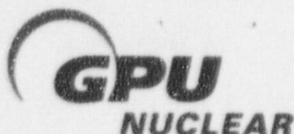


GPU Nuclear, Inc.
Route 441 South
Post Office Box 480
Middletown, PA 17057-0480
Tel 717-944-7621

April 17, 1998
1920-98-20123, Revised

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

Dear Sir:

Subject: Three Mile Island Nuclear Station, Unit 1, (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Response to Notices of Violation (NOV) 97-09-02, dated January 27, 1998
And NOV 97-10-01, dated February 26, 1998
CORRECTED COPY

The attachment to this letter transmits the GPU Nuclear (GPUN) Inc. responses to the NOVs referenced above. Each violation identified in the NOVs is addressed separately to include: (1) the reason for the violation; (2) corrective actions taken and results achieved; (3) corrective actions to be taken, if applicable, to avoid future violations; and (4) the dates of full compliance achievement. The public health and safety were not affected by these events.

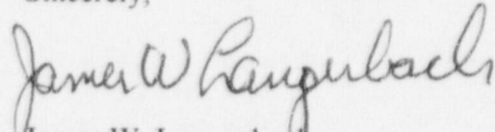
The two violations involved procedural non-compliance and usage issues. While we determined that the root causes for each event were different, we have concluded that programmatic improvements should be considered in addition to the specific actions identified in this response. We plan to expand the list of applicable procedures required by administrative controls to be carried and signed off during performance of plant evolutions by June 30, 1998. We also plan to conduct a self-assessment and benchmarking review of the procedural controls currently in place. The review will consider industry guidance and good practices employed by other nuclear plants to determine what changes should be made to improve procedure control or usage at TMI. The target date for completion of this review is September 30, 1998. A schedule for the development and implementation of requisite improvements is expected to be in place by October 31, 1998.

9804280294 980417
PDR ADOCK 05000289
G PDR

1/1
IE01

This NOV response is being submitted pursuant to the requirements of 10 CFR 2.201, and contains no information subject to the provisions of 10 CFR 2.790(b). If you have any questions concerning this matter please contact Mr. G. M. Gurican, Sr. II Nuclear Safety & Licensing Engineer, at TMI phone No. (717) 948-8753.

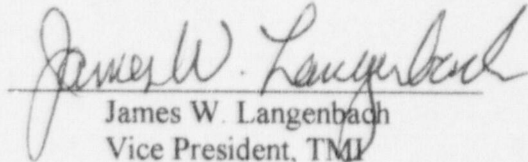
Sincerely,



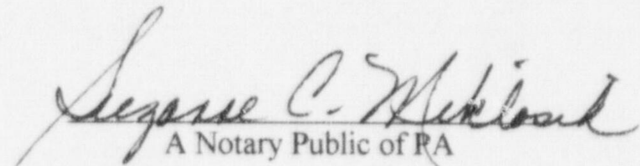
James W. Langenbach
Vice President and Director, TMI

JWL/GMG
Attachment

I, James W. Langenbach being duly sworn, state that I am the TMI Vice President and an Officer of GPU Nuclear, Inc. and that I am duly authorized to execute and file this response on behalf of GPU Nuclear. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other GPU Nuclear employees and/or consultants. Such information has been reviewed in accordance with company practices and I believe it to be reliable.



James W. Langenbach
Vice President, TMI
GPU Nuclear, Inc.



A Notary Public of PA

Notarial Seal
Suzanne C. Mikiosik, Notary Public
Londonderry Twp., Dauphin County
My Commission Expires Nov. 22, 1999
Member, Pennsylvania Association of Notaries

cc: NRC Administrator Region I
TMI Senior Resident Inspector
TMI Project Manager
File Nos.: 97105 and 98053

CORRECTED COPY

ATTACHMENT

RESPONSE TO NOTICES OF VIOLATION
January 27, 1998, IR 50-289/97-09-02 (EA 97-533)
And February 26, 1998, IR 50-289/97-10-01

Notice of Violation 97-09-02

Technical Specification (TS) 6.8.1 requires, in part, that Written procedures be implemented covering the applicable procedures recommended in Appendix 'A' of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33, Appendix 'A', Section 3.0 recommends, in part, instructions for filling and venting the reactor coolant system (RCS) and for operation of decay heat removal systems.

Operating procedure (OP) 1103-2, "Fill and Vent of the Reactor Coolant System," section 3.1.2, step 17.c, requires, in part, that when the level at the center control rod drive mechanism (CRDM) is observed at one to two feet below the top, terminate the RCS fill and hold level.

OP 1104-4, "Decay Heat Removal System," section II of Enclosure 2, "Make Up to the RCS Directly from the BWST," provides a caution that make up to the RCS directly from the borated water storage tank (BWST) must be carefully monitored since large volumes of water can be transferred very rapidly. Step 1 of section II states, in part, that controlling the level in the RCS using this method is not considered to be, nor should it be, used as a major RCS fill and vent method.

