



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

August 10, 1993

GFSLTR#: 93-0027

Mr. John B. Martin
Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

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

Enclosed is the corrected Radioactive Effluent Report for July through December, 1992 for Dresden Nuclear Power Station. Data for Sr-89, Sr-90, Fe-55, gross alpha and tritium were updated for September through December 1992 to reflect actual sample analysis.

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

Sincerely Yours,

Gary F. Spedl
Station Manager
Dresden Station

GFS:MG:slb

Enclosure

cc: M. Gagnon
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REGULATORY LIMITS

Gaseous Effluents - Dose

This Specification is provided to ensure that the dose at the unrestricted area boundary from gaseous effluents from the units on site will be within the annual dose limits of 10 CFR Part 20 for unrestricted areas. The annual dose limits are the doses associated with the concentrations of 10 CFR Part 20, Appendix B, Table II. These limits provide reasonable assurance that radioactive material discharged in gaseous effluents will not result in the exposure of an individual in an unrestricted area to annual average concentrations exceeding the limits specified in Appendix B, Table II of 10 CFR Part 20 (10 CFR Part 20.106(b)). The specified release rate limits restrict, at all times, the corresponding gamma and beta dose rates above background to an individual at or beyond the unrestricted area boundary to less than or equal to 500 mrem/year to the total body or to less than or equal to 3000 mrem/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid dose rate above background to a child via the inhalation pathway to less than or equal to 1500 mrem/year. For purposes of calculating doses resulting from airborne releases, the main chimney is considered to be an elevated release point and the reactor building vent stack is considered to be a mixed mode release point.

Dose, Noble Gases

This Specification is provided to implement the requirements of Sections II.B, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Conditions For Operation implement the guides set forth in Section II.3 of Appendix I. The statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive material in gaseous effluents will be kept "as low as is reasonably achievable." The Surveillance Requirements implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I is to be shown by calculational procedures based on models and data such that the actual exposure of an individual through the appropriate pathways is unlikely to be substantially underestimated. The dose calculations established in the ODCM for calculating the doses due to the actual release rates of radioactive noble gases in gaseous effluents will be consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water Cooled Reactors," Revision 1, July 1977. The ODCM equations provide for determining the air doses at the unrestricted boundary based upon the historical average atmospheric conditions. NUREG-0133 provides methods for dose calculations consistent with Regulatory Guides 1.109 and 1.111.

Dose, Radioiodines, Radioactive Material in Particulate Form and Radionuclides Other than Noble Gases

This specification is provided to implement the requirements of Sections II.C, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Conditions for Operation are the guides set forth in Section II.C of Appendix I. The statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive materials in gaseous effluents will be kept "as low as reasonably achievable." The ODCM calculational methods specified in the surveillance requirements implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of an individual through appropriate pathways is unlikely to be substantially underestimated. The ODCM calculational methods approved by NRC for calculating the doses due to the actual release rates of the subject materials are required to be consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I", Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors," Revision 1, July 1977. These equations also provide for determining the actual doses based upon the historical average atmospheric conditions. The release rate specifications for radioiodines, radioactive material in particulate form and radionuclides other than noble gases are dependent on the existing radionuclide pathways to man, in the unrestricted area. The pathways which were examined in the development of these specifications were: 1) individual inhalation of airborne radionuclides, 2) deposition of radionuclides onto green leafy vegetation with subsequent consumption by man and 3) deposition onto grassy areas where milk animals graze with consumption of the milk by man.

Gaseous Waste Treatment

The OPERABILITY of the gaseous waste treatment which reduces amounts or concentrations of radioactive materials ensures that the system will be available for use whenever gaseous effluents require treatment prior to release to the environment. The requirement that the appropriate portions of this system be operable when specified provides reasonable assurance that the releases of radioactive materials in gaseous effluents will be kept "as low as reasonably achievable". This specification implements the requirements of 10 CFR Part 50.36a, General Design Criterion 60 of Appendix A to 10 CFR Part 50, and design objective Section II.D of Appendix I to 10 CFR Part 50.

LIQUID EFFLUENTS

Concentration

This specification is provided to ensure the concentration of radioactive materials released in liquid waste effluents from the site to unrestricted areas will be less than the concentration levels specified in 10 CFR Part 20, Appendix B, Table II, Column 2. The concentration limit for noble gases, MPC in air (submersion), was converted to an equivalent concentration in water using the International Commission on Radiological Protection (ICRP) Publication 2.

Dose

This specification is provided to implement the requirements of Sections II.A, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Condition for Operation implements the guides set forth in Section II.A of Appendix I. The statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive material in liquid effluents will be kept "as low as reasonably achievable". The dose calculations in the ODCM implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of an individual through appropriate pathways is unlikely to be substantially underestimated. The equations specified in the ODCM for calculating the doses due to the actual release rates of radioactive materials in liquid effluents will be consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I", Revision 1, October 1977 and Regulatory Guide 1.113, "Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I", April 1977. (SUPEG-011) provides methods for dose calculations with Reg Guide 1.109 and 1.113.

Liquid Waste Treatment

The operability of the liquid radwaste treatment system ensures that this system will be available for use whenever liquid effluents require treatment prior to release to the environment. The requirement that the appropriate portions of this system be used when specified provides assurance that the release of radioactive materials in liquid effluents will be kept "as low as reasonably achievable". This specification implements the requirements of 10 CFR Part 50 and design objective Section II.D of Appendix I to 10 CFR Part 50.

DRESDEN NUCLEAR POWER STATION DOCKET NOS. 50-10, 50-237, 50-249

MAXIMUM PERMISSIBLE CONCENTRATIONS (MPC)

The concentration of radioactive materials released in gaseous and liquid effluents from the site to unrestricted areas will be less than the concentration levels specified in 10 CFR Part 20, Appendix B, Table II, Columns 1 and 2. The concentration limit for noble gases, MPC in air (submersion), was converted to an equivalent concentration in water using the International Commission on Radiological Protection (ICRP) Publication 2.

MAXIMUM PERMISSIBLE CONCENTRATION OF DISSOLVED
OR ENTRAINED NOBLE GASES RELEASED FROM
THE SITE TO UNRESTRICTED AREAS
IN LIQUID WASTE

<u>NUCLIDE</u>	<u>MPC(μCi/ml)*</u>
Kr-85m	2.0E-04
Kr-85	5.0E-04
Kr-87	4.0E-05
Kr-88	2.0E-05
Ar-41	7.0E-05
Xe-131m	7.0E-04
Xe-133m	5.0E-04
Xe-133	6.0E-04
Xe-135m	2.0E-04
Xe-135	2.0E-04

- * Computed from Equation 20 of ICRP Publication 2 (1959), adjusted for infinite cloud submersion in water, and R = 0.01 rem/week, density = 1.0 g/cc and fw/Pt = 1.0.

AVERAGE ENERGY

The average energy of fission and activation gases was calculated for the gaseous effluents released from the site. The average energy is based on the percentage of each fission gas nuclide present and its average energy per disintegration (E in MeV/dis) for gamma and beta emissions separately.

$$\bar{E}_g = 2.48E-01 \text{ MeV/dis}$$

$$\bar{E}_a = 3.17E-01 \text{ MeV/dis}$$

EQUIPMENT OUT-OF-SERVICE:

The Unit 1 Chimney SPIN3 was out of service from June 30, 1992 to the end of the year. This was due to repairs and calibration of the monitor. The backup air sampler was used during this period.

The Unit 2 Service Water Monitor was out of service from September 25, 1992 to November 13, 1992, and the Unit 3 Service Water Monitor was out of service from September 16, 1992 to November 5, 1992. These outages were due to repairs and cleaning trapped sediment in the pipe work.

