

Summary of Gaseous Releases to the
Environment at TMI During the Period of
March 28 through May 31, 1979

This enclosure lists the activity released of radioactive iodine and noble gases from Three Mile Island Nuclear Station during the period of March 28 through May 31, 1979. The information in the following table, which was prepared by Porter-Gertz Consultants, Inc., is based on direct measurements at charcoal adsorption filters located at building vents for I-131, and on thermoluminescent dosimetry data (TLD) for noble gases.

	<u>Atmospheric Releases</u>		
	<u>3/28/79- 3/31/79</u>	<u>4/1/79- 5/31/79</u>	<u>3/28/79- 5/31/79</u>
Total ¹³¹ I Released	4.57 Ci	9.6 Ci	14.17 Ci
Average ¹³¹ I Release Rate	13.2 μ Ci/sec	1.82 μ Ci/sec	2.52 μ Ci/sec
Highest Measured ¹³¹ I Release Rate During the Period ⁽¹⁾	22.5 μ Ci/sec ⁽²⁾	14.6 μ Ci/sec ⁽³⁾	22.5 μ Ci/sec
Total Noble Gases Released	8.8×10^6 Ci ⁽⁴⁾	1.4×10^6 Ci ⁽⁴⁾	1.0×10^7 Ci ⁽⁴⁾
Average Noble Gas Release Rate	25. Ci/sec	0.27 Ci/sec	1.78 Ci/sec
Instantaneous Max. Noble Gas Release Rate	55. Ci/sec	5.8 Ci/sec	55. Ci/sec

We have made calculations of releases based upon, not actual direct filter measurements for I-131 as was done for the data presented above, but on air sample measurements. These calculations are not considered as accurate as the ones presented above (as they are based on a back calculation method), but serve as a check on the ones above. The results of the calculational method was 10-15 curies for I-131 and are in good agreement with those of the table. Our calculations for noble gases based on the TLD data also resulted in agreement with the above values.

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REFERENCES

- (1) During the period from March 28, 1979 until May 28, 1979 (except for 8 hours on April 28) the TMI Technical Specifications for instantaneous discharges were not satisfied. On May 2, 1979, the station was once again in full compliance with the TMI-TS for instantaneous discharges of I-131.
- (2) Data obtained from GeLi analysis of charcoal cartridge from Unit 2 Station Vent (HPR-219) for a sampling period of $1.73E+5$ sec (1900, 3/28/79 to 1900, 3/29/79). This was the highest measured release rate during the period.
- (3) Data obtained from GeLi analysis of charcoal cartridge from Unit 2 Station Vent (HPR-219) for a sampling period of $3.6E+3$ sec (1300, 4/14/79 to 1400, 4/14/79). This was the highest measured release rate during the period.
- (4) From Table 4.4, Pickard, Lowe and Garrick, Draft Assessment of Offsite Radiation Doses Following the TMI Unit 2 Accident (TDR-TMI-116). The instantaneous release rate was extrapolated from TLD measurements made during the period (0700, 3/28/79 to 1600, 3/29/79) $1.19E+5$ sec. The activity of the noble gases released during this period was estimated to be $6.6E+6$ curies.

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