

REPORT ON RADIOACTIVE EFFLUENTS

PLANT: Dresden Nuclear Power Station-Units 2/3

PERMIT NOS.: 50-217, 50-249

YEAR: 1977

2. Effluent	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. L.C.
1. Gross Radioactivity Releases									
a) Total Release	curies	3657.1	3489.0	3101.6	4025.6	2079.2	1623.0	18770.7	6.60.1.f. (1)
2/3 chimney Maximum Release Rate b) (Daily grab sample)	uCi/sec	3.0E+03	1.8E+03	2.3E+03	2.7E+03	2.0E+03	1.7E+03	3.8E+03	6.60.1.f. (2)
c) Isotopes Released									6.60.1.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	67.8	570.0	
Kr-84	curies	186.9	172.5	105.5	211.8	211.5	150.3	978.3	
Kr-133	curies	77.9	91.2	54.6	164.6	75.7	54.7	518.3	
Kr-135	curies	503.3	435.7	261.9	817.2	346.6	470.9	2935.6	
Kr-135m	curies	434.8	361.2	374.9	628.0	211.2	160.9	1950.3	
Kr-133	curies	2201.5	2280.6	2023.9	3229.3	872.4	202.0	11628.7	
d) Percent of Chimney Limit	%	0.15	0.15	0.15	0.22	0.09	0.07	0.11	6.60.1.f. (3)
e) Average Release Rate	uCi/sec	1.4E+03	1.3E+03	1.7E+03	1.8E+03	1.0E+03	6.1E+02	1.7E+03	
2. Chimney Inlet Releases									6.60.1.f. (1)
a) Isotopes Released									
I-131	curies	1.6E-01	1.6E-01	1.5E-01	1.1E-01	1.5E-01	1.2E-01	6.5E-01	
I-133	curies	1.3E-01	1.2E-01	1.2E-01	7.9E-01	1.8E-01	1.2E-01	6.4E-01	
I-135	curies	2.3E-01	2.1E-01	2.1E-01	5.6E-01	3.1E-01	1.8E-01	1.5E+01	
b) Percent of Chimney Limit	%	1.39	1.35	1.25	1.06	1.41	1.08	1.21	6.60.1.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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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

WEEKLY PERIOD: 08-27, 09-03

YEAR: 1972

I. Gaseous Effluents (continued)		UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
1. Chimney Particulate Release		microcuries								
a) Gross Radioactivity (A-Y)			222.16	431.28	389.48	548.25	618.65	431.29	2521.11	6.60.1.f.(1)
b) Gross Alpha Radioactivity		mCi								
c) Isotopes Released										6.60.1.f.(1)
Cr-51		mCi	---	---	---	---	---	2.91	2.91	
Cr-52		mCi	3.11	1.52	0.59	0.91	0.61	1.94	8.68	
Cr-54		mCi	---	---	---	---	---	0.81	0.81	
Co-60		mCi	30.62	2.26	4.22	3.24	14.24	4.05	65.44	
Co-60		mCi	302.22	389.94	214.19	154.22	209.07	157.20	1512.12	
Co-60		mCi	1.37	0.88	0.94	0.68	0.91	0.68	5.46	
Co-60		mCi	51.92	21.29	18.24	20.86	22.29	22.29	222.11	
Co-60 (1g-1M)		mCi	1.23/---	---/1.07	---/---	---/---	---/---	---/---	1.23/1.07	
Co-60		mCi	2.25	1.82	2.21	6.32	11.72	3.18	27.39	
Co-60		mCi	250.84	191.69	202.90	221.72	272.52	243.63	1679.68	
Co-60		mCi	3.25	2.09	22.28	---	4.92	3.62	29.76	
Co-60 (1g-1M)		mCi	---/---	---/---	---/---	---/---	---/---	4.92/4.62	4.92/4.62	
Co-60		mCi	---	0.63	1.07	---	---	1.81	3.51	
d) Percent of Chimney Limit		%	6.31	5.31	5.37	5.27	5.48	3.92	5.22	6.60.1.f.(1)
e) Average Release Rate		mCi/sec	2.7E-01	2.4E-01	2.3E-01	2.1E-01	2.1E-01	1.2E-01	2.2E-01	
2. Vent Stack Iodine Release										6.60.1.f.(1)
a) Isotopes Released										
I-131		curies	1.0E-02	1.2E-02	2.2E-02	1.2E-02	1.2E-02	2.0E-02	1.0E-01	
I-133		curies	5.2E-02	2.4E-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	6.1E-02	2.2E-02	1.8E-01	2.8E-01	7.9E-01	
b) Percent of Vent Stack Limit		%	3.56	4.04	6.94	3.72	5.49	6.18	5.15	6.60.1.f.(1)
c) Average Release Rate		mCi/sec	6.2E-01	4.9E-01	8.3E-01	4.5E-01	6.8E-01	2.4E-01	6.1E-01	

