August 15, 1984

Docket No. 50-320

Mr. B. K. Kanga, Director
Three Mile Island Unit 2
GPU Nuclear Corporation
P.O. Box 480
Middletown, PA 17057

Distribution:
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NRC PDR
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Dear Mr. Kanga:

Subject: Plenum Removal Preparatory Activities

References: (a) GPU letter 4410-84-L-0032, B. K. Kanga, to B. J. Snyder, Safety Evaluation Report for Preparatory Activities for Plenum Assembly Removal, dated June 18, 1984
(b) NRC letter from B. J. Snyder to B. K. Kanga, dated July 31, 1984
(c) NRC letter from B. J. Snyder to B. K. Kanga, dated January 5, 1984

On August 8, 1984, members of the TMIPO staff met with GPU Nuclear to discuss questions raised following the staff's preliminary review of Reference (a). The purpose of this letter is to confirm the information presented by GPUN regarding plenum removal preparatory activities and to request the additional information necessary to complete our review of the subject activities.

Reference (a) describes the scope of preparatory activities for plenum removal. These activities include inspections, measurements, cleaning, separation of unsupported fuel assembly end fittings, and dislodging or movement of remaining axial power shaping rod assemblies (APSRA's). The proposed inspection and measurement activities were found to be similar to previous approved activities that were conducted safely; therefore they were approved by the NRC staff in Reference (b). During the August 8, 1984 meeting, the balance of the proposed preparatory activities were addressed by GPUN, in response to questions from the staff. The following discussion represents our understanding of GPUN's plans for plenum removal preparatory activities, based on the information submitted in Reference (a) and supplemented in the meeting of August 8, 1984.

GPUN indicated that the preparatory activities will be conducted under the following conditions:

- The containment purge exhaust system will be operating; the system will be secured if it becomes necessary.

OFFICE	TMIPO:NRR	SL:TMIPO:NRR	PD:TMIPO:NRR				
SURNAME	JRHall:bg	RAWeller	BJSnyder				
DATE	8/15/84	8/15/84	8/15/84				

- The Internals Indexing Fixture Processing System (IIFPS), will be operated as required to maintain RCS activity below approximately 1.0 uCi/ml.

- The use of respirators will be limited to the extent possible, consistent with ALARA principles.

- A ventilation system to filter airborne activity released inside the IIF will be available if needed.

GPUN also provided additional information in response to NRC questions. The original plan for removal of unsupported end fittings, described in Reference (a), called for the dislodging of all Batch 1 and Batch 2 partial unsupported fuel assemblies prior to dislodging any Batch 3 partial fuel assemblies. Since there is very little fuel in the few remaining Batch 1 and Batch 2 unsupported assemblies, GPU has determined that the criticality concern that formed the basis for the proposed end fitting removal sequence is not significant in comparison to the concern for minimizing platform shield plate movements. GPUN plans to submit an amendment to Reference (a) to revise the sequence for removal of unsupported end fittings.

Within the scope of these activities, GPU plans to dislodge only unsupported fuel assembly end fittings. Any fuel assemblies containing any full length fuel rods will not be separated from the plenum until after plenum jacking; those activities will be addressed in a separate safety evaluation report by GPU. It is possible, however, that some partial full length fuel assemblies could collapse when adjacent unsupported assemblies are dislodged.

GPU plans to use long-handled manual impact tools to attempt to dislodge the stuck APSR assemblies. As with the fuel assembly end fittings, the intent is to knock the APSR assemblies into the core region so that plenum removal is not restricted. If the APSR's cannot be knocked into the core region, an attempt will be made to withdraw them into the plenum using a coupling tool and crane. GPU indicated that the expected dose contribution from withdrawn APSRA's is minimal.

GPU acknowledged that some of the proposed activities constitute core alterations as defined in the recovery Technical Specifications. Thus, those activities will be restricted by the applicable Technical Specifications governing boron control, boron concentration, radiation monitoring, communication controls and operator qualification.

GPU is also aware that some of the IIF platform shield plates are classified as heavy loads (> 2400 lbs). All shield plate staging and movement will be restricted to areas identified in their previous submittals concerning control of heavy loads, which were approved by the NRC in Reference (c).

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The staff expressed a concern that the IIF platform was designed to accommodate shield plates with up to two inches of lead shielding, but that the accident analysis for collapse of the IIF platform assumed only one inch of lead shielding. GPU indicated that only one inch of lead shielding will be used and that there are no immediate plans for adding more shielding to the platform during these activities. GPU stated that even for two inches of shielding on the plates, the reactor vessel head drop analysis would bound the case of an IIF platform collapse on the plenum. The NRC staff will require a review of the postulated shield plate drop analysis if GPU decides to place additional shielding on the IIF platform. Similarly, any other activities outside the scope of those discussed in Reference (a) will require NRC review and approval prior to their implementation.