DRESDEN NUCLEAR POWER STATION LOCKET NOS. 50-10, 50-237, 50-249

MEASUREMENTS AND APPROXIMATIONS

- A. Fission and activation gases: The D-1 Chimney, D2/3 Chimney, and D2/3 Reactor Building Vent are sampled weekly via a grab sample. The samples are analyzed for specific isotopes present in the release using a Hyper-Pure Germanium (HP Ge) Spectrometry System. Tritium is sampled monthly via a grab sample on the D-1 Chimney, D2/3 Chimney, and D2/3 Reactor Building Vent and analyzed using a Liquid Scintillation Counter. Krypton-85 is estimated in the D2/3 Chimney using a recoil or non-recoil calculation using the fission per second plot and the sum of Kr-85m, Kr-87, Kr-88, Xe-131, Xe-135, and Xe 138 activities present in Reactor Off-Gas.
- B. Iodine and Particulate: Iodine and particulate samples from the D-1 Chimney, D2/3 Chimney and the D2/3 Reactor Building Vent are collected for a maximum seven day period. These samples are analyzed for specific nuclides present in the release using a HP Ge spectrometry system. When iodine or 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 of the particulate samples is sent to a vendor to be analyzed for Fe-55, Sr-89, Sr-90, and Gross Alpha activity.
- C. Liquid Effluents: Analyzed for specific isotopes present in the release using a HP Ge 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, H-3, and Gross Alpha activity. A sample of each Containment Cooling Service Water (CCSW) system is analyzed each month for specific isotopes present in the release using a HP Ge spectrometry system. A sample of each CCSW system is sent each month to a vendor to be analyzed for Sr-89, Sr-90, Fe-55, H-3, and Gross Alpha activity.
- D. Estimation of Overall Errors: The methods used for estimating overall errors associated with radioactivity measurements vary with discharge path and form of isotopes. Factors that contribute to the error include such items as calibration of counting equipment, counting statistics, sampling error, discharge volume, and flow rate monitors.

DPESDEN NUCLEAR POWER STATION
UNITS 1, 2, AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1992

GASEOUS EFFLUENTS Docket Numbers: 50-10
50-237
SUMMATION OF ALL RELEASES 50-249

TYPE OF RELEASE	UNITS	1st QUARTER	4th QUARTER	EST. TOTAL ERROR, %
Fission and Activation Gases				
1. Total Release	Ci	1.28E+00	3.09E+00	7.31
2. Average Release Rate for Period	uCi/sec	1.61E-01	3.89E-01	
3. Percent of Technical Specification Limit	%	*	*	
B. IODINES				
1. Total Iodine-131	Ci	4.43E-04	4.67E-04	9.51
2. Average Release Rate of I-131 for Period	uCi/sec	5.56E-05	5.88E-05	
3. Percent of Technical Specification Limit	%	*	*	
4. Total Iodine-131, Iodine-133, and Iodine-135	Ci	3.16E-03	2.94E-03	
C. PARTICULATES				
1. Particulates with half-lives > 8 days	Ci	2.32E-03	4.46E-03	8.09
2. Average Release Rate for Period	uCi/sec	2.92E-04	5.61E-04	
3. Percent of Technical Specification Limit	%	*	*	
4. Gross Alpha Radioactivity	Ci	4.43E-06	7.23E-06	
D. TRITIUM				
1. Total Release	Ci	1.20E+00	1.82E+00	7.89
2. Average Release Rate for Period	uCi/sec	1.51E-01	2.29E-01	
3. Percent of Technical Specification Limit	%	*	*	

- The information is contained in the Radiological Impact on Man section of the report. Total airborne release data is provided which includes fission and activation gases, iodines, particulates, and tritium.

DRESDEN NUCLEAR POWER STATION
UNITS 1, 2, AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1992

GASEOUS EFFLUENTS
SUMMATION OF ALL RELEASES

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

1. FISSION GASES

Xe-118	1.60E-07
Xe-119m	9.90E-08
Kr-87	4.40E-08
Kr-89	5.40E-08
Kr-89m	1.80E-08
Kr-95	5.10E-08
Xe-135	1.60E-08
Xe-137	4.40E-08
Ar-41	7.50E-08
Xe-135m	1.50E-07

2. IODINES

I-131	7.90E-11
I-133	3.40E-12
I-135	4.70E-10

3. PARTICULATES

Sr-89	2.03E-14
Sr-90	5.00E-15
Cr-51	5.40E-12
Mn-54	6.80E-11
Co-58	8.00E-11
Fe-55	1.00E-14
Fe-59	1.60E-12
Co-60	1.40E-12
Zn-65	1.40E-12
Hb-95	7.10E-11
Mo-99	7.40E-11
Ru-101	7.20E-11
Ru-106m	6.10E-11
Sb-124	5.70E-11
I-131	7.70E-11
Cs-134	6.80E-11
Cs-136	7.10E-11
Cs-137	7.60E-11
Ba-140	3.30E-12
La-140	1.10E-12
Ce-141	9.99E-12
Ce-144	3.80E-12
Eu-65	1.70E-12
Ba-131	7.20E-11
Sn-125	1.90E-12
Others:	

Gross Alpha 1.20E-14

July Through December 1972

24 ELEVATED RELEASES

* The activity of this nuclide is less than the LLB listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNIT 1 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through September 1992

01 CHIMNEY GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

Docket Number: 50-10

SEMI-ELEVATED RELEASES

XX ELEVATED RELEASES

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE			
		JULY	AUGUST	SEPTEMBER	3rd QUARTER TOTAL
MISSION GASES					
Xe-131	C1	.	.	.	.
Xe-135m	C1	.	.	.	.
Kr-87	C1	.	.	.	.
Kr-89	C1	.	.	.	.
Kr-85m	C1	.	.	.	.
Kr-85	C1	.	.	.	.
Xe-135	C1	.	.	.	.
Xe-133	C1	.	.	.	.
TOTAL	C1				
IODINES					
I-131	C1	.	.	.	.
I-133	C1	.	.	.	.
I-135	C1	.	.	.	.
TOTAL	C1				
PARTICULATES					
Sr-89	C1	.	.	.	.
Sr-90	C1	2.12E-08	.	.	2.12E-08
Ce-51	C1	.	.	.	.
Mn-54	C1	.	.	.	.
Co-58	C1	.	.	.	.
Fe-59	C1	.	.	.	.
Co-60	C1	.	.	.	.
Fe-55	C1	.	.	.	.
Rb-93	C1	.	.	.	.
Mn-92	C1	.	.	.	.
Ru-101	C1	.	.	.	.
Ag-110m	C1	.	.	.	.
Sb-124	C1	.	.	.	.
I-131	C1	.	.	.	.
Co-134	C1	.	.	.	.
Cu-136	C1	.	.	.	.
Co-137	C1	.	.	.	.
Ru-140	C1	.	.	.	.
La-140	C1	.	.	.	.
Ce-141	C1	.	.	.	.
Ce-144	C1	.	.	.	.
Zn-65	C1	.	.	.	.
Ru-110	C1	.	.	.	.
Sb-125	C1	.	.	.	.
Fe-55	C1	1.95E-06	.	1.65E-06	5.60E-06
TOTAL	C1	3.27E-06	.	1.65E-06	5.62E-06

* The activity of this nuclide is less than the MLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNIT 1 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
October Through December 1972

D1 CHIMNEY GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

Docket Number: 50-10

SEMI-ELEVATED RELEASES

XX ELEVATED RELEASES

CONTINUOUS MODE					
NUCLIDES RELEASED	UNIT	OCTOBER	NOVEMBER	DECEMBER	1st QUARTER TOTAL
FISSION GASES					
Xe-138	C1	.	.	.	.
Xe-135m	C1	.	.	.	.
Kr-87	C1	.	.	.	.
Kr-98	C1	.	.	.	.
Kr-85m	C1	.	.	.	.
Kr-85	C1	.	.	.	.
Xe-135	C1	.	.	.	.
Xe-133	C1	.	.	.	.
TOTAL	C1	.	.	.	.
IODINES					
I-131	C1	.	.	.	.
I-133	C1	.	.	.	.
I-135	C1	.	.	.	.
TOTAL	C1	.	.	.	.
PARTICULATES					
Sr-89	C1	.	.	.	.
Sr-90	C1	.	.	.	.
Cr-51	C1	.	.	.	.
Mn-54	C1	.	.	.	.
Co-58	C1	.	.	.	.
Fe-59	C1	.	.	.	.
Co-60	C1	.	.	.	.
Zr-95	C1	.	.	.	.
Nb-95	C1	.	.	.	.
Pu-103	C1	.	.	.	.
Ag-110m	C1	.	.	.	.
Sb-124	C1	.	.	.	.
I-131	C1	.	.	.	.
Cd-114	C1	.	.	.	.
Co-136	C1	.	.	.	.
Cd-137	C1	.	.	.	.
Ra-140	C1	.	.	.	.
La-140	C1	.	.	.	.
Ce-141	C1	.	.	.	.
Ce-144	C1	.	.	.	.
Zn-65	C1	.	.	.	.
Pb-133	C1	.	.	.	.
Sb-125	C1	.	.	.	.
Fe-55	C1	4.13E-06	.	4.09E-06	8.22E-06
TOTAL	C1	4.13E-06	.	4.09E-06	8.22E-06

* The activity of this nuclide is less than the LLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNITS 2 and 3 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1992

