GPU Nuclear

GPU Nuclear Corporation
Route 441 South
P.O. Box 480
Middletown, Pennsylvania 17057-0480
(717) 944-7621
Writer's Direct Dial Number:
(717) 948-8005

September 27, 1995
C311-95-2361

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

Gentlemen:

Subject: Three Mile Island Nuclear Generating Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Response to NRC Request For Additional Information
Regarding Generic Letter 87-02, "Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved Safety Issue (USI) A-46"

GPU Nuclear Corporation hereby submits its response to the NRC request for additional information concerning the TMI-1 submittal for Generic Letter 87-02 (Letter No. C311-95-2190, dated May 17, 1995). The request was made by the NRC letter dated August 29, 1995. The enclosure presents both the NRC questions and the GPU Nuclear responses.

If you have any additional questions or concerns regarding the enclosed responses, please contact Yosh Nagai, Licensing Engineer at (201) 316-7974.

Sincerely,

J. Knubel
Vice President/Director, TMI

JK\YN\cb

020138

A025 1/1

ENCLOSURE

Three Mile Island Nuclear Plant, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Response to Questions on USI A-46 Submittal

NRC Question 1:

Page 30 of the USI A-46 Seismic Evaluation Report (the report) discusses an option of overflowing the makeup tank to the auxiliary building sump when the makeup tank becomes full from recirculation flow. Is this overflow volume recoverable for later use? If not, why would this option be exercised?

GPU Nuclear Response:

The overflow would not be recoverable for future injection. We do not intend to exercise the option of overflowing the makeup tank to the auxiliary building sump. The revised pages 3 (Table of Revisions) and 30 (Section 2.2.3 Part 1) are enclosed to reflect this.

NRC Question 2:

Injection with the high head safety injection pumps (makeup pumps) and venting with the pressurizer pressure-operated relief valve (PORV) was mentioned in several places in the report for pressure, inventory and reactivity control. Does TMI-1 plan to use this feed and bleed method as addressed in the emergency operating procedures for decay heat removal as well during an accident?

GPU Nuclear Response:

TMI does not intend to use the "feed and bleed" method for decay heat removal as both Once-Through Steam Generators(OTSGs) are available for cooling. Both the primary and alternate paths for decay heat removal rely upon secondary side cooling, and procedures drive operators eventually to the use of river water, as a last resort. However, the "Feed and Bleed" method can be implemented, as an option, by plant Abnormal Transient Procedures if secondary side heat transfer is lost. All of the components required for high pressure injection cooling are on the Safe Shutdown Equipment List (SSEL)

NRC Question 3:

Does TMI-1 have established and tested procedures for all the methods and paths stated in the report?

GPU Nuclear Response:

Following development of the SSEL list, simulator scenarios were run using existing Emergency Operating Procedures to carry out secondary side cooling, with Loss of Offsite Power. From "desktop reviews" of existing procedures handling of seismic events were verified to be within the scope of the procedures currently in effect, with two minor changes to the procedures for loss of instrument air and the station blackout procedure, both of which were modified accordingly.

NRC Question 4:

The report does not mention times that certain water sources (condensate storage tank (CST), borated water storage tank (BWST), etc) are capable of lasting before depletion. Are such calculations available? Check for the total amount of time that seismically qualified sources would be available.

GPU Nuclear Response:

Based on the CSTs solely, with a total volume of 300,000 gallons, and without any source of makeup to these tanks, our calculations show that this seismically qualified source would last for approximately 42 hours.

NRC Question 5a:

Which of the following sources of water and how paths are seismically qualified?

Source:

CST A:
CST B:
Condensate hotwell:
Demin. Water Storage Tank(DWST):
Makeup Tank:
BWST:
Rx. Bldg. Rvr. Wtr. Sys: (is entire flow path seismic?)

GPU Nuclear Response:

The provided sources of water are qualified as follows:

Source:	Qualification:
CST A:	seismic
CST B:	seismic
Condensate hotwell:	non-seismic
DWST:	non-seismic
Makeup Tank:	seismic
BWST:	seismic
Rx. Bldg. Rvr. Wtr. Sys:	The entire flow path is seismic.

NRC Question 5b:

What are their capacities?

Source	Capacity(gal.)
CST A:	?
CST B:	?
Cond. Hotwell	?
DWST:	?
Makeup Tank:	?
BWST:	?
Rx. Bldg. Rvr. Wtr. Sys:	?

GPU Response:

The capacities for provided sources of water are as follows (with Tech. Spec. capacities, where applicable):

Source	Capacity
CST A:	150,000gal (T.S. 3.4.1.1.c)
CST B:	150,000gal (T.S. 3.4.1.1.c)
Cond. Hotwell	764,000gal
DWST:	1,000,000gal
Makeup Tank:	2,250gal (approx. useable vol.)
BWST:	350,000gal (T.S. 3.3.1.1.a)
Rx. Bldg. Rvr. Wtr. Sys:	infinite: two (2) pumps each rated at 5,400 gpm