



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

RETS MASTER FILE

EFF-81B

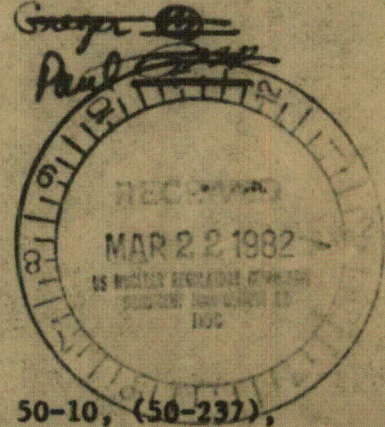
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DJS: #82-176

February 8, 1982

Mr. James G. Keppler
 Regional Administrator
 Directorate 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:

1981 B

Enclosed is Part 2 of the Dresden Station Operating Report reporting radioactive effluents and occupational radiation dose. Part 1 of the Operating Report reporting on operating experience of this facility is being submitted under separate cover. Part 3 of the Operating Report reporting environmental radiological monitoring data will be submitted in March.

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 yours,

[Signature]
 D. J. Scott
 Station Superintendent
 Dresden Nuclear Power Station

DJS:RA:rb

Attachment

cc: S. McDonald
 File/NRC
 File/Numerical
 R. Arnoldi

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50 - 10

YEAR: 1981

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	<LLD	<LLD	<LLD	
Maximum Release Rate (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	1.03E-6	2.56E-7	1.78E-6	2.93E-6	3.15E-6	2.41E-6	1.16E-05	
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	3.84E-07	9.55E-08	6.87E-07	1.09E-06	1.22E-06	8.99E-07	7.29E-07	

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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50-10

YEAR: 1981

1. Gaseous Effluents (continued)	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
3. Particulate Releases	milli-curies								
a) Gross Radioactivity (Bq)	mCi	3.26E-01	5.07E-02	7.52E-02	6.07E-02	8.37E-02	9.99E-02	6.96E-01	
b) Gross Alpha Radioactivity	mCi								
c) Isotopes Released	mCi								
Zn-65/Fe-59	mCi	---	4.52E-04	---	---	4.31E-04	---	4.52E-04	
Ni-54	mCi	6.05E-03	1.07E-03	7.13E-04	5.74E-04	3.44E-03	3.49E-03	1.53E-02	
Co-58	mCi	4.04E-04	---	---	---	---	1.15E-03	1.55E-03	
Co-60	mCi	1.85E-02	1.73E-02	3.45E-02	1.98E-02	3.32E-02	2.72E-02	1.51E-01	
Sr-89	mCi	2.50E-01	1.78E-02	7.48E-04	6.57E-04	6.17E-04	6.77E-04	2.70E-01	
Sr-90	mCi	1.98E-02	8.47E-04	7.48E-04	2.19E-04	2.06E-04	2.26E-04	2.20E-02	
Tr-90	mCi	2.59E-04	---	---	1.20E-03	3.42E-03	---	4.88E-03	
Al-97	mCi	6.98E-04	6.16E-04	---	---	---	---	1.31E-03	
Ag-110m	mCi	---	2.87E-04	---	---	---	---	2.87E-04	
I-131	mCi	---	---	---	---	1.26E-03	---	1.26E-03	
Cs-134	mCi	2.13E-03	2.41E-03	6.04E-03	5.89E-03	5.70E-03	1.06E-02	3.28E-02	
Cs-137	mCi	1.80E-02	9.98E-03	3.24E-02	3.12E-02	3.54E-02	5.66E-02	1.84E-01	
Ba-140*	mCi	1.29E-03	---	---	---	---	---	1.29E-03	
Ce-141	mCi	4.18E-03	---	---	1.14E-03	---	---	5.32E-03	
C-144	mCi	2.87E-03	---	---	---	---	---	2.87E-03	
d) Percent of chimney limit	%	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
e) Average release rate	uCi/sec	1.22E-04	1.89E-05	2.90E-5	2.26E-5	3.23E-05	3.73E-05	4.43E-05	
4. Sum of Iodines & Particulates									
a) Percent of Chimney Limit	%	<0.01	<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	---	---	---	---	---	---	---	