02/3 CHIMNEY GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

Docket Number: 50-237

SEMI-ELEVATED RELEASES

50-249

XX ELEVATED RELEASES

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		1st QUARTER	4th QUARTER	1st QUARTER	4th QUARTER
FISSION GASES					
Xe-133	C1	.	.		
Xe-135m	C1	.	.		
Kr-87	C1	.	.		
Kr-88	C1	.	.		
Kr-89m	C1	.	.		
Kr-85	C1	9.27E-04	1.01E-03		
Xe-135	C1	1.29E-00	1.02E-00		
Xe-131	C1	.	.		
TOTAL	C1	1.29E-00	1.02E-00	None	None
IODINES					
I-131	C1	4.30E-04	4.27E-04		
I-133	C1	2.26E-03	2.17E-03		
I-135	C1	1.96E-04	1.60E-04		
TOTAL	C1	1.09E-03	2.76E-03	None	None
PARTICULATES					
Sr-92	C1	1.40E-04	1.04E-04		
Sr-90	C1	1.59E-06	5.78E-07		
Ce-51	C1	.	.		
Mn-54	C1	2.91E-05	.		
Co-58	C1	.	.		
Fe-59	C1	.	.		
Co-60	C1	2.13E-05	1.05E-04		
Zr-95	C1	.	.		
Rb-95	C1	.	.		
Pu-103	C1	7.67E-06	.		
Ag-110m	C1	.	.		
Sb-124	C1	.	.		
I-131	C1	.	.		
Ce-144	C1	.	.		
Ce-136	C1	.	.		
Ce-137	C1	5.32E-06	4.73E-05		
Ba-140	C1	.	.		
La-140	C1	.	.		
Ce-141	C1	.	.		
Ce-144	C1	.	.		
Zn-65	C1	.	.		
Ba-133	C1	.	.		
Sb-125	C1	.	.		
Fe-59	C1	2.40E-04	2.54E-04		
TOTAL	C1	7.45E-04	8.15E-04	None	None

* The activity of the nuclide is less than the LLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNITS 2 AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through September 1992

D-1 Chimney GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

Docket Numbers: 50-237

SEMI-ELEVATED RELEASES

50-249

XX ELEVATED RELEASES

CONTINUOUS MODE					
NUCLIDES RELEASED	UNIT	JULY	AUGUST	SEPTEMBER	1Q QUARTER TOTAL
FISSION GASES					
Xe-119	Ci	.	.	.	.
Xe-115m	Ci	.	.	.	.
Kr-87	Ci	.	.	.	.
Kr-88	Ci	.	.	.	.
Kr-85m	Ci	.	.	.	.
Kr-85	Ci	2.74E-04	1.11E-04	1.19E-04	9.27E-04
Xe-135	Ci	6.05E-01	3.24E-01	1.52E-01	1.28E+00
Xe-133	Ci	.	.	.	.
TOTAL	Ci	6.05E-01	3.24E-01	1.52E-01	1.28E+00
IODINES					
I-131	Ci	1.38E-04	1.35E-04	1.57E-04	4.30E-04
I-132	Ci	8.54E-04	7.36E-04	6.70E-04	2.26E-03
I-135	Ci	.	.	1.96E-04	1.96E-04
TOTAL	Ci	9.92E-04	8.71E-04	1.22E-03	1.09E-03
PARTICULATES					
Sr-82	Ci	5.94E-05	1.82E-05	1.25E-05	1.40E-04
Sr-90	Ci	2.64E-07	1.22E-06	1.04E-07	1.59E-06
Cr-51	Ci	.	.	.	.
Mn-54	Ci	.	2.81E-05	.	2.81E-05
Co-58	Ci	.	.	.	.
Fe-52	Ci	.	.	.	.
Co-60	Ci	.	2.33E-05	.	2.33E-05
Zr-95	Ci	.	.	.	.
Mo-95	Ci	.	.	.	.
Pu-103	Ci	7.67E-06	.	.	7.67E-06
Ag-110m	Ci	.	.	.	.
Sb-124	Ci	.	.	.	.
I-131	Ci	.	.	.	.
Ce-134	Ci	.	.	.	.
Ce-136	Ci	.	.	.	.
Ce-137	Ci	.	.	5.32E-06	5.32E-06
Na-140	Ci	.	.	.	.
La-140	Ci	.	.	.	.
Ce-141	Ci	.	.	.	.
Ce-144	Ci	.	.	.	.
Mn-65	Ci	.	.	.	.
Ba-133	Ci	.	.	.	.
Sb-125	Ci	.	.	.	.
Fe-55	Ci	2.11E-04	2.10E-04	1.19E-04	5.40E-04
TOTAL	Ci	2.78E-04	3.01E-04	1.57E-04	7.46E-04

* The activity of this nuclide is less than the LLD listed on the appropriate table.

DPESDEN NUCLEAR POWER STATION
UNITS 2 and 3 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
October Through December 1972

02/3 Chernobyl GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

SEMI-ELEVATED RELEASES

Docket Numbers: 50-237

50-249

XX ELEVATED RELEASES

CONTINUOUS MODE

ISOTOPES RELEASED	UNIT	OCTOBER	NOVEMBER	DECEMBER	3rd QUARTER TL
FSSION GASES					
Xe-138	C1	.	.	.	.
Xe-135m	C1	.	.	.	.
Fr-87	C1	.	.	.	.
Fr-88	C1	.	.	.	.
Fr-89m	C1	.	.	.	.
Fr-89	C1	1.57E-04	2.79E-04	3.75E-04	1.01E-03
Xe-135	C1	1.58E-00	1.26E-00	1.49E-01	2.09E-00
Xe-133	C1	.	.	.	.
TOTAL	C1	1.58E-00	1.26E-00	1.49E-01	2.09E-00
IODINES					
I-131	C1	1.05E-04	1.26E-04	1.85E-04	4.17E-04
I-132	C1	6.45E-04	7.71E-04	7.52E-04	2.17E-03
I-135	C1	1.60E-04	.	.	1.60E-04
TOTAL	C1	2.11E-04	2.07E-04	2.37E-04	2.76E-03
PARTICULATES					
Sr-82	C1	2.27E-05	2.89E-05	5.59E-05	1.08E-04
Sr-90	C1	1.40E-07	1.42E-07	1.26E-07	5.78E-07
Ce-92	C1	.	.	.	.
Mn-54	C1	.	.	.	.
Co-58	C1	.	.	.	.
Co-59	C1	.	.	.	.
Co-60	C1	.	4.14E-05	6.12E-05	1.05E-04
Zr-95	C1	.	.	.	.
Mo-95	C1	.	.	.	.
Pu-101	C1	.	.	.	.
Ag-110m	C1	.	.	.	.
Sb-123	C1	.	.	.	.
I-131	C1	.	.	.	.
Co-134	C1	.	.	.	.
Co-136	C1	.	.	.	.
Co-137	C1	.	.	4.73E-05	4.73E-05
Pu-140	C1	.	.	.	.
La-140	C1	.	.	.	.
Co-141	C1	.	.	.	.
Co-144	C1	.	.	.	.
Zn-65	C1	.	.	.	.
Pa-133	C1	.	.	.	.
Sb-125	C1	.	.	.	.
Fe-55	C1	1.14E-04	1.56E-04	2.24E-04	5.54E-04
TOTAL	C1	1.67E-04	2.58E-04	1.89E-04	8.15E-04

* The activity of this nuclide is less than the MLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNITS 2 AND 3 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1977

D2/3 Px Building Vent GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

XX

SEMI-ELEVATED RELEASES

Docket Numbers: 50-237
50-249

ELEVATED RELEASES

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		1st QUARTER	4th QUARTER	1st QUARTER	4th QUARTER
FISSION GASES					
Xe-133	C1	.	.		
Xe-135m	C1	.	.		
Kr-87	C1	.	.		
Kr-88	C1	.	.		
Kr-85m	C1	.	.		
Kr-45	C1	.	.		
Xe-135	C1	.	.		
Xe-131	C1	.	.		
TOTAL	C1			NONE	NONE
IODINES					
I-131	C1	1.15E-05	1.02E-05		
I-133	C1	5.67E-05	1.42E-04		
I-135	C1	.	.		
TOTAL	C1	6.82E-05	1.92E-04	NONE	NONE
PARTICULATES					
Sr-90	C1	.	.		
Sr-90	C1	.	.		
Cr-51	C1	5.01E-05	1.31E-04		
Mn-54	C1	1.55E-04	1.02E-04		
Co-58	C1	.	7.72E-05		
Fe-59	C1	.	1.61E-05		
Co-60	C1	1.21E-04	1.14E-03		
Fe-25	C1	.	.		
Fe-25	C1	.	.		
Pu-104	C1	.	.		
Am-120m	C1	.	.		
Sb-124	C1	.	.		
I-131	C1	.	.		
Co-134	C1	.	.		
Co-136	C1	.	.		
Co-137	C1	.	.		
Ba-140	C1	.	.		
La-140	C1	.	.		
Co-141	C1	.	.		
Co-144	C1	.	.		
Zn-62	C1	.	.		
Ba-133	C1	.	.		
Mo-99	C1	.	.		
Sb-122	C1	.	.		
Fe-55	C1	9.32E-04	1.95E-03		
TOTAL	C1	1.57E-03	1.64E-03	NONE	NONE

