

ATTACHMENT 1

TABULATION OF TMI WORKER EXPOSURES  
BY WORK AND JOB FUNCTION

JANUARY 1, 1995 THROUGH DECEMBER 31, 1995

NUMBER OF PERSONNEL AND PERSON REMS BY WORK AND JOB FUNCTION  
 (INTERNAL + EXTERNAL SRD)  
 GPU NUCLEAR TMI UNIT-1  
 REPORT PERIOD - 01/01/95 TO 12/31/95

JOB CATEGORY JOB FUNCTION	STATION PERSONNEL		UTILITY PERSONNEL		CONTRACTOR PERSONNEL	
REACTOR OPERATIONS/SURV.	NUMBER	REMS	NUMBER	REMS	NUMBER	REMS
MAINTENANCE PERSONNEL	108	1.891	5	.081	90	2.971
OPERATING PERSONNEL	108	11.695	1	.026	0	.000
HEALTH PHYSICS PERSONNEL	70	8.554	4	.356	23	1.658
SUPERVISORY PERSONNEL	78	2.566	9	.098	16	.946
ENGINEERING PERSONNEL	59	1.987	7	.119	7	.178
ADMINISTRATIVE PERSONNEL	89	.961	28	.179	13	.343
ROUTINE MAINTENANCE						
MAINTENANCE PERSONNEL	139	10.264	14	.255	397	5.182
OPERATING PERSONNEL	59	1.043	3	.001	4	.004
HEALTH PHYSICS PERSONNEL	28	.276	1	.003	6	.033
SUPERVISORY PERSONNEL	79	1.666	4	.002	16	.011
ENGINEERING PERSONNEL	75	.803	13	.059	16	.387
ADMINISTRATIVE PERSONNEL	118	.545	31	.096	21	.059
INSERVICE INSPECTION						
MAINTENANCE PERSONNEL	31	.883	1	.008	88	2.945
OPERATING PERSONNEL	6	.101	1	.049	1	.160
HEALTH PHYSICS PERSONNEL	5	.052	0	.000	1	.014
SUPERVISORY PERSONNEL	8	.485	1	.020	1	.013
ENGINEERING PERSONNEL	9	.028	4	.020	1	.104
ADMINISTRATIVE PERSONNEL	11	.614	2	.073	2	.012
SPECIAL MAINTENANCE						
MAINTENANCE PERSONNEL	125	11.874	6	.089	740	92.543
OPERATING PERSONNEL	59	3.742	0	.000	3	.379
HEALTH PHYSICS PERSONNEL	40	3.957	1	.327	13	3.855
SUPERVISORY PERSONNEL	47	1.980	2	.084	43	5.557
ENGINEERING PERSONNEL	45	2.263	7	.078	37	5.763
ADMINISTRATIVE PERSONNEL	27	1.599	3	.050	12	.350
WASTE PROCESSING						
MAINTENANCE PERSONNEL	56	1.189	1	.022	61	3.057
OPERATING PERSONNEL	63	8.446	0	.000	1	.127
HEALTH PHYSICS PERSONNEL	34	.624	1	.000	3	.107
SUPERVISORY PERSONNEL	25	.960	0	.000	2	.000
ENGINEERING PERSONNEL	8	.010	4	.000	3	.000
ADMINISTRATIVE PERSONNEL	10	.587	4	.000	1	.000
REFUELING						
MAINTENANCE PERSONNEL	91	5.736	1	.004	193	10.478
OPERATING PERSONNEL	85	4.047	0	.000	0	.000
HEALTH PHYSICS PERSONNEL	17	.705	3	.026	5	.232
SUPERVISORY PERSONNEL	25	1.584	2	.020	4	.513
ENGINEERING PERSONNEL	18	.516	4	.107	20	2.818
ADMINISTRATIVE PERSONNEL	21	.498	3	.122	7	.093

NUMBER OF PERSONNEL AND PERSON REMS BY WORK AND JOB FUNCTION  
 (INTERNAL + EXTERNAL SRD)  
 GPU NUCLEAR TMI UNIT-1  
 REPORT PERIOD - 01/01/95 TO 12/31/95

