

7908300466

RETURN TO REACTOR DOCKET  
FILES

## REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50 - 10

YEAR: 1979

50-10/237/249  
7908300459  
JN 829-79

I. Gaseous Effluents	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity Releases									
a) Total Release	curies	<LLD	6.1E+00	<LLD	<LLD	<LLD	<LLD	6.1E+00	
b) Maximum Release Rate (daily grab sample)	uCi/sec	---	7.1E+01	---	---	---	---	7.1E+01	
c) Isotopes Released									
Kr-85m	curies	---	---	---	---	---	---	---	
Kr-87	curies	---	---	---	---	---	---	---	
Kr-88	curies	---	---	---	---	---	---	---	
Xe-133	curies	---	6.1E00	---	---	---	---	6.1E00	
Xe-135	curies	---	---	---	---	---	---	---	
Xe-135m	curies	---	---	---	---	---	---	---	
Xe-138	curies	---	---	---	---	---	---	---	
d) Percent of Chimney Limit	%	---	0.01	---	---	---	---	0.01	
e) Average Release Rate	uCi/sec	---	2.5E+00	---	---	---	---	3.9E-01	
2. Iodine Releases									
a) Isotopes Released									
I-131	curies	1.6E-04	7.8E-05	2.8E-04	2.8E-04	2.7E-04	2.6E-04	1.3E-03	
I-133	curies	---	---	---	---	---	---	---	
I-135	curies	---	---	---	---	---	---	---	
b) Percent of Chimney Limit	%	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
c) Average Release Rate	uCi/sec	6.1E-05	3.2E-05	1.0E-04	1.1E-04	1.0E-04	1.0E-04	8.3E-05	

Chimney

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50-10

YEAR: 1979

I. Gaseous Effluents (continued)	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
3. Particulate Releases	milli--								
a) Gross Radioactivity (Bq)	curies	3.01	2.09	1.21	0.47	0.99	1.51	9.28	
b) Gross Alpha Radioactivity	mCi								
c) Isotopes Released	mCi								
Fe-59	mCi	---	---	---	0.13	---	---	0.13	
Ni-54	mCi	0.10	0.08	---	---	0.05	0.14	0.37	
Co-58	mCi	0.40	0.14	0.03	0.07	---	0.03	0.67	
Co-60	mCi	1.66	1.15	0.70	0.05	0.71	0.93	5.20	
Sr-89	mCi	0.14	0.13	0.04	0.04	0.03	0.02	0.40	
Sr-90	mCi	0.07	0.03	0.02	0.02	0.01	0.01	0.16	
Zr-95	mCi								
Nb-95	mCi								
Ru-103	mCi	0.29	0.33	---	---	---	---	0.62	
I-131	mCi								
Cs-134	mCi	0.22	0.04	0.09	0.07	0.05	0.09	0.56	
Cs-137	mCi	0.13	0.19	0.33	0.09	0.14	0.20	1.08	
Ba-140	mCi	---	---	---	---	---	---	---	
Ce-141	mCi	---	---	---	---	---	---	---	
Ce-144	mCi	---	---	---	---	---	0.09	0.09	
d) Percent of chimney limit	%	0.05	0.04	0.02	0.01	0.02	0.02	0.02	
e) Average release rate	uCi/sec	1.1E-03	8.6E-04	4.5E-04	1.8E-04	3.7E-04	5.8E-04	5.9E-04	
4. Sum of Iodines & Particulates									
a) Percent of Chimney Limit	%	0.05	0.04	0.02	0.01	0.02	0.03	0.03	
5. Gaseous Tritium									
a) Total Release	curies	1.4E+00	1.6E+00	2.0E+00	1.6E+00	< LLD	9.3E-02	6.7E+00	
b) Average Release Rate	uCi/sec	5.3E-01	6.7E-01	7.4E-01	6.1E-01	< LLD	3.6E-02	4.3E-01	

# REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50-10

YEAR: 1979

II. Liquid Effluents	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity ( $\beta$ - $\gamma$ )									
a) Total Release	Curies	3.4E-03	5.5E-03	3.8E-03	2.3E-03	6.4E-03	2.1E-03	2.4E-02	
b) Average Concentration Released	uci/ml	1.6E-10	2.8E-10	1.8E-10	1.1E-10	2.6E-10	8.1E-11	1.7E-10	6.6D.1.e.(1)
c) Maximum Concentration Released	uci/ml	1.9E-08	2.0E-08	1.9E-08	1.9E-08	2.6E-08	1.8E-08	2.6E-08	6.6D.1.e.(4)
d) Percent of Tech Spec Limit	%	0.16	0.28	0.18	0.11	0.26	0.08	0.17	6.6D.1.e.(5)
based on average conc. released									6.6D.1.e.(6)
2. Tritium									
a) Total Release	Curies	3.6E-01	7.1E-01	3.8E-03	1.8E-02	2.9E-01	1.2E-01	1.5E+00	6.6D.1.e.(8)
b) Average Concentration Released	uci/ml	1.6E-08	3.6E-08	1.7E-10	8.7E-10	1.2E-08	4.6E-09	1.1E-08	
c) Percent of Tech Spec Limit	%	NONE	NONE	NONE	NONE	NONE	NONE	NONE	
3. Dissolved Noble Gases									
a) Total Release	Curies	NONE	NONE	NONE	NONE	NONE	NONE	NONE	
b) Average Concentration Released	uci/ml	---	---	---	---	---	---	---	
c) Percent of Tech Spec Limit	%	---	---	---	---	---	---	---	
4. Gross Alpha Radioactivity									
a) Total Release	Curies	1.9E-05	2.9E-05	2.7E-06	2.4E-06	3.8E-06	1.5E-06	5.8E-05	
b) Average Concentration Released	uci/ml	8.8E-13	1.5E-12	1.2E-13	1.1E-13	1.6E-13	5.7E-14	4.7E-13	
5. Volume of Liquid Waste to Discharge Canal	Liters	7.5E+04	1.2E+05	4.0E+04	3.7E+04	4.6E+04	1.9E+04	3.4E+05	6.6D.1.e.(2)
6. Volume of Dilution Water	Liters	2.2E+10	2.0E+10	2.2E+10	2.1E+10	2.4E+10	2.6E+10	1.4E+11	6.6D.1.e.(3)

## REPORT OF RADIOACTIVE EFFLUENTS

**FACILITY:** Dresden Nuclear Power Station & Unit 1

DOCKET NOS.: 50 - 10

**YEAR:** 1979

## II. Liquid Effluents (continued)

[illegible]

# REPORT OF RADIOACTIVE EFFLUENTS

Facility: Dresden Nuclear Power Station-Units 2/3

Docket NOS.: 50-237, 50-249

Year: 1979

I. Gaseous Effluents	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. RE
1. Gross Radioactivity Releases									
a) Total Release 2/3 chimney	curies	2.3E+02	1.4E+03	4.5E+02	1.9E+03	4.7E+03	3.5E+03	1.2E+04	6.6D.1.f. (1)
b) Maximum Release Rate (daily grab sample)	uCi/sec	5.4E+02	4.0E+03	4.1E+02	1.1E+04	7.5E+03	1.9E+03	1.1E+04	6.6D.1.f. (2)
c) Isotopes Released									6.6D.1.f. (4)
Kr-85m	curies	-	5.7E+01	-	9.1E+01	1.0E+02	7.5E+01	3.2E+02	
Kr-87	curies	-	4.3E+01	-	-	1.8E+02	9.8E+01	3.2E+02	
Kr-88	curies	-	1.2E+02	-	2.3E+02	2.8E+02	1.7E+02	8.0E+02	
Xe-133	curies	-	4.8E+01	4.5E+02	8.0E+01	1.3E+02	1.0E+02	8.1E+02	
Xe-135	curies	2.3E+02	3.8E+02	-	5.5E+02	8.2E+02	5.5E+02	2.5E+03	
Xe-135m	curies	-	4.9E+01	-	-	6.0E+02	2.6E+02	9.1E+02	
Xe-133	curies	-	7.0E+02	-	9.5E+02	2.6E+03	2.2E+03	6.5E+03	
d) Percent of Chimney Limit	%	0.01	0.07	0.02	0.10	0.21	0.15	0.11	6.6D.1.f. (3)
e) Average Release Rate	uCi/sec	8.5E+01	5.6E+02	1.7E+02	7.2E+02	1.8E+03	1.3E+03	7.7E+02	
2. Chimney Iodine Releases									6.6D.1.f. (1)
a) Isotopes Released									
I-131	curies	9.3E-03	5.1E-02	2.9E-02	1.9E-02	1.3E-01	1.7E-01	4.1E-01	
I-133	curies	-	6.0E-01	1.4E-01	-	1.2E00	1.6E00	3.5E00	
I-135	curies	-	1.4E00	5.6E-01	-	1.8E00	2.5E00	6.3E00	
b) Percent of Chimney Limit	%	0.10	0.58	0.31	0.21	1.17	1.51	0.75	6.6D.1.f. (3)
c) Average Release Rate	uCi/sec	3.5E-03	2.1E-02	1.1E-02	7.3E-03	4.9E-02	6.4E-02	2.6E-02	

# REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1979

I. Gaseous Effluents(continued)	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
3. Chimney Particulate Release									
a) Gross Radioactivity(G-v)	milli-curies	48.33	163.91	79.47	48.61	434.25	588.99	1363.56	6.6D.1.f.(1)
b) Gross Alpha Radioactivity	mCi								
c) Isotopes Released									6.6D.1.f.(1)
Ru-103	mCi	-	-	0.80	-	-	-	0.80	
Mn-54	mCi	-	-	0.56	10.02	0.83	4.01	15.42	
Co-58	mCi	0.17	8.77	-	-	0.48	-	9.42	
Co-60	mCi	0.91	1.10	4.34	35.65	5.56	25.97	73.53	
Sr-90	mCi	11.97	94.53	6.99	1.65	189.98	337.67	642.79	
Sr-90	mCi	1.37	0.24	0.03	0.58	0.56	1.06	3.84	
I-131	mCi	5.41	2.47	5.59	-	42.08	75.33	130.88	
Cs-134	mCi	1.14	-	-	-	-	2.06	3.20	
Cs-137	mCi	-	1.43	0.56	0.71	2.74	7.01	12.45	
Ba-140	mCi	27.36	51.76	60.60	-	189.98	129.87	459.57	
Ce-141	mCi	-	-	-	-	2.04	6.01	8.05	
Ce-144	mCi	-	3.61	-	-	-	-	3.61	
d) Percent of Chimney Limit	%	0.52	1.81	0.85	0.54	3.90	5.33	2.49	6.6D.1.f.(3)
e) Average Release Rate	uCi/sec	1.8E-02	6.8E-02	3.0E-02	1.9E-02	1.6E-01	2.3E-01	8.7E-02	
4. Vent Stack Iodine Release									6.6D.1.f.(1)
a) Isotopes Released									
I-131	curies	1.6E-03	9.5E-03	3.6E-03	4.3E-03	1.7E-02	1.9E-02	5.5E-02	
I-133	curies	5.0E-03	4.7E-03	1.0E-02	-	7.0E-02	1.3E-01	2.2E-01	
I-135	curies	-	-	8.0E-02	-	2.1E-01	3.3E-01	6.2E-01	
b) Percent of Vent Stack Limit	%	0.50	3.27	1.12	1.38	5.38	6.26	2.93	6.6D.1.f.(3)
c) Average Release Rate	uCi/sec	6.0E-04	3.9E-03	1.3E-03	1.7E-03	6.5E-03	7.5E-03	3.5E-03	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1979

