



Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

February 6, 1981

DJS LTR: 81-130

Mr. James G. Keppler
Regional Director
Office of Inspection and Enforcement
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Dresden Station Operating Report; NRC Dockets 50-10, 50-237,
and 50-249

Dear Mr. Keppler:

Attached is the Semi-Annual Report pertaining to Radioactive
Effluent Discharges and Solid Radioactive Waste for Units 1, 2, and 3
for the period of July 1, 1980 through December 30, 1980, as required
by the Technical Specifications.

One copy of this report is provided for your use, and 39 copies
are being submitted directly to Mr. Edson G. Case, Deputy Director of
the Office of Nuclear Reactor Regulation.

Sincerely,

D. J. Scott
D. J. Scott

Station Superintendent
Dresden Nuclear Power Station

✓DJS:SM:mt

Attachment

cc: S. McDonald
File/NRC
File/Numerical

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50 - 10

YEAR: 1980

I. Gaseous Effluents	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity Releases									
a) Total Release	curies	<LLD	<LLD	<LLD	<LLD	10.2	<LLD	10.2	
b) Maximum Release Rate (daily grab sample)	µCi/sec	---	---	---	---	1.2E+02	---	1.2E+02	
c) Isotopes Released									
Kr-85m	curies	---	---	---	---	---	---	---	
Kr-87	curies	---	---	---	---	---	---	---	
Kr-88	curies	---	---	---	---	---	---	---	
Xe-133	curies	---	---	---	---	10.2	---	10.2	
Xe-135	curies	---	---	---	---	---	---	---	
Xe-135m	curies	---	---	---	---	---	---	---	
Xe-138	curies	---	---	---	---	---	---	---	
d) Percent of Chimney Limit	%	---	---	---	---	0.01	---	0.01	
e) Average Release Rate	µCi/sec	---	---	---	---	3.9E00	---	6.4E-01	
2. Iodine Releases									
a) Isotopes Released									
I-131	curies	2.7E-04	3.1E-04	3.2E-04	2.8E-04	2.6E-04	2.7E-04	1.7E-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	1.2E-04	1.2E-04	1.0E-04	1.0E-04	1.0E-04	1.1E-04	

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50-10

YEAR: 1980

I. Gaseous Effluents (continued)	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
3. Particulate Releases									
a) Gross Radioactivity (Bq)	milli-curies	1.13	0.50	0.38	0.29	0.37	0.37	3.04	
b) Gross Alpha Radioactivity	mCi								
c) Isotopes Released	mCi								
Cr-51	mCi	---	---	---	---	---	---	---	
Nr-54	mCi	---	0.08	---	---	0.04	0.17	0.29	
Co-58	mCi	---	---	---	---	---	---	---	
Co-60	mCi	---	---	0.24	0.08	---	---	0.32	
Sr-89	mCi	0.58	0.29	0.03	0.18	0.28	0.04	1.40	
Sr-90	mCi	0.44	0.05	---	0.03	0.05	0.01	0.58	
Zr-95	mCi	---	---	---	---	---	---	---	
Nb-95	mCi	---	---	---	---	---	---	---	
Ru-103	mCi	---	---	---	---	---	---	---	
I-131	mCi	---	---	---	---	---	---	---	
Cs-134	mCi	0.11	---	0.02	---	---	---	0.13	
Cs-137	mCi	---	0.08	0.09	---	---	0.15	0.32	
Ba-140	mCi	---	---	---	---	---	---	---	
Ce-141	mCi	---	---	---	---	---	---	---	
Ce-144	mCi	---	---	---	---	---	---	---	
d) Percent of chimney limit	%	0.02	0.01	0.01	0.01	0.01	0.01	0.01	
e) Average release rate	uCi/sec	4.2E-04	1.9E-04	1.5E-04	1.1E-04	1.4E-04	1.4E-04	1.9E-04	
4. Sum of Iodines & Particulates									
a) Percent of Chimney Limit	%	0.02	0.01	0.01	0.01	0.01	0.01	0.01	
5. Gaseous Tritium									
a) Total Release	curies	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	
b) Average Release Rate	uCi/sec	---	---	---	---	---	---	---	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50-10