* The activity of this nuclide is less than the LLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNITS 2 and 3 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through September 1992

D2/3 PA Building Vent GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

Docket Numbers: 50-237

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SEMI-ELEVATED RELEASES

50-249

ELEVATED RELEASES

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE			BATCH MODE
		JULY	AUGUST	SEPTEMBER	3rd QUARTER
FISSION GASES					
Xe-135	C1	.	.	.	.
Xe-135m	C1	.	.	.	.
Kr-87	C1	.	.	.	.
Kr-88	C1	.	.	.	.
Kr-85m	C1	.	.	.	.
Kr-85	C1	.	.	.	.
Xe-135	C1	.	.	.	.
Xe-133	C1	.	.	.	.
TOTAL	C1				
IODINES					
I-131	C1	7.34E-06	1.95E-06	2.27E-06	1.15E-05
I-133	C1	7.01E-06	3.71E-05	1.26E-05	5.67E-05
I-135	C1	.	.	.	.
TOTAL	C1	1.44E-05	1.20E-05	1.49E-05	6.83E-05
PARTICULATES					
Sr-89	C1	.	.	.	.
Sr-90	C1	.	.	.	.
Cr-51	C1	.	4.61E-05	1.95E-06	5.01E-05
Mn-54	C1	5.29E-05	7.02E-05	1.28E-05	1.56E-04
Co-58	C1	.	.	.	.
Fe-59	C1	.	.	.	.
Co-60	C1	1.82E-04	1.30E-04	1.04E-04	4.23E-04
Zn-65	C1	.	.	.	.
Hg-95	C1	.	.	.	.
Pu-103	C1	.	.	.	.
Ag-110m	C1	.	.	.	.
Sb-124	C1	.	.	.	.
I-131	C1	.	.	.	.
Cd-113	C1	.	.	.	.
Co-116	C1	.	.	.	.
Cu-117	C1	.	.	.	.
Rn-130	C1	.	.	.	.
La-130	C1	.	.	.	.
Ce-141	C1	.	.	.	.
Ce-144	C1	.	.	.	.
Zn-65	C1	.	.	.	.
Na-133	C1	.	.	.	.
Mg-29	C1	.	.	.	.
Sb-125	C1	.	.	.	.
Fe-55	C1	1.72E-04	2.14E-04	1.51E-04	9.37E-04
TOTAL	C1	5.14E-04	4.60E-04	4.92E-04	1.57E-03

* The activity of this nuclide is less than the LLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNITS 2 and 3 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
October Through December 1992

D 2/2 Pa Building Type GASEOUS EFFLUENTS

GROUND LEVEL RELEASES

Docket Numbers: 50-237

SEMI-ELEVATED RELEASES

50-249

ELEVATED RELEASES

CONTINUOUS MON

NUCLIDES RELEASED	UNIT	OCTOBER	NOVEMBER	DECEMBER	4TH QUARTER TOTAL
FISSION GASES					
Xe-118	C1	.	.	.	.
Xe-135m	C1	.	.	.	.
Kr-87	C1	.	.	.	.
Kr-88	C1	.	.	.	.
Kr-85m	C1	.	.	.	.
Kr-95	C1	.	.	.	.
Xe-135	C1	.	.	.	.
Xe-133	C1	.	.	.	.
TOTAL	C1	.	.	.	.
IODINES					
I-131	C1	7.61E-05	1.46E-05	1.78E-05	4.00E-05
I-133	C1	1.32E-05	4.40E-05	6.47E-05	1.42E-04
I-135	C1	.	.	.	.
TOTAL	C1	1.04E-05	5.25E-05	8.25E-05	1.82E-04
PARTICULATES					
Sr-89	C1	.	.	.	.
Sr-90	C1	.	.	.	.
Cr-51	C1	.	2.71E-05	1.06E-04	1.33E-04
Mn-54	C1	5.37E-05	1.95E-05	2.39E-04	3.02E-04
Co-58	C1	.	2.80E-05	6.74E-05	7.72E-05
Co-59	C1	.	.	1.01E-05	1.01E-05
Co-60	C1	2.14E-04	1.51E-04	7.71E-04	1.14E-03
Zr-95	C1	.	.	.	.
Mo-95	C1	.	.	.	.
Ru-103	C1	.	.	.	.
Ag-110m	C1	.	.	.	.
Sb-124	C1	.	.	.	.
I-131	C1	.	.	.	.
Cr-134	C1	.	.	.	.
Cr-136	C1	.	.	.	.
Cr-137	C1	.	.	.	.
Ba-140	C1	.	.	.	.
La-140	C1	.	.	.	.
Ce-141	C1	.	.	.	.
Ce-143	C1	.	.	.	.
Sm-65	C1	.	.	.	.
Ba-137	C1	.	.	.	.
Mo-92	C1	.	.	.	.
Sb-122	C1	.	.	.	.
Eu-55	C1	2.50E-04	2.20E-04	1.48E-03	1.95E-03
TOTAL	C1	5.18E-04	4.28E-04	2.69E-03	3.64E-03

* The activity of this nuclide is less than the LLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNITS 1, 2, and 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1992
LIQUID EFFLUENTS

SUMMATION OF ALL RELEASES Docket Numbers: 50-10
50-237
50-249

	UNITS	1st QUARTER	4th QUARTER	EST. TOTAL ERROR, %
A. FISSION AND ACTIVATION PRODUCTS				
1. Total Release (not incl. tritium, gases, alpha)	Ci	6.41E-04	4.12E-04	5.58
2. Average Diluted Conc. During Period	uCi/mL	1.88E-10	1.13E-10	
3. Percent of Applicable Limit	%	.	.	
B. TRITIUM				
1. Total Release	Ci	9.02E-01	5.75E-01	7.75
2. Average Diluted Conc. During Period	uCi/mL	2.85E-07	1.58E-07	
3. Percent of Applicable Limit	%	.	.	
C. DISSOLVED AND ENTRAINED GASES				
1. Total Release	Ci	2.16E-05	< LLD	5.58
2. Average Diluted Conc. During Period	uCi/mL	6.35E-12	< LLD	
3. Percent of Applicable Limit	%	.	.	
D. GROSS ALPHA RADIOACTIVITY				
1. Total Release	Ci	< LLD	< LLD	15.1
E. VOLUME OF WASTE RELEASED (prior to dilution)				
	Liters	1.60E+06	1.10E+06	5.00
F. VOLUME OF DILUTION WATER USED DURING PERIOD				
	liters	3.40E+09	3.64E+09	5.00

* The information is contained in the Radiological Impact on Man section of this report. Total liquid release data is provided which includes fission and activation products, tritium, and dissolved and entrained gases.

DRESDEN NUCLEAR POWER STATION
UNITS 1, 2, AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1992

TABLE OF LOWER LIMITS OF DETECTABILITY
FOR LIQUID EFFLUENTS

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

ISOTOPE	LLD (uCi/mL)
Sr-82	8.00E-08
Sr-90	2.00E-02
Mn-54	5.50E-08
Co-58	4.20E-08
Fe-59	2.10E-08
Co-60	1.21E-07
Sn-69	1.20E-07
Sn-124	4.50E-08
I-131	4.50E-08
Cs-134	4.50E-08
Cs-137	7.20E-08
Ru-140	2.20E-07
La-140	4.60E-08
Cs-141	6.20E-08
Xe-133	1.20E-07
Xe-135	4.20E-09
Cl-36	1.70E-07
Fe-55	7.00E-08
Cs-138	1.10E-07
H-3	1.00E-07
Gross Alpha	1.00E-08
Br-82	2.80E-08
Kr-87	1.50E-07
Kr-88	1.70E-07
I-135	2.10E-07
I-137	6.70E-08
Ag-110m	5.20E-08
Ba-133	6.00E-08
Cs-144	3.10E-07
Cs-136	5.50E-08
I-132	6.30E-08
I-134	1.50E-07
Kr-85	1.10E-05
Mn-52	1.20E-08
Hb-95	5.00E-08
Sn-119	1.50E-07
Eu-152	5.30E-08
Sn-125	1.50E-07
Xe-131m	1.80E-05
Xe-133m	3.60E-07
Xe-135	4.10E-05

* This limit was reported as an MDA by the offsite vendor for the September 1992 CCSW composite. The October 23, 1992 Unit 3 service water sample had a reported MDA of 6.00E-08 uCi/mL. The October 1992 Radwaste Discharge composite and December 1992 CCSW composite had reported MDAs of 7.00E-08 uCi/mL. All other MDAs for Sr-89 were at or below 7.00E-09 uCi/mL.