I. Gaseous Effluents (Continued)	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
5. Vent Stack Particulate Release	milli-								
(a) Gross Radioactivity (B-Y)	curies	10.41	87.42	17.85	41.34	61.97	135.77	354.76	
(b) Gross Alpha Radioactivity	mCi								6.6D.1.f.(1)
(c) Isotopes Released									
Cr-51	mCi	2.27	5.24	3.35	-	8.29	69.57	88.72	6.6D.1.f.(1)
Mn-54	mCi	0.32	7.36	0.91	5.73	3.16	1.48	18.96	
Cu-58	mCi	0.40	3.92	0.22	1.57	0.93	2.40	9.44	
Fe-59	mCi	0.12	0.17	-	0.86	0.48	0.51	2.14	
Cu-60	mCi	2.27	52.32	7.66	27.05	15.77	7.52	112.59	
Zn-65	mCi	-	-	-	-	-	0.67	0.67	
Sr-89	mCi	0.39	2.06	0.62	0.18	2.52	1.60	7.37	
Sr-90	mCi	0.16	0.41	0.04	0.29	0.35	0.28	1.53	
Zr-95	mCi	0.06	-	-	0.40	0.16	0.49	1.11	
Nb-95	mCi	0.02	-	-	0.78	0.22	0.07	1.09	
Ru-103	mCi	0.01	-	-	0.40	0.10	0.16	0.67	
(continued on next page)									
(d) Percent Vent Stack Limit	%	3.24	30.11	5.55	13.29	19.28	43.65	18.90	6.6D.1.f.(3)
(e) Average Release Rate	uCi/sec	3.9E-03	3.6E-02	6.7E-03	1.6E-02	2.3E-02	5.2E-02	2.3E-02	
6. Sum of Iodine and Particulate									
a) Percent of Chimney Limit	%	0.62	2.39	1.15	0.74	5.07	6.84	3.24	6.6D.1.f.(3)
b) Percent of Vent Stack Limit	%	3.74	33.39	6.68	14.68	24.66	49.91	21.84	
7. Gaseous Tritium									
a) Release	curies	1.9E+01	1.7E+01	1.6E+01	1.4E+01	1.6E+01	9.8E+00	9.2E+01	
b) Average Release Rate	uCi/sec	7.0E+00	7.0E+00	6.0E+00	5.3E+00	5.9E+00	3.8E+00	5.9E+00	
c) Percent Tech Spec Limit	%	NA	NA	NA	NA	NA	NA	NA	

## REPORT OF RADIOACTIVE EFFLUENTS

EACILITY: DRESDEN NUCLEAR POWER STATION-UNITS 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1979

[illegible]



## REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-219

**YEAR:** 1979

[illegible]

# REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1979

II. Liquid Effluents (continued)	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
8. Gross Radioactivity (d.f.) LPCI Service H <sub>2</sub> O Heat Exchanger									
a) Total Release	Milli-Curies	1.43	0.28	0.96	1.24	3.18	0.14	7.23	
b) Average Concentration Released*	uci/ml	2.1E-11	2.9E-12	5.6E-12	1.1E-11	1.9E-11	8.2E-13	9.2E-12	
c) Maximum Concentration Released†	uci/ml	2.3E-07	5.7E-08	1.0E-07	1.2E-07	1.4E-07	2.4E-08	2.3E-07	
d) Percent of Tech Spec Limit	%	0.02	0.01	0.01	0.01	0.02	0.01	0.01	
based on average conc released									
9. Tritium									
a) Total Release	Curies	7.5E-01	2.1E-01	4.4E-01	5.3E-03	1.6E-02	1.3E-04	1.4E00	
b) Average Concentration Released	uci/ml	1.1E-08	2.1E-09	2.6E-09	4.8E-11	9.4E-11	7.6E-13	1.8E-09	
c) Percent of Tech Spec Limit	%	NA	NA	NA	NA	NA	NA	NA	
10. Dissolved Noble Gases									
a) Total Release	Curies	NONE	NONE	NONE	NONE	NONE	NONE	NONE	
b) Average Concentration Released	uci/ml	---	---	---	---	---	---	---	
c) Percent of Tech Spec Limit	%	---	---	---	---	---	---	---	
11. Gross Alpha Radioactivity									
a) Total Release	Curies	3.2E-05	NONE	2.4E-06	1.8E-06	3.2E-05	5.1E-06	7.3E-05	
b) Average Concentration Released	uci/ml	4.7E-13	---	1.4E-14	1.6E-14	1.9E-13	3.0E-14	9.2E-14	
12. Volume of Liquid Waste to Discharge Canal	Liters	2.8E+05	6.6E04	6.6E+04	1.6E+05	2.6E+05	3.3E+04	8.7E+05	
13. Volume of Dilution Water	Liters	6.8E+10	9.8E10	1.7E+11	1.1E+11	1.7E+11	1.7E+11	7.9E+11	

\*Prior to dilution by 1275 acre cooling lake and subsequent discharge to Illinois River.

