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GPU Nuclear
100 Interpace Parkway
Parsippany, New Jersey 07054
201 263-6500
TELEX 136782
Writer's Office

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U.S. NUCLEAR
REGULATORY
COMMISSION

TMI Program Office
Attn: Mr. Lake H. Barrett, Deputy Director
U. S. Nuclear Regulatory Commission
c/o Three Mile Island Nuclear Station
Middletown, PA 17057

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Venting and Shipping of EPICOR-PF Liners

The purpose of this letter is to inform you of our plans for the venting and shipping of the 49 EPICOR Pre Filter (PF) liners currently being stored in the storage modules south of Unit II. These liners are being shipped to a DOE Facility (INEL) for Research and Development purposes.

The venting of the liners will be performed at the Solid Waste Storage Facility Modules (SWSF) in the individual cells where the PF liners are stored. Venting will be accomplished remotely utilizing a tool developed by EG&G Idaho. The tool has the capability to remove and insert the threaded plugs used to seal the process ports, to draw samples of the gases contained in the liners, to purge the liners of contained gases, and to inert the liners with nitrogen. All operations will be done remotely under a concrete blockhouse which will replace the cell lid. Selected liners will be monitored for a period of time to simulate the maximum expected shipping period. The liners will be selected to bound the maximum gas production rates for the various types of loadings which exist. Gas samples will be drawn during this time to determine the rate of hydrogen generation in the selected liners.

The specific sequence of venting operations for each liner is as follows. First, the SWSF cell containing the selected liner will be surveyed for hydrogen evolution. It is expected that the results will be negative. The cell concrete lid will be removed and replaced with a concrete blockhouse with the lid holding the vent tool. This blockhouse is designed to provide visual access to the liners, provide radiation shielding for normal operations, and to provide containment of activity in the event of a hydrogen burn.

The cell will then be purged with nitrogen to establish an inert atmosphere. The tool will be lowered onto the liner and an airtight shroud on the tool will be placed over the plug. The shroud will be inerted and the vent plug removed. The tool is designed to be sparkless. A sample of the liner atmosphere will be drawn and analyzed to determine H₂, O₂, CO, CO₂, CH₄, and N₂ levels.

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The liner will then go through a series of positive to atmospheric pressure changes to sweep existing gases out of the liner and to inert the liner with nitrogen. The gases will be exhausted through a HEPA filter to remove any particulate radioactivity and then be discharged to the atmosphere. The exhaust of the HEPA unit will be monitored.

At this point several liners will undergo a monitoring period of approximately two weeks. During this time, the evolution of hydrogen will be monitored to determine production rate. This information will be used to ensure that the liners will meet all applicable transportation regulations and/or restrictions and can be shipped safely. Following the monitoring period, the liners will be sealed and prepared for shipment. Not all liners will be monitored for the two week period. However, several liners will be selected and monitored to ensure that all types of liner loadings are bounded. All liners will be sampled and inerted prior to shipment.

Shipment of the liners will be accomplished in standard type 8 shipping containers, which are designed to withstand accident conditions. Liners will be prepared and shipped in accordance with standard GPU shipping procedures. Preparation of the liners for shipment will include a package demonstrating the safety of the shipment in accordance with the shipping regulations.

The operation has been evaluated for safety under normal and accident conditions. A conscious effort has been made to reduce or eliminate ignition sources. The tool is designed with air motors, non-sparking components and an inerting shroud. The modules themselves will be inerted. Potential spark sources outside the modules will be eliminated to the fullest extent possible. Doses associated with the planned operations have been evaluated for normal and accident conditions. Man rem for normal operations for preparing and loading all 49 liners have been estimated to be less than 15 man-rem.

Although there is significant assurance that there will be no accidental releases to the environment, the consequences of an accidental release have been evaluated. It was found that the potential release is bounded by accidents previously considered in the FSAR. The dose associated with an accidental release during the proposed operations is expected to be less than 0.83 mrem whole body inhalation dose to a person standing at the nearest site boundary. This is well within Federal guidelines and Tech Spec Limits.

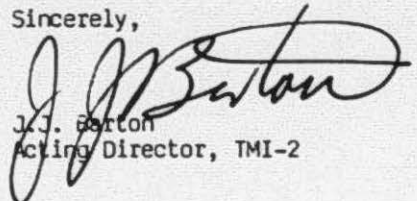
Based on review of the various safety aspects of these facilities and their operations, i.e., potential for hydrogen ignition, and/or radioactivity release, it is deemed safe to proceed with operations on the EPICOR liners based on the following guidelines:

1. The tools, equipment, and facilities described herein will be startup tested with a non-radioactive liner to verify operation.
2. First use of these facilities on a radioactive liner will be accomplished under approved procedures and close technical scrutiny to ensure specification compliance. The equipment will be modified as necessary to achieve compliance.
3. Subsequent operations will follow approved procedures which have been verified by steps 1 and 2 above. These procedures will be approved by the NRC in accordance with Tech Spec 6.8.2.

The depressurization, inerting and transfer of the EPICOR liners into shipping casks will not increase the probability of occurrence or the consequences of an accident. To the contrary, safe handling of EPICOR vessels at TMI has been routinely accomplished. These operations introduce additional barriers, safety systems and safety related procedures previously not used. These operations do not interfere with any plant equipment and/or facilities important to safety. The tools are designed not to initiate ignition; and the inerting is designed to prevent occurrence of a flammable gas mixture. As such, ignition is extremely improbable. Nevertheless, the hypothetical ignition of radiolysis gases in the staging facility has been assessed. The analyzed accident would produce a nearest site boundary dose of 0.83 mrem whole body, well within the plant license and existing regulation limits.

In view of the above considerations, it has been determined that the proposed operation is not an unreviewed safety question, will not endanger the health and safety of the public, and that the preparation and removal of the liners as expeditiously as possible is in the public interest. We therefore propose to vent and ship the EPICOR PF liners as described above.

Sincerely,



J.J. Barton
Acting Director, TMI-2

JJB/dls

cc: Dr. B. J. Snyder, Program Director TMI Program