Paduanga LIQUID EFFLUENTS Docket Numbers: 50-10
50-237
of Batch Releases: 7 50-249

1. Number of Batch Releases: 7
2. Total Time Period for Batch Releases: 2.07E+03 min
3. Maximum Time Period for a Batch Release: 3.34E+02 min
4. Average Time Period for Batch Releases: 2.96E+02 min
5. Minimum Time Period for a Batch Release: 2.70E+02 min
6. Average Stream Flow During Periods of Release of Effluent into a Flowing Stream: 1.66E+06 L/min

ISOTOPES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		1st QUARTER	4th QUARTER	1st QUARTER	4th QUARTER
Sr-89	C1			.	.
Sr-90	C1			.	.
Mn-54	C1			1.35E-04	5.49E-05
Co-58	C1			.	.
Fe-59	C1			.	.
Co-60	C1			1.51E-04	1.87E-04
Zn-65	C1			.	.
Pu-103	C1			.	.
Ag-110m	C1			.	.
Sb-124	C1			.	.
I-131	C1			.	.
Co-134	C1			.	.
Co-137	C1			1.25E-04	4.96E-05
Fe-140	C1			.	.
La-140	C1			.	.
Co-141	C1			.	.
Co-138	C1			.	.
Fe-55	C1			.	3.78E-05
Fe-25	C1			.	.
I - 132	C1			.	.
I - 134	C1			.	.
B1-214	C1			.	.
(above)					
Total For Period	C1	NONE	NONE	6.01E-04	3.28E-04
Xe-133	C1			.	.
Xe-135	C1			.	.
Fe-89	C1			.	.

* The activity of this nuclide is less than the LLD listed on the appropriate table.

DPESDEN NUCLEAR POWER STATION
UNITS 1, 2, AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
JULY Through September 1992

Endorse LIQUID EFFLUENTS

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

BATCH MODE

NUCLIDES RELEASED	UNIT	JULY	AUGUST	SEPTEMBER	3rd QUARTER TOTAL
Si-29	CA	.	.	.	.
Si-30	CA	.	.	.	.
Mn-54	CA	.	2.97E-05	1.51E-05	1.35E-04
Co-58	CA	.	.	.	.
Fe-59	CA	.	.	.	.
Co-60	CA	.	2.11E-04	1.20E-04	3.51E-04
Zn-65	CA	.	.	.	.
Pb-191	CA	.	.	.	.
Ag-110m	CA	.	.	.	.
Sn-124	CA	.	.	.	.
Z-131	CA	.	.	.	.
Co-134	CA	.	.	.	.
Ce-137	CA	.	6.31E-05	4.62E-05	1.15E-04
Hf-140	CA	.	.	.	.
La-140	CA	.	.	.	.
Co-147	CA	.	.	.	.
Fe-55	CA	.	.	.	.
I-132	CA	.	.	.	.
I-133	CA	.	.	.	.
(above)					
Total For Period	CA	.	1.92E-04	2.02E-04	6.01E-04
Xe-133	CA	.	.	.	.
Xe-135	CA	.	.	.	.

• The activity of this nuclide is less than the LLD listed on the appropriate table.

• There were no Radwaste liquid discharges in July, 1992.

DRESDEN NUCLEAR POWER STATION
UNITS 1, 2, AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
October Through December 1992

Radwaste LIQUID EFFLUENTS

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

BATCH MODE

NUCLIDES RELEASED	UNIT	OCTOBER	NOVEMBER	DECEMBER	4th QUARTER TOTAL
Sr-89	C1	.	.	.	.
Sr-90	C1	.	.	.	.
Mn-54	C1	1.66E-05	1.81E-05	.	5.49E-05
Co-58	C1	.	.	.	.
Fe-59	C1	.	.	.	.
Co-60	C1	1.41E-04	4.63E-05	.	1.87E-04
Zn-65	C1	.	.	.	.
Sb-124	C1	.	.	.	.
I-131	C1	.	.	.	.
Co-114	C1	.	.	.	.
Cs-137	C1	1.26E-05	1.70E-05	.	4.96E-05
Ba-140	C1	.	.	.	.
La-140	C1	.	.	.	.
Ce-141	C1	.	.	.	.
Ce-144	C1	.	.	.	.
Pu-239	C1	.	3.78E-05	.	3.78E-05
I-132	C1	.	.	.	.
(above)	C1	.	.	.	.
Total For Period	C1	2.10E-04	1.19E-04	.	3.29E-04
Co-112	C1	.	.	.	.
Co-115	C1	.	.	.	.

- The activity of this nuclide is less than the LLD listed on the appropriate table.
- There were no Radwaste Liquid discharges in December, 1992.

DRESDEN NUCLEAR POWER STATION
UNITS 2 AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through December 1972

CCSW LIQUID EFFLUENTS

Docket Numbers: 50-237
50-249

1. Number of Batch Releases: 60
2. Total Time Period for Batch Releases: 7.44E+01 min
3. Maximum Time Period for a Batch Release: 1.24E+00 min
4. Average Time Period for Batch Releases: 1.24E+00 min
5. Minimum Time Period for a Batch Release: 1.24E+00 min
6. Average Stream Flow During Periods of Release of Effluent into a Flowing Stream: 2.83E+06 L/min

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		1st QUARTER	2nd QUARTER	3rd QUARTER	4th QUARTER
Si-69	C1			.	.
Si-90	C1			.	.
Mn-54	C1			2.80E-05	2.31E-06
Co-58	C1			.	.
Fe-59	C1			.	.
Co-60	C1			2.81E-05	3.17E-05
Zn-65	C1			.	.
Sb-123	C1			.	.
Sb-124	C1			.	.
I-131	C1			.	.
I-132	C1			.	.
I-135	C1			.	.
Cs-134	C1			.	.
Cs-137	C1			6.61E-06	4.48E-05
Ba-140	C1			.	.
La-140	C1			.	.
Ce-138	C1			.	.
Fe-55	C1			.	.
Bi-214	C1			1.18E-06	1.48E-06
Pb-212	C1			1.12E-06	1.22E-06
	C1				
(above)	C1				
Total For Period	C1	NONE	NONE	4.02E-05	8.12E-05
Xe-133	C1			7.70E-06	.
Xe-135	C1			1.39E-05	.

- The activity of this nuclide is less than the LLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNITS 2 AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July Through September 1992

CCSW LIQUID EFFLUENTS Docket Numbers: 50-237
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BATCH MORE

ISOTOPES RELEASED	UNIT	JULY	AUGUST	SEPTEMBER	3rd QUARTER TOTAL
Sr-89	C1	.	.	.	.
Sr-90	C1	.	.	.	.
Mn-54	C1	.	2.82E-06	.	2.82E-06
Co-59	C1	.	.	.	.
Co-59	C1	.	.	.	.
Co-60	C1	4.24E-06	2.02E-06	1.87E-06	2.83E-06
Zn-65	C1	.	.	.	.
Sb-122	C1	.	.	.	.
Sb-124	C1	.	.	.	.
I-131	C1	.	.	.	.
I-132	C1	.	.	.	.
I-135	C1	.	.	.	.
Co-134	C1	.	.	.	.
Co-137	C1	.	3.44E-06	3.12E-06	6.56E-06
Ba-140	C1	.	.	.	.
La-140	C1	.	.	.	.
Co-138	C1	.	.	.	.
Fe-55	C1	.	.	.	.
Bi-214	C1	.	1.18E-06	.	1.18E-06
Pb-212	C1	.	1.12E-06	.	1.12E-06
	C1				
(above)	C1				
Total For Period	C1	4.24E-06	2.92E-06	2.06E-06	4.02E-06
Xc-133	C1	.	7.70E-06	.	7.70E-06
Xc-135	C1	.	1.32E-06	.	1.32E-06

* The activity of this nuclide is less than the LLD listed on the appropriate table.