YEAR: 1980

II. Liquid Effluents

[illegible]

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station & Unit 1

DOCKET NOS.: 50 - 10

YEAR: 1980

II. Liquid Effluents (continued)

[illegible]

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station-Units 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1980

I. Gaseous Effluents	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity Releases									
a) Total Release	curies								
2/3 chimney		1599.3	4484.9	12546.0	5982.0	2140.0	2821.5	29573.7	6.6D.1.f. (1)
b) Maximum Release Rate (daily grab sample)	uCi/sec	3.4E+03	1.3E+04	2.2E+04	1.4E+04	2.8E+03	4.6E+03	2.2E+04	6.6D.1.f. (2)
c) Isotopes Released									6.6D.1.f. (4)
Kr-85m	curies	87.8	96.4	253.4	100.5	16.2	4.2	558.5	
Kr-87	curies	---	126.9	---	244.7	---	---	371.6	
Kr-88	curies	---	173.1	515.6	263.8	88.4	15.0	1055.9	
Xe-133	curies	355.0	1764.4	1656.1	440.3	246.3	2786.5	7248.6	
Xe-135	curies	1156.5	658.4	2820.4	984.0	452.2	15.8	6087.3	
Xe-135m	curies	---	308.6	1189.4	747.7	---	---	2245.7	
Xe-138	curies	---	1357.1	6111.1	3201.0	1336.9	---	12006.1	
d) Percent of Chimney Limit	%	0.07	0.19	0.56	0.26	0.09	0.13	0.21	6.6D.1.f. (3)
e) Average Release Rate	uCi/sec	6.0E+02	1.7E+03	4.8E+03	2.2E+03	8.3E+02	1.1E+03	1.9E+03	
2. Chimney Iodine Releases									6.6D.1.f. (1)
a) Isotopes Released									
I-131	curies	3.7E-01	3.0E-01	2.1E-01	2.4E-01	2.4E-01	1.6E-01	1.5E00	
I-133	curies	1.3E00	1.3E00	8.6E-01	1.1E00	9.1E-01	1.1E00	6.6E00	
I-135	curies	1.4E00	2.3E00	1.5E00	2.1E00	1.6E00	2.1E00	1.1E+01	
b) Percent of Chimney Limit	%	3.28	2.69	1.98	2.20	2.23	1.51	2.22	6.6D.1.f. (3)
c) Average Release Rate	uCi/sec	1.4E-01	1.1E-01	8.2E-02	9.1E-02	9.3E-02	6.1E-02	9.6E-02	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1980

