

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station-Units 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1979

I. Gaseous Effluents	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity Releases									
a) Total Release 2/3 chimney	curies	3657.3	3480.0	3103.6	4825.6	2079.2	1625.0	18770.7	6.6D.1.f. (1)
b) Maximum Release Rate (daily grab sample)	uCi/sec.	3.8E+03	1.8E+03	2.3E+03	2.7E+03	2.8E+03	1.2E+03	3.8E+03	6.6D.1.f. (2)
c) Isotopes Released									6.6D.1.f. (4)
Kr-85m	curies	66.9	71.7	45.3	73.8	67.8	51.8	377.3	
Kr-87	curies	86.7	137.1	105.5	98.9	94.0	47.8	570.0	
Kr-88	curies	186.9	122.5	105.5	213.8	211.5	150.3	990.5	
Xe-133	curies	77.9	91.2	54.6	164.6	75.7	54.3	518.3	
Xe-135	curies	503.3	435.7	361.9	617.2	546.6	470.9	2935.6	
Xe-135m	curies	434.1	361.2	374.9	428.0	211.2	140.9	1950.3	
Xe-138	curies	2301.5	2260.6	2055.9	3229.3	872.4	709.0	11428.7	
d) Percent of Chimney Limit	%	0.15	0.15	0.13	0.22	0.09	0.07	0.13	6.6D.1.f. (3)
e) Average Release Rate	uCi/sec.	1.4E+03	1.3E+03	1.2E+03	1.8E+03	8.0E+02	6.1E+02	1.2E+03	
2. Chimney Iodine Releases									6.6D.1.f. (1)
a) Isotopes Released									
I-131	curies	1.6E-01	1.6E-01	1.4E-01	1.1E-01	1.5E-01	1.2E-01	8.4E-01	
I-133	curies	1.3E00	1.2E00	1.2E-01	7.9E-01	1.8E00	1.2E00	6.4E00	
I-135	curies	2.3E00	2.1E00	2.1E-01	5.6E00	3.1E00	1.6E00	1.5E+01	
b) Percent of Chimney Limit	%	1.39	1.35	1.25	1.06	1.41	1.08	1.23	6.6D.1.f. (3)
c) Average Release Rate	uCi/sec.	5.9E-02	5.8E-02	5.2E-02	4.3E-02	6.0E-02	4.5E-02	5.3E-02	

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FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1979

I. Gaseous Effluents(continued)	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
3. Chimney Particulate Release									
a) Gross Radioactivity(β - γ)	milli-curies	722.16	631.28	589.48	568.29	608.64	451.29	3571.14	6.6D.1.f.(1)
b) Gross Alpha Radioactivity	mCi.								
c) Isotopes Released									6.6D.1.f.(1)
Cr-51	mCi.	---	---	---	---	---	2.93	2.93	
Mn-54	mCi	3.11	1.52	0.59	0.91	0.61	1.94	8.68	
Co-58	mCi	---	---	---	---	---	0.81	0.81	
Co-60	mCi	30.69	7.26	4.95	3.24	14.24	4.06	64.44	
Sr-90	mCi	387.22	389.94	214.10	154.29	209.07	157.50	1512.12	
Sr-90	mCi	1.37	0.88	0.94	0.68	0.91	0.68	5.46	
I-131	mCi	51.92	32.39	58.24	30.86	57.70	22.20	253.31	
Cs-134/Cs-136	mCi	1.23/---	---/1.07	---/---	---/---	---/---	---/---	1.23/1.07	
Cs-137	mCi	2.24	3.85	2.71	6.59	11.75	3.16	30.30	
Ba-140	mCi	240.84	191.66	282.60	371.72	309.43	243.43	1639.68	
Ce-141	mCi	3.54	2.08	22.28	---	4.93	3.43	36.26	
Zr-95/Nb-95	mCi	---/---	---/---	---/---	---/---	---/---	4.92/4.42	4.92/4.42	
Ru-103	mCi	---	0.63	3.07	---	---	1.81	5.51	
d) Percent of Chimney Limit	%	6.31	5.51	5.37	5.27	5.48	3.99	5.22	6.6D.1.f.(3)
e) Average Release Rate	uCi/sec	2.7E-01	2.4E-01	2.3E-01	2.1E-01	2.3E-01	1.7E-01	2.2E-01	
4. Vent Stack Iodine Release									6.6D.1.f.(1)
a) Isotopes Released									
I-131	curies	1.8E-02	1.3E-02	2.2E-02	1.2E-02	1.7E-02	2.0E-02	1.0E-01	
I-133	curies	5.2E-02	5.4E-02	2.5E-02	5.5E-02	8.0E-02	1.1E-01	3.8E-01	
I-135	curies	1.4E-01	1.0E-01	4.1E-02	7.2E-02	1.6E-01	2.8E-01	7.9E-01	
b) Percent of Vent Stack Limit	%	5.56	4.04	6.94	3.72	5.49	6.18	5.24	6.6D.1.f.(3)
c) Average Release Rate	uCi/sec	6.7E-03	4.9E-03	8.3E-03	4.5E-03	6.6E-03	7.4E-03	6.3E-03	

