



Commonwealth Edison

Dresden Nuclear Power Station

R.R. #1

Morris, Illinois 60450

Telephone 815/942-2920

February 6, 1989

EDE LTR: #89-111

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Dresden Nuclear Power Station
Operating Report
NRC Dockets 50-10, 50-237, 50-249

To Whom It May Concern:

Enclosed is the radioactive effluent report for July through December 1988 for Dresden Nuclear Power Station.

A copy of this report will be furnished to the NRC Resident Inspector.

Sincerely Yours,

 2/17/89

E. D. Eenigenburg

Station Manager

Dresden Nuclear Power Station

EDE:JW:rg

Enclosure

cc: J. Wallace
J.C. Golden
File/NRC
File/Numerical

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MEASUREMENTS AND APPROXIMATIONS

- A. Fission and activation gases: The D-1 chimney and D2/3 chimney are sampled daily via a grab sample. The D-2 and D-3 Reactor Vents are sampled weekly via a grab sample. The samples are analyzed for specific isotopes present in the release using a Ge(Li) spectrometry system. Tritium is collected via a continuous sample on the D-2/3 chimney and via a grab sample on the D2/3 Reactor Vent and analyzed using a Liquid Scintillation Counter. Kr-85 is estimated in the D2/3 chimney using a recoil or non-recoil calculation using fission/sec. plot and the sum of Xe-138, Kr-87, Kr-88, Kr-85m, Xe-133 and Xe-135 activities.
- B. Iodine and Particulate: Iodine and particulate samples from the D-1 and D2/3 Chimney and the D-2 and D-3 Reactor Vents are collected for a seven day period. These samples are analyzed for specific nuclides present in the release using a Ge(Li) spectrometry system. When particulate samples are not used for reporting the release rate due to management decision that the sample may not be representative, an average of the preceding sample and the following sample is used to calculate the release. A monthly composite is sent to a vendor to be analyzed for Sr-89, Sr-90, and Gross Alpha activity.
- C. Liquid Effluents: Prior to a release duplicate grab samples are collected from each batch and analyzed for gross activity using a gas flow proportional counter. Rad-waste batch discharges are also analyzed for specific isotopes present in the release using a Ge(Li) spectrometry system. A composite of all batches for the month is sent to a vendor to be analyzed for Sr-89, Sr-90, Fe-55, and Gross Alpha. One of the LPCI samples for each month is analyzed for specific isotopes present in the releases using a Ge(Li) spectrometry system. This sample is sent to a vendor to be analyzed for Sr-89, Sr-90, Fe-55, and Gross Alpha activity.

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DRESDEN NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

July Through December 1988

GASEOUS EFFLUENTS

SUMMATION OF ALL RELEASES

Docket Numbers: 50-10
50-237
50-249

UNIT 3rd QUARTER 4th QUARTER

A. FISSION AND ACTIVATION GASES

1. Total Release	Ci	1.81 E01	1.66 E01
2. Average Release Rate for Period	uCi/sec	2.28 E00	2.09 E00
3. Percent of Technical Specification Limit	%	*	*

B. IODINES

1. Total Iodine-131	Ci	2.88 E-02	8.21 E-03
2. Average Release Rate for Period	uCi/sec	3.63 E-03	1.03 E-03
3. Percent of Technical Specification Limit	%	*	*

C. PARTICULATES

1. Particulates with half-lives > 8 days	Ci	3.83 E-03	3.06 E-03
2. Average Release Rate for Period	uCi/sec	4.82 E-04	3.85 E-04
3. Percent of Technical Specification Limit	%	*	*
4. Gross Alpha Radioactivity	Ci	MDL	MDL

D. TRITIUM

1. Total Release	Ci	8.38 E06	4.69 E06
2. Average Release Rate for Period	uCi/sec	1.05 E06	5.90 E05
3. Percent of Technical Specification Limit	%	*	*