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	1162.56	973.09	921.54	923.45	857.00	830.41	5668.05	6.6D.1.f.(1)
b) Gross Alpha Radioactivity	mCi								
c) Isotopes Released									6.6D.1.f.(1)
Cr-51 /Fe-59	mCi	4.53	---	4.52	---	---	---	4.53 4.52	
Mn-54	mCi	2.21	5.25	7.65	9.79	---	.08	24.98	
Co-58 /Nb-95	mCi	---	1.07	---	4.62	---	1.58	5.69 1.58	
Co-60	mCi	4.65	37.07	21.56	137.59	2.74	---	203.61	
Sr-89	mCi	191.59	203.57	269.27	86.53	215.19	132.87	1099.02	
Sr-90	mCi	1.05	1.65	.74	1.66	1.37	.83	7.30	
I-131	mCi	463.98	189.07	98.70	147.38	140.38	98.15	1137.66	
Cs-134	mCi	---	1.56	2.58	4.25	---	.17	8.56	
Cs-137	mCi	2.32	8.76	4.97	25.58	4.12	1.74	47.49	
Ba-140	mCi	443.87	487.23	484.64	481.49	477.26	577.63	2952.12	
Ce-141	mCi	23.13	15.28	22.39	24.56	15.94	12.12	113.42	
Ce-144 /Ru-103	mCi	25.23	22.58	---	---	---	2.08	47.81 2.08	
Zn-65/Zr-95		---	---	4.52	---	---	3.16	4.52 3.16	
d) Percent of Chimney Limit	%	10.32	8.48	8.50	8.27	7.79	7.68	8.29	6.6D.1.f.(3)
e) Average Release Rate	uCi/sec	4.3E-01	3.6E-01	3.6E-01	3.4E-01	3.3E-01	3.1E-01	3.6E-01	
4. Vent Stack Iodine Release									6.6D.1.f.(1)
a) Isotopes Released									
I-131	curies	6.5E-03	1.6E-02	9.3E-03	1.7E-02	2.6E-02	1.9E-02	9.4E-02	
I-133	curies	1.6E-02	6.3E-01	2.5E-02	3.0E-02	2.4E-01	2.5E-01	1.2E00	
I-135	curies	2.3E-02	8.1E-01	2.0E-02	1.7E-01	4.7E-01	5.3E-01	2.0E00	
b) Percent of Vent Stack Limit	%	2.03	4.99	2.98	5.29	8.41	5.93	4.92	6.6D.1.f.(3)
c) Average Release Rate	uCi/sec	2.4E-03	6.0E-03	3.6E-03	6.4E-03	1.0E-02	7.1E-03	5.9E-03	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1980

I, Gaseous Effluents (Continued)	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
5. Vent Stack Particulate Release	mili-curies								
(a) Gross Radioactivity (B-Y)		56.58	111.55	89.52	106.00	142.90	111.05	617.60	
(b) Gross Alpha Radioactivity	mCi								6.6D.1.f.(1)
(c) Isotopes Released									
Cr-51	mCi	4.01	25.73	6.40	28.34	18.09	13.71	96.28	6.6D.1.f.(1)
Mn-54	mCi	3.28	0.91	2.09	3.80	0.43	4.81	15.32	
Co-58	mCi	0.35	1.75	1.77	2.71	2.01	1.89	10.48	
Fe-59	mCi	0.74	0.44	0.79	1.64	0.50	1.64	5.75	
Co-60	mCi	22.72	8.32	13.74	14.54	7.63	19.00	85.95	
Zn-65	mCi	---	0.32	0.54	---	0.59	1.28	2.73	
Sr-89	mCi	3.81	4.41	3.36	1.17	5.96	5.64	24.35	
Sr-90	mCi	0.18	0.08	0.06	0.51	0.13	0.16	1.12	
Zr-95	mCi	---	0.43	0.41	0.74	0.29	0.82	2.69	
Nb-95	mCi	0.52	0.45	0.93	1.01	0.34	1.18	4.43	
Ru-103	mCi	0.27	0.62	0.66	1.62	0.68	0.50	4.35	
(continued on next page)									
(d) Percent Vent Stack Limit	%	17.60	34.71	28.78	32.98	46.00	34.55	32.37	6.6D.1.f.(3)
(e) Average Release Rate	uCi/sec	2.1E-02	4.2E-02	3.5E-02	4.0E-02	5.5E-02	4.1E-02	3.9E-02	
6. Sum of Iodine and Particulate									
a) Percent of Chimney Limit	%	13.60	11.17	10.47	10.47	10.02	9.18	10.51	6.6D.1.f.(3)
b) Percent of Vent Stack Limit	%	19.63	39.69	31.76	38.27	54.41	40.48	37.29	
7. Gaseous Tritium									
a) Release	curies	6.3E+01	7.9E00	8.3E+01	5.8E+01	6.1E+01	4.8E+01	3.2E+02	
b) Average Release Rate	uCi/sec	2.3E+01	3.0E00	3.2E+01	2.2E+01	2.3E+01	1.8E+01	2.0E+01	
c) Percent Tech Spec Limit	%	NA	NA	NA	NA	NA	NA	NA	