Contrary to the above, on October 15, 1997, the licensee failed to properly implement operating procedures 1103-2 and 1104-4 while filling and venting the RCS following a refueling outage. Specifically, while filling the RCS from the reactor coolant bleed tank (RCBT) in accordance with OP 1103-2, make up to the RCS was established directly from the BWST, contrary to the instructions in Enclosure 2 of OP 1104-4. The additional makeup caused a prompt rise in pressurizer level. Even though the operators observed the level increase in the control room terminated the RCS fill from the RCBT, the makeup from the BWST was not immediately terminated due to communications difficulties. Consequently, approximately 50 gallons of RCS water overflowed out of the CRDM vents onto the reactor vessel head area.

GPUN Response:

1. Reasons for Violation

GPUN agrees with the violation. In this event, the Shift Supervisor (SS) used poor judgement and inappropriate procedural implementation during the performance of the RCS fill and vent evolution by establishing a flow path from the BWST at a time when it was inappropriate to do so because of the potential for overfill. The SS did not understand Management's expectation that the BWST would not be used for filling the RCS when the pressurizer level was above 100 inches; and, the SS incorrectly assumed that he was filling to 390 inches and thought that he needed much more water than was available in the Reactor Coolant Bleed Tank.

In addition, the evolution was started during a shift turnover, and supervisory methods and verbal communications between team members were less than adequate; also, the use of improper communications equipment contributed to a delay in event termination.

2. Corrective steps taken and results achieved.

   a. **The inappropriate actions of the Shift Supervisor (SS) in this event were reviewed with the individual, with special emphasis placed on his behavior and opportunities missed that would have prevented this event. The SS was disciplined and directed to participate in a personal development program to improve both teamwork and communications techniques. Specifically, the improvement program addressed the need to learn positive feedback techniques and abilities that foster acceptance of constructive criticism and teamwork coherence as both a member and team leader of the crew.**

   b. A revision of OP 1104-4 has been made to provide a more specific warning that addresses the use of the BWST as a fill source to strictly prohibit its use when the pressurizer level is at 100 inches or above. This revision also adds signoff requirements to specific steps within the procedure.

   c. Management has issued instructions to all crews concerning its expectations with respect to the inappropriateness of performing significant plant evolutions while a shift turnover is in progress. Management has reemphasized the need for strict procedural compliance as well as the need to have a questioning attitude.

   d. Procedural compliance has been stressed with all crews including the requirements: to have procedures available; to properly signoff procedural steps for significant evolutions; and, when procedures are not available, to obtain the procedure and resolve any questionable issue prior to conduct of the evolution. These Management expectations were documented in an internal memorandum to all departments from the Director of Operations & Maintenance.

   e. Communication enhancements have been made with the modification of the format for conducting the Operations Department outage shift turnover meeting. This has been accomplished by the inclusion of a final summary "repeat back" by the oncoming Shift Supervisor, prior to concluding the meeting, in order to ensure understanding of direction and intent.

   f. By memo from the Plant Operations Director to all Shift Supervisors and crews the use of appropriate communications equipment, specifically the M&I phone system, are to be used for significant plant evolutions that require numerous transmissions of detailed information.

CORRECTED COPY

3. Corrective steps to be taken to avoid further violations.

a. The listing of significant evolutions requiring specific procedures for implementation identified in AP-1001G, "Procedure Utilization," will be expanded to meet Management's expectations informally communicated by the Director of Operations and Maintenance via internal memorandum dated March 3, 1998. This expansion of AP-1001G will increase the number of evolutions that require having a procedure in-hand when performing the evolution.

b. (1) To achieve a higher standard of administrative controls, GPUN intends to make programmatic improvements to strengthen procedural compliance and documentation. A self-assessment and benchmarking review of procedural controls and usage at TMI will be conducted, considering industry good practices and guidance. (2) The implementation of any requisite improvements in procedural controls/usage resulting therefrom will be instituted by changes to affected procedures.

4. Dates of full compliance.

Full compliance has been achieved

Corrective action 3.a will be completed by June 30, 1998. Corrective action 3.b (1) will be completed by September 30, 1998; and, the schedule for implementation of the requisite procedure changes 3.b.(2) will be developed by October 31, 1998.

Notice of Violation 97-10-01

Technical Specifications 6.5.1.1, "Technical Review and Control," and 6.8.2, "Procedures and Programs," require, in part, that any substantive changes, including the change of intent to procedures that affect nuclear safety, shall be reviewed and approved prior to implementation.