DRESDEN NUCLEAR POWER STATION
UNITS 2 AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
OCTOBER Through December 1992

CCSE

LIQUID EFFLUENTS

Docket Numbers: 50-237
50-249

BATCH MODE

NUCLIDES RELEASED	UNIT	OCTOBER	NOVEMBER	DECEMBER	4th QUARTER TOTAL
Se-82	C1	.	.	.	.
Se-90	C1	.	.	.	.
Mn-54	C1	1.19E-07	2.07E-06	9.17E-07	1.33E-06
Co-58	C1	.	.	.	.
Co-59	C1	.	.	.	.
Co-60	C1	9.42E-06	1.67E-05	6.62E-06	1.17E-05
Zn-65	C1	.	.	.	.
Sb-122	C1	.	.	.	.
Sb-124	C1	.	.	.	.
I-131	C1	.	.	.	.
I-132	C1	.	.	.	.
I-135	C1	.	.	.	.
Cs-134	C1	.	.	.	.
Cs-137	C1	2.12E-05	1.12E-05	1.04E-05	4.48E-05
Rb-140	C1	.	.	.	.
La-140	C1	.	.	.	.
Ce-138	C1	.	.	.	.
Pr-145	C1	.	.	.	.
Bi-214	C1	.	1.48E-06	.	1.48E-06
Pb-212	C1	.	4.61E-07	2.52E-07	1.82E-06
	C1				
	C1				
(above)					
Total For Period	C1	1.00E-05	1.41E-05	1.89E-05	4.32E-05
Xe-133	C1	.	.	.	.
Xe-135	C1	.	.	.	.

- The activity of this nuclide is less than the LLD listed on the appropriate table.

DPESDEN NUCLEAR POWER STATION
UNITS 1, 2, AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

July Through December 1992

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

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL) Est Tot.
Error.4

1. Type of Waste	Unit	6-month period	
a. Spent resins, filter sludges, evaporator bottoms, etc.	M3	3.10E+02	
	C1	5.90E+02	12.4
b. Dry compressible waste, contaminated equip., etc.	M3	8.65E+02	
	C1	9.86E+00	16.6
c. Irradiated components, control rods, etc.	M3	4.65E+01	
	C1	3.09E+04	16.6
d. Other (described) Sewage Treatment Plant dirt	M3	3.26E+01	
	C1	1.27E+01	

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

		Co-60	Cs-137
a.	Co-60	47.0	2.77E+02
	Fe-55	29.6	1.69E+02
	Mn-54	9.61	5.68E+01
	Ni-63	9.01	3.33E+01
	Co-117	4.61	2.72E+01
b.	Co-60	21.2	2.69E+00
	Fe-55	64.4	6.35E+00
	Mn-54	6.15	6.06E+01
	Ni-59	1.32	1.10E+01
	Ni-63	1.02	1.01E+01
	Co-117	5.14	5.07E+01
c.	Co-60	52.9	1.64E+04
	Mn-54	2.01	6.30E+02
	Fe-55	42.3	1.30E+04
	Ni-63	1.29	1.05E+03
d.	Mn-54	4.40	5.59E+03
	Fe-55	63.3	8.17E+02
	Co-59	1.45	1.84E+01
	Co-60	24.2	3.07E+02
	Ni-63	1.13	1.44E+03
	Co-117	2.84	2.61E+01

3. Solid Waste Disposition

NUMBER OF SHIPMENTS

MODE OF TRANSPORTATION

DESTINATION

65	Motor freight (exclusive use only)	CNSI, Bainwell, SC
9	Motor freight (exclusive use only)	Quadrex, Oak Ridge, TN
6	Motor freight (exclusive use only)	CNSI, Channahon, IL
10	Motor freight (exclusive use only)	SEG, Oak Ridge, TN
15	Motor freight (exclusive use only)	US Ecology, Beatty, NV

B. IRRADIATED FUEL SHIPMENTS (Disposition)

NUMBER OF SHIPMENTS

MODE OF TRANSPORTATION

DESTINATION

None

DRESDEN NUCLEAR POWER STATION
UNITS 1, 2, AND 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

July Through December 1992

ABNORMAL RELEASES

A. LIQUID

1. Number of Releases: 1
2. Total Activity Released: 5.00E-04 Ci

B. GASEOUS

1. Number of Releases: 1
2. Total Activity Released: 7.42E-07 Ci

TOTAL 4

- A. 1. Units 2/3 B Condensate Storage Tank (2/3-3303b) leaked water to the ground on September 25, 1992. The leak started at approximately 1430 and was contained by 2030. The leak rate was about 1/4 gallon per minute. The estimated activity released is:

Mn-54	6.71E-08 Ci
Fe-59	5.79E-08 Ci
Co-60	3.11E-07 Ci
Xe-133	1.65E-07 Ci
Xe-135	1.84E-07 Ci
H-3	4.99E-04 Ci

- B. 1. The Unit 1 backup sampler failed between July 20, 1992 at 10:30 and July 21, 1992 at 10:53. The tritium sampler was setup and running during this period with particulate and iodine filters. The estimated activity during this period is:

Fe-55	1.43E-07 Ci
Sr-90	7.71E-10 Ci
Green Alpha	1.05E-08 Ci

DRESDEN NUCLEAR POWER STATION
UNITS 1, 2 AND 3
EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT
July Through December 1992
ABNORMAL RELEASES

2. On October 15, 1992 at 06:30, the Units 2/3 Chimney SPING lost power. Power was restored at 08:00. A tritium sampler was running at this time. The last SPING filters and the tritium sample particulate and iodine filters showed no gamma emitting activity. The next SPING sample was positive for iodine, therefore the release during this period is based on the SPING sample following the lost power.

I-131	1.12E-08 Ci
Fe-55	2.13E-07 Ci
Sr-89	5.37E-09 Ci
Sr-90	9.95E-10 Ci
Gross Alpha	1.60E-09 Ci

3. The Unit 3 isocndenser released radioactivity on October 20, 1992. The release based on the latest analysis of isocndenser water is:

Mn-54	4.30E-08 Ci
Co-60	2.53E-07 Ci

DRESDEN NUCLEAR POWER STATION DOCKET NOS. 50-10, 50-237, 50-249

RADIOLOGICAL IMPACT ON MAN

DRESDEN UNIT ONE

1992 ANNUAL REPORT

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93
INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MRAD)	()	()	()	()	()
BETA AIR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MRAD)	()	()	()	()	()
TOT. BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MREM)	()	()	()	()	()
SKIN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MREM)	()	()	()	()	()
ORGAN	1.07E-05	7.68E-06	1.14E-06	1.11E-06	2.04E-05
(MREM)	(SE)	(SE)	(N)	(N)	(SE)
	LIVER	LIVER	LUNG	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 10 CFR 50 APP. I INFANT RECEPTOR

----- % OF APP I. -----							
QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP. I	
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	10.0	0.00	
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	20.0	0.00	
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	5.0	0.00	
SKIN (MREM)	7.5	0.00	0.00	0.00	15.0	0.00	
ORGAN (MREM)	7.5	0.00	0.00	0.00	15.0	0.00	
	LIVER	LIVER	LUNG	LIVER		LIVER	

RESULTS BASED UPON
ODCM ANNEX
REVISION 0
MARCH 1989

DRESDEN UNIT ONE

1992 ANNUAL REPORT

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93
ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MRAD)	()	()	()	()	()
BETA AIR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MRAD)	()	()	()	()	()
TOT. BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MREM)	()	()	()	()	()
SKIN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MREM)	()	()	()	()	()
ORGAN	9.44E-06	1.32E-05	6.78E-06	4.36E-06	3.38E-05
(MREM)	(SE)	(SE)	(SE)	(SE)	(SE)
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 10 CFR 50 APP. I ADULT RECEPTOR

	----- % OF APP I. -----					YRLY OBJ	% OF APP. I
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV		
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON
ODCM ANNEX
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DRESDEN UNIT TWO

1992 ANNUAL REPORT MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93 INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.47E-04 (NE)	5.95E-06 (NE)	3.83E-06 (NE)	1.05E-05 (NE)	1.68E-04 (NE)
BETA AIR (MRAD)	2.00E-05 (N)	1.25E-06 (N)	8.07E-07 (N)	2.20E-06 (N)	2.43E-05 (N)
TOT. BODY (MREM)	7.20E-05 (NE)	2.50E-06 (NE)	1.61E-06 (NE)	4.40E-06 (NE)	8.05E-05 (NE)
SKIN (MREM)	1.30E-04 (NE)	5.47E-06 (NE)	3.52E-06 (NE)	9.61E-06 (NE)	1.48E-04 (NE)
ORGAN (MREM)	1.47E-02 (NNE)	8.65E-03 (NNE)	8.59E-04 (NNE)	1.72E-03 (NNE)	2.58E-02 (NNE)
	LUNG	LUNG	THYROID	LUNG	LUNG