REPORT OF RADIOACTIVE EFFLUENTS

EAGILITY: DRESDEN NUCLEAR POWER STATION-UNITS 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1980

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station-Units 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1980

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1980

II. Liquid Effluents	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity (β - γ)									
a) Total Release (2/3 Radwaste)	Milli-Curies	67.40	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	67.40	
b) Average Concentration Released	uci/ml	8.0E-10						8.0E-10	
c) Maximum Concentration Released	uci/ml	4.1E-08						4.1E-08	
d) Percent of Tech Spec Limit	%	0.80						0.80	
based on average conc. released									
2. Tritium									
a) Total Release	Curies	2.5E00						2.5E00	
b) Average Concentration Released	uci/ml	3.0E-08						3.0E-08	
c) Percent of Tech Spec Limit	%	NA						NA	
3. Dissolved Noble Gases									
a) Total Release	Curies	NONE						NONE	
b) Average Concentration Released	uci/ml	---						---	
c) Percent of Tech Spec Limit	%	---						---	
4. Gross Alpha Radioactivity									
a) Total Release	Curies	6.3E-05						6.3E-05	
b) Average Concentration Released	uci/ml	7.5E-13						7.5E-13	
5. Volume of Liquid Waste to Discharge Canal	Liters	4.5E+05						4.5E+05	
6. Volume of Dilution Water	Liters	8.4E+10						8.4E+10	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-219

YEAR: 1980

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-219

YEAR: 1980

II. Liquid Effluents (continued)	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
8. Gross Radioactivity (β - γ) LPCI Service H ₂ O Heat Exchanger	Milli-Curies	4.59	11.07	1.29	2.22	0.48	6.54	26.19	
a) Total Release									
b) Average Concentration Released*	uci/ml	3.0E-11	6.5E-11	8.7E-12	1.4E-11	3.2E-12	4.3E-11	2.8E-11	
c) Maximum Concentration Released*	uci/ml	5.4E-07	9.0E-07	1.3E-07	1.1E-07	1.0E-07	3.8E-07	9.0E-07	
d) Percent of Tech Spec Limit	%	0.03	0.07	0.01	0.01	0.01	0.04	0.03	
based on average conc released									
9. Tritium									
a) Total Release	Curies	8.5E-01	2.2E+01	6.5E-02	3.2E-01	2.0E-01	1.5E00	2.5E+01	
b) Average Concentration Released	uci/ml	5.7E-09	1.3E-07	4.3E-10	2.1E-09	1.4E-09	9.8E-09	2.7E-08	
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	2.7E-06	2.5E-06	6.2E-07	1.1E-06	2.7E-07	8.0E-06	1.5E-05	
b) Average Concentration Released	uci/ml	1.8E-14	1.5E-14	4.2E-15	7.1E-15	1.8E-15	5.2E-14	1.6E-14	
12. Volume of Liquid Waste to Discharge Canal	Liters	1.3E+05	3.4E+05	3.9E+04	2.1E+05	6.6E+04	4.8E+05	1.3E+06	
13. Volume of Dilution Water	Liters	1.5E+11	1.7E+11	1.5E+11	1.5E+11	1.5E+11	1.5E+11	9.2E+11	

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

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FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-242

YEAR: 1980

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station

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

YEAR: 1980

I. Solid Waste Shipped Offsite For Burial or Disposal

[illegible]

DRESDEN NUCLEAR POWER STATION

SOLID WASTE DISPOSITION

YEAR 1980

MONTH	NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
JUL	22	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
JUL	2	Motor Freight (Exclusive Use Only)	Richland, WA
AUG	21	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
AUG	1	Motor Freight (Exclusive Use Only)	Richland, WA
SEP	19	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
SEP	2	Motor Freight (Exclusive Use Only)	Richland, WA
OCT	7	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
OCT	6	Motor Freight (Exclusive Use Only)	Richland, WA
NOV	17	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
NOV	1	Motor Freight (Exclusive Use Only)	Richland, WA
DEC	17	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
DEC	1	Motor Freight (Exclusive Use Only)	Richland, WA