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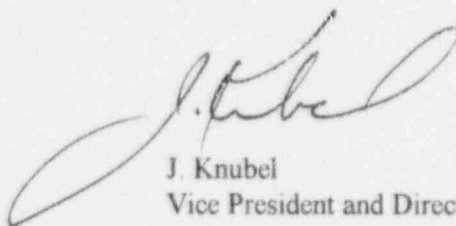
U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

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

Dear Sirs:

Attached is the GPU Nuclear reply to the Notice of Violation, 96-06-01, transmitted as Enclosure 1 to NRC Integrated Inspection Report Nos. 50-289/96-06.

Sincerely,



J. Knubel  
Vice President and Director, TMI

AWM

cc: TMI-1 Senior Resident Inspector  
TMI-1 Senior Project Manager  
NRC Regional Administrator, Region I

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NOTICE OF VIOLATION - 96-02-01

During an NRC inspection, conducted August 4, 1996 - September 28, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (40 FR 34381; June 30, 1995), the violation is listed below:

Technical Specification (TS) 6.12.1a states, in part, that "Each high radiation area in which the intensity of radiation at 30 cm (11.8 in ) is greater than 100 mrem/hour deep dose but less than 1000 mrem/hour shall be barricaded and conspicuously posted as a High Radiation Area."

Contrary to the above, on August 7, 1996, a posted high radiation area located on the 281 foot elevation of the Auxiliary Building in the 'B' emergency safeguards vault area, with dose rates up to 300 to 500 mrem/hour on contact and 90 mrem at 30 cm, was not barricaded as a High Radiation Area for a period of three hours.

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

GPU NUCLEAR RESPONSE TO NOTICE OF VIOLATION 96-06-01Background

At approximately 2000 hours on August 7, 1996, a swing gate barrier at the entrance to a posted High Radiation Area on the 281' elevation Auxiliary Building 'B' Shielded Area was found open. The radiological posting for the 'B' Shielded Area had been changed on dayshift to extend the High Radiation Area boundary in order to better accommodate work activities in the area. The area was inspected by a Radiological Controls Supervisor at 1700 hours, who found the area to be appropriately posted. After a shift change, and during a routine tour of the Auxiliary Building, an Operator identified the newly installed High Radiation Area swing gate at the B Shielded Area as propped in full open position at 2000 hours. The swing gate in that position did not provide a barrier to the area, as required by Three Mile Island Unit 1 Technical Specification 6.12.1.a. An Operations Foreman and Radiological Controls Supervisor were subsequently notified, and the swing gate was returned to its proper position. Notifications were made to TMI management, a radiation survey of the area was performed, and a TMI Event Capture Form was initiated.

**Reason for the Violation**

Investigation of this event concluded that propping open this High Radiation Area barrier was not an accident or error, it was a deliberate act. Probable reasons for the propped open swing gate barrier include ease of moving material in or out of the area, or ease of protective clothing removal by personnel exiting the area.

**Corrective Steps Taken and Results Achieved**

A full-scale investigation of the incident was initiated by TMI management the following day. The investigative team consisted of members from Operations & Maintenance, Radiological Controls, Nuclear Safety Assessment, and Corporate Security. A determination was made that the swing gate was propped open between 1700 hours and 2000 hours on August 7, 1996. In addition, a reenactment of the 'as found' swing gate by the Operations Foreman and the investigative team indicated that the gate had to be deliberately propped open; that it could not have been accidentally or inadvertently left in the open position. A list was obtained by Security of all personnel that would have had access to the area in the time frame. The investigative team immediately commenced an aggressive interview process of those personnel, resulting in the interview of 32 personnel over the next 9 days in order to gather information on the incident. None of the personnel interviewed indicated that they opened the High Radiation Area gate, nor heard of anyone who had left open the gate, during the time frame in question.