JOB CATEGORY JOB FUNCTION	STATION PERSONNEL		UTILITY PERSONNEL		CONTRACTOR PERSONNEL	
	NUMBER	REMS	NUMBER	REMS	NUMBER	REMS
* TOTAL BY JOB FUNCTION *						
MAINTENANCE PERSONNEL	150	31.837	19	.459	835	117.176
OPERATING PERSONNEL	116	29.074	3	.076	4	.670
HEALTH PHYSICS PERSONNEL	71	14.168	6	.712	26	5.899
SUPERVISORY PERSONNEL	101	9.241	12	.224	50	7.040
ENGINEERING PERSONNEL	102	5.607	26	.383	57	9.250
ADMINISTRATIVE PERSONNEL	138	4.799	60	.520	29	.857
** GRAND TOTAL **	678	94.726	126	2.374	1,001	140.892

NUMBER OF PERSONNEL AND PERSON REMS BY WORK AND JOB FUNCTION  
(INTERNAL + EXTERNAL SRD)  
GPU NUCLEAR TMI UNIT-2  
REPORT PERIOD - 01/01/95 TO 12/31/95

JOB CATEGORY JOB FUNCTION REACTOR OPERATIONS/SURV.	STATION PERSONNEL		UTILITY PERSONNEL		CONTRACTOR PERSONNEL	
	NUMBER	REMS	NUMBER	REMS	NUMBER	REMS
MAINTENANCE PERSONNEL	28	.232	1	.000	15	.002
OPERATING PERSONNEL	91	.255	0	.000	0	.000
HEALTH PHYSICS PERSONNEL	37	.466	1	.000	5	.009
SUPERVISORY PERSONNEL	19	.212	0	.000	4	.000
ENGINEERING PERSONNEL	8	.004	1	.000	0	.000
ADMINISTRATIVE PERSONNEL	10	.000	3	.001	2	.000
ROUTINE MAINTENANCE						
MAINTENANCE PERSONNEL	57	.008	0	.000	5	.000
OPERATING PERSONNEL	6	.000	0	.000	0	.000
HEALTH PHYSICS PERSONNEL	9	.005	0	.000	0	.000
SUPERVISORY PERSONNEL	3	.000	0	.000	0	.000
ENGINEERING PERSONNEL	2	.001	0	.000	0	.000
ADMINISTRATIVE PERSONNEL	1	.000	0	.000	0	.000
INSERVICE INSPECTION						
MAINTENANCE PERSONNEL	4	.343	0	.000	0	.000
OPERATING PERSONNEL	1	.000	0	.000	0	.000
HEALTH PHYSICS PERSONNEL	3	.293	0	.000	0	.000
SUPERVISORY PERSONNEL	2	.093	0	.000	0	.000
SPECIAL MAINTENANCE						
MAINTENANCE PERSONNEL	8	.000	0	.000	0	.000
OPERATING PERSONNEL	5	.000	0	.000	0	.000
HEALTH PHYSICS PERSONNEL	3	.000	0	.000	0	.000
WASTE PROCESSING						
MAINTENANCE PERSONNEL	1	.017	0	.000	1	.000
OPERATING PERSONNEL	7	.080	0	.000	0	.000

NUMBER OF PERSONNEL AND PERSON REMS BY WORK AND JOB FUNCTION  
 (INTERNAL + EXTERNAL SRD)  
 GPU NUCLEAR TMI UNIT-2  
 REPORT PERIOD - 01/01/95 TO 12/31/95

JOB CATEGORY JOB FUNCTION	STATION PERSONNEL		UTILITY PERSONNEL		CONTRACTOR PERSONNEL	
	NUMBER	REMS	NUMBER	REMS	NUMBER	REMS
* TOTAL BY JOB FUNCTION *						
MAINTENANCE PERSONNEL	71	.600	1	.000	20	.002
OPERATING PERSONNEL	95	.335	0	.000	0	.000
HEALTH PHYSICS PERSONNEL	39	.764	1	.000	5	.009
SUPERVISORY PERSONNEL	22	.305	0	.000	4	.000
ENGINEERING PERSONNEL	10	.005	1	.000	0	.000
ADMINISTRATIVE PERSONNEL	11	.000	3	.001	2	.000
** GRAND TOTAL **	248	2.009	6	.001	31	.011

ATTACHMENT II

AIRCRAFT MOVEMENTS AT  
THE HARRISBURG INTERNATIONAL AIRPORT

JANUARY 1, 1995 THROUGH DECEMBER 31, 1995

1. Total Aircraft Movements - 80,846
2. Total number of movements of aircraft larger than 200,000 pounds is estimated to be equal to or less than 200.