* Will be included in the Annual Report on Environmental Radioactivity Data

DRESDEN NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1988

D1 Chimney GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

Docket Number 50-10

SEMI-ELEVATED RELEASES

xx ELEVATED RELEASES

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		3rd QUARTER	4th QUARTER	3rd QUARTER	4th QUARTER
FISSION GASES	Ci				
Xe-138	Ci	*	*		
Xe-135m	Ci	*	*		
Kr-87	Ci	*	*		
Kr-88	Ci	*	*		
Kr-85m	Ci	*	*		
Kr-85	Ci	*	*		
Xe-135	Ci	*	*		
Xe-133	Ci	*	*		
Others:	Ci				
	Ci				
TOTAL	Ci			None	None
IODINES					
I-131	Ci	*	*		
I-133	Ci	*	*		
I-135	Ci	*	*		
TOTAL	Ci			None	None
PARTICULATES					
Sr-89	Ci	*	*		
Sr-90	Ci	1.20 E-07	*		
Cr-51	Ci	*	*		
Mn-54	Ci	*	2.29 E-07		
Co-58	Ci	*	*		
Fe-59	Ci	*	*		
Co-60	Ci	1.17 E-06	3.01 E-06		
Zr-95	Ci	*	*		
Nb-95	Ci	*	*		
Ru-103	Ci	*	*		
Ag-110m	Ci	*	*		
Sb-124	Ci	*	*		
I-131	Ci	*	*		
Cs-134	Ci	*	*		
Cs-136	Ci	*	*		
Cs-137	Ci	7.65 E-06	5.37 E-06		
Ba-140	Ci	*	*		
Ce-141	Ci	*	*		
Ce-144	Ci	*	*		
Zn-65	Ci	*	*		
Ba-133	Ci	*	*		
Sb-125	Ci	*	*		
Others:	Ci				
	Ci				
	Ci				
	Ci				
	Ci				
TOTAL	Ci	8.94 E-06	8.61 E-06	None	None

* See Table for MDL of Each Nuclide

DRENNEN NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT
July Through December 1988

Docket Number
50-10

TABLE OF MINIMUM DETECTABLE LEVELS
FOR GASEOUS EFFLUENTS

D1 Chimney GASEOUS EFFLUENTS AVERAGE FLOW 50,000 cfm

	<u>MDL (uCi/cc)</u>	<u>% OF TIME < MDL</u>
1. FISSION GASES		
Xe-138	4.16 E-08	100.0
Xe-135m	1.29 E-07	100.0
Kr-87	3.03 E-08	100.0
Kr-88	5.21 E-08	100.0
Kr-85m	1.78 E-08	100.0
Kr-85	4.43 E-06	100.0
Xe-135	1.52 E-08	100.0
Xe-133	4.32 E-08	100.0
Others:		
2. IODINES		
I-131	5.34 E-14	100.0
I-133	5.57 E-14	100.0
I-135	1.19 E-13	100.0
3. PARTICULATES		
Sr-89	2.8 E-11	100.0
Sr-90	9.7 E-12	83.2
Cr-51	4.20 E-13	100.0
Mn-54	5.27 E-14	96.7
Co-58	4.83 E-14	100.0
Fe-59	7.58 E-14	100.0
Co-60	1.26 E-13	46.2
Zr-95	9.09 E-14	100.0
Nb-95	4.96 E-14	100.0
Ru-103	4.95 E-14	100.0
Ag-110m	5.12 E-14	100.0
Sb-124	5.86 E-14	100.0
I-131	5.15 E-14	100.0
Cs-134	5.73 E-14	100.0
Cs-136	5.49 E-14	100.0
Cs-137	6.21 E-14	26.6
Ba-140	1.91 E-13	100.0
Ce-141	7.64 E-14	100.0
Ce-144	3.27 E-13	100.0
Zn-65	9.03 E-14	100.0
Ba-133	6.93 E-14	100.0
Sb-125	1.39 E-13	100.0
Others:		

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DRESDEN NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1988