* La-140 Identified but not reported

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 1

DOCKET NOS.: 50-10

YEAR: 1981

II. Liquid Effluents

[illegible]

REPORT OF LABORATORY EXAMINATIONS

FACILITY: Dresden Nuclear Power Station - Unit 1

SECRET NO. 50 - 10

YEAR: 1981

II. Liquid Effluents (continued)

[illegible]

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station-Units 2/3

BOOKET NOS.: 50-237, 50-249

YEAR: 1981

1. 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	1.90E+03	2.03E+03	1.20E+03	1.68E+03	2.41E+03	4.28E+03	1.35E+04	6.6D.1.f. (1)
b) Maximum Release Rate (daily grab sample)	uCi/sec	2.51E+03	2.43E+03	3.34E+03	1.73E+03	1.94E+03	8.77E+03	8.77E+03	6.6D.1.f. (2)
c) Isotopes Released									6.6D.1.f. (4)
Kr-85m	curies	4.60E+01	3.69E+01	2.44E+01	3.84E+01	2.89E+01	6.85E+01	2.45E+02	
Kr-87	curies	6.44E+01	-	3.60E+01	8.21E+01	8.44E+01	1.76E+02	3.67E+02	
Kr-88	curies	1.24E+02	-	5.28E+01	8.74E+01	4.36E+01	1.26E+02	4.36E+02	
Xe-133	curies	8.74E+01	1.15E+02	3.34E+01	5.38E+01	4.70E+01	8.05E+01	6.17E+02	
Xe-135	curies	4.26E+02	3.57E+02	2.04E+02	2.77E+02	3.01E+02	3.9E+02	1.94E+03	
Xe-135m	curies	4.22E+02	3.92E+02	1.78E+02	2.17E+02	3.20E+02	7.04E+02	2.23E+03	
Xe-138	curies	7.28E+02	1.13E+03	6.70E+02	9.34E+02	1.64E+03	2.77E+03	7.84E+03	
d) Percent of Chimney Limit	%	0.08	0.09	0.06	0.07	0.11	0.19	0.09	6.6D.1.f. (3)
e) Average Release Rate	uCi/sec	7.09E+02	7.59E+02	4.61E+02	6.28E+02	9.31E+02	1.60E+03	8.69E+02	
2. Chimney Iodine Releases									6.6D.1.f. (1)
a) Isotopes Released									
I-131	curies	2.47E-01	2.05E-01	1.68E-01	9.91E-02	8.27E-02	3.29E-02	8.34E-01	
I-133	curies	2.19E00	1.27E00	7.84E-01	7.34E-01	3.85E-01	1.68E-01	5.53E00	
I-135	curies	3.63E00	1.87E00	1.30E00	8.80E-01	6.16E-01	2.72E-01	8.57E00	
b) Percent of Chimney Limit	%	2.14	1.78	1.51	0.86	0.74	0.29	1.22	6.6D.1.f. (3)
c) Average Release Rate	uCi/sec	9.22E-02	7.65E-02	6.48E-02	3.70E-02	3.17E-02	1.23E-02	5.25E-02	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DOCKET NOS.: 90-237, 90-269