NOTE: For item 2, this data is based on discussion with the Harrisburg International Airport Tower. The number of movements of aircraft larger than 200,000 pounds is not tracked and the number given in this report is consistent with the estimates of prior years. The Harrisburg International Airport Tower is not required to (and does not) record aircraft movements by weight or plane category.

### ATTACHMENT III

#### TECHNICAL SPECIFICATION 6.9.1.B.3 PERIODIC LEAK REDUCTION PROGRAM TEST RESULTS

The results of the TMI-1 1995 periodic Leak Reduction Program Tests which included visual inspections are summarized in Table 1. The results of the TMI-1 1995 local leakrate tests are summarized in Table 2. These tests were performed in accordance with the referenced procedures.

TABLE 1 1995 LEAK REDUCTION PROGRAM TEST RESULTS FOR TMI					
SURVEILLANCE PROCEDURES (see Note 1)	DATE OF PERFORMANCE	LEAKING COMPONENT I.D.	LEAK RATE (ml/min)		MAINTENANCE UNDERTAKEN
			AS FOUND	AS LEFT	
1303-11.16	10-1-95	None	0	0	None
1303-11.27	9-1-95	None	0	0	None
1303-11.28	11-20-95	None	0	0	None
1303-11.29	11-14-95	None	0	0	None
1303-11.30	11-30-95	PI-1103	20	0	Tightened fitting
1303-11.31	10-8-95	FT-1	2	2	None
1303-11.32	7-1-95	None	0	0	None
1303-11.50	11-8-85	None	0	0	None
TOTAL LEAKAGE IN 1995			22	2	



ATTACHMENT III  
(continued)

TABLE 2 1995 LOCAL LEAK RATE TEST RESULTS FOR TMI-1					
SURVEILLANCE PROCEDURES (see Note 1)	DATE OF PERFORMANCE	LEAKING COMPONENT I.D.	LEAK RATE (sccm)		MAINTENANCE UNDERTAKEN
			AS FOUND	AS LEFT	
1303-11.18	Various	see Note 2	36934 (max) 16993 (min)	30426 (max) 16986 (min)	see Note 2

Note 1: 1303-11.16, "Decay Heat Removal System Leakage"  
 1303-11.18, "RB Local Leakrate Testing"  
 1303-11.27, "Makeup and Purification Leakage Check"  
 1303-11.28, "Liquid Waste System Leak Check"  
 1303-11.29, "Waste Gas Disposal System Leak Check"  
 1303-11.30, "Reactor Coolant Sampling Leakage Check"  
 1303-11.31, "Hydrogen Recombiner System Leak Check"  
 1303-11.32, "MU Pump Discharge and Letdown Leak Check"  
 1303-11.50, "Reactor Building Spray System Leakage Check"

Note 2: CA-V5A/5B      Cleaned and capped valve disk  
 CF-V20A            Replaced packing  
 CF-V20B            Replaced valve body  
 CM-V4              Adjusted operator



ATTACHMENT IV

PRESSURIZER POWER OPERATED RELIEF VALVE AND PRESSURIZER SAFETY  
VALVE CHALLENGES IN 1995

There were no pressurizer power operated relief valve or pressurizer safety valve challenges during 1995 in response to plant transients.

## ATTACHMENT V

### RESULTS OF SPECIFIC ACTIVITY ANALYSIS- PRIMARY COOLANT SYSTEM

Technical Specification 6.9.1.B.5 requires certain information regarding the results of specific activity analyses in which the primary coolant exceeded the limits of Technical Specification 3.1.4.1. Table 1 contains: a) the reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; b) the results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of the analysis while the limit was exceeded, and results of (at least) one analysis after radioiodine activity was reduced to less than the limit; c) the cleanup system (letdown) flow history starting 48 hours prior to the first sample in which the limit was exceeded; and d) the time duration when the specific activity of the primary coolant exceeded the radioiodine limit. Figure 1 contains a graph of the dose equivalent I-131 concentration for 1995. Figures 2a through 2c contain graphs of the I-131 concentration, the I-133 concentration, and the dose equivalent I-131 concentration as a function of time for the duration of the specific activity above the steady-state level.