D2/3 Chimney GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

SEMI-ELEVATED RELEASES

xx ELEVATED RELEASES

Docket Numbers: 50-237
50-249

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	3rd QUARTER	4th QUARTER	3rd QUARTER	4th QUARTER
FISSION GASES	Ci				
Xe-138	Ci	2.54 E00	*		
Xe-135m	Ci	1.56 E00	*		
Kr-87	Ci	*	*		
Kr-88	Ci	*	*		
Kr-85m	Ci	*	*		
Kr-85	Ci	2.16 E-03	2.68 E-03		
Xe-135	Ci	1.40 E01	1.64 E01		
Xe-133	Ci	*	*		
Others:	Ci				
	Ci				
TOTAL	Ci	1.81 E01	1.64 E01	None	None
IODINES					
I-131	Ci	1.54 E-03	5.52 E-04		
I-133	Ci	1.06 E-02	3.42 E-03		
I-135	Ci	1.56 E-02	4.04 E-03		
TOTAL	Ci	2.77 E-02	8.01 E-03	None	None
PARTICULATES					
Sr-89	Ci	7.03 E-05	4.30 E-05		
Sr-90	Ci	3.37 E-07	*		
Cr-51	Ci	*	*		
Mn-54	Ci	1.90 E-04	3.22 E-05		
Co-58	Ci	*	*		
Fe-59	Ci	*	*		
Co-60	Ci	5.96 E-04	1.57 E-04		
Zr-95	Ci	*	*		
Nb-95	Ci	*	*		
Ru-103	Ci	*	*		
Ag-110m	Ci	*	*		
Sb-124	Ci	*	*		
I-131	Ci	1.46 E-04	8.05 E-05		
Cs-134	Ci	*	*		
Cs-136	Ci	*	*		
Cs-137	Ci	2.45 E-05	2.28 E-04		
Ba-140	Ci	8.99 E-04	5.45 E-04		
Ce-141	Ci	*	*		
Ce-144	Ci	*	*		
Zn-65	Ci	*	*		
Ba-133	Ci	*	*		
Sb-125	Ci	*	*		
Others:	Ci				
	Ci				
	Ci				
	Ci				
	Ci				
TOTAL	Ci	1.93 E-03	1.09 E-03	None	None

* See Table for MDL of Each Nuclide

TABLE OF MINIMUM DETECTABLE LEVELS
FOR GASEOUS EFFLUENTS

D2/3 Chimney GASEOUS EFFLUENTS AVERAGE FLOW 3rd qtr 289. Kcfm
4th qtr 313 Kcfm

MDL (uCi/cc)

% OF TIME < MDL

1. FISSION GASES

Xe-138	4.16 E-08	98.9
Xe-135m	1.29 E-07	98.4
Kr-87	3.03 E-08	100.0
Kr-88	5.21 E-08	100.0
Kr-85m	1.78 E-08	100.0
Kr-85	4.43 E-06	0
Xe-135	1.52 E-08	47.8
Xe-133	4.32 E-08	100.0
Others:		

2. IODINES

I-131	5.34 E-14	0
I-133	5.57 E-14	3.8
I-135	1.19 E-13	26.1

3. PARTICULATES

Sr-89	2.8 E-11	0
Sr-90	9.7 E-12	66.3
Cr-51	4.20 E-13	100.0
Mn-54	5.27 E-14	42.9
Co-58	4.83 E-14	100.0
Fe-59	7.58 E-14	100.0
Co-60	1.26 E-13	2.7
Zr-95	9.09 E-14	100.0
Nb-95	4.96 E-14	100.0
Ru-103	4.95 E-14	100.0
Ag-110m	5.12 E-14	100.0
Sb-124	5.86 E-14	100.0
I-131	5.15 E-14	4.9
Cs-134	5.73 E-14	100.0
Cs-136	5.49 E-14	100.0
Cs-137	6.21 E-14	21.7
Ba-140	1.91 E-13	7.6
Ce-141	7.64 E-14	100.0
Ce-144	3.27 E-13	100.0
Zn-65	9.03 E-14	100.0
Ba-133	6.93 E-14	100.0
Sb-125	1.39 E-13	100.0
Others:		

