



GPU Nuclear Corporation
Post Office Box 480
Route 441 South
Middletown, Pennsylvania 17057-0191
717 944-7621
TELEX 84-2386
Writer's Direct Dial Number:

November 30, 1983
4410-83-L-0276

TMI Program Office
Attn: Dr. B. J. Snyder
Program Director
US Nuclear Regulatory Commission
Washington, DC 20555

Dear Sir:

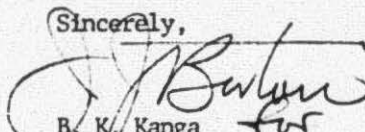
Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Fuel Pool "A" Refurbishment Safety Evaluation Report

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.

8312050308 831130
PDR ADOCK 05000320
P PDR

Sincerely,

B. K. Kanga
Director, TMI-2

BKK/RDW/jep
Attachments

CC: Mr. L. H. Barrett, Deputy Program Director - TMI Program Office

GPU Nuclear Corporation is a subsidiary of the General Public Utilities Corporation

0009
11

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 Control of Heavy Loads at Nuclear Power Plants
 (Para. 5.1.IV)
2. ANSI-B30.9-1971 Slings
3. ANSI-B30.2-1976 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:

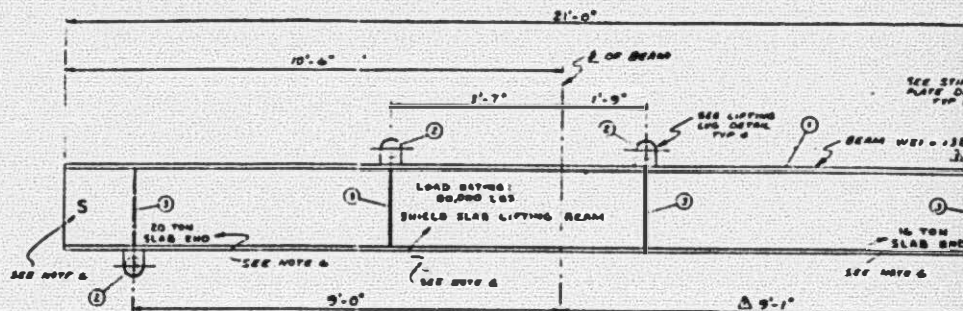
- o No tank decontamination in progress
- o No SDS processing in progress
- o No excess of personnel in FHB - El. 347 and the Truck Bay.

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.

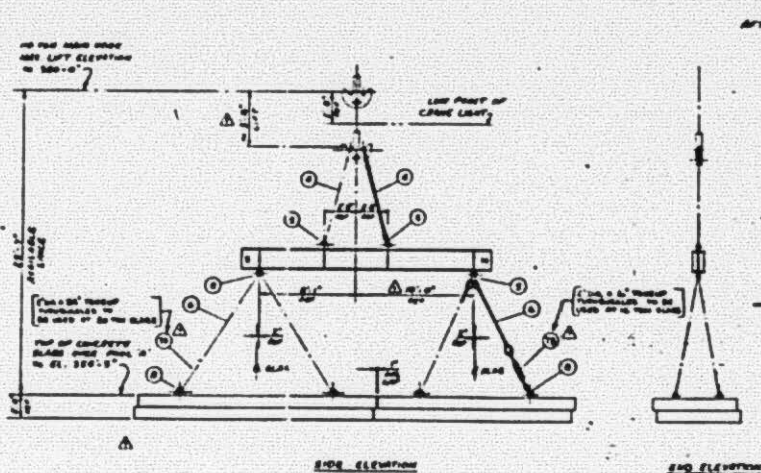
4.2 LOAD PATHS

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 SDS. This path would also eliminate any impact upon the FHB ventilation plant



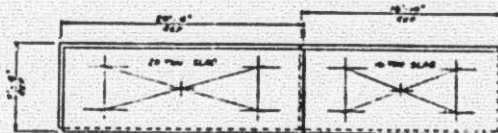
COUNTER BALANCE LIFTING BEAM DETAIL



SIDE ELEVATION

END ELEVATION

RIGGING SCHEME



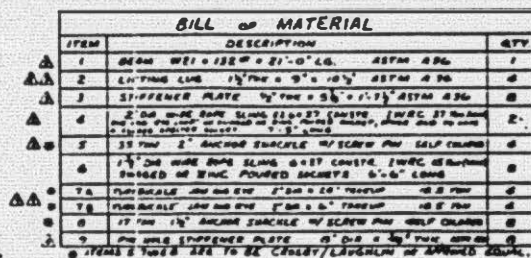
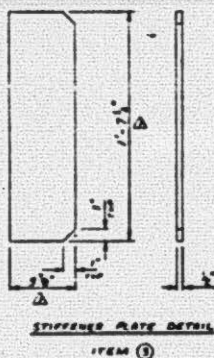
—N—

PLAN VIEW SLABS

REVISION				REVISION			
NO.	DATE	BY	APP.	NO.	DATE	BY	APP.
1	10/1/54	JH		2	10/1/54	JH	
2	10/1/54	JH		3	10/1/54	JH	
3	10/1/54	JH		4	10/1/54	JH	
4	10/1/54	JH		5	10/1/54	JH	
5	10/1/54	JH		6	10/1/54	JH	
6	10/1/54	JH		7	10/1/54	JH	
7	10/1/54	JH		8	10/1/54	JH	
8	10/1/54	JH		9	10/1/54	JH	
9	10/1/54	JH		10	10/1/54	JH	

PRO
APERTURE
CARD

LOAD TEST NO.
1. LOAD TEST
2. LOAD TEST
3. LOAD TEST
4. LOAD TEST
5. LOAD TEST
6. LOAD TEST
7. LOAD TEST
8. LOAD TEST
9. LOAD TEST
10. LOAD TEST



LIFTING LUG DETAIL



1. WELDS SHALL BE REINFORCED IN ~~WELDS~~ WITH GPU WIRE 1/4" DIA. 1000002.
2. WELDS SHALL BE THICKLY BRUSHED AND TREATED AS NOTED.
3. WELDS ARE TO BE COATED WITH 2" - 3" SECTION OF 1000002 OF ~~WELDS~~ ~~1000002~~
4. IN THE EVENT OF DEFICIENCIES IN WELDS, COORDINATION OF ALL REPAIRS TO BE MADE WITH THE PARTICIPAL, SECTION OF AWS D1.1-61.
5. THE LIFTING BEAM SHALL BE LOSE TIGHT TO 1000002 AND IN THE CONFIGURATION AS SHOWN QC TO FINISHES AND COATING. LOAD TEST THIS TWO TEN FIFTY WIRE ~~WELDS~~ ~~SECTION~~ OF
6. WHEN COMPLETION OF THE LOAD TEST, THE LIFTING BEAM SHALL BE ARMED AND ARMED WHITE.
7. UPON COMPLETION OF THE FINISHES, THE WELDS AS SHOWN ON THIS SPECIF SHALL BE STRENGTHED WITH TWO TEN SEVEN WITH 1/4" OF 1000002 PLANT. (BOTH SIDES OF BEAM)
8. WELDS 504 ARE OFF IN QC SPEC.

RECORDS/INFO. ONLY
NOT FOR CIRCULATION

TWO SLAB RIGGING SCHEME AND LIFTING BEAM DETAIL	
FMI UNIT 2	
FUEL POOL "A" REFURBISHMENT	
GPU SITE ENGINEERING	
SKETCH - JHA 050283	7
DESIGN: JHA 050283	DATE: 6/7/89
APPROVED: JHA 050283	DATE: 6/7/89

8312050308-01