TABLE 1

## IODINE DATA FOR 1995 ANNUAL REPORT

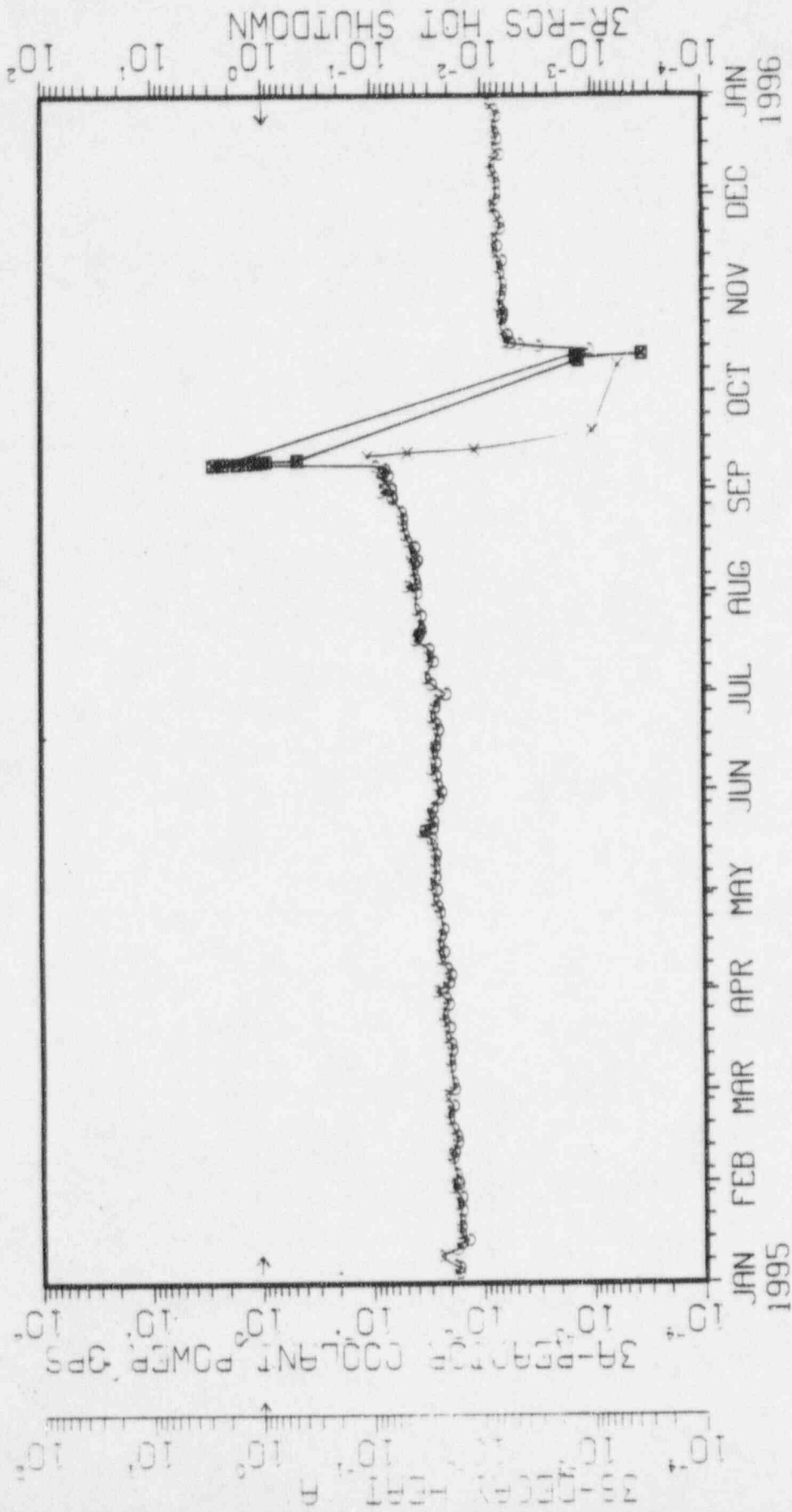
				RADIOIODINE CONCENTRATION (uCi/gm)					
SAMPLE DATE	TIME	POWER (%FP)	LETDOWN (GPM)	I-131	I-132	I-133	I-134	I-135	DOSE EQ I-131*
09/06/95	0730	100	52	0.0380	0.1010	0.0993	0.1200	0.1110	0.0798
09/07/95	0730	100	52	0.0351	0.0943	0.0904	0.1170	0.1040	0.0736
09/08/95	0800	100	52	0.0432	0.1140	0.1130	0.1350	0.1280	0.0909
09/08/95	2330	0	52	2.1500	0.8770	1.7400	0.0400	0.8010	2.7200
09/09/95	0330	0	52	1.8000	0.4860	1.3100	—	0.4410	2.2100
09/09/95	0700	0	56	1.3700	0.3050	0.9100	—	0.2290	1.6400
09/09/95	1100	0	70	—	—	—	—	—	1.3700
09/09/95	1500	0	66	0.9550	0.1210	0.5100	—	0.0803	1.1000
09/09/95	1900	0	68	0.8690	0.0897	0.4130	—	0.0468	0.9880
09/09/95	2300	0	68	0.8030	0.0715	0.3330	—	0.0313	0.8980
09/10/95	0715	0	75	0.4230	0.0384	0.1420	—	0.0067	0.4630