As a result of the incident, several short-term corrective actions were taken:

A walkdown of all High Radiation Area barriers was performed by Radiological Controls Supervision after the incident. Several of the High Radiation Area swing gates were moved in order to provide an easier and more convenient access point for personnel requiring entry and exit from those areas.

Previous TMI High Radiation Area barrier violation corrective actions were reviewed, which included posting equipment improvements such as attaching 'Tech Spec Required Barrier' signs to the stanchions and the upgrading of the boundary rope supporting material. Also, several memoranda to site personnel from TMI management had been previously issued concerning personal accountability, self-checking, and adherence to safety and radiological rules. These memos were followed up by numerous site management/employee meetings held to reinforce management's expectations of improved performance in this area. These previously initiated corrective actions are still appropriate.

**Corrective Steps to be Taken to Avoid Further Violations**

Radiological Controls has instituted a program of physically verifying proper positioning of the High Radiation Area barriers and posting on a shift basis, documented in the Rad Con Shift Log. This action not only emphasizes management's desire for proper High Radiation Area postings, but provides a Radiological Controls Department presence and reinforces to all plant workers the need to comply with the posting requirements.

As part of the interview process, the investigative team asked the personnel for suggestions and recommendations to improve the Radiological Controls program with respect to High Radiation Area posting and control. A summary is provided below:

- *'The majority of recommendations were to reduce to a minimum the number of conservative High Radiation Area postings at TMI.'* There is an ongoing effort at TMI to reduce the number of High Radiation Area postings by means of improved radiation surveys to identify the contributors to plant dose rates, partial system flushes of hot spots in piping, and judicious use of hot spot shielding to lower dose rates. The TMI Operations ALARA Working Group has been tasked with identifying opportunities for plant dose rate reduction, in part, to optimize the placement of High Radiation Area postings. With respect to the plant location of this violation, subsequent to the work activities in the B Shielded Area a thorough radiation survey was performed and the area was completely deposed as a High Radiation Area.

- *'Use of turnstiles, instead of swing gates, to ensure that a physical barricade is in place at all times for High Radiation Area access points.'* Radiological Controls reviewed this recommendation, and determined that a more effective means of ensuring an immovable physical barrier at area access points is to permanently anchor the swing gates, and other barriers, to plant structures. Anchoring of High Radiation Area postings in the TMI-1 Reactor Building was accomplished during the September 1995 11R outage, with favorable results. Those successes will be built on by installing permanent anchors at selected locations outside the Reactor Building. Job Orders have been processed and the work has been scheduled for December 1996 to install anchors at two locations in the Auxiliary Building, with additional anchor installation under consideration for 1997.

- *'Installation of buzzers or lights on the swing gates that will energize whenever a gate is open.'* Radiological Controls evaluated these suggestions, along with 'talking signs'. Based on mixed results at other power stations, and the maintenance/operational difficulties of these devices, it was determined not to pursue these alternatives.

- *'Placement of video cameras at High Radiation Area access points.'* The use of video cameras at High Radiation Area access points was evaluated by Radiological Controls and determined not to be a reasonable method of ensuring compliance with the posting requirements.

- *'Increase worker sensitivity of the issue.'* The department directors for Operations, Maintenance, and Radiological Controls initiated meetings with all TMI supervision to raise the level of performance to conform with management's expectations at TMI. A key area stressed in the meetings was that all supervision and employees, not just Radiological Controls, are responsible and will be held accountable for adhering to radiological controls rules and requirements. A specific example discussed at the meetings was the TMI workforce's problems with High Radiation Area boundary controls. Management also discussed this Notice of Violation and the ramifications of future problems of this nature. In addition to the above meetings, the weekly GPU Nuclear newsletter will have an article during December 1996 discussing this Notice of Violation, and a description of the High Radiation Area posting violation will be included in General Employee Training in early 1997.

**Date when Full Compliance will be Achieved**

GPU Nuclear considers that full compliance has been achieved. Improvements to the Radiological Controls program concerning High Radiation Area postings, and increased worker sensitivity to these issues, will be an ongoing process at TMI.