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May 20, 1985
5211-85-2096

Dr. Thomas E. Murley
Region I, Regional Administrator
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pa. 19406

Dear Dr. Murley:

Three Mile Island Nuclear Station Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Notice of Violation for Inspection 85-02

Attached to this letter is the GPUN response to Appendix A of Inspection Report 50-289/85-02, "Notice of Violation."

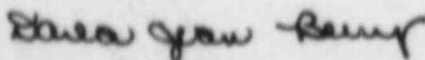
Sincerely,


H. D. Hukill
Director, TMI-1

HDH/SMO/spb
Attachment

cc: R. Conte
J. Thoma

Sworn and Subscribed
to before me this 20th
day of May, 1985.



DARLA JEAN BERRY, NOTARY PUBLIC
MIDDLETOWN, BERG, LANPHER COUNTY
MY COMMISSION EXPIRES JUNE 17, 1985
Member, Pennsylvania Association of Notaries

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NOTICE OF VIOLATION

As a result of the inspection conducted on January 8 through February 22, 1985, and in accordance with the NRC Enforcement Policy (10 CFR 2, Appendix C), published in the Federal Register on March 8, 1984 (49 FR 8583), the following violation was identified:

Criteria III of Appendix B to 10 CFR 50, requires the establishment of measures to assure that applicable regulatory requirements and design basis for important to safety structures and components are correctly translated into specifications, drawings, procedures and instructions. It also requires the establishment of design control measures to provide for verifying or checking the adequacy of design using acceptable verification methods.

1. Section 4.1 of the GPU - Operational Quality Assurance Plan also states that measures will be established to assure that regulatory requirements are translated into specifications, drawings, procedures and instructions. Section 4.2 of the QA Plan also provides similar requirements for design verification as those specified in Criteria III above.

The Main Steam Vent Stack piping modifications are performed to Installation Specification TI-IS-412024-001, and in accordance with ANSI B31.1 Power Piping Code. Section 121 of ANSI B31.1 requires that design of pipe supporting elements provide for movement of the piping with thermal changes without causing overstress.

2. Furthermore, the Engineering Procedure EP-009 for design verification requires the reviewer to check for physical interface requirements for structures, systems, and components with supporting statements as required. The procedure also provides instruction for performing the design verification in accordance with ANSI N 45.2.11. Section 6.1 of the ANSI standard provides similar requirements to those stated in Criteria III of Appendix B to 10 CFR 50 regarding the establishment of measures to provide for verifying or checking the adequacy of design.

Contrary to the above:

1. Main Steam Vent Stack piping support No. MS-310 was installed to design drawing No. 0370-039-015 (Revision 2), which provided a tolerance on the clearance between the piping and the support of 0-1/16". The installation clearance provided was insufficient to permit the thermal growth and movement of the piping without overstress.
2. The licensee performed design of the Reactor Coolant Loop Venting pipe hanger No. MC.RC.107 in calculation No. C-1101-222-5320-002. The hanger is supported eccentrically from an existing structural steel beam, and induces a torsional moment of approximately 30 in.kips as a result of a steam hammer load. Evaluation of the interface was marked on the verification checklist as being performed. However, no supporting design calculation was provided by the licensee to substantiate the evaluation exists or to assure the adequacy of the interface.

RESPONSE TO VIOLATION

The two cases cited in the Notice of Violation will be addressed separately. GPUN does not believe these incidents were caused by deficiencies in the technical competence of the personnel involved or the design verification process, rather they are two isolated incidents where judgement was used to interpret a situation.

- (1) The installation of Support MS-310 with insufficient clearances was due to the interpretation of the clearances as noted on Dwg. 0370-039-015, Rev. 2 in a manner not anticipated by the Engineering/Design Contractor (Impell). This represented Impell's initial pipe support design effort at TMI-1. A deficiency arose relating to developing appropriate terminology to accurately translate required pipe clearances to design drawing details in a manner that would be correctly interpreted by construction personnel, yet would provide them with sufficient tolerance to permit installation.

The intent to provide clearance to permit radial pipe growth had been clearly demonstrated by the drawing progression from Revisions 0 through 2. The initial issue of the support detail had provided pipe clearances (1/16" typical all horizontal directions) in accordance with Impell design standards. With issue of Revision 1 of the subject drawing, a note to provide installation clearance tolerance was included (1/16" typical with total clearance to be equal to but not exceed 1/8"), at the request of construction personnel. Subsequently, the redesign of supports MS-309 through MS-312 and the elimination of supports MS-313 through MS-320 required updating the drawing to Revision 2. As part of this revision, a clarification of the pipe clearance tolerance was made to resolve the ambiguity of the previous note and the note was removed because it was believed to be no longer needed. This unintentionally permitted the installation of this support with 0" clearance to the pipe.

Corrective action was taken immediately upon identification of the problem in the form of an evaluation performed by the Contractor to assess the effects of the as-built support clearances. This resulted in the issuance of revised design details for support MS-310 (see drawing No. 0370-039-015, Rev. 3). Modification of this support was expeditiously performed.

In addition, a review of all other pipe supports designed by Impell for TMI-1 was conducted to confirm that appropriate clearances were provided in each case. This review confirmed that Rev. 2 of Dwg. 0370-039-015 contained the only specified clearance that could be subject to interpretation.

- (2) The NRC Inspector alleged that a design verification was not adequately performed for the interface of Reactor Coolant Loop Venting pipe hanger No. MC-RC-107 to existing structural steel because no design calculation was performed. This calculation was not performed because the design engineer and the design verification engineer determined it to be unnecessary. GPUN considers engineering judgement to be appropriate in many cases and accepts it as rationale for not performing the design calculation in this case. We agree that the engineers were not in full compliance with the company procedure when the verification checklist was marked to indicate the evaluation of the interface had been performed without providing documentation that engineering judgement had been used.

The design calculation for the interface has been performed. The results document and substantiate that engineering judgement was correct.

In conclusion, the two situations identified have been corrected. GPUN believes they are isolated incidents and are not indicative of a programmatic problem with design verification.