DRESDEN NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1988

D2/3 Vent GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

xx SEMI-ELEVATED RELEASES

ELEVATED RELEASES

Docket Numbers: 50-237
50-249

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		3rd QUARTER	4th QUARTER	3rd QUARTER	4th QUARTER
FISSION GASES	Ci				
Xe-138	Ci	*	*		
Xe-135m	Ci	*	*		
Kr-87	Ci	*	*		
Kr-88	Ci	*	*		
Kr-85m	Ci	*	*		
Kr-85	Ci	*	*		
Xe-135	Ci	*	2.06 E-01		
Xe-133	Ci	*	*		
Others:	Ci				
	Ci				
TOTAL	Ci		2.06 E-01	None	None
IODINES					
I-131	Ci	9.66 E-05	4.36 E-05		
I-133	Ci	6.01 E-04	1.36 E-04		
I-135	Ci	4.22 E-04	1.61 E-05		
TOTAL	Ci	1.12 E-03	2.00 E-04	None	None
PARTICULATES					
Sr-89	Ci	8.89 E-07	*		
Sr-90	Ci	*	*		
Cr-51	Ci	1.09 E-04	7.28 E-05		
Mn-54	Ci	3.29 E-04	2.15 E-04		
Co-58	Ci	1.63 E-05	5.53 E-05		
Fe-59	Ci	2.25 E-05	1.27 E-05		
Co-60	Ci	1.36 E-03	1.58 E-03		
Zr-95	Ci	*	*		
Nb-95	Ci	*	*		
Ru-103	Ci	*	*		
Ag-110m	Ci	*	*		
Sb-124	Ci	1.19 E-06	*		
I-131	Ci	1.16 E-05	3.73 E-06		
Cs-134	Ci	*	*		
Cs-136	Ci	*	*		
Cs-137	Ci	1.35 E-05	1.82 E-05		
Ba-140	Ci	2.15 E-05	3.74 E-06		
Ce-141	Ci	*	*		
Ce-144	Ci	*	*		
Zn-65	Ci	5.33 E-06	*		
Ba-133	Ci	*	*		
Sb-125	Ci	*	*		
Others:	Ci				
	Ci				
	Ci				
TOTAL	Ci	1.89 E-03	1.96 E-03	None	None

* See Table for MDL of Each Nuclide

TABLE OF MINIMUM DETECTABLE LEVELS
FOR GASEOUS EFFLUENTS

D2/3 Vent GASEOUS EFFLUENTS AVERAGE FLOW D2: 110 Kcfm
D3: 110 Kcfm

MDL (uCi/cc) % OF TIME < MDL

1. FISSION GASES

Xe-138	4.16 E-08	100.0
Xe-135m	1.29 E-07	100.0
Kr-87	3.03 E-08	100.0
Kr-88	5.21 E-08	100.0
Kr-85m	1.78 E-08	100.0
Kr-85	4.43 E-06	100.0
Xe-135	1.52 E-08	96.2
Xe-133	4.32 E-08	100.0
Others:		

2. IODINES

I-131	5.34 E-14	3.8
I-133	5.57 E-14	14.7
I-135	1.19 E-13	78.3

3. PARTICULATES

Sr-89	2.8 E-11	66.3
Sr-90	9.7 E-12	100.0
Cr-51	4.20 E-13	32.6
Mn-54	5.27 E-14	0
Co-58	4.83 E-14	53.8
Fe-59	7.58 E-14	78.8
Co-60	1.26 E-13	0
Zr-95	9.09 E-14	100.0
Nb-95	4.96 E-14	100.0
Ru-103	4.95 E-14	100.0
Ag-110m	5.12 E-14	100.0
Sb-124	5.86 E-14	96.2
I-131	5.15 E-14	59.2
Cs-134	5.73 E-14	100.0
Cs-136	5.49 E-14	100.0
Cs-137	6.21 E-14	30.4
Ba-140	1.91 E-13	58.2
Ce-141	7.64 E-14	100.0
Ce-144	3.27 E-13	100.0
Zn-65	9.03 E-14	96.2
Ba-133	6.93 E-14	100.0
Sb-125	1.39 E-13	100.0
Others:		

DRESDEN NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

July Through December 1988

LIQUID EFFLUENTS

SUMMATION OF ALL RELEASES

Docket Numbers: 50-10
50-237
50-249

	UNIT	<u>3rd</u> QUARTER	<u>4th</u> QUARTER
A. FISSION AND ACTIVATION PRODUCTS			
1. Total Release (not incl. tritium,gases,alpha)	Ci	1.41 E-02	1.85 E-01
2. Average Diluted Conc. During Period	uCi/mL	7.05 E-08	1.97 E-06
3. Percent of Applicable Limit	%	*	*
B. TRITIUM			
1. Total Release	Ci	1.55 E-06	1.05 E01
2. Average Diluted Conc. During Period	uCi/mL	7.55 E-12	1.12 E-04
3. Percent of Applicable Limit	%	*	*
C. DISSOLVED AND ENTRAINED GASES			
1. Total Release	Ci	9.49 E-06	4.05 E-04
2. Average Diluted Conc. During Period	uCi/mL	4.75 E-11	4.32 E-09
3. Percent of Applicable Limit	%	*	*
D. GROSS ALPHA RADIOACTIVITY			
1. Total Release	Ci	MDL	MDL
E. VOLUME OF WASTE RELEASED (prior to dilution)			
	liters	1.90 E06	1.11 E07
F. VOLUME OF DILUTION WATER USED DURING PERIOD			
	liters	1.98 E08	8.26 E07

