

METROPOLITAN EDISON COMPANY

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June 7, 1972

Mr. Lawrence D. Low, Director
Directorate of Regulatory Operations
United States Atomic Energy Commission
Washington, D.C. 20545

50-219

Dear Mr. Low:

SUBJECT: THREE MILE ISLAND UNIT NO. 1
AEC CONSTRUCTION PERMIT NO. CP-PR-40
REPORT OF SIGNIFICANT DEFICIENCY/THIN WALLED VALVES

This is the interim report of a significant deficiency as required by the new amendments to 10 CFR 50, Section 50.55 - "Conditions of Construction Permits" effective April 29, 1972.

(A) DESCRIPTION OF SIGNIFICANT DEFICIENCY

An audit of the Crane Company at Indian Orchard, Massachusetts, was conducted during April 4 and 5, 1972. Three cast stainless steel valves being manufactured for use in Three Mile Island Unit No. 1 were found by the Audit Team to have nozzle wall thicknesses less than that required by the Code/Standard invoked by the A/E's specification. These valves are:

<u>B/M No.</u>	<u>Size</u>	<u>System</u>	<u>Valve Tag</u>	<u>Wall Thickness Required B 16.5*</u>	<u>Thickness Measured Inches</u>
RO-75	10"	Decay Heat	DH-V-22A	1.718	1.60
RO-75	10"	Decay Heat	DH-V-22B	1.718	1.65
RC 76	4"	RC Pump Seals	MUV-116	0.750	0.52

* 1500 lb. CF8M

(B) ANALYSIS OF THE SAFETY IMPLICATION

Does not meet the code requirements for valves used in nuclear power plants as set forth in Section 50.55a of 10 CFR Part 50.

(C) ACTION TAKEN - VENDORS' SHOPS

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1. Valve vendors having Purchase Orders for cast stainless steel valves for TMI Unit No. 1 and TMI Unit No. 2 were directed to suspend shipment to TMI of all buttweld end valves in nuclear Class N-1 and N-2 and Seismic Class 1 piping systems.

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2. Valve vendors were instructed to verify valve wall thicknesses by physical examination in a manner acceptable to the purchaser. The data developed by the vendor from this inspection shall be presented for review and approval prior to shipment.

The vendors were directed to take wall thickness measurements at:

- (a) Each nozzle end
 - (b) Below bonnet flange
 - (c) Bonnet
3. Non-conforming valves are to be maintained on "Hold" pending results of an engineering evaluation.
 4. United Engineers & Constructors (UE&C) were directed to proceed with formal audits of valve vendors' shops with objective of accumulating information and data that will assist GPU Service Corporation (GPUSC) in assigning a confidence level to each vendor.
 5. All valves as defined in (C)-1 above are to receive vendor surveillance by UE&C prior to release for shipment.
 6. Babcock and Wilcox was directed to conduct a similar program for valves under their scope of supply. The data is to be presented to GPUSC for review and approval prior to shipment.

(D) ACTION TAKEN AT THE TMI CONSTRUCTION SITE

1. Valves not installed and as defined above in (C)-1 will be:
 - (a) Inspected for wall thickness at each nozzle end, 4 places 90" apart. The valve wall thickness is defined as just beyond the point at which the machining for the weld prep ends, i.e., the unmachined portion of the valve nozzles.
 - (b) Visually inspected internally for evidence of core shift and externally for any discrepant condition.
 - (c) Accorded an additional review of vendor submitted documentation and data for verification of specification requirements.
2. Valves installed and as defined in (C)-1 will be:
 - (a) Investigated in accordance with a program that will be formulated from evaluation of the data developed from action described in (C)-4 above.

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(E) INSPECTION CRITERIA

1. Wall thickness per USAS B16.5 1968, "Draft Pump & Valve Code," MSS-SP66 or Section III, i.e., whichever code or standard is specified as governing in the purchase order is to be the basis for acceptance.

(F) ENGINEERING EVALUATION

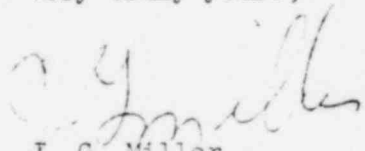
1. Vendor to supply engineering justification of non-conforming valves for review and approval or disapproval by Gilbert Associates, Inc. (for Unit No. 1 - TMI) and Burns & Roe, Inc. (for Unit No. 2 - TMI) to support GPUSC evaluation of non-conforming aspects.

(G) CORRECTIVE ACTION

1. All manufacturers supplying valves for TMI Units No. 1 and No. 2 in the categories defined in Paragraph (C)-1 will be required to verify to the satisfaction of the owner that they are producing their product in accordance with all requirements of applicable specifications.
2. For placement of new orders and remainder of valves not shipped on existing purchase orders, this verification will be determined prior to placing the order or shipping the remaining valves.
3. Valves on site or at vendors' facilities that are found to be non-conforming will have documented engineering evaluation showing the technical basis and reasons for acceptance of the non-conformance.

This deficiency was reported orally to the Office of the Division of Compliance, Region 1, Newark, New Jersey, on April 26, 1972. We will continue to keep the AEC advised as to the results of the program, as it continues.

Very truly yours,


J. G. Miller
Vice President

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