\* Time duration where the 1.0 uCi/gm limit was exceeded = 24 hours.

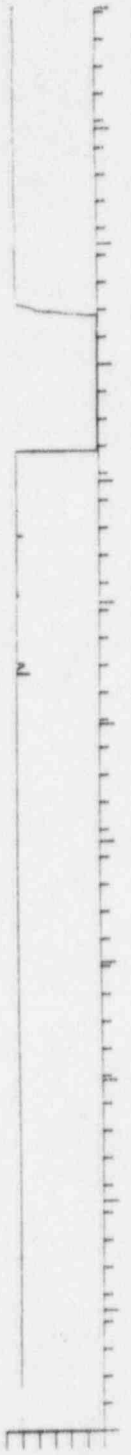
FIGURE 1

TMI #1 -# 01 DOSE EQUIVALENT IODINE  $\mu\text{CI}/\text{ML}$

01/01/95 TO 12/31/95 O = 3R X = 3%  
 →, ← = OPERATING LIMITS



POWER - 120%



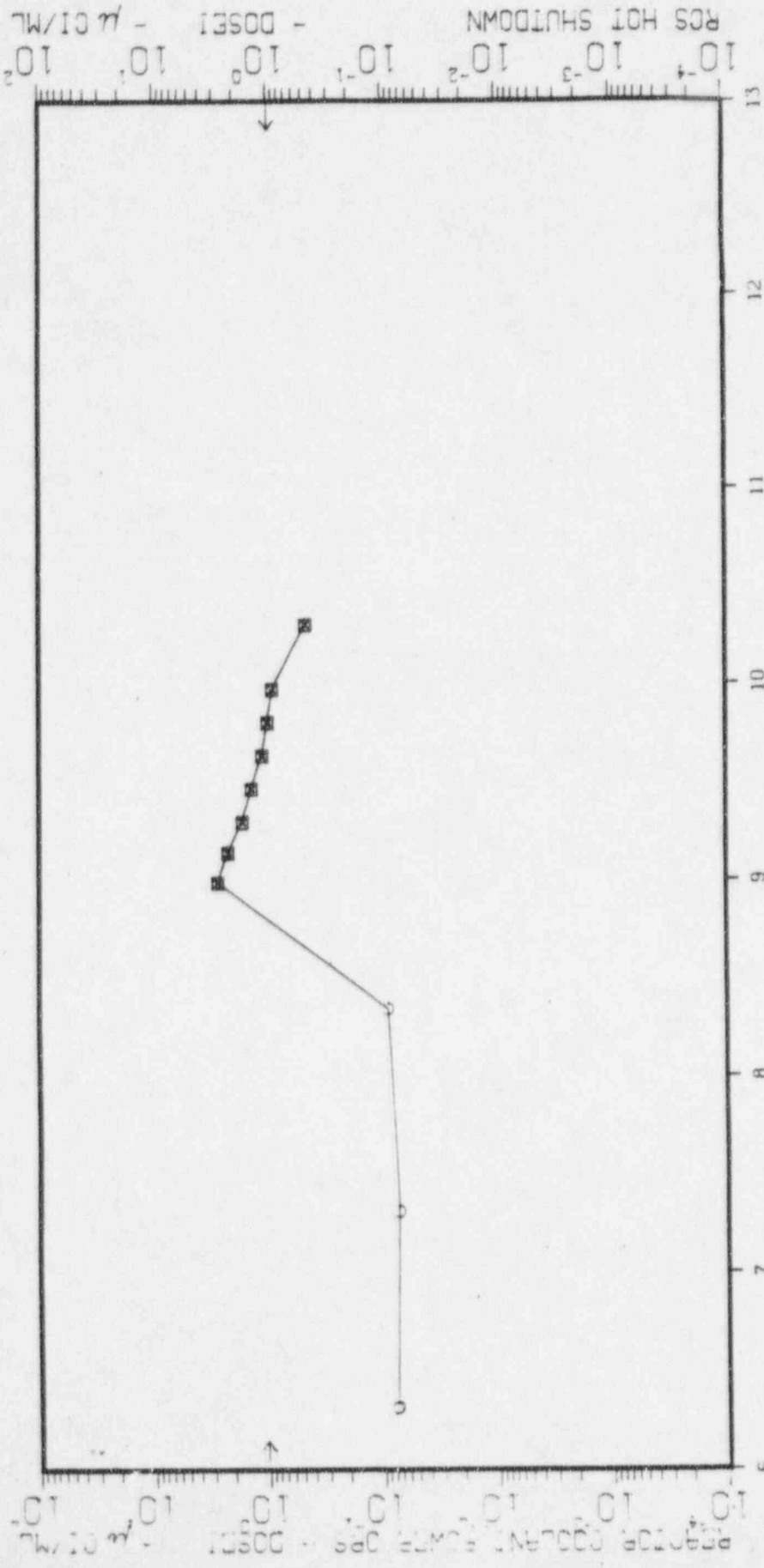
# ATTACHMENT V

## FIGURE 2a

TMI #1 -# 01 09/06/95 TO 09/12/95

□ = 3R/DOSEI

→, ← = OPERATING LIMITS



SEPTEMBER 1995

120%

OVER

ATTACHMENT V

FIGURE 2b

TMI #1 -# 01 RCS PROCESSED LIQUID

09/06/95 TO 09/12/95 G-21131



# ATTACHMENT V

## FIGURE 2c

TMI #1 -#01 RCS PROCESSED LIQUID

09/06/95 TO 09/12/95 G = Z1133





ATTACHMENT 6  
MAJOR CHANGES TO RAD WASTE TREATMENT SYSTEMS

In 1995, GPU Nuclear completed the majority of the modifications of the TMI-1 liquid waste disposal system that will enhance the system capability to reduce the amount of radioactivity released into the environment by improving the capability to polish effluent from the TMI-1 Miscellaneous Waste Evaporator. Additional tank storage and processing capability are available utilizing a newly modified liquid rad waste processing system installed in the Chemical Cleaning Building. Attached for your information are the safety evaluation of this plant modification (Attachment 1, GPU Nuclear Safety Evaluation SE 115302-052) and the modification design document (MDD-TI-232-B DIV1/2, Rev. 2, dated May 25, 1995)

The evaluation that determined the modification of the TMI-1 liquid rad waste disposal system did not pose an unreviewed safety question and was consistent with existing Technical Specifications is contained in Attachment 1. In summary, the change is acceptable because the use of the Chemical Cleaning Building does not increase the probability or consequences of a leak of liquid radwaste into the environment and, with the exception of the release point, does not interface with any other safety related portions of the plant.