* Will be included in the Annual Report on Environmental Radioactivity Data

DRESDEN NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

July Through December 1988

Radwaste LIQUID EFFLUENTS

Docket Numbers: 50-10
50-237
50-249

1. Number of Batch Releases: 136
2. Total Time Period for Batch Releases: 43,471 min
3. Maximum Time Period for a Batch Release: 419 min
4. Average Time Period for Batch Releases: 320 min
5. Minimum Time Period for a Batch Release: 3 min
6. Average Stream Flow During Periods of
Release of Effluent into a Flowing Stream: 262.72 L/min

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		3rd QUARTER	4th QUARTER	3rd QUARTER	4th QUARTER
Sr-89	Ci			*	*
Sr-90	Ci			*	*
Ar-41	Ci			*	2.65 E-05
Mn-54	Ci			1.24 E-03	5.25 E-03
Co-58	Ci			1.02 E-05	3.52 E-04
Fe-59	Ci			*	7.03 E-04
Co-60	Ci			1.09 E-02	2.53 E-02
Zn-65	Ci			*	*
Ru-103	Ci			*	*
Sb-122	Ci			*	*
Sb-124	Ci			*	1.60 E-07
I-131	Ci			*	*
I-133	Ci			*	*
I-135	Ci			*	*
Cs-134	Ci			*	*
Cs-137	Ci			1.84 E-03	5.48 E-03
Ba-140	Ci			*	*
La-140	Ci			*	1.11 E-06
Ce-141	Ci			*	*
Others: Cr-51	Ci			*	5.71 E-04
Zr-95	Ci			*	5.70 E-08
Nb-95	Ci			*	6.00 E-08
Fe-55	Ci			*	1.47 E-01
(above)					
Total For Period	Ci	None	None	1.40 E-02	1.85 E-01
Xe-133	Ci				1.03 E-04
Xe-135	Ci			9.49 E-06	3.02 E-04

* See Table for MDL of Each Nuclide

DRYDEN NUCLEAR POWER STATION

July Through December 1988

TABLE OF MINIMUM DETECTABLE LEVELS
FOR LIQUID EFFLUENTS

Docket Numbers:
50-10
50-237
50-249

Radwaste LIQUID EFFLUENTS TOTAL GALLONS RELEASED 3,017,130

	<u>MDL (uCi/mL)</u>	<u>% OF GALLONS < MDL</u>
Sr-89	6.0 E-08	83.2
Sr-90	3.1 E-08	83.2
Ar-41	2.71 E-08	98.3
Mn-54	5.04 E-08	20.3
Co-58	4.98 E-08	93.5
Fe-59	8.11 E-08	89.7
Co-60	1.18 E-07	0
Zn-65	9.97 E-08	100.0
Ru-103	6.04 E-08	100.0
Sb-122	7.31 E-08	100.0
Sb-124	4.87 E-08	99.3
I-131	5.62 E-08	100.0
I-133	5.34 E-08	100.0
I-135	9.15 E-08	100.0
Cs-134	5.51 E-08	100.0
Cs-137	4.04 E-08	1.7
Ba-140	2.11 E-07	100.0
La-140	3.82 E-08	99.3
Ce-141	9.33 E-08	100.0
Xe-133	1.53 E-07	96.9
Xe-135	5.13 E-08	93.8
Cr-51	4.81 E-07	95.8
Fe-55	4.8 E-07	42.9
Zr-95	Not Determined	99.3
Nb-95	Not Determined	99.3

DRESDEN NUCLEAR POWER STATION

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

July Through December 1988

LPCI LIQUID EFFLUENTS

Docket Numbers: 50-237
50-249

1. Number of Batch Releases: 95
2. Total Time Period for Batch Releases: 117.80 min
3. Maximum Time Period for a Batch Release: 1.24 min
4. Average Time Period for Batch Releases: 1.24 min
5. Minimum Time Period for a Batch Release: 1.24 min
6. Average Stream Flow During Periods of
Release of Effluent into a Flowing Stream: 13,248.5 L/min