YEAR: 1981

I. Gaseous Effluents(continued)		UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	G NO. TOTAL	TECH. SPEC. REF.
3. Chimney Particulate Release										
a) Gross Radioactivity(β - γ)		mCi	2.40E-01	1.50E-01	9.55E-02	9.94E-02	8.62E-02	6.21E-02	7.33E-01	6.6D.1.f.(1)
b) Gross Alpha Radioactivity		mCi								
c) Isotopes Released										6.6D.1.f.(1)
Cr-51 / Ce 136	mCi	-	-	1.83E-02	2.24E-01	-	-	-	2.24E-01	1.83E-02
Nb-94	mCi	4.99E-02	-	2.22E-01	9.95E-02	1.24E-01	1.25E-02	6.48E-01		
Co-58	mCi	5.08E-02	-	4.79E-02	-	3.83E-02	3.92E-02	1.76E-01		
Co-60	mCi	1.63E00	3.99E00	1.17E00	2.53E00	1.02E00	9.41E-01	1.13E+01		
Sr-89	mCi	7.93E+01	1.47E+01	3.70E00	6.71E00	7.43E00	7.55E00	1.19E+02		
Sr-90	mCi	4.30E-01	8.40E-02	2.22E-02	7.86E-03	8.70E-03	8.85E-03	5.71E-01		
I-131	mCi	3.65E+01	2.90E+01	1.82E+01	1.52E+01	1.03E+01	6.26E00	1.15E+02		
Ce-134 / Zr 95	mCi	-	-	8.27E-02	1.10E-01	2.24E-02	-	-	2.24E-02	1.93E-01
Cs-137	mCi	7.86E-01	6.74E-01	6.70E-01	6.79E-01	8.17E-01	6.42E-01	4.27E00		
Ba-140*	mCi	1.15E+02	9.80E-01	6.76E+01	7.12E+01	6.48E+01	4.61E+01	4.63E+02		
Ce-141	mCi	5.36E00	2.98E00	3.01E00	2.18E00	1.34E00	5.71E-01	3.54E+01		
Ce-144	mCi	-	-	-	7.08E-01	1.48E-01	-	8.56E-01		
Ru-103 / Nb 95		5.65E-01	1.77E-01	9.89E-01	4.75E-03	7.23E-02	9.11E-03	1.26E00		
		7.11E-02	-	2.71E-02	-	-	-	8.12E-02		
d) Percent of Chimney Limit		%	2.08	1.30	0.86	0.86	0.77	0.54	1.07	6.6D.1.f.(3)
e) Average Release Rate		mCi/sec	8.96E-02	5.60E-02	3.68E-02	3.71E-02	3.33E-02	2.32E-02	4.61E-02	
4. Vent Stack Iodine Release										6.6D.1.f.(1)
a) Isotopes Released										
I-131	curies	1.71E-02	2.22E-02	7.72E-03	3.46E-03	2.23E-03	2.39E-03	5.51E-02		
I-133	curies	1.21E-01	1.55E-01	3.27E-02	1.54E-02	3.65E-03	1.32E-02	3.41E-01		
I-135	curies	1.90E-01	2.13E-01	5.67E-02	1.87E-02	2.98E-03	1.74E-02	4.99E-01		
b) Percent of Vent Stack Limit		%	5.32	6.91	2.48	1.08	0.72	0.74	2.89	6.6D.1.f.(3)
c) Average Release Rate		mCi/sec	6.38E-03	8.29E-03	2.98E-03	1.29E-03	8.60E-04	8.92E-04	3.47E-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	JUL	AUG	SEP	OCT	NOV	DEC	6 MO. TOTAL	TECH. SPEC. REF.
5. Vent Stack Particulate Release	micro-curios								
(a) Gross Radioactivity (B-7)	micro-curios	3.62E-02	4.14E-02	1.77E-02	6.82E-03	4.04E-03	4.91E-03	1.11E-01	
(b) Gross Alpha Radioactivity	mCi								6.6D.1.f.(1)
(c) Isotopes Released									
Cr-51	mCi	5.16E-01	8.03E-01	1.72E-01	1.10E-01	7.30E-01	6.28E-01	1.74E+01	6.6D.1.f.(1)
Mn-54	mCi	4.40E-01	2.21E-01	2.78E-01	1.94E-01	1.31E-01	1.37E-01	1.40E-01	
Cr-58	mCi	3.77E-01	3.48E-01	1.96E-01	1.40E-01	1.23E-01	1.14E-01	1.30E-01	
Fe-59	mCi	2.18E-01	3.20E-02	1.25E-01	4.87E-02	1.35E-02	2.92E-02	4.66E-01	
Cr-60	mCi	2.86E-01	2.19E-01	2.14E-01	1.50E-01	9.92E-01	1.03E-01	1.07E+01	
Zn-65	mCi	3.10E-01	2.91E-02	8.45E-02	7.57E-02	3.05E-02	1.45E-02	5.44E-01	
Sr-89	mCi	2.44E-01	1.63E-01	3.28E-01	4.86E-02	4.70E-02	4.91E-02	7.49E-01	
Sr-90	mCi	3.92E-02	2.28E-02	6.19E-03	9.73E-03	9.42E-03	9.73E-03	9.71E-02	
Zr-95	mCi	8.77E-02	3.00E-03	3.58E-02	3.07E-02	1.72E-02	8.76E-03	1.83E-01	
Mh-97	mCi	1.10E-01	2.46E-02	5.08E-02	2.76E-02	1.19E-02	2.29E-02	1.24E-01	
Ru-103	mCi	1.78E-01	6.47E-02	6.76E-02	2.91E-02	1.15E-02	7.02E-03	3.58E-01	
(continued on next page)									
(d) Percent Vent Stack Limit	%	11.26	12.88	5.69	2.12	1.30	1.53	5.82	6.6D.1.f.(3)
(e) Average Release Rate	uCi/sec	1.35E-02	1.55E-02	6.83E-03	2.55E-03	1.56E-03	1.83E-03	6.98E-03	
6. Sum of Iodine and Particulate									
a) Percent of Chimney Limit	%	4.23	3.08	2.36	1.72	1.51	0.83	2.29	6.6D.1.f.(3)
b) Percent of Vent Stack Limit	%	16.57	19.83	8.18	3.20	2.02	2.27	8.71	
7. Gaseous Tritium									
a) Release	curios	4.53E+01	2.27E+01	2.66E+01	6.05E00	6.12E00	9.70E00	1.16E+02	
b) Average Release Rate	uCi/sec	1.69E+01	8.46E00	1.03E+01	2.26E00	2.36E00	3.62E00	7.30E00	
c) Percent Tech Spec Limit	%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station-Units 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1981

