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August 6, 1984

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
Fuel Pool "A" Safety Evaluation Report

Plans for the Fuel Pool "A" refurbishment, as described in the Fuel Pool "A" Safety Evaluation Report, have been altered to accommodate the accelerated defueling schedule. Therefore your concurrence with the attached modification to the subject Safety Evaluation Report is requested.

Section 3.1 of the Safety Evaluation Report has been revised, as it applies to decontamination of the lower tanks, as indicated on the attached change page. These tanks are currently being flushed and decontaminated. This activity will continue until tank removal is required to support the defueling schedule. However, the tanks may not meet the applicable shipping criteria which was the minimum decontamination condition allowed by the original Safety Evaluation Report. In addition, depending on the availability of the Submerged Demineralizer System (SDS), the water used for decontamination of the tanks may not be directly processed through SDS but rather may be pumped to the Miscellaneous Waste Holdup Tank for processing by SDS when available.

Storage of these tanks on-site is discussed in Section 3.3.2 of the subject Safety Evaluation Report. Although the tanks may not be decontaminated to the levels initially envisioned, no change to this section of the Safety Evaluation Report is required as the tanks will be

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in a condition that will permit storage on-site in accordance with existing Radioactive Waste Storage Procedures. Thus, the revision of plans for Fuel Pool "A" refurbishment will not create a condition outside the bounds previously analyzed and does not constitute an Unreviewed Safety Question.

If you have any questions concerning this information, please call Mr. J. J. Byrne of my staff.

Sincerely,

B. K. Kanga
Director, TMI-2

BKK/JJB/jep

Attachment

cc: Acting Deputy Program Director - TMI Program Office, Mr. P. J. Grant

3.0 DECONTAMINATION

3.1 CRITERIA

The decontamination criteria are as follows:

- All decontamination will be done in the pool
- The tanks and associated piping will be decontaminated to allow off site shipment as Type A.
- Tank decontamination by flushing and high pressure water sprays will continue as long as it is effective, i.e., it will not be stopped as soon as the shipping criteria are met

NOTE: These criteria need not be met for the lower tanks due to the accelerated defueling schedule. However, the lower tanks should be decontaminated to the extent allowed by the schedule prior to removal to support defueling.

3.2 METHODS

An iterative procedure will be used in decontaminating the internals of the tanks and associated piping, with radiological surveys performed at the end of each step to determine if further decontamination is necessary or effective. As a first step, the tanks and associated piping will be flushed with water. This will remove residual activity associated with the reactor building water and tank sludge. The second step will involve the use of high pressure water sprays inside the tank to dislodge loose particles and complete the sludge removal.

If these techniques fail to meet the Type A offsite shipping criteria then the use of chemicals for decontamination will be evaluated. Alternatively some mechanical technique such as abrasive blasting or grinding may be appropriate if the affected areas are small and localized. However, such alternate techniques are outside the scope of this evaluation since water techniques are expected to be successful and sufficient chemical evaluations have not been performed. If chemicals are to be used, engineering evaluations including safety evaluation will be performed on a case by case basis.

Tank farm piping will be flushed in conjunction with the flushing of the tanks. Since the piping is intended to be discarded as Type A waste, no special high pressure water sprays or other techniques will be used to attempt to release the piping for unrestricted use.

3.3 WASTES GENERATED

3.3.1 Liquid Waste

Approximately 100,000 gallons of liquid waste is expected to result from the water decontamination of these tanks. The waste will contain

primarily insoluble with some soluble cesium and strontium compounds. Trace quantities of other isotopes may be present but are not considered to affect waste treatment. It is intended to process the liquid waste through SDS and/or EPICOR as indicated by sample analysis. The processed water used for decontamination will not require any special treatment after decontamination and prior to processing.

3.3.2 Solid Waste

Solid wastes are expected to result from discarding the tank farm piping and from the normal use of protective clothing. The tanks themselves are not expected to be discarded as waste. Rather, they are to be stored onsite for possible reuse or shipped to another facility for use. The solid waste resulting from ancillary operations and protective clothing will be segregated as radioactive or non-radioactive and further segregated as compactable or non-compactable. No special considerations will be required as these wastes are produced by plant operations in radiologically controlled areas. Since the majority of FPA is not a contaminated area the quantity of these wastes is expected to be minimal.