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 10 CFR 50 APP. I INFANT RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.20	0.12	0.01	0.02	15.0	0.17
		LUNG	LUNG	THYROID	LUNG		LUNG

RESULTS BASED UPON
DOCH ANNEX
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MARCH 1989

DRESDEN UNIT TWO

1992 ANNUAL REPORT

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93
ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.47E-04 (NE)	5.95E-06 (NE)	3.83E-06 (NE)	1.05E-05 (NE)	1.68E-04 (NE)
BETA AIR (MRAD)	2.00E-05 (N)	1.25E-06 (N)	8.07E-07 (N)	2.20E-06 (N)	2.43E-05 (N)
TOT. BODY (MREM)	7.20E-05 (NE)	2.50E-06 (NE)	1.61E-06 (NE)	4.40E-06 (NE)	8.05E-05 (NE)
SKIN (MREM)	1.30E-04 (NE)	5.47E-06 (NE)	3.52E-06 (NE)	9.61E-06 (NE)	1.48E-04 (NE)
ORGAN (MREM)	1.50E-02 (NNE)	8.98E-03 (NNE)	1.01E-03 (NNE)	1.90E-03 (NNE)	2.67E-02 (NNE)
	LUNG	LUNG	THYROID	LUNG	LUNG

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 10 CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP.I
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.20	0.12	0.01	0.03	15.0	0.18
		LUNG	LUNG	THYROID	LUNG		LUNG

RESULTS BASED UPON
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DRESDEN UNIT THREE

1992 ANNUAL REPORT

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93
INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	0.00E+00	9.59E-06	1.45E-05	3.35E-05	5.75E-05
(MRAD)	()	(NE)	(NE)	(NE)	(NE)
BETA AIR	0.00E+00	2.02E-06	3.05E-06	7.05E-06	1.21E-05
(MRAD)	()	(N)	(N)	(N)	(N)
TOT. BODY	0.00E+00	4.03E-06	6.08E-06	1.41E-05	2.42E-05
(MREM)	()	(NE)	(NE)	(NE)	(NE)
SKIN	0.00E+00	8.81E-06	1.33E-05	3.07E-05	5.28E-05
(MREM)	()	(NE)	(NE)	(NE)	(NE)
ORGAN	6.82E-04	1.24E-02	4.32E-03	9.87E-03	2.66E-02
(MREM)	(NNE)	(NNE)	(NNE)	(NNE)	(NNE)
	LUNG	LUNG	THYROID	LUNG	THYROID

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 10 CFR 50 APP. I INFANT RECEPTOR

----- % OF APP. I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.01	0.16	0.06	0.13	15.0	0.18
		LUNG	LUNG	THYROID	LUNG		THYROID

RESULTS BASED UPON
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DRESDEN UNIT THREE

1992 ANNUAL REPORT

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93
ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	0.00E+00 ()	9.59E-06 (NE)	1.45E-05 (NE)	3.35E-05 (NE)	5.75E-05 (NE)
BETA AIR (MRAD)	0.00E+00 ()	2.02E-06 (N)	3.05E-06 (N)	7.05E-06 (N)	1.21E-05 (N)
TOT. BODY (MREM)	0.00E+00 ()	4.03E-06 (NE)	6.08E-06 (NE)	1.41E-05 (NE)	2.42E-05 (NE)
SKIN (MREM)	0.00E+00 ()	8.81E-06 (NE)	1.33E-05 (NE)	3.07E-05 (NE)	5.28E-05 (NE)
ORGAN (MREM)	6.92E-04 (NNE)	1.37E-02 (NNE)	5.04E-03 (NNE)	1.05E-02 (NNE)	2.89E-02 (NNE)
	LUNG	GI-LLI	THYROID	LUNG	GI-LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 10 CFR 50 APP. I ADULT RECEPTOR

----- % OF APP I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.01	0.18	0.07	0.14	15.0	0.19
		LUNG	GI-LLI	THYROID	LUNG		GI-LLI

RESULTS BASED UPON
ODCM ANNEX
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MARCH 1989

DRESDEN UNIT TWO
INFANT RECEPTOR

1992 ANNUAL REPORT
MAXIMUM DOSES (MREM) RESULTING FROM LIQUID EFFLUENTS
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	1.09E-05	9.95E-06	5.41E-06	2.22E-06	2.85E-05
INTERNAL ORGAN	2.67E-05	2.65E-05	6.43E-06	3.23E-06	6.29E-05
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992
COMPLIANCE STATUS - 10 CFR 50 APP. I

		----- % OF APP I. -----					
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN(MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON
ODCM ANNEX
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MARCH 1989

DRESDEN UNIT TWO
INFANT RECEPTOR

1992 ANNUAL REPORT
PROJECTED DOSE AT NEAREST COMMUNITY WATER SYSTEM •
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	1.09E-05	9.95E-06	5.41E-06	2.22E-06	2.85E-05
INTERNAL ORGAN	2.67E-05	2.65E-05	6.43E-06	3.23E-06	6.29E-05
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 40 CFR 141

TYPE	ANNUAL LIMIT	% OF LIMIT
TOTAL BODY	4.0 (MREM)	0.001
INTERNAL ORGAN	4.0 (MREM)	0.002
		LIVER

• THIS CALCULATION OF DOSE IS BASED ON TECHNIQUES DESCRIBED IN THE COMMONWEALTH EDISON OFFSITE DOSE CALCULATION MANUAL. THESE TECHNIQUES DIFFER FROM THOSE DESCRIBED IN 40 CFR 141.

RESULTS BASED UPON
ODCM ANNEX
REVISION 0
MARCH 1989

DRESDEN UNIT TWO
ADULT RECEPTOR

1992 ANNUAL REPORT
MAXIMUM DOSES (MREM) RESULTING FROM LIQUID EFFLUENTS
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	3.51E-05	3.70E-05	3.91E-06	2.76E-06	7.87E-05
INTERNAL ORGAN	5.23E-05	5.47E-05	5.01E-06	3.83E-06	1.16E-04
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON:
ODCM ANNEX
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MARCH 1989

DRESDEN UNIT TWO
ADULT RECEPTOR

1992 ANNUAL REPORT
PROJECTED DOSE AT NEAREST COMMUNITY WATER SYSTEM *
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	4.94E-06	5.00E-06	1.93E-06	8.47E-07	1.27E-05
BODY					
INTERNAL	7.03E-06	5.90E-06	2.03E-06	9.12E-07	1.48E-05
ORGAN	GI-LLI	LIVER	GI-LLI	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 40 CFR 141

TYPE	ANNUAL LIMIT	% OF LIMIT
TOTAL	4.0 (MREM)	0.000
BODY		
INTERNAL	4.0 (MREM)	0.000
ORGAN		LIVER

* THIS CALCULATION OF DOSE IS BASED ON TECHNIQUES DESCRIBED IN THE COMMONWEALTH EDISON OFFSITE DOSE CALCULATION MANUAL. THESE TECHNIQUES DIFFER FROM THOSE DESCRIBED IN 40 CFR 141.

RESULTS BASED UPON
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REVISION 0
MARCH 1989

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DRESDEN UNIT THREE
INFANT RECEPTOR

1992 ANNUAL REPORT
MAXIMUM DOSES (MREM) RESULTING FROM LIQUID EFFLUENTS
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	1.19E-05	1.00E-05	5.38E-06	2.19E-06	2.95E-05
INTERNAL ORGAN	3.03E-05	2.66E-05	6.31E-06	2.70E-06	6.60E-05
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992
COMPLIANCE STATUS - 10 CFR 50 APP. I

		----- % OF APP I. -----					
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP.I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN(MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON
ODCM ANNEX
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DRESDEN UNIT THREE
INFANT RECEPTOR

1992 ANNUAL REPORT
PROJECTED DOSE AT NEAREST COMMUNITY WATER SYSTEM •
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	1.19E-05	1.00E-05	5.38E-06	2.19E-06	2.95E-05
BODY					
INTERNAL	3.03E-05	2.66E-05	6.31E-06	2.70E-06	6.60E-05
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 40 CFR 141

TYPE	ANNUAL LIMIT	% OF LIMIT
TOTAL	4.0 (MREM)	0.901
BODY		
INTERNAL	4.0 (MREM)	0.902
ORGAN		LIVER

• THIS CALCULATION OF DOSE IS BASED ON TECHNIQUES DESCRIBED IN THE COMMONWEALTH EDISON OFFSITE DOSE CALCULATION MANUAL. THESE TECHNIQUES DIFFER FROM THOSE DESCRIBED IN 40 CFR 141.

