



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

50-10

November 18, 1980

DJS LTR: 80-255

Mr. R. Beebe
U.S. Nuclear Regulatory Commission
Office of Management and Program
Analysis
Licensee Operations Evaluation Branch
Washington, D.C. 20555

50-10 P

Dear Mr. Beebe:

Enclosed are the suggested changes to and verification of radioactive effluents from Dresden Nuclear Power Station Unit 1 for 1978.

If there are any questions, please contact R. Arnoldi of my staff at (815) 942-2920, extension 518.

Sincerely,

D. J. Scott
Station Superintendent
Dresden Nuclear Power Station

DJS:RA:mt

Enclosure

cc: R. Arnoldi
File/NRC
G. Myrick

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1/1

18011250346



INSTALLATION

DISCUSSION

LOCATION 14 MI SW JOLIET

PERMIT AND WASTE DISPOSAL INFORMATION

SUPPLEMENTAL INFORMATION

UNIT NUMBER 1

TYPE BWP

DOCKET NO. 50-10

CONTAINING SOURCE KAWARKE RIVER

LICENSEE COMPANY WALTH FOLSON

LICENSED POWER (MW) 700.0

INITIAL CRITICALITY 10/15/59

MAXIMUM PERMISSIBLE CONCENTRATIONS (MICROCURIES/ML)

MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY / / /

* 1 - 14

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION DRESDEN 1

LOCATION 14 MI SW JULIET

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT FOR YEAR 1978
 SUPPLEMENTAL INFORMATION

AVERAGE ENERGY (MEV/DISINTEGRATION)

META		GAMMA	
QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
1	2	1	2

HATCH RELEASES

A. LIQUID

1. NUMBER OF HATCH RELEASES-
2. TOTAL TIME PERIOD FOR HATCH RELEASE (MIN)-
3. MAXIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
4. AVERAGE TIME PERIOD FOR HATCH RELEASES (MIN)-
5. MINIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
6. AVERAGE STREAM FLOW DURING PERIODS OF RELEASE OF EFFLUENT (INTO A FLOWING STREAM) (LTS/MIN)-

QUARTER 1	QUARTER 2
1	2

B. GASEOUS

1. NUMBER OF HATCH RELEASES-
2. TOTAL TIME PERIOD FOR HATCH RELEASES (MIN)-
3. MAXIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
4. AVERAGE TIME PERIOD FOR HATCH RELEASES (MIN)-
5. MINIMUM PERIOD FOR A HATCH RELEASE (MIN)-

1 - 1

ABNORMAL RELEASES

A. LIQUID

1. NUMBER OF RELEASES
2. TOTAL ACTIVITY RELEASED (CURIES)

1 - 1

B. GASEOUS

1. NUMBER OF RELEASES
2. TOTAL ACTIVITY RELEASED (CURIES)

1 - 1

N/A=NOT APPLICABLE
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INSTALLATION DESIGN 1

LOCATION 14 MI SW JOLIET

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT FOR YEAR 1978
 SUPPLEMENTAL INFORMATION

AVERAGE ENERGY (MEV/LSINTEGRATION)

BETA		GAMMA	
QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4

0.1

1

1

1

HATCH RELEASES

A. LIQUID

1. NUMBER OF HATCH RELEASES-
2. TOTAL TIME PERIOD FOR HATCH RELEASES (MIN)-
3. MAXIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
4. AVERAGE TIME PERIOD FOR HATCH RELEASES (MIN)-
5. MINIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
6. AVERAGE STREAM FLOW DURING PERIODS OF RELEASE OF EFFLUENT INTO A FLOWING STREAM (LTS/MIN)-

1.1

B. GASEOUS

1. NUMBER OF HATCH RELEASES-
2. TOTAL TIME PERIOD FOR HATCH RELEASES (MIN)-
3. MAXIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
4. AVERAGE TIME PERIOD FOR HATCH RELEASES (MIN)-
5. MINIMUM PERIOD FOR A HATCH RELEASE (MIN)-

0.1

ABNORMAL RELEASES

A. LIQUID

1. NUMBER OF RELEASES
2. TOTAL ACTIVITY RELEASED (CURIES)

1.1

B. GASEOUS

1. NUMBER OF RELEASES
2. TOTAL ACTIVITY RELEASED (CURIES)

1.1

N/A=NOT APPLICABLE
 N/D=NOT DECIDED
 N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	UNIT	QUARTER 1	QUARTER 2	EST. TOTAL ERROR ±
A. FISSION AND ACTIVATION GASES				
1. TOTAL RELEASE	CI	1.60E 05	2.30E 05	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	2.10E 04	2.90E 04	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	*	3.90E 00	5.20E 00	
		38 ± 00		
B. IODINES				
1. TOTAL IODINE-131	CI	1.60E-01	3.30E-01	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	8.70E-01	5.70E-01	4.2 E-02
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	*	1.50E 00	1.70E 00	
		20 E-02	55 E-01	
C. PARTICULATES				
1. PARTICULATES WITH HALF-LIVES > 8 DAYS	CI	3.90E-01	0.04E-01	4.0 E-01
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	5.00E-02	5.13E-02	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	*	2.06E 00	2.14E 00	
4. GROSS ALPHA RADIOACTIVITY	CI	2.07E 00		
D. TRITIUM				
1. TOTAL RELEASE	CI	1.88E 01	1.94E 01	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	2.40E 00	2.50E 00	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	*			