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	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REP.
8. Gross Radioactivity (β - γ) LPCI Service H ₂ O Heat Exchanger										
a) Total Release	Milli-Curies	9.31	2.88	11.17	21.78	8.42	19.40	72.96		
b) Average Concentration Released	uci/ml	5.5E-11	1.7E-11	6.6E-11	1.6E-10	6.5E-11	1.4E-10	7.9E-11		
c) Maximum Concentration Released	uci/ml	8.6E-07	4.5E-07	1.0E-06	1.6E-06	1.5E-06	1.8E-06	1.8E-06		
d) Percent of Tech Spec Limit based on average conc released	%	0.06	0.02	0.07	0.16	0.07	0.14	0.08		
9. Tritium										
a) Total Release	Curies	2.3E-01	4.0E-02	7.0E-02	1.0E-01	5.8E-02	4.9E-02	5.5E-01		
b) Average Concentration Released	uci/ml	1.4E-09	2.3E-10	4.1E-10	7.1E-10	4.4E-10	3.5E-10	5.9E-10		
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	3.0E-06	1.3E-06	2.6E-06	6.1E-06	4.0E-06	1.4E-05	3.1E-05		
b) Average Concentration Released	uci/ml	1.8E-14	7.6E-15	1.5E-14	4.4E-14	3.1E-14	1.0E-13	3.4E-14		
12. Volume of Liquid Waste to Discharge Canal		Liters	3.0E+05	2.8E+05	1.6E+05	2.8E+05	3.9E+05	2.1E+05	1.6E+06	
13. Volume of Dilution Water		Liters	1.7E+11	1.7E+11	1.7E+11	1.4E+11	1.3E+11	1.4E+11	9.2E+11	

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

DRESDEN NUCLEAR POWER STATION

SOLID WASTE DISPOSITION

YEAR 1979

MONTH	NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
JULY	12	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
JULY	1	Motor Freight (Exclusive Use Only)	Richland, Wash.
AUGUST	26	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
AUGUST	5	Motor Freight (Exclusive Use Only)	Beatty, NV
AUGUST	3	Motor Freight (Exclusive Use Only)	Richland, Wash.
SEPTEMBER	11	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
SEPTEMBER	1	Motor Freight (Exclusive Use Only)	Richland, Wash.
OCTOBER	3	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
NOVEMBER	1	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
DECEMBER	4	Motor Freight (Exclusive Use Only)	Barnwell, S.C.