RESULTS BASED UPON
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DRESDEN UNIT THREE
ADULT RECEPTOR

1992 ANNUAL REPORT
MAXIMUM DOSES (MREM) RESULTING FROM LIQUID EFFLUENTS
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	4.13E-05	3.71E-05	3.71E-06	1.78E-06	8.39E-05
INTERNAL ORGAN	6.16E-05	5.49E-05	4.72E-06	2.34E-06	1.24E-04
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 10 CFR 50 APP. I

		----- % OF APP I. -----					
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN(MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON
ODCM ANNEX
REVISION 0
MARCH 1989

DRESDEN UNIT THREE
ADULT RECEPTOR

1992 ANNUAL REPORT
PROJECTED DOSE AT NEAREST COMMUNITY WATER SYSTEM •
PERIOD OF RELEASE - 01/01/92 TO 12/31/92 CALCULATED 08/03/93

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	5.44E-06	5.03E-06	1.91E-06	7.86E-07	1.32E-05
INTERNAL ORGAN	8.49E-06	5.91E-06	2.00E-06	8.56E-07	1.55E-05
	GI-LLI	LIVER	GI-LLI	GI-LLI	GI-LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 1992

COMPLIANCE STATUS - 40 CFR 141

TYPE	ANNUAL LIMIT	% OF LIMIT
TOTAL BODY	4.0 (mrem)	0.000
INTERNAL ORGAN	4.0 (mrem)	0.000
		GI-LLI

• THIS CALCULATION OF DOSE IS BASED ON TECHNIQUES DESCRIBED IN THE COMMONWEALTH EDISON OFFSITE DOSE CALCULATION MANUAL. THESE TECHNIQUES DIFFER FROM THOSE DESCRIBED IN 40 CFR 141.

RESULTS BASED UPON
ODCM ANNEX
REVISION 0
MARCH 1989

DRESDEN NUCLEAR POWER STATION DOCKET NOS. 50-10, 50-237, 50-249

METEOROLOGICAL DATA

July-September 1982
14-15 ft. DIFFERENTIAL TEMPERATURE[illegible]

July-September 1982
150-15 ft. DIFFERENTIAL TEMPERATURES

Find Direction by Stability

Wind Direction by Wind Speed

[illegible]

CEC: DISSEMINATION

July-September 1912

NUMBER OF CASERTATIONS : 2204

SPEED CLASS	WIND DIRECTION CLASSES																STABILITY CLASSES									
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	CU	CS	SC	S	SS	NS	ES	TOTAL	
00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00								
01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			
06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00																					

July-September 1932
182-15 ft. DIFFERENTIAL TEMPERATURE

[illegible][illegible]

757	5.35	5.35	6.01	3.62	3.48	3.54	2.67	2.90	2.88	4.30	2.97	2.43	2.22	5.04	5.51	7.21	122.22	2.51	4.42	1.88	10.21	21.50	11.15	1.51	122.22
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Miss Practices by Specialty

N	NE	SE	SW	S	SSW	SSW	S	SSW	SW	SSW	N	NE	SE	SW	TOTAL	-STABILITY CLASSES-
1.77	1.54	1.54	1.59	1.55	1.14	1.54	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	2.83	Extremely unstable
1.45	1.73	1.73	1.72	1.74	1.27	1.71	1.74	1.73	1.73	1.73	1.73	1.73	1.73	1.73	4.43	Moderately unstable
1.29	1.41	1.41	1.73	1.70	1.23	1.22	1.45	1.35	1.22	1.24	1.24	1.22	1.73	1.67	8.89	Slightly unstable
1.81	1.83	1.83	1.83	1.34	1.45	1.41	1.24	1.39	2.01	2.53	2.48	1.24	1.33	1.95	16.81	Neutral
1.55	1.55	1.54	1.54	1.45	1.55	2.43	2.41	1.13	1.59	2.19	2.59	2.59	1.38	1.73	28.55	Slightly Stable
1.77	1.54	1.54	1.74	1.52	1.81	1.69	1.91	1.73	1.38	1.81	1.31	1.27	1.77	1.22	13.15	Moderately Stable
1.45	1.55	1.41	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	3.55	Extremely Stable

Use Analysis of the Code

[illegible]

October-December 1982
193-19 ft. DIFFERENTIAL TEMPERATURE

[illegible]

CECO PRESSER STATION
35 FT. WIND SPEED AND WIND DIRECTION

October-December 1982
150-35 FT. DIFFERENTIAL TEMPERATURE

SPEED CLASS	WIND DIRECTION CLASSES																STABILITY CLASSES							TOTAL
	N	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EN	W	SW	N	SS	WS	ES	
EN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20							
1 NW	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
2 SW	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
3 W	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				1.20				
4 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
5 WS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	1.70

EN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
6 NW	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00						
7 SW	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00					
W	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.14				
2 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00			
4 WS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	.14

TOT 3.26 3.86 4.32 3.63 4.37 5.70 5.06 6.23 5.01 7.40 8.19 5.91 8.55 12.84 9.45 4.00 105.00 17.92 7.67 12.82 19.92 14.11 5.24 2.71 103.00

Wind Direction by Stability

N	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-	
1.10	.64	.39	.41	.55	.41	.70	.74	1.75	1.24	1.65	1.24	1.73	2.80	2.25	1.85	17.82	Extremely Unstable
.55	.10	.20	.10	.09	.51	.41	.70	.83	.80	.55	.37	.37	1.47	1.01	.32	1.67	Moderately Unstable
.51	.37	.70	.49	.87	.83	.37	.97	.32	.23	.37	.74	1.42	1.79	1.15	.83	12.82	Slightly Unstable
1.24	2.11	2.67	1.68	2.21	1.75	3.03	4.32	3.58	3.97	2.71	1.89	3.86	2.99	2.19	.64	39.52	Neutral
.23	.32	.61	.48	.60	1.42	.74	.87	1.24	1.61	1.24	.87	1.81	1.56	.78	.64	14.11	Slightly Stable
.55	.60	.85	.74	.80	.55	.20	.41	.55	.89	1.10	.20	.19	.25	.46	.20	5.24	Moderately Stable
.60	.74	.25	.60	.65	.23	.25	.65	.14	.10	.46	.74	.85	.10	.31	.32	2.71	Extremely Stable

Wind Direction by Wind Speed

N	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	CALM	
.74	.70	.65	.32	.41	.41	.50	.64	.87	.64	.93	.55	.46	.46	.82	.74	8.92	1.0 - 3.5 mph
2.33	2.97	3.31	1.88	1.23	2.34	1.01	2.44	2.62	2.94	3.31	1.84	4.65	5.86	2.44	2.39	42.42	3.6 - 7.5 mph
.23	.41	.87	.74	1.84	2.44	2.44	2.94	1.48	1.65	2.18	2.11	2.35	1.85	3.72	.87	31.29	7.6 - 12.5 mph
.00	.00	.00	.00	.00	.00	1.33	1.89	1.30	1.76	1.81	.33	.97	2.33	1.18	.05	19.63	12.6 - 18.5 mph
.00	.00	.00	.00	.00	.00	.18	.28	.25	.46	.28	.18	.25	.18	.00	.05	1.78	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	> 24.6 mph

October-December 1912
100-35 ft. DIFFERENTIAL TEMPERATURE

[illegible]

October-December 1982
222-25 ft. DIFFERENTIAL TEMPERATURE

Wing Director at Station:

Use Directly or Use Seed

N	NE	SE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	CALM
.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.14	1.0 - 3.5 mph
.00	1.00	.50	.50	.32	.18	.14	.07	.55	.41	.74	3.19	3.6 - 7.5 mph
1.75	1.42	1.50	2.50	1.33	.55	.03	1.24	2.87	1.78	2.02	1.18	7.6 - 12.5 mph
.02	1.15	1.50	.87	1.50	1.00	2.18	2.62	3.55	2.44	3.42	2.44	12.6 - 18.5 mph
.00	.00	.18	.18	.04	.01	1.38	1.75	2.35	1.52	1.88	1.52	18.6 - 24.5 mph
.00	.00	.00	.14	.04	.23	.37	.01	.41	.00	.07	.20	> 24.5 mph