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October 14, 1996  
E000-96-017  
6710-96-2345

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

Gentlemen:

Subject: Three Mile Island Nuclear Station, Unit 1 (TMI-1)  
Operating License No. DPR-50  
Docket No. 50-289  
Reply to Notice of Violation

Reference: NRC Letter dated September 13, 1996 "NRC Integrated Inspection  
Report No 50-289/96-05 and Notice of Violation"

The referenced letter enclosed a Notice of Violation in regard to the Motor Operated Valve (MOV) Program. Pursuant to the provisions of 10 CFR 2.201, Attachment I to this letter provides the GPU Nuclear response to the Notice of Violation.

Sincerely,

R. W. Keaten  
Vice President Engineering

MRK

Attachments

cc: TMI Senior Resident Inspector  
TMI-1 Senior Project Manager  
Region Administrator

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### NOTICE OF VIOLATION

10 CFR 50, Appendix B, Criteria III, Design Control, states that "Measures shall be established to assure that applicable regulatory requirements and the design basis... are correctly translated into specifications..." and "The design control measure shall provide for verifying or checking the adequacy of design..."

The Licensee's "GPU Nuclear Operational Quality Assurance Plan," section 4 "Design Control," Paragraph 4.2.9 states, in part: Design verification procedures shall be established.....

Procedure 5000-ADM-7311.02 (EP-009) "Design Verification," section 4.3 "Verification Process," Paragraph 4.3.1 states: Design input shall be verified by comparing the documented input with the source reference, and by checking the validity for the intended use. All assumptions shall be evaluated and verified to be based on sound engineering principles and practices. Paragraph 4.3.8 states: In addition to the responsibilities of a Design Verification Engineer, the Lead Design Verification Engineer is responsible for the overall design verification and for assembling the design verification package. This includes interfacing with the Design Engineers and Managers to coordinate the overall design verification effort. Section 4.9 "Documentation of Design Verification," Paragraph 4.9.7 states, in part: The verification package shall be completed by the Lead Design Verification Engineer to document the completed design verification.

Contrary to the above, the inspectors could not confirm "valve factor" inputs to the calculations which establish design basis functionality of motor operated valves in safety related applications. The licensee did not verify or document, in accordance with procedure 5000-ADM-7311.02 (EP-009) "Design Verification," the valve factors for Motor Operated Valves RC-V-2 (Power Operated Block Valve) and FW-V-92A&B (Startup Feedwater Block Valves).

This is a Severity Level IV violation (Supplement IV).

### GPU NUCLEAR RESPONSE TO THE NOTICE OF VIOLATION

GPU Nuclear acknowledges that the violation occurred as stated in the Notice of Violation presented in NRC Inspection Report No. 50-289/96-05.

#### Reason for the Violation

A method of selecting valve factors for the Generic Letter (GL) 89-10 Motor Operated Valve (MOV) Program was employed which included a survey of industry data for applicable valve factors. This data was collected, evaluated and valve factors were selected. This process involved judgement in assessing the data to determine applicability and accuracy. Since the selection involved a large amount of judgment, the individuals involved did not perceive the process as a calculation that needed verification. The results were reviewed and documented as an Appendix to the Program Description which was also reviewed and signed. Verification of the appropriateness of the input survey data in accordance with the design verification procedures

was not performed. The valve factor values were used as input to thrust calculations which were design verified, but the valve factors were not design verified as part of this process.

A root cause review determined that the individuals involved in the MOV Program 1) did not adequately document the methodology used for selecting valve factors and 2) did not recognize the need to perform a design verification on a process which involved making judgments vice performing a "calculation." The root cause assessment found that the methodology should have been more thoroughly documented and that a design verification should have been performed for all valve factor selections. Contributing factors to this assessment is that management did not view the need for design verification broadly enough.

#### Corrective Actions Taken

GPU Nuclear met with the NRC on July 22, 1996 to discuss the NRC inspection findings; and our commitments regarding additional work to support NRC closure of the GL 89-10 MOV Program were provided in a letter dated August 5, 1996. Included is a commitment to re-review the MOV Program.

The methodology for selecting new valve factors has been established and is being implemented as part of the re-review of the MOV Program.

#### Corrective Action Planned

1. The valve factors selected during the re-review of the MOV Program will be design verified.
2. Design verification procedures will be reviewed to determine the need for additional guidance.
3. Training will be conducted to clarify the review required for design inputs during design verification to assure that input data is reasonable, appropriate and accurate. This will include recognizing the need for design verification for activities affecting the design basis.

#### Date When Full Compliance Will Be Achieved

Additional work to support NRC closure of the MOV Program including the design verification of valve factors is scheduled for completion by January 31, 1997 as committed to in our letter of August 5, 1996.

Training to clarify the applicability of design verification for activities affecting the design basis will be included in the next cycle of Engineer Support Personnel (ESP) training, which is scheduled for completion by April 30, 1997. Any additional procedural clarifications found to be needed will be covered by this training.

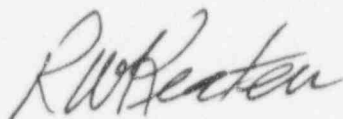
Those individuals directly involved with the MOV Program are aware of the design verification issues associated with this violation.

METROPOLITAN EDISON COMPANY  
JERSEY CENTRAL POWER AND LIGHT COMPANY  
PENNSYLVANIA ELECTRICAL COMPANY  
GPU NUCLEAR INCORPORATED

Three Mile Island Nuclear Station, Unit 1 (TMI-1)  
Operating License No. DPR-50  
Docket No. 50-289

Reply to Notice of Violation transmitted by letter  
(NRC Inspection Report No. 50-289/96-05) dated September 13, 1996

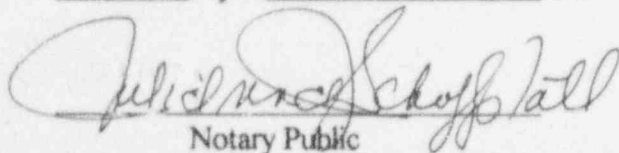
This letter is submitted in response to the Notice of Violation transmitted by letter dated September 13, 1996 (NRC Inspection Report No. 50-289/96-05) which refers to the inspection completed on August 3, 1996 at Three Mile Island Nuclear Station Unit 1 (TMI-1). All statements contained in this response have been reviewed, and all such statements made and matters set forth therein are true and correct to the best of my knowledge.



R.W. Keaten  
Vice President Engineering

Signed and sworn before me this

14 day of OCTOBER 1996

  
Notary Public

JULIENNE J. SCHOFFSTALL  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires June 24, 1997