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September 5, 1985

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

Dear Dr. Snyder:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Update of Reactor Building Decontamination
Safety Evaluation Report

Attached for your information are two (2) page revisions to the Safety Evaluation Report for the Reactor Building Decontamination and Dose Reduction Activities which was submitted via GPU Nuclear letter 4410-85-L-001 dated February 8, 1985.

Changes incorporated in the revised pages reflect a reduction of the remote reconnaissance vehicle weight from 10,000 lbs. to 2,500 lbs. due to equipment modifications and a correction to the units in Table 3-2 from Ci to Ci/yr.

Sincerely,

F. R. Standerfer
Vice President/Director, TMI-2

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Attachments

cc: Deputy Program Director - TMI Program Office, Dr. W. D. Travers

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2.10 CHARACTERIZATION AT ELEVATION 282'

The characterization effort consists of radiation measurements video-taping and sampling activities. Equipment is lowered to the basement through the loading hatch at elevation 305'. The scope of this evaluation includes:

- Lifting and handling the remote reconnaissance vehicle (RRV) through the hatch at El. 305'; and down to El. 282'
- Operations of the RRV in the driven mode while on El. 282'

After operational checks on El. 305', the RRV is lifted clear of the floor and lowered through the hatch. This involves a lift of less than 2500 pounds at a height not exceeding 25 feet above the basement floor. A load drop onto this floor will have no significant effect on the building structure.

Penetration or leakage failure of the massive concrete/steel/rebar foundation is not considered credible, because the containment base mat is comprised of a 2'-0" thick reinforced concrete slab poured on top of the 1/4" liner plate and the liner plate rests on an 11'-6" thick reinforced concrete slab.

When the RRV is raised from El. 282', it will be lifted 3 feet above the floor at El. 305'. Considering the most limiting of the two separate slabs at this point, this lift will be within the allowable height of 5 feet for a 1" equivalent diameter impact load, which is much smaller than the RRV. Thus, there is no concern for this part of the lifting activity.

The only other potential concern during lowering or lifting the RRV below El. 305' is lateral swinging of the load causing impact upon piping and supports in the vicinity, which are important to plant safety. The RRV might swing toward the west into the impingement area where main steam and emergency feedwater piping are supported in the overhead. However, the lowest of these lines with supports is at El. 294' which is above the wall opening (293'), thus impact is not credible. The 8" river water lines (RR system) and their support platform to the east, toward the enclosed stairwell, will not be impacted because the point of lift is inherently restrained (laterally) by the structural steel beams beneath the hatch at El. 305'.

During RRV operation while driven on El. 282' (up to 2500 pounds at 0.3 mph), various piping and ductwork may be impacted, however, they will not cause safety concerns for the following reasons:

- The support platform for the 8" river water cooling lines should withstand any impact transmitted from the RRV. However, separate analysis based on load drop concerns onto other portions of these same lines on El. 305' has resulted in deleting requirements for isolation of these flowpaths (NRC/TMI 84-052, dated July 17, 1984). Therefore, the concern with failure of these lines has already been addressed.

TABLE 3-1

AVERAGE PARTICULATE AIRBORNE RADIOACTIVITY
CONCENTRATIONS IN THE CONTAINMENT (REF. 18)

<u>Radionuclide</u>	<u>Concentration</u> <u>(μCi/cc)</u>
Cs-134	7.0E-11
Cs-137	2.6E-09
Sr-90	2.4E-11

TABLE 3 2

CALCULATED PARTICULATE AIRBORNE RELEASES TO THE ENVIRONMENT

<u>Radionuclide</u>	<u>Release</u> <u>(Ci/year)</u>
Cs-134	2.59E-5
Cs-137	9.74E-4
Sr-90	8.61E-6
H-3	4.55E+2

TABLE 3-3

DOSE IN MILLIREM TO MAXIMUM EXPOSED INDIVIDUALS
FROM EACH PATHWAY FOR AIRBORNE RELEASES
(52 WEEK CONTINUOUS PURGE, 25,000 CFM)
(REF. 18)

<u>Ground</u>	<u>Inhalation</u>	<u>Vegetation</u>	<u>Meat</u>	<u>Cowmilk</u>	<u>Total</u>
1.8E-2	2.4E-3	8.9E-2	9.9E-4	2.5E-2	1.4E-1