



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

DMB/IE

August 12, 1981

DJS LTR: 81-653

PRINCIPAL STAFF	
DIR	E&IS
D/D	PAO
A/E	SLO
DREPT	
DEPTL	
DEP&OS	File

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 January 1, 1981 through June 30, 1981, 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
R. Arnoldi

*IE25
51/1*

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PDR ADOCK 05000010
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AUG 26 1981

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50 - 10

YEAR: 1981

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	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	
Maximum Release Rate									
b) (daily grab sample)	uCi/sec	---	---	---	---	---	---	---	
c) Isotopes Released									
Kr-85m	curies								
Kr-87	curies								
Kr-88	curies								
Xe-133	curies								
Xe-135	curies								
Xe-135m	curies								
Xe-138	curies								
d) Percent of Chimney Limit	%	---	---	---	---	---	---	---	
e) Average Release Rate	uCi/sec	---	---	---	---	---	---	---	
2. Iodine Releases									
a) Isotopes Released									
I-131	curies	2.7E-04	2.4E-04	3.1E-04	4.4E-04	1.1E-03	2.8E-04	2.6E-03	
I-133	curies								
I-135	curies								
b) Percent of Chimney Limit	%	0.01	0.01	0.01	0.01	0.02	0.01	0.01	
c) Average Release Rate	uCi/sec	1.0E-04	1.0E-04	1.2E-04	1.7E-04	4.2E-04	1.1E-04	1.7E-04	

8107090345 810812
PDR ADOCK 05000010
PDR

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50-10

YEAR: 1981

I. Gaseous Effluents (continued)	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
3. Particulate Releases	milli-								
a) Gross Radioactivity (BY)	curies	0.63	0.52	0.60	4.25	0.31	0.32	6.63	
b) Gross Alpha Radioactivity	mCi	---	---	---	---	---	---	---	
c) Isotopes Released	mCi	---	---	---	---	---	---	---	
Cr-51	mCi	---	---	---	---	---	---	---	
Ni-54	mCi	.17	.03	---	.59	.05	.00	.84	
Co-58	mCi	---	---	---	---	---	---	---	
Co-60	mCi	.33	.26	.52	1.26	---	.30	2.67	
Sr-89	mCi	.00	.06	.03	.54	.03	.01	.67	
Sr-90	mCi	.00	.00	.00	.04	.00	.00	.04	
Zr-95	mCi	---	---	---	---	---	---	---	
Nb-95	mCi	---	---	---	.84	---	---	.84	
Ru-103	mCi	---	---	---	---	---	---	---	
I-131	mCi	---	---	---	---	---	---	---	
Cs-134	mCi	---	---	---	---	---	---	---	
Cs-137	mCi	.13	.17	.05	.98	.23	.01	1.57	
Ba-140	mCi	---	---	---	---	---	---	---	
Ce-141	mCi	---	---	---	---	---	---	---	
Ce-144	mCi	---	---	---	---	---	---	---	
d) Percent of chimney limit	%	0.01	0.01	0.01	0.07	0.02	0.01	0.02	
e) Average release rate	uCi/sec	2.4E-04	2.1E-04	2.2E-04	1.6E-03	1.2E-04	1.2E-04	4.2E-04	
4. Sum of Iodines & Particulates									
a) Percent of Chimney Limit	%	0.01	0.01	0.01	0.08	0.02	0.01	0.02	
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: 1981

[illegible]

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station & Unit 1

DOCKET NOS.: 50 - 10

YEAR: 1981

II. Liquid Effluents (continued)

[illegible]

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station-Units 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1981

I. Gaseous Effluents	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity Releases									
a) Total Release 2/3 chimney	curies	5915.8	2338.0	2309.9	5410.2	2932.5	3583.7	22490.1	6.6D.1.f. (1)
b) Maximum Release Rate (daily grab sample)	uCi/sec	4.7E+04	3.0E+03	3.3E+03	2.4E+04	3.4E+03	9.1E+03	4.7E+04	6.6D.1.f. (2)
c) Isotopes Released									6.6D.1.f. (4)
Kr-85m	curies	126.6	65.2	32.3	120.1	85.9	24.0	454.1	
Kr-87	curies	235.4	---	77.2	195.8	71.6	102.9	682.9	
Kr-88	curies	404.0	---	89.9	404.7	119.1	270.9	1288.6	
Xe-133	curies	534.2	324.0	179.5	346.8	155.4	258.0	1797.9	
Xe-135	curies	1503.2	711.0	476.1	1326.0	667.1	733.9	5417.3	
Xe-135m	curies	403.5	188.2	377.2	667.6	362.5	483.1	2482.1	
Xe-138	curies	2708.9	1049.6	1077.7	2349.2	1470.9	1639.6	10295.9	
Xe-133m	curies	---	---	---	---	---	71.3	71.3	
d) Percent of Chimney Limit	%	0.31	0.14	0.12	0.30	0.13	0.16	0.17	6.6D.1.f. (3)
e) Average Release Rate	uCi/sec	2.2E+03	9.7E+02	8.6E+02	2.1E+03	1.1E+03	1.4E+03	1.4E+03	
2. Chimney Iodine Releases									6.6D.1.f. (1)
a) Isotopes Released									
I-131	curies	2.1E-01	1.9E-01	3.9E-01	3.1E-01	3.9E-01	2.9E-01	1.8E00	
I-133	curies	1.1E0	1.1E0	1.6E0	1.7E0	2.1E0	1.5E0	9.1E0	
I-135	curies	2.0E0	2.2E0	1.8E0	3.9E0	3.6E0	2.2E0	1.57E1	
b) Percent of Chimney Limit	%	2.20	2.21	4.11	3.38	3.62	2.69	2.67	6.6D.1.f. (3)
c) Average Release Rate	uCi/sec	7.8E-02	7.7E-02	1.4E-01	1.2E-01	1.4E-01	1.1E-01	1.2E-01	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1981