[illegible]

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: DRESDEN NUCLEAR POWER STATION - UNIT 2/3

DOCKET NOS.: 50-237, 50-249

YEAR: 1981

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)	Curies	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	
b) Average Concentration Released	uci/ml								
c) Maximum Concentration Released	uci/ml								
d) Percent of Tech Spec Limit	%								
based on average conc. released									
2. Tritium									
a) Total Release	Curies								
b) Average Concentration Released	uci/ml								
c) Percent of Tech Spec Limit	%								
3. Dissolved Noble Gases									
a) Total Release	Curies								
b) Average Concentration Released	uci/ml								
c) Percent of Tech Spec Limit	%								
4. Gross Alpha Radioactivity									
a) Total Release	Curies								
b) Average Concentration Released	uci/ml								
5. Volume of Liquid Waste to Discharge Canal	Liters								
6. Volume of Dilution Water	Liters								

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

REF ID: A66041

YEAR: 1981

[illegible]

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: Dresden Nuclear Power Station - Unit 2/3

DEMET NO. 1 50-237, 50-242

YEAR: 1981

11. Liquid Effluents (continued)	UNITS	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	6 MO. TOTAL	TECH. SPEC. REF.
8. Gross Radioactivity (B-7)									
LPCI Service H ₂ O Heat Exchanger									
a) Total Release	Milli-Curies	6.62E00	1.53E00	6.30E00	1.82E00	2.87E00	5.19E00	2.43E+01	
b) Average Concentration Released	uci/ml	3.83E-11	8.88E-12	3.83E-11	1.18E-11	1.93E-11	3.69E-11	2.55E-11	
c) Maximum Concentration Released	uci/ml	5.83E-07	1.00E-07	2.75E-07	2.58E-07	2.57E-07	3.62E-07	5.83E-07	
d) Percent of Tech Spec Limit	%	0.04	0.01	0.04	0.01	0.02	0.04	0.03	
based on average conc released									
9. Tritium									
a) Total Release	Curies	2.20E-02	3.42E-02	3.28E-01	5.57E-02	1.48E-01	1.86E-01	7.74E-01	
b) Average Concentration Released	uci/ml	1.28E-10	1.92E-10	2.00E-09	3.62E-10	9.93E-10	1.32E-09	8.13E-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	6.36E-06	2.60E-07	2.82E-06	3.26E-07	1.21E-06	1.98E-06	1.30E-05	
b) Average Concentration Released	uci/ml	3.70E-14	1.51E-15	1.72E-14	2.12E-15	8.13E-15	1.41E-14	1.36E-14	
12. Volume of Liquid Waste to Discharge Canal	Liters	2.30E+05	9.86E+04	4.11E+05	9.86E+04	2.63E+05	3.29E+05	1.43E+06	
13. Volume of Dilution Water	Liters	1.72E+11	1.72E+11	1.64E+11	1.54E+11	1.49E+11	1.41E+11	9.52E+11	