REPORT OF RADIOACTIVE EFFLUENTS

PLANT: Dresden Nuclear Power Station-Units 2/3

PERIOD: 50-217, 50-219

YEAR: 1979

I. General Effluents (continued)	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. P. 2.
B. Gross Radioactivity Release Units 2/3 Vent Stack									
a) Total Release	curies	371.03	289.20	225.85	179.25	120.15	183.11	1509.59	5.60.1.0. (1)
b) Maximum Release Rate (Daily or 30-min)	uCi/sec	1.8E+02	1.2E+02	1.2E+02	9.2E+01	1.2E+02	1.2E+02	1.8E+02	5.60.1.1. (2)
c) Isotopes Released									5.60.1.1. (4)
Kr-85m	curies	1.88	3.22	2.07	1.87	---	---	9.04	
Kr-87	curies	---	---	---	---	11.76	---	11.76	
Kr-88	curies	---	---	---	---	---	---	---	
Xe-133	curies	12.20	6.45	17.72	6.37	11.29	6.11	60.85	
Xe-135	curies	211.20	126.10	78.69	65.38	155.69	28.29	736.35	
Xe-135m	curies	162.75	163.67	126.38	109.36	112.64	60.21	681.51	
Xe-133	curies	---	---	---	---	---	---	---	
d) Percent of Vent Stack Limit	%	0.13	0.12	0.10	0.07	0.12	0.07	0.11	5.60.1.1. (3)
e) Average Release Rate	uCi/sec	1.4E+02	1.1E+02	8.7E+01	6.7E+01	1.1E+02	6.2E+01	9.3E+01	

REPORT OF RADIOACTIVE EFFLUENTS

Facility: Dresden Nuclear Power Station - Unit 2/3

Report Period: 01-01, 01-31

Year: 1979

12. Liquid Effluents (continued)	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
8. Gross Radioactivity (ββ)									
IPCI Service H ₂ O Heat Exchanger	Milli-Curies								
a) Total Release		9.31	2.89	11.17	21.78	8.42	19.40	72.96	
b) Average Concentration Released	μCi/ml	5.38-11	1.78-11	6.62-11	1.62-10	6.32-11	1.48-10	7.92-11	
c) Maximum Concentration Released	μCi/ml	2.67-07	4.32-07	1.02-06	1.52-06	1.32-06	1.82-06	1.82-06	
d) Percent of Tech Spec Limit based on average conc. released	%	0.06	0.07	0.07	0.16	0.07	0.16	0.08	
9. Tritium									
a) Total Release	Curies	2.32-01	4.02-01	7.02-01	1.02-01	3.82-01	4.92-01	2.32-01	
b) Average Concentration Released	μCi/ml	1.42-07	2.32-10	4.17-10	2.12-10	4.42-10	2.32-10	3.92-10	
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	μCi/ml	---	---	---	---	---	---	---	
c) Percent of Tech Spec Limit	%	---	---	---	---	---	---	---	
11. Gross Alpha Radioactivity									
a) Total Release	Curies	3.02-05	1.22-05	2.62-05	9.12-05	4.02-05	1.42-05	1.82-05	
b) Average Concentration Released	μCi/ml	1.82-16	7.82-15	1.52-16	4.42-16	1.12-16	1.02-15	2.42-16	
12. Volume of Liquid Waste to Discharge Canal	Liters	2.79E03	2.82E03	1.62E03	2.82E03	2.72E03	2.12E03	1.62E03	
13. Volume of Dilution Water	Liters	1.79E11	1.72E11	1.72E11	1.62E11	1.72E11	1.62E11	2.72E11	

*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: INDIANHURST NUCLEAR POWER STATION - UNIT 1

WASTE NOS. 1 50 - 10

YEAR: 1979

1. Gaseous Effluents	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity Release									
a) Total Release	curies	77.1	71.0	71.0	86.4	77.0	6.2	177.5	
b) Maximum Release Rate (daily, not annual)	µCi/sec	5.7E+02	---	---	1.0E+01	1.7E+02	7.7E+01	6.7E+02	
c) Isotopes Released									
Kr-85m	curies	---	---	---	---	---	---	---	
Kr-87	curies	---	---	---	---	---	---	---	
Kr-90	curies	---	---	---	---	---	---	---	
Xe-133	curies	77.1	---	---	86.4	77.0	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	7.7E+01	---	---	7.7E+01	4.9E+00	7.7E+00	1.1E+01	
2. Iodine Release									
a) Isotopes Released									
I-131	curies	7.7E-04	7.7E-04	7.7E-04	7.7E-04	7.7E-04	7.7E-04	1.1E-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	1.1E-04	1.1E-04	1.1E-04	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: **INTEGRATED NUCLEAR POWER STATION - UNIT 1**

PERMIT NO.: **70-10**

YEAR: **1979**

II. Liquid Effluents	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity (Ci)									
a) Total Release	Curies	2.5E-06	2.7E-03	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	3.0E-03	
b) Average Concentration Released	uci/ml	1.7E-11	2.0E-11					6.0E-11	6.60.1.e.(1)
c) Maximum Concentration Released	uci/ml	5.0E-09	2.2E-08					2.7E-08	6.60.1.e.(5)
d) Percent of Tech Spec Limit	%	0.01	0.10					0.09	6.60.1.e.(5)
based on average conc. release									6.60.1.e.(6)
2. Tritium									
a) Total Release	Curies	2.0E-05	1.0E-05					2.0E-05	6.60.1.e.(8)
b) Average Concentration Released	uci/ml	1.7E-12	5.0E-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	1.7E-07	2.4E-06					2.5E-06	
b) Average Concentration Released	uci/ml	5.5E-15	9.7E-14					5.0E-14	
5. Volume of Liquid Waste to Discharge Canal	Liters	6.7E+03	7.7E+04					7.7E+04	6.60.1.e.(2)
6. Volume of Dilution Water	Liters	2.7E+10	7.0E+10					9.0E+10	6.60.1.e.(3)

DRESDEN Station

1979 Report of Occupational Personnel Radiation Doses*
Commonwealth Edison Company

Station Employees

Work Function

Job Function	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	—	—	2440/756.4
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*Reported in accordance with U.S. NRC Regulatory Guide 1.16 (Rev. 4), 1975.