I. Gaseous Effluents(continued)	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
3. Chimney Particulate Release									
a) Gross Radioactivity(β - γ)	milli-curies	973.13	899.08	1192.3	952.16	1196.9	1183.5	6397.07	6.6D.1.f.(1)
b) Gross Alpha Radioactivity	mCi								
c) Isotopes Released									6.6D.1.f.(1)
Ru-103	mCi	---	---	6.3	2.38	2.8	---	11.48	
Ni-54	mCi	6.23	1.35	5.0	0.76	---	---	13.34	
Co-58	mCi	---	---	---	---	---	---	---	
Co-60	mCi	54.88	4.41	45.1	3.90	6.3	9.5	124.09	
Sr-90	mCi	165.53	86.40	77.6	178.72	178.6	197.9	884.75	
Sr-90	mCi	0.78	0.45	0.4	1.05	1.0	1.1	4.78	
I-131	mCi	235.21	245.36	335.5	206.90	221.2	254.4	1498.57	
Cs-134	mCi	---	3.06	5.1	---	---	---	8.16	
Cs-137	mCi	5.25	2.61	10.5	3.43	4.5	4.5	30.79	
Ba-140*	mCi	487.83	539.71	692.1	536.07	748.5	687.8	3692.01	
Ce-141	mCi	17.42	15.73	---	18.76	30.6	28.3	110.81	
Ce-144	mCi	---	---	---	---	---	---	---	
Zr-95		---	---	---	---	3.4	---	3.4	
Nb-95		---	---	14.7	0.19	---	---	14.89	
d) Percent of Chimney Limit	%	10.22	10.62	12.72	10.50	11.22	10.78	10.88	6.6D.1.f.(3)
e) Average Release Rate	uCi/sec	3.6E-01	3.7E-01	4.5E-01	3.7E-01	4.5E-01	4.6E-01	4.1E-01	
4. Vent Stack Iodine Release									6.6D.1.f.(1)
a) Isotopes Released									
I-131	curies	8.4E-03	8.6E-03	8.5E-03	1.0E-02	1.3E-02	1.4E-02	6.6E-02	
I-133	curies	2.6E-2	3.7E-2	3.6E-2	3.1E-2	7.2E-2	1.2E-1	3.22E-1	
I-135	curies	3.6E-2	6.7E-2	7.8E-2	6.7E-2	1.3E-1	1.9E-1	5.68E-1	
b) Percent of Vent Stack Limit	%	2.61	2.98	2.64	3.37	4.02	4.64	3.52	6.6D.1.f.(3)
c) Average Release Rate	uCi/sec	3.1E-03	3.6E-03	3.2E-03	4.0E-03	4.8E-03	5.8E-03	4.2E-03	

*La-140 Identified but not reported

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1981

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-γ)	curies	116.25	133.06	151.10	138.15	152.11	154.74	845.41	
(b) Gross Alpha Radioactivity	mCi								6.6D.1.f.(1)
(c) Isotopes Released									
Cr-51	mCi	11.83	19.93	17.98	15.57	19.43	22.77	107.51	6.6D.1.f.(1)
Mn-54	mCi	3.94	2.47	3.16	6.26	2.12	2.32	20.27	
Co-58	mCi	1.18	1.97	1.41	.87	1.59	1.61	8.63	
Fe-59	mCi	.77	1.21	---	1.74	---	.92	4.64	
Co-60	mCi	31.15	32.00	25.48	36.21	15.41	16.43	156.68	
Zn-65	mCi	.70	---	---	1.16	.63	.92	3.41	
Sr-89	mCi	2.21	2.70	1.74	8.13	4.19	4.41	23.38	
Sr-90	mCi	.04	.05	.03	.11	.07	.06	.36	
Zr-95	mCi	.84	1.88	1.93	.89	.45	.33	6.32	
Nb-95	mCi	.73	.97	1.54	1.14	.54	.57	5.49	
Ru-103	mCi	.70	.41	.49	.84	.58	.58	3.60	
(continued on next page)									
(d) Percent Vent Stack Limit	%	36.17	45.83	47.01	44.42	47.33	49.75	45.05	6.6D.1.f.(3)
(e) Average Release Rate	uCi/sec	4.3E-02	5.5E-02	5.6E-02	5.3E-02	5.7E-02	6.0E-02	5.4E-02	
6. Sum of Iodine and Particulate									
a) Percent of Chimney Limit	%	12.42	12.83	16.83	13.88	14.84	13.47	13.55	6.6D.1.f.(3)
b) Percent of Vent Stack Limit	%	38.78	48.81	49.66	47.78	51.35	54.39	48.57	
7. Gaseous Tritium									
a) Release	curies	5.9E+01	4.0E+01	3.7E+01	9.9E00	3.9E+01	1.6E+01	2.0E+02	
b) Average Release Rate	uCi/sec	2.2E+01	1.6E+01	1.4E+01	3.8E00	1.5E+01	6.3E00	1.3E+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.: 50-737, 50-749