Attachment 2 provides sufficient detailed information to totally support the reason for the change.

Attachment 1, Sections 2 and 3 and Attachment 2, in its entirety, provide a detailed description of the equipment, components and processes involved and the interfaces with other plant systems.

As stated in Attachment 1, Section 3.5, the modification will provide the ability to decrease the releases of radioactive materials in liquid effluents. Therefore, the amount of radioactive materials released via liquid effluents will continue to meet the limits of NPDES permit and Technical Specifications.

Attachment 1, Sections 3.5, 3.6, 3.8 and 3.10 conclusively demonstrate that the expected maximum exposures to individuals in the unrestricted area and to the general population will not differ from those previously estimated in the license application and amendments thereto.

Attachment 1, Sections 3.5, 3.6, 3.8 and 3.10 discusses predicted releases of radioactive materials resulting from the change. As previously stated, the modification will not result in any increase in liquid effluents to be released to the environment. Actual quantitative data is not available at this time because there has not been an annual radiological effluent report since the completion of the modification and there can be varying levels of effluent reduction depending on the system configuration.

An estimate of the exposures of plant operating personnel as a result of the modification has determined that there will be no significant change in the total annual exposure to operating personnel. (Reference TMI-1 Radiological Controls memorandum 6610-96-0051)

Attachment 1 is documentation of the fact that the change was reviewed and approved in accordance with Section 6.5.1 of the TMI-1 Technical Specifications.

ATTACHMENT 1 TO ATTACHMENT 6

SAFETY EVALUATION SE-115302-052