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

February 11, 1981
NRC/TMI-81-009

Docket No. 50-320

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

Dear Mr. Hovey:

Subject: Design Criteria for Modification of Reactor Building Penetration #401

Reference: Your letter of December 23, 1980, TLL 684

The referenced letter contained your original submittal of "Design Criteria for Closure of Reactor Building Penetration 401". We have reviewed these criteria and requested several changes, additions and clarifications. They were discussed with your engineering and licensing staff and were incorporated into a revised submittal of the design criteria.

We have reviewed the revised design criteria and conclude that the criteria are acceptable for Modification of Reactor Building Penetration No. 401. A copy of the revised criteria as approved is attached to prevent any possibility of confusion as to the approved version.

Lake H. Barrett
Acting Deputy Program Director
TMI Program Office

Enclosure: As Stated

cc: See Service Distribution List

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Mr. Gale Hovey
Metropolitan Edison Company

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Washington, DC 20555

THREE MILE ISLAND UNIT #2

DESIGN CRITERIA

MODIFICATION FOR CLOSURE OF REACTOR BUILDING PENETRATION 401

APPROVED: B. Clam

DATE: _____

THREE MILE ISLAND UNIT 2

DESIGN CRITERIA

MODIFICATION FOR CLOSURE OF REACTOR BUILDING PENETRATION 401

1.0 SCOPE

This document provides criteria for design modification to Reactor Building penetration number 401 to provide a more permanent closure of the penetration, in consideration of future potential increase of building water level to the extent of flooding the penetration.

2.0 INTRODUCTION

Penetration 401 was modified in late Summer 1979 to allow access to obtain samples of the building sump water. Following successful completion of the sampling program, further design changes were made to use the penetration for building water level measurement, by addition of a manometer system to the sampling tubing. The penetration has remained in this basic configuration to date, to allow daily water level measurements. The present configuration is described by Reference 1 and Reference 2. The intended modification will remove the 12-inch gate valve and the special cover assembly outboard of the valve. A welded closure assembly will then be added. Provisions shall be made to obtain valid water level measurements at least once every 48 hours during installation of the modification. This modification is not intended to return the penetration design to the pre-accident condition nor to qualify the penetration for plant restart.

3.0 DESIGN REQUIREMENTS

3.1 Codes and Standards

3.1.1 Design and fabrication shall be in accordance with applicable portions of ANSI B 31.7, ~~as delineated herein~~

3.1.2 Welding shall be in accordance with ASME Section IX.

3.2 Design Pressure and Temperature

The penetration shall be designed for the positive pressure corresponding to the maximum allowable water level in the Reactor Building, as well as 2.5 psi vacuum condition. Design temperature range shall be 50°F to 100°F.

3.3 Design Loads

Design shall consider dead weight and pressure loads, and accelerations applicable to the plant safe shutdown earthquake, without loss of function.

4.0 MATERIALS

New pressure boundary ferrous materials shall be in accordance with the requirements of ANSI B31.7, including identification, traceability, and certification of test results. Tubing, fittings, and valves associated with the level measuring instrumentation shall be of commercial grade with certificates of conformance provided.

5.0 TESTING

All new welds shall receive visual plus liquid penetration inspection. Radiography of welds will not be performed.

6.0 QUALITY ASSURANCE

Design, procurement, fabrication, and testing are within QA scope, as defined in applicable sections of "TMI-2 Recovery QA Plan".

7.0 REFERENCES

7.1 Drawing JS061780, Revision 0 - Three Mile Island Unit #2, Containment Penetration No. 401, M20 area.

7.2 Three Mile Island Unit #2 procedure 2104-4.47, Instrument Hookup, Measurement and Removal for Reactor Building Sump Level Determinations.