## 1

**FACILITY:** Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-2112

YEAR: 1979

[illegible]

# REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1979

## II. Liquid Effluents

	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity ( $\beta\text{-}\gamma$ )									
a) Total Release ( $2/3$ Radwaste)	Curies	NO DISCHARGE	1.6E-02	8.7E-03	1.3E-01	3.0E-02	No Discharge	1.8E-01	
b) Average Concentration Released	uci/ml		2.2E-09	9.9E-11	1.6E-09	2.2E-10		5.8E-10	
c) Maximum Concentration Released	uci/ml		3.1E-08	1.2E-08	4.3E-08	7.9E-09		4.3E-08	
d) Percent of Tech Spec Limit	%		2.2	0.1	1.6	0.2		0.6	
based on average conc. released									
2. Tritium									
a) Total Release	Curies		3.3E+00	4.6E-04	1.2E+01	2.1E+00		1.7E+01	
b) Average Concentration Released	uci/ml		4.3E-07	5.3E-12	1.5E-07	1.5E-08		5.5E-08	
c) Percent of Tech Spec Limit	%		NA	NA	NA	NA		NA	
3. Dissolved Noble Gases									
a) Total Release	Curies		NONE	NONE	NONE	NONE		NONE	
b) Average Concentration Released	uci/ml		---	---	---	---		-	
c) Percent of Tech Spec Limit	%		---	---	---	---		-	
4. Gross Alpha Radioactivity									
a) Total Release	Curies		1.6E-05	5.4E-06	1.6E-04	2.8E-05		2.1E-04	
b) Average Concentration Released	uci/ml		2.1E-12	6.2E-14	2.0E-12	2.1E-13		6.8E-13	
5. Volume of Liquid Waste to Discharge Canal	Liters		5.2E+05	3.8E+05	2.5E+06	6.1E+05		4.0E+06	
6. Volume of Dilution Water	Liters		7.6E+09	8.7E+10	8.0E+10	1.4E+11		3.1E+11	

## REPORT OF RADIOACTIVE EFFLUENTS

**Facility:** Dresden Nuclear Power Station-Units 2/3

DOCKET NOS.: 50-237, 50-249

**YEAR:** 1979

[illegible]

# REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station

DOCKET NOS.: 50-10, 50-237, 50-549

YEAR: 1979

I. Solid Waste Shipped Offsite For Burial or Disposal		UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
1. Spent Resins, Filter Sludges, Evaporator Bottoms, etc.										
a) Quantity Shipped	cubic meters	87.5	65.0	69.0	98.3	61.9	46.3	428.0	6.5.D.g.(1)	
b) Radioactivity	curies	44.3	40.6	203.6	14.3	39.1	45.0	386.9	6.5.D.g.(2)	
2. Dry compressible waste, contaminated equipment, etc.										
a) Quantity Shipped	cubic meters	51.6	21.4	36.2	26.1	29.8	62.3	227.4	6.5.D.g.(1)	
b) Radioactivity	curies	4.0	0.5	11.7	1.6	6.3	4.0	28.1	6.5.D.g.(2)	
II. Solid Waste Shipped Offsite For Burial or Disposal (Processed by contractor)										
1. Spent Resins, Filter Sludges, evaporator bottoms, etc.										
a) Quantity Shipped	cubic meters	0	0	0	0	0	0	0	6.5.D.g.(1)	
b) Radioactivity	curies	0	0	0	0	0	0	0	6.5.D.g.(2)	
2. Dry Compressible Waste, contaminated equipment, etc.										
a) Quantity	cubic meters	0	0	0	0	0	0	0	6.5.D.g.(1)	
b) Radioactivity	curies	0	0	0	0	0	0	0	6.5.D.g.(2)	

# DRESDEN NUCLEAR POWER STATION

## SOLID WASTE DISPOSITION

YEAR 1979

MONTH	NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
January	22	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
February	14	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
March	15	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
April	10	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
April	5	Motor Freight (Exclusive Use Only)	Richland, WA
May	15	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
May	2	Motor Freight (Exclusive Use Only)	Richland, WA
June	17	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
June	2	Motor Freight (Exclusive Use Only)	Richland, WA