Contrary to the above, on November 20, 1997, GPUN did not review and approve a substantive change to an existing inservice test (IST) surveillance procedure 1300-3K, "IST of Reactor River Water Pumps and Valves," before the closure of the reactor building emergency cooler inlet and outlet valves to conduct a leak test. The IST procedure was written and approved to determine the cooler inlet and outlet valve open and closed times, but did not allow the valves to be closed for the seven hour leak test.

GPUN Response:

1. Reasons for Violation

GPUN concurs there was a violation of Technical Specification 6.5.1.1 and 6.8.2. However, for accuracy it should be noted that on November 20, 1997 the Operators did not rely upon use of the Surveillance Procedure 1300-3K to conduct the investigation of leakage from the Nuclear Services system. This trouble shooting activity was performed using the guidance of AP-1029 and OP-1001G. On **November 24, 1997** the Operators did use SP-1300-3K for guidance to conduct valve cycling as allowed by OP-1001J,

"Tech. Spec. Surveillance Program Testing," which states: "where the intent of a test is other than to satisfy a TS surveillance testing requirement, the appropriate TS surveillance procedure may be used for instructional guidance and as a vehicle to document performance."

Nevertheless, GPUN has determined that on **November 20, 1997** the requirements of procedures AP-1029, "Conduct of Operations," and OP-1001G, "Procedure Utilization," were not met, in that the crew's determination that there would be no adverse affects on the operability of the RR system due to closing of the RR-V-3s was not logged. Prior to closing the valves the crew did discuss and determine that there would be no adverse affects on operability because an ES signal would cause the valves to open in the event of a LOCA, if the valves were closed. However, the procedurally required logging of this determination did not take place.

GPUN has also determined that AP-1029 currently does not contain adequate guidance and controls for the conduct of trouble-shooting activities. It is Management's expectation that evolutions of this nature would be controlled by means of a trouble shooting plan based on appropriate guidance using a graded approach and/or by a Special Temporary Procedure (STP). The STP process is designed to assure that proper precautions are established, and that reviews of design basis requirements and other safety considerations are conducted prior to executing the STP.

In addition, a contributing cause for not initiating a STP for this plant evolution was the failure to effectively translate a change in design basis assumptions into operating procedures (n.b., the necessity for the assumption was later negated by reanalysis). Specifically, the initial assumption made was that an overpressure on the Reactor Building Emergency Coolers needed to be maintained in order to address GL 96-06 concerns. This assumption was not identified by the System Performance Team (SPT) for consideration of potential impact upon operating procedures when the SPT performed the analyses prepared for the original Generic Letter response.

2. Corrective steps taken and results achieved.

   a. Management has re-emphasized its expectations that crews are to comply with the requirements for obtaining permission and logging all work related to the performance of evolutions not covered by written procedures, and to be aware of the administrative requirements and in particular the documentation requirements stipulated in AP-1029.

3. Corrective steps to be taken to avoid further violations.

   a. GPUN will develop new/revised guidance to effectively strengthen work controls relevant to the conduct of trouble shooting within AP-1029, "Conduct of Operations." The guidance on trouble shooting considerations will address more formally, Management's expectations as previously outlined in an internal memorandum dated March 3, 1998, from the Director of Operations and Maintenance, and will be based on a graded approach for the use of a trouble shooting plan and/or an STP.

b. This event will be incorporated into the operating experience presentations for Licensed Operator training and requalification, as well as, in the Engineering Support Personnel training. The event review will emphasize how the change control processes should provide identification of the relationship between the design basis assumptions and the operational requirements for plant systems.

c. A self-assessment and benchmarking review of procedural usage as described in Corrective Action 3.a for the response to NOV 97-09-02 above will be conducted.

d. The System Performance Teams (SPTs) are accountable for ensuring that changes made in design assumptions, as related to Operations or Maintenance activities are thoroughly evaluated and, when needed, incorporated into plant procedures, training, and design documents. The SPTs minimum membership includes representatives from Operations, Maintenance, and Engineering departments. GPUN will review this specific event with the System Engineers, who are the SPT leaders. The review will emphasize how the change review process could have provided identification of the relationship between the design basis assumptions and the operational requirements for the system. Additional guidance will be incorporated into the next revision to the System Engineering Guideline (Document #990-2471) to capture the lessons learned from this event. The SPT and System Engineer review goes above and beyond the existing 10CFR50.59 review requirements as provided by the GPUN Safety Review Processes that are required for plant modifications and/or procedure changes.

4. Dates of full compliance:

Full compliance has been achieved.

Corrective actions 3.a and 3.b to avoid future violations related to this NOV will be completed by December 31, 1998. Corrective action 3.c will be completed as identified above under corrective action 3.b for NOV 97-09-02, in two parts, namely: the self-assessment study is scheduled for September 30, 1998 and its implementation schedule for October 31, 1998. Corrective action 3.d will be achieved by June 30, 1998.