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December 3, 1982  
 4410-82-L-0064

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

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)  
 Operating License No. DPR-73  
 Docket No. 50-320  
 Dose Reduction

This letter summarizes our plans for dose reduction at TMI-2 in three phases as presented to you on November 18, 1982.

Phase I

Completion by the end of First Quarter of CY 1983 by performing the following activities:

1. Personnel Management: Open inner and outer personnel airlock doors to improve personnel movement. Modify access pathways to and from Elevation 347 by entering through the personnel airlock in the equipment hatch and exiting through the other personnel airlock. Restage tool crib to lower dose area.
2. Treat Discrete Sources: Shield floor drains. Remove accumulated trash on a continuing basis. Elute resin column to Reactor Building basement. Remove column after elution and ship as LSA waste. Initially shield the two welding machines. Shield discharge lines from Core Flood Tanks A and B using lead blankets. Decontaminate seal table and shield if necessary. Shield specific components on polar crane, e.g. motor, cable drum as necessary.

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3. Elevator and Enclosed Stairwell: Decontaminate interior of elevator shaft using water flush, from machinery room above Elevation 347 followed by secondary access from Elevation 305.
4. Shield on Elevation 305: Engineer and erect shielding for covered hatch, open stairwell and elevator and enclosed stairwell.
5. Air Coolers: Partially decontaminate air coolers using water flushing from Elevation 347 for interior of housing, and from Elevation 305 via high-lift for exterior of upper plenum.

All of the Phase I efforts are being integrated into the current schedules for completion by the end of the first quarter of calendar year 1983. As a result of these actions, we would hope to achieve a reduction in average transit dose from 40 to 25 millirem. It is expected that dose rates on the polar crane will be reduced from 120 to 80 millirem/hour. General area gamma dose rates on Elevation 347 are estimated to be reduced from 150 to 100 millirem/hour. Based upon the results of Phase I efforts, we will assess our program and effect refinements, as appropriate.

As a prerequisite to Phase II dose reduction efforts, we intend to continue characterization of Elevation 282'6" including additional TLD strings, sludge samples, visual observations and concrete corings.

## Phase II

The following activities are envisioned during this phase and will be scheduled in parallel with other activities in the Reactor Building. Work on Elevation 305' level will be limited primarily to support dose reduction and head lift activities.

1. Continue Reactor Building decontamination with objective of achieving conditions suitable for general work without respirators.
2. Decontaminate reactor head service structure and shield if necessary prior to major head lift activities.
3. Reduce dose contribution from Elevation 282'6" by removing sludge, aggressively decontaminate walls and floor and coat and/or scarify walls and floor over a period of 18 to 24 months.

4. Decontaminate D-ring interiors and equipment surfaces.
5. Process RCS to reduce dose contribution from interior of components within D-rings.

As a result of Phase II techniques it is estimated that the transit dose would be further reduced to 10 millirem. It is anticipated that the reactor head service structure general gamma dose rates will be reduced from 600 to 150 millirem/hour, and the general area dose rates on Elevation 305' will be reduced to 100 millirem/hour.

Estimates of dose rate effects on Elevation 282' 6" will have to await additional characterization and planning currently underway.

### Phase III

The following activities will be ongoing after Phase II.

1. Continue Reactor Building decontamination program with the objective of removing respirators.
2. Identify and shield hot spots.
3. Decontaminate and/or remove air coolers.
4. Decontaminate drain system.
5. Decontaminate primary system components.

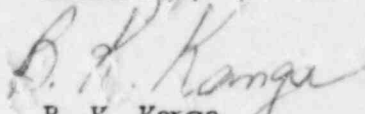
### Philosophy of ALARA

Implementation of the above efforts will require close coordination of the recovery efforts consistent with ALARA practices. To accomplish the objective of ALARA each individual work package is evaluated to minimize dose consistent with available resources. Each department manager has been instructed to assure his activities are consistent with ALARA principles. The revised Recovery Program, currently being prepared, will be examined to assure its consistency with ALARA objectives. The Dose Reduction Task Force responsible for work leading to the above activities will remain as a working group to review ALARA aspects on an on-going basis.

The overall schedule for the program is being developed now, as part of the program reassessment effort. Our intent is to begin Phase I immediately, and to transition into Phase II actions early in 1983.

At the conclusion of Phase I at about the end of the first quarter of 1983, we will apprise you of our progress. Please note, however, that there may be some overlap between Phase I and Phase II activities, and some of the latter may be in progress at the time of our report.

Sincerely,

  
B. K. Karga  
Director, TMI-2

BKK:JJB:jep

cc: B. J. Snyder, Program Director - TMI Program Office