YEAR: 1981

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REPORT OF RADIOACTIVE EFFLUENTS

EACILITY: Dresden Nuclear Power Station-Units 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1981

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1981

II. Liquid Effluents	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
1. Gross Radioactivity ($\beta\gamma$)	Milli-Curies								
a) Total Release (2/3 Radwaste)		5.45	20.49	3.23	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	29.17	
b) Average Concentration Released	uci/ml	6.5E-10	2.7E-09	3.8E-10				1.2E-09	
c) Maximum Concentration Released	uci/ml	3.8E-08	4.4E-08	4.5E-08				4.5E-08	
d) Percent of Tech Spec Limit	%	0.65	2.70	0.38				1.20	
based on average conc. released									
2. Tritium									
a) Total Release	Curies	9.8E-01	3.9E00	3.2E-01				5.2E00	
b) Average Concentration Released	uci/ml	1.2E-07	5.1E-07	3.8E-08				2.1E-07	
c) Percent of Tech Spec Limit	%	NA	NA	NA				NA	
3. Dissolved Noble Gases									
a) Total Release	Curies	NONE	NONE	NONE				NONE	
b) Average Concentration Released	uci/ml	---	---	---				---	
c) Percent of Tech Spec Limit	%	---	---	---				---	
4. Gross Alpha Radioactivity									
a) Total Release	Curies	9.5E-07	2.8E-06	3.7E-06				7.5E-06	
b) Average Concentration Released	uci/ml	1.1E-13	3.7E-13	4.4E-13				3.1E-13	
5. Volume of Liquid Waste to Discharge Canal	Liters	2.2E+05	1.1E+06	1.2E+05				1.4E+06	
6. Volume of Dilution Water	Liters	8.4E+09	7.6E+09	8.4E+09				2.4E+10	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-212

YEAR: 1981

II. Liquid Effluents (continued)

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1981

II. Liquid Effluents (continued)	UNITS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	6 MO. TOTAL	TECH. SPEC. REF.
8. Gross Radioactivity (B-1)									
LPCI Service H ₂ O Heat Exchanger									
a) Total Release	Milli-Curies	6.10	0.06	0.07	0.06	1.21	0.18	7.68	
b) Average Concentration Released	uci/ml	6.9E-11	9.5E-13	9.9E-13	4.6E-13	7.9E-12	1.2E-12	1.2E-11	
c) Maximum Concentration Released	uci/ml	6.7E-07	8.6E-09	5.2E-09	4.9E-09	1.1E-07	8.5E-09	6.7E-07	
d) Percent of Tech Spec Limit	%	0.07	0.01	0.01	0.01	0.01	0.01	0.01	
based on average conc released									
9. Tritium									
a) Total Release	Curies	3.4E-04	3.4E-04	9.8E-04	8.9E-04	1.2E-02	5.6E-02	7.1E-02	
b) Average Concentration Released	uci/ml	3.8E-12	5.3E-12	1.4E-11	6.9E-12	7.9E-11	3.7E-10	1.1E-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	5.2E-06	3.6E-07	1.8E-06	8.6E-07	2.0E-06	1.6E-06	1.2E-05	
b) Average Concentration Released	uci/ml	5.8E-14	5.7E-15	2.6E-14	6.6E-15	1.3E-14	1.1E-14	1.8E-14	
12. Volume of Liquid Waste to Discharge Canal	Liters	2.8E+05	9.9E+04	3.1E+05	1.5E+05	4.3E+05	3.0E+05	1.6E+06	
13. Volume of Dilution Water	Liters	8.9E+10	6.3E+10	7.1E+10	1.3E+11	1.5E+11	1.5E+11	6.5E+11	

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

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station

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

YEAR: 1981

I. Solid Waste Shipped Offsite For Burial or Disposal

[illegible]

DRESDEN NUCLEAR POWER STATION

SOLID WASTE DISPOSITION

YEAR 1981

MONTH	NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
JAN	22	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
JAN	3	Motor Freight (Exclusive Use Only)	Richland, WA
FEB	14	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
FEB	1	Motor Freight (Exclusive Use Only)	Richland, WA
MAR	21	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
MAR	3	Motor Freight (Exclusive Use Only)	Richland, WA
APR	15	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
APR	5	Motor Freight (Exclusive Use Only)	Richland, WA
MAY	17	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
MAY	5	Motor Freight (Exclusive Use Only)	Richland, WA
JUNE	15	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
JUNE	2	Motor Freight (Exclusive Use Only)	Richland, WA