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		3rd QUARTER	4th QUARTER	3rd QUARTER	4th QUARTER
Sr-89	Ci			*	*
Sr-90	Ci			*	*
Ar-41	Ci			*	*
Mn-54	Ci			8.52 E-06	1.85 E-08
Co-58	Ci			*	*
Fe-59	Ci			*	*
Co-60	Ci			6.79 E-05	6.01 E-06
Zn-65	Ci			*	*
Ru-103	Ci			*	*
Sb-122	Ci			*	*
Sb-124	Ci			*	*
I-131	Ci			*	*
I-133	Ci			*	*
I-135	Ci			*	*
Cs-134	Ci			*	*
Cs-137	Ci			3.30 E-05	1.63 E-05
Ba-140	Ci			*	*
La-140	Ci			*	*
Ce-141	Ci			*	*
Others: Cr-51	Ci			*	*
Fe-55	Ci			*	*
	Ci			*	*
	Ci			*	*
(above)					
Total For Period	Ci	None	None	1.09 E-04	2.24 E-05
Xe-133	Ci			*	*
Xe-135	Ci			*	*

* See Table for MDL of Each Nuclide

July Through December 1988

TABLE OF MINIMUM DETECTABLE LEVELS
FOR LIQUID EFFLUENTS

Docket Numbers:
50-237
50-249

<u>LPCI</u>	<u>LIQUID EFFLUENTS</u>	<u>TOTAL GALLONS RELEASED</u>	<u>412,300</u>
	<u>MDL (uCi/mL)</u>	<u>% OF GALLONS < MDL</u>	
Sr-89	6.0 E-08	100.0	
Sr-90	3.1 E-08	100.0	
Ar-41	2.71 E-08	100.0	
Mn-54	5.04 E-08	78.1	
Co-58	4.98 E-08	100.0	
Fe-59	8.11 E-08	100.0	
Co-60	1.18 E-07	0	
Zn-65	9.97 E-08	100.0	
Ru-103	6.04 E-08	100.0	
Sb-122	7.31 E-08	100.0	
Sb-124	4.87 E-08	100.0	
I-131	5.62 E-08	100.0	
I-133	5.34 E-08	100.0	
I-135	9.15 E-08	100.0	
Cs-134	5.51 E-08	100.0	
Cs-137	4.04 E-08	0	
Ba-140	2.11 E-07	100.0	
La-140	3.82 E-08	100.0	
Ce-141	9.33 E-08	100.0	
Xe-133	1.53 E-07	100.0	
Xe-135	5.13 E-08	100.0	
Cr-51	4.81 E-07	100.0	
Fe-55	4.8 E-07	100.0	

DRESDEN NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

July Through December 1988

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Docket Numbers:
50-10
50-237
50-249

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL)

1. Type of Waste	Unit	6-month period
a. Spent resins, filter sludges, evaporator bottoms, etc.	m ³	2.17 E02
	Ci	6.12 E02
b. Dry compressible waste, contaminated equip., etc.	m ³	1.04 E03
	Ci	1.97 E02
c. Irradiated components, control rods, etc.	m ³	2.36 E00
	Ci	2.00 E-01
d. Other (describe)	m ³	0
	Ci	0

2. Estimate of Major Nuclide Composition (by type of waste)

	%	Ci
a. Co-60	74.5 %	4.56 E02
Fe-55	12.4 %	7.59 E01
Mn-54	9.8 %	6.00 E01
Cs-137	0.7 %	4.28 E00
Other	2.6 %	1.59 E01
b. Co-60	24.4 %	4.81 E01
Fe-55	71.3 %	1.40 E02
Mn-54	2.8 %	5.52 E00
Cs-137	1.4 %	2.76 E00
Other	0.2 %	3.94 E-01
c. Co-60	29.41 %	5.88 E-02
Fe-55	67.95 %	1.36 E-01
Mn-54	2.64 %	5.28 E-03
	%	
	%	
d.	%	

3. Solid Waste Disposition

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
2	Motor freight (exclusive use only)	Westinghouse DDR
57	Motor freight (exclusive use only)	Barnwell, SC
4	Motor freight (exclusive use only)	Richland, WA
9	Motor freight (exclusive use only)	SEG
1	Motor freight (exclusive use only)	Alaron
3	Motor freight (exclusive use only)	CNSI

B. IRRADIATED FUEL SHIPMENTS (Disposition)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
	None	

DEN NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

July Through December 1988

ABNORMAL RELEASES

Docket Numbers:
50-10
50-237
50-249

A. LIQUID

1. Number of Releases: None
2. Total Activity Released: None

B. GASEOUS

1. Number of Releases: None
2. Total Activity Released: None