs at 2450 psig (2405 psig setpoint plus 45 psi instrument error).
2. Pressurizer code safety valves open at 2545 psig (2500 psig setting plus 25 psi uncertainty plus 20 psi fluid acceleration delays for the water seal upstream of the safety valves).
3. Pressurizer code safety valves relief rate of 172 lbm/sec at 2500 psig.
4. Surge line K - factor of  $8.21 \times 10^{-5}$  lbf-sec<sup>2</sup>/lbm<sup>2</sup>/in<sup>2</sup> which based on actual TMI-1 as-built geometry yields conservative values of the pressure difference between the reactor coolant loop and the pressurizer.
5. Trip string pressure delay time of 500 ms (Characteristic of the 59PH sensor originally installed).

However, our letter of November 18, 1977, GQL 1520, identified two (2) changes that were not considered in the bounding analysis. They are,

1. Pressurizer code safety valves relief rate of 156 lbm/sec at 2500 psig (This was identified during an updating of the valve nameplate data).
2. Trip string pressure delay time of 450 ms (Characteristic of the Ros at sensor which was installed during the 1977 refueling outage).

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