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50 - 10

YEAR: 1979

I. Gaseous Effluents	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REP.
1. Gross Radioactivity Releases									
a) Total Release	curies	72.1	<LLD	<LLD	86.4	12.8	6.2	177.5	
b) Maximum Release Rate (daily grab sample)	µCi/sec	4.2E+02	---	---	1.0E+01	1.2E+02	7.2E+01	4.2E+02	
c) Isotopes Released									
Kr-85m	curies	---	---	---	---	---	---	---	
Kr-87	curies	---	---	---	---	---	---	---	
Kr-88	curies	---	---	---	---	---	---	---	
Xe-133	curies	72.1	---	---	86.4	12.8	6.2	177.5	
Xe-135	curies	---	---	---	---	---	---	---	
Xe-135m	curies	---	---	---	---	---	---	---	
Xe-138	curies	---	---	---	---	---	---	---	
d) Percent of Chimney Limit	%	0.01	---	---	0.01	0.01	0.01	0.01	
e) Average Release Rate	µCi/sec	2.7E+01	---	---	3.2E-01	4.9E+00	2.3E+00	1.1E+01	
2. Iodine Releases									
a) Isotopes Released									
I-131	curies	2.7E-04	2.7E-04	2.6E-04	2.9E-04	3.4E-04	3.5E-04	1.8E-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	µCi/sec	1.0E-04	1.0E-04	1.0E-04	1.1E-04	1.3E-04	1.3E-04	1.1E-04	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50-10

YEAR: 1979

II. Liquid Effluents	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity (β - γ)									
a) Total Release	Curies	2.5E-04	2.7E-03	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	3.0E-03	
b) Average Concentration Released	uci/ml	1.2E-11	9.8E-11					6.0E-11	6.6D.1.e.(1)
c) Maximum Concentration Released	uci/ml	5.0E-09	2.2E-08					2.2E-08	6.6D.1.e.(h)
d) Percent of Tech Spec Limit	%	0.01	0.10					0.06	6.6D.1.e.(5)
based on average conc. released									6.6D.1.e.(6)
2. Tritium									
a) Total Release	Curies	3.8E-05	1.6E-04					2.0E-04	6.6D.1.e.(8)
b) Average Concentration Released	uci/ml	1.7E-12	5.8E-12					4.0E-12	
c) Percent of Tech Spec Limit	%								
3. Dissolved Noble Gases									
a) Total Release	Curies	NONE	NONE					NONE	
b) Average Concentration Released	uci/ml	---	---					---	
c) Percent of Tech Spec Limit	%	---	---					---	
4. Gross Alpha Radioactivity									
a) Total Release	Curies	1.2E-07	2.4E-06					2.5E-06	
b) Average Concentration Released	uci/ml	5.5E-15	8.7E-14					5.0E-14	
5. Volume of Liquid Waste to Discharge Canal	Liters	6.3E+03	2.7E+04					3.3E+04	6.6D.1.e.(2)
6. Volume of Dilution Water	Liters	2.2E+10	2.8E+10					5.0E+10	6.6D.1.e.(3)

DRESDEN Station

1979 Report of Occupational Personnel Radiation Doses*
Commonwealth Edison Company

Station Employees

Work Function

<u>Job Function</u>	Reactor Operations & Surveillance # of People/Man-Rem	Routine Maint. # of People/Man-Rem	Inservice Inspection # of People/Man-Rem	Waste Processing # of People/Man-Rem	Refueling # of People/Man-Rem	Total by Job Function # of People/Man-Rem
Maintenance	17/25.1	189/765.8	1/0.5	1/2.0	7/10.4	215/803.8
Operating	127/106.9	12/17.7	5/7.1	19/28.4	30/63.3	193/223.4
Health Physics	4/6.5	14/23.3	4/6.5	23/37.3	12/19.6	57/93.2
Supervision	52/11.6	92/80.9	—	—	5/10.0	149/102.5
Engineering	134/64.9	39/7.2	51/9.5	7/1.3	23/4.3	253/87.3

Company Employees other than Station Employees

Special Maintenance	—	219/48.9	—	—	—	219/48.9
Engineering	270/10.1	—	—	—	—	270/10.1

Contract Workers

Routine Maintenance	—	2074/642.9	366/113.5	—	—	2440/756.
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*Reported in accordance with U.S. NRC Regulatory Guide 1.16 (Rev. 4), 1975.