

**Met-Ed GPU**



Metropolitan Edison Company  
Post Office Box 480  
Middletown, Pennsylvania 17057  
717.944.4041

May 15, 1981  
LL2-81-0125

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TMI Program Office  
Attn: Mr. Lake Barrett, Deputy 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)  
Operation License No. DPR-73  
Docket No. 50-320  
Submerged Demineralizer System

During discussions with members of your staff we have been requested to provide the following additional information regarding SDS:

"The licensee will provide information relating to man-rem exposure, internal and external, for each of the following SDS operations:

- . Sampling.
- . Maintenance.
- . Operations.
- . Decommissioning of the SDS."

This letter is our response to that request.

The following assumptions were used in the development of this estimate:

1. Volumes to be processed:

R.B. Sump	600,000 gallons
RCS	750,000 gallons
R.B. Sump Flush Water	300,000 gallons

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2. Feed tank fill rate:

R.B. Sump	20 gallons/minute
RCS	50 gallons/minute

3. Process rate:

SDS	5 gallons/minute
EPICOR-II	10 gallons/minute

4. Dose Rates:

Processing R.B. Sump:  
 1 m/hr. in operating areas  
 0.5 m/hr. in control areas

Processing RCS and R.B. Sump Flush Water  
 0.75 m/hr. operating area  
 0.25 m/hr. control areas

5. Manning:

2 Operators  
 2 HPs  
 2 Chemist  
 1 CRO

6. Occupancy times:

Weighted for each individual based on available information on how system will be operated.

7. Maintenance exposure is based on a percent of feed and processing time plus estimated exposures for replacement of specific components (surface suction pump, feed pump, off gas pump).
8. Dewatering and shipout of 40 SDS liners including IX liners, cations, pre-filters and final filters and leakage containment IX liners.
9. Down time exposure is based on a percent of processing exposure.
10. Management surveillance, engineering evaluation and operator training is based on a percent of processing, down time, liner handling, and maintenance.
11. Person-rem estimate is based on most current information available at this time.

It is to be noted that the manning levels are higher than those manning levels committed to in our previous letter, LL2-81-0101, dated April 24, 1981. Therefore, this estimate is deemed to be conservatively high.

It was assumed that dismantling of the system would be done on a priority basis and managed as a project with a dedicated work force. The dismantling would include all of SDS, WG-6 system including WG-P-1, valve alley and tank farm, and SWS-P-1 and associated system with restoration of tie-in points to existing system back to pre-accident conditions.

Person-Rem Estimate for Operation of SDS:

	Person-Rem
Basic Processing of 600,000 gallons of Reactor Containment Sump Water	14.6
Basic Processing of 750,000 gallons Water Generated from RCS Clean-Up Feed and Bleed Operations	11.1
Processing of R.B. Sump Flushing Water	7.3
Sump Water Polishing with EPICOR-II including Handling and Shipping Liners	4.0
Maintenance Operations	9.8
Dewatering and Shipping SDS Vessels	8.4
Systems in Standby	<u>3.1</u>
Subtotal	58.3
Management Surveillance, Engineering Evaluation and Operator Training: 10% of Subtotal	<u>5.8</u>
TOTAL	64.1 Person-Rem

L. H. Barrett

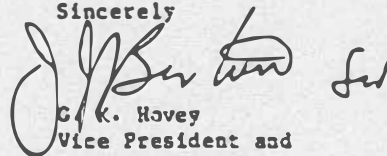
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Person-Rem Estimate for Decommissioning of SDS:

	Person-Rem	
Removal of all equipment inside pool	22.5	
Removal of all equipment above pool	9.0	
Removal of all equipment from surge tank	2.5	
Removal of all miscellaneous electric, structural, cabinets, ventilation, etc	.5	
Removal of WG-P-1, associated piping, valve alley excluding tank farm.	5.0	
Removal of all equipment in "A" spent fuel pool	16.0	
Removal of SWS System	<u>2.0</u>	
	Subtotal	57.5 1
Decon Support (20% of 1)	11.5	
Handling/shipout of waste (25% of 1)	<u>14.3</u>	
	Subtotal	83.3 2
Management Surveillance, Engineering Support, Safety, etc. (10% of 2)	<u>8.3</u>	
	TOTAL	<u>91.6 Person-Rem</u>
Summation:		
Operation of SDS	64.1	
Decommissioning of SDS	<u>91.6</u>	
	GRANDTOTAL	<u>155.7 Person-Rem</u>

Should you wish to discuss this matter further, please contact Mr. L. J. Lehman, Jr. of my staff.

Sincerely

  
C. K. Hovey  
Vice President and  
Director, TMI-2

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