The additional information necessary for completion of the staff's review of plenum removal preparatory activities is requested in the enclosure. GPU is also requested to submit any information clarifying or correcting the content of this letter in regard to the subject activities. This information will be considered by the staff in the preparation of the safety evaluation.

Sincerely,

Original signed by
B. J. Snyder

Bernard J. Snyder, Program Director
Three Mile Island Program Office
Office of Nuclear Reactor Regulation

Enclosure: As stated

cc: J. Barton
R. Rogan
S. Levin
R. Freemerman
J. Byrne
Service Distribution List
(see attached)

OFFICE							
SURNAME							
DATE							

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

John F. Wolfe, Esq., Chairman,
Administrative Judge
3409 Shepherd St.
Chevy Chase, MD. 20015

Dr. Oscar H. Paris
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Frederick H. Shon
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Karin W. Carter
Assistant Attorney General
505 Executive House
P.O. Box 2357
Harrisburg, PA 17120

Dr. Judith H. Johnsrud
Environmental Coalition on
Nuclear Power
433 Orlando Ave.
State College, PA 16801

George F. Trowbridge, Esq.
Shaw, Pittman, Potts and
Trowbridge,
1800 M. St., NW.
Washington, D.C. 20036

Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing Appeal Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Secretary
U.S. Nuclear Regulatory Commission
ATTN: Chief, Docketing & Service Branch
Washington, D.C. 20555

Mr. Larry Hochendoner
Dauphin County Commissioner
P.O. Box 1295
Harrisburg, PA 17108-1295

John E. Minnich, Chairperson,
Dauphin County Board of Commissioners
Dauphin County Courthouse
Front and Market Streets
Harrisburg, PA 17101

Dauphin County Office of Emergency
Preparedness
Court House, Room 7
Front & Market Streets
Harrisburg, PA 17101

U.S. Environmental Protection Agency
Region III Office
ATTN: EIS Coordinator
Curtis Building (Sixth Floor)
6th & Walnut Streets
Philadelphia, PA 19106

Thomas M. Gerusky, Director
Bureau of Radiation Protection
Department of Environmental Resources
P.O. Box 2063
Harrisburg, PA 17120

David Hess
Office of Environmental Planning
Department of Environmental Resources
P.O. Box 2063
Harrisburg, PA 17120

Willis Bixby, Site Manager
U.S. Department of Energy
P.O. Box 88
Middletown, PA 17057-0311

David J. McGoff
Division of Three Mile Island Programs
NE-23
U.S. Department of Energy
Washington, D.C. 20545

William Lochstet
104 Davey Laboratory
Pennsylvania State University
University Park, PA 16802

Randy Myers, Editorial
The Patriot
812 Market St.
Harrisburg, PA 17105

Robert B. Borsum
Babcock & Wilcox
Nuclear Power Generation Division
Suite 220
7910 Woodmont Ave.
Bethesda, MD. 20814

Michael Churchhill, Esq.
PILCOP
1315 Walnut St., Suite 1632
Philadelphia, PA 19107

Linda W. Little
5000 Hermitage DR.
Raleigh, NC 27612

Marvin I. Lewis
6504 Bradford Terrace
Philadelphia, PA 19149

Jane Lee
183 Valley Rd.
Etters, PA 17319

J.B. Liberman, Esquire
Berlack, Israels, Liberman
26 Broadway
New York, NY 10004

Walter W. Cohen, Consumer Advocate
Department of Justice
Strawberry Square, 14th Floor
Harrisburg, PA 17127

Edward O. Swartz
Board of Supervisors
Lemoonderry Township
RFD #1 Geyers Church Rd.
Middletown, PA 17057

Robert L. Knupp, Esquire
Assistant Solicitor
Knupp and Andrews
P.O. Box P
407 N. Front St.
Harrisburg, PA 17108

John Levin, Esquire
Pennsylvania Public Utilities Comm.
P.O. Box 3265
Harrisburg, PA 17120

Honorable Mark Cohen
512 E-2 Main Capital Building
Harrisburg, PA 17120

Mr. Edwin Kintner
Executive Vice President
General Public Utilities Nuclear Corp.
100 Interpace Parkway
Parsippany, NJ 07054