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January 30, 1979
TLL 036

Mr. John T. Collins
Deputy Director - TMI Support
Nuclear Regulatory Commission
Three Mile Island
Middletown, PA 17057

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2) License No. DPR-73
Docket No. 50-320
Radioactive Waste Water Handling Program

This letter forwards the TMI-2 Water Processing and Processed Water Disposition Plan for 1980. These programs are forwarded as discussed in my letter GOL-1509 dated December 21, 1979, (Items #8 and #9). A supplementary report on the final disposition of processed water beyond 1980 will be submitted by May, 1980.

Overview of Plan

Processing Auxiliary and Fuel Handling Building Waste Water will be performed by the EPICOR II Radwaste System. This program is in progress with approximately 95,000 gallons cleaned and 330,000 gallons remaining to be cleaned. Inleakage into the Auxiliary Building has been reduced significantly to about 200 gallons per day and is expected to continue at this rate.

The Processing Plan is scheduled to maintain surge volume in the Auxiliary Building to accommodate inleakage upsets.

The EPICOR II System has demonstrated the ability to clean contaminated water to acceptable levels. Various performance testing is in progress in an effort to maximize throughput volume, improve efficiency, and overall reliability. Precise characterization of Radwaste waters and optimization of resin selection will soon be completed.

Processed or clean water is being stored in EPICOR II tankage. As these tanks are filled alternate storage locations will be used, such as the 'B' Spent Fuel Pool. It is projected that no accident-related water will require discharge during 1980, however, many assumptions used to draw this conclusion are subject to change. Besides storage, processed water will be used for decontamination, flush, and other makeup purposes in an effort to minimize total water inventory volumes.

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Details of Plan

The handling of Radioactive Waste Water is a multi-faceted operation that is complicated by many factors. The overall schedule is provided by the attached Drawing, TMI 1980 Water Processing Schedule. To assist in understanding the criteria and logic for the development of this program, Attachment 1 is provided. This documents the various considerations and assumptions incorporated into the processing plan. Any alteration or change of these assumptions would upset the overall sequencing and integrity of the plan. Tables 1 and 2 are also provided as a tabular display of this information.

Should you have any questions, please contact Mr. R. McGoeys of the TMI-2 staff.

Sincerely,


R. F. Wilson
Director, TMI-2

Enclosures

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TMI WATER PROCESSING PLAN

TABLE 1

Tank	When Moved	To Where	Volume	Disposal
Aux. Sump.	Every 20 days	MWHT	7K	Epicor II Processing
MWHT	2/4/80 to 2/8/80	EPICOR II	16K	Storage
U-II BWST	2/1/80 to 3/20/80	EPICOR I/ Alternate Route	50K/300K	Release/U-1 BWST
'A' RCBT	2/8/80 to 3/1/80	MWHT	59K	Epicor II Processing
'B' RCBT	3/10/80 to 5/10/80	MWHT	77K	Epicor II Processing
Tank Farm	5/12/80 to 7/10/80	MWHT	93K	Epicor II Processing
Concentrated Waste Tank	7/10/80 to 7/15/80	MWHT	10K	Epicor II Processing
'C' RCBT	7/15/80 to 8/7/80	MWHT	77K	Epicor II Processing
Contaminated Drain Tank	Every 10 days	EPICOR I	2K	Release
'A' RCBT	8/7/80 to 9/1/80	MWHT	77K	Epicor II Processing
RCS	9/1/80 to 12/31/80	MWHT via RCBT's	20K per week	Epicor II Processing
RB SUMP	11/1/80 to 12/31/80	Tank Farm	20K per week	SDS Processing

TMI WATER PROCESSING PLAN

TABLE 2

Tank	When Moved	To Where	Volume to be transferred	Disposal
ECTT B	2/1/80	Unit I/River	10K	Epicor I Processing then Release
ECTT A	2/7/80	River	3K	Release
T-1 T-2	2/15 then as necessary to 3/20	SFPB	205K	Storage
CC-T-1	3/12/80	ECTT-B	10K	Storage
CC-T-1	3/13/80 then as necessary	ECTT-A	10K	Decon Supply
SFPB	3/20 to 4/10	BWST	205K	Storage
ECTT B	3/21/80	ECTT-A	10K	Decon Supply
CC-T-2	3/20/80 then as necessary	Unit II BWST	20K per week	Storage
Contaminated Drain Tank via Epicor I	4/30/80 then as necessary	ECTT-B	6K per week	Release
Epicor II Effluent	8/10/80 to 9/1/80	PWST	84K	Storage
BWST	9 /1/80 then as necessary	RCS	20K per week	RCS Dilution
SDS Effluent	11/1/80 to 12/31/80	Process Water Storage Tank	20K per week	Storage
CC-T-1 and CC-T-2	9/15/80 to 11/1/80	SFP 'B'	120K	SDS Submergence
BWST	11/1/80 to 11/3/80	SFP 'B'	130K	SDS Submergence

TMI-1980 WATER PROCESSING SCHEDULE

ASSUMPTIONS AND LOGIC

1. Accident and non-accident waste water will be segregated throughout its handling stages including processing and disposition.
2. Reactor Coolant Bleed Holdup Tanks A and B will be processed on a priority bases to allow room for the storage of miscellaneous decontamination efforts and RCS letdown as may be required. Following processing these tanks, an outage will occur in EPICOR II. The processing of all remaining lower activity water (i.e. Tank Farm, etc.) will be conducted following the outage followed by the remaining higher activity water (C RCBT, RCS as feasible.)
3. There will be no significant increase in unidentified leakage into the Aux. Building Sump. This inleakage rate is assumed to be at 200 gallons per day.
4. Contaminated water segregation has been and will continue to be a major factor in the water processing scheme. Water classified as low, medium, and high activity is processed as separate functions. The schedule clearly reflects this philosophy.
5. Processed water will be segregated in accordance with its intended use (flushing, decon, storage, release, etc.). Intended use will be determined by significant differences in chemical and radionuclide constituents (e.g. tritium, etc.).

Note: Processed water segregation depends on the Processed Water Storage Tank being available as shown on the schedule.

6. It is assumed that liquid releases of TMI-2 accident water will not occur during 1980, although this contingency still exists.
7. Contaminated Drain Tanks from Unit II will continue to be processed through the EPICOR I system for release to the environment. It is assumed that this system's relocation effort will not interrupt this processing operation.
8. Total gallons processed prior to liner changeout is as follows:

Eplicor II Radwaste System

Prefilter/Demin.....	10,000 gallons
First Demin.....	20,000 gallons
Second Demin.....	40,000 gallons

Eplicor I Radwaste System

Prefilter.....	150,000 gallons
Demin.....	30,000 gallons