Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)  
Operating License No. DPR-73
Docket No. 50-320
Fuel Pool "A" Refurbishment Safety Evaluation Report

Attached are revisions to Section 4.1 and Figure 2.2 of the Fuel Pool "A" (FPA) Refurbishment Safety Evaluation Report (SER). The revision of Section 4.1, "Lifting Operations", deletes the requirement that the upper and lower tanks be empty during lifting operations that use a load path near the Submerged Demineralizer System (SDS). This requirement inhibits present and future lifting operations. The present levels of Sr-90 and Cs-137 in each of the two lower tanks are well below the levels analyzed in the FPA SER for the radiological consequences from a postulated drop of a heavy load into FPA. These levels will continue to decrease through SDS processing. Therefore, the consequence of a load drop into FPA, without the tanks empty, would still be within the bounds of the SER and, thus, present no hazard to the health and safety of the public. This subject was previously discussed between members of the respective staffs on Thursday, November 17, 1983.

The revision to Figure 2.2, "Two Slab Rigging Beam", reflects the replacement of a 2 inch diameter by 24 inch takeup turnbuckle with a 2 inch diameter by 6 inch turnbuckle. The 6 inch turnbuckle achieves the clearance necessary for the Fuel Handling Building crane to lift and transport the concrete slabs. The rated capacity of the 6 inch turnbuckle is the same as the 24 inch turnbuckle and is, therefore, within the constraints of the FPA SER.

If you have any questions, please contact Mr. J. J. Byrne of my staff.

Sincerely,

B. K. Kaiko
Director, TMI-2

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November 30, 1983
4410-83-L-0276
4.0 LIFTING OPERATIONS

4.1 REQUIREMENTS

All of the lifting operations being discussed in this SER are being performed in the TMI-2 FHB and the TMI-1 truck bay where no fuel is present. Consequently, those requirements which specifically deal with the handling of heavy loads around nuclear fuel are not applicable to these lifting operations. However, all other applicable requirements are used for these operations. The following is a listing of the documents whose guidance are applied to the FPA refurbishment lifting operations:

1. NUREG-0612 (Para. 5.1.IV)  Control of Heavy Loads at Nuclear Power Plants
2. ANSI-830.9-1971  Slings
3. ANSI-830.2-1976  Overhead and Gantry Crane

All lifting operations will be performed in accordance with procedures which will minimize the possibility of, and mitigate the consequences of, a load drop accident.

See Table 4.1 for a listing of all heavy loads associated with FPA refurbishment.

During lifting operations that use the path near the SDS the following requirements will be imposed via procedures:

- No tank decontamination in progress
- No SDS processing in progress
- No excess of personnel in FHB - E1. 347 and the Truck Bay.

The FHB crane will be used within all of its prescribed and certified limits in accordance with both TMI-1 and TMI-2 procedures. All of the heavy load lifts planned, less than 40 tons maximum, are well within its rated and certified capacity of 110 tons.

4.2 LOAD PATHS

The load paths within the FHB are shown on Figures 4.1 through 4.4. Because of the bulk of the tanks it is impossible to prevent the tanks from overhanging FPB during their removal. (See Figure 4.3 and 4.4).

Once these load paths were defined (as a function of load dimensions and weight), a matrix identifying the various loads and potential targets (Tables 4.2 and 4.3) was generated. The size and weight of the load being lifted determined which FHB crane hook is to be used and, consequently, the maximum distance from FPB to the load path. After a review of the various potential load drop effects, a west wall load path was selected for all lifts. This path was chosen to minimize the potential radiological consequences resulting from postulated drops of heavy loads being transported above FPB which contains the SOS. This path would also eliminate any impact upon the FHB ventilation plant.
Bill of Material

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<th>ITEM</th>
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<tr>
<td>8</td>
<td>SCREW</td>
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</tbody>
</table>

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Fabrication Notes:
1. Welds shall be performed in accordance with GPU site welding procedures.
2. Welds shall be visually inspected and tested as noted.
3. In the event of discrepancies in welds, correction or replacement shall be made using the applicable sections of AWS D1.1.
4. The lifting beam shall be load tested to 140% L.E. in the configuration as shipped to witness and CEI. It shall be load tested by the lifting contractor of record.
5. A final inspection of the load test, the lifting beam shall be inspected and painted white.
6. Upon completion of the painting, the hooks as shown on the sketch shall be included onto the beam with a 1/4" black paint on the sides of beam.

Notes: Ex. are not in QC brands.