*Prior to dilution by 1275 acre 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
JULY	18	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
AUG	16	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
AUG	2	Motor Freight (Exclusive Use Only)	Richland, WA
SEP	15	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
SEP	1	Motor Freight (Exclusive Use Only)	Richland, WA
OCT	14	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
OCT	5	Motor Freight (Exclusive Use Only)	Richland, WA
NOV	17	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
NOV	2	Motor Freight (Exclusive Use Only)	Richland, WA
DEC	13	Motor Freight (Exclusive Use Only)	Barnwell, S.C.
DEC	4	Motor Freight (Exclusive Use Only)	Richland, WA

19 81 Report of Occupational Personnel Radiation Doses*
Commonwealth Edison Company

Station Employees

Job Function	Work Function				
	Reactor Operations & Surveillance # of People/Man-Hr	Routine Maint. # of People/Man-Hr	Inservice Inspection # of People/Man-Hr	Waste Processing # of People/Man-Hr	Refueling # of People/Man-Hr
Maintenance	11/33.3	73/218.2	9/26.0	12/37.0	18/55.5
Operating	32/47.0	14/20.9	3/4.2	17/24.0	6/8.4
Health Physics	2/4.0	26/62.7	3/6.0	9/21.9	2/5.0
Supervision	5/11.7	17/39.7	1/1.6	6/13.2	5/11.7
Engineering	3/1.2	53/21.5	7/2.6	4/1.7	5/2.0
					Total by Job Function # of People/Man-Hr
					123/369.0
					72/104.5
					42/99.6
					33/77.9
					72/29.0

INSTRUCTION: Using the personnel codes from the sample sheet along with any other personnel codes you may add in the above boxes, put the percentage of the personnel codes in them as shown on the sample sheet.

Dresden Station

19 81 Report of Occupational Personnel Radiation Doses*
Commonwealth Edison Company

Company Employees other than Station Employees

Job Function	Job Function				
	Reactor Operations & Surveillance # of People/Man-Rm	Routine Maint. # of People/Man-Rm	Inservice Inspection # of People/Man-Rm	Waste Processing # of People/Man-Rm	Refueling # of People/Man-Rm
Intensite		26/36.2	1/1.1		
Testing	3/1.3	95/37.3	3/1.3	5/2.1	
With Rystals	4/0.4	165/20.5		5/0.7	4/0.4
Service					
Planning					

INSTRUCTION: By using the following personnel codes, 3100, 3200, 3300, 2100, 2200, 2300, 4100, and any personnel code not listed on this sheet, place where appropriate along with percentages in the boxes.

Dresden Station

19 81 Report of Occupational Personnel Radiation Doses*
Commonwealth Edison Company

Contract Workers

Function	Job Function				
	Reactor Operations & Surveillance # of People/Man-Hr	Routine Maint. # of People/Man-Hr	Inservice Inspection # of People/Man-Hr	Waste Processing # of People/Man-Hr	Refueling # of People/Man-Hr
Access					
Working					
In Reactor					
Outside					
Working		669/1443.9	21/45.6	14/30.4	704/1519.9

INSTRUCTION: Place personnel codes and percentages in the boxes. (9000 series)