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EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	UNIT	QUARTER 3	QUARTER 4	EST. TOTAL CYCLES
A. FISSION AND ACTIVATION GASES				
1. TOTAL RELEASE	CI	3.30E 05	1.30E 05	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	4.10E 04	4.90E 04	1.6E 04
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	*	6.80E 00	8.80E 00	
		7.40E 00	2.12E 00	
B. IODINES				
1. TOTAL IODINE-131	CI	4.80E-01	2.50E-01	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	6.20E-02	4.00E-02	3.1E-02
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	*	2.60E 00	3.77E 00	
		2.50E 00	1.09E 00	
C. PARTICULATES				
1. PARTICULATES WITH HALF-LIVES > 8 DAYS	CI	1.80E-01	8.42E-02	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	2.40E-02	3.00E-02	1.1E-02
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	*	4.90E-01	1.24E 00	
4. GROSS ALPHA RADIOACTIVITY	CI	7.80E-01	4.41E-01	
D. TRITIUM				
1. TOTAL RELEASE	CI	4.30E 01	7.40E 00	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	5.43E 00	9.40E-01	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	*		9.25E-01	

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INSTALLATION-001-S001-1

EFFLUENT AND GASE DISPOSAL SEMI-ANNUAL REPORT 1978

GAS EFFLUENTS ELUVATED RELEASE

NUCLEIDES RELEASED UNIT CONTAINERS QUARTER 1 CONTAINERS QUARTER 2 BATCH QUARTER 1 BATCH QUARTER 2

FUSION GASES

KR-R5M	CI	3.50E-03	4.60E-03		
KR-R7	CI	1.70E-04	1.70E-04		
KR-R8	CI	1.20E-04	1.50E-04		
XE-133	CI	3.10E-03	7.10E-03		
XE-135	CI	2.20E-04	3.00E-04		
XE-135M	CI	2.40E-04	2.40E-04		
XE-138	CI	7.80E-04	1.30E-05		

IODINES

I-131	CI	1.60E-01	3.30E-01		
I-133	CI	1.00E-00	2.20E-00		
I-135	CI	1.50E-00	3.20E-00		

PARTICULATES

Ag-110M	CI				
GA-140	CI	1.34E-01	8.00E-05		
CE-141	CI	2.14E-03	1.20E-01		
CO-5R	CI	1.55E-02	1.25E-03		
CO-60	CI	1.03E-02	4.56E-03		
CR-144	CI	3.60E-04	8.20E-03		
CS-134	CI	3.67E-03	5.12E-03		
CS-136	CI	1.14E-03	1.38E-03		
CS-137	CI	1.03E-02	3.02E-02		
I-131	CI	1.65E-02	1.76E-01		
MA-54	CI	3.60E-04	1.70E-04		
MB-95	CI	2.90E-04	6.00E-05		
RU-103	CI	3.60E-04			
Sr-89	CI	2.07E-01	2.07E-01		
Sr-90	CI	6.27E-03	5.67E-03		
ZR-95	CI	2.40E-04	1.00E-04		

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INSTALLATION: DRESBEN 1

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GAS EFFLUENTS ELEVATED RELEASE

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER	QUARTER	QUARTER	QUARTER
		3	4	3	4
FISSION GASES					
KR-85M	CI	5.20E 03	2.00E 03		
KR-87	CI	2.20E 04	8.50E 03		
KR-88	CI	1.80E 04	6.60E 03		
XE-133	CI	5.40E 03	1.70E 03		
XE-135	CI	3.20E 04	9.60E 03		
XE-135M	CI	4.40E 04	1.60E 04		
XE-138	CI	2.00E 05	8.40E 04		
IODINES					
I-131	CI	4.80E-01	2.50E-01		
I-133	CI	4.70E 00	2.10E 00		
I-135	CI	7.40E 00	3.60E 00		
PARTICULATES					
BA-140	CI	6.22E-02	1.10E-02		
CE-141	CI	2.30E-04	1.90E-04		
CE-144	CI	5.00E-05			
CO-58	CI	4.40E-04	1.30E-03		
CO-60	CI	2.26E-03	4.18E-03		
CS-134	CI	4.50E-04	3.50E-04		
CS-137	CI	3.36E-03	2.51E-03		
I-131	CI	1.37E-03	1.43E-03		
MN-54	CI	1.70E-04	2.50E-04		
NB-95	CI	1.30E-04	2.90E-04		
RU-103	CI	1.20E-04	4.60E-05		
SH-89	CI	1.16E-01	6.28E-02		
SH-90	CI	8.00E-01	1.40E-02	N/A-C4	
ZR-95	CI	6.00E-05	1.50E-04		

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INSTALLATION=DOESDEF 1

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1974

LIQUID EFFLUENTS

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		MATCH MODE	
		QUARTER		QUARTER	
		1	2	1	2
CS-134	CI	1.50E-03	1.47E-03		
CS-137	CI	5.49E-03	3.46E-03		
Sr-89	CI	1.79E-03	4.50E-04		
Sr-90	CI	2.90E-04	1.20E-04		
CO-58	CI	2.42E-03	3.00E-03		
CO-60	CI	6.55E-02	9.30E-02		
FE-59	CI	3.00E-04	3.40E-03		
MN-54	CI	9.98E-03	1.32E-02		
CE-141	CI	2.90E-04	4.90E-04		
CE-144	CI	1.92E-03	2.36E-03		
NB-95	CI	4.00E-04	1.81E-03		
ZR-95	CI	4.10E-04	1.49E-03		
AU-110M	CI		1.10E-04		
BA-140	CI	4.60E-04			
CH-51	CI	1.25E-03	1.72E-03		
LA-140	CI	3.60E-04			
HU-103	CI	1.00E-04	2.09E-03		
SB-124	CI		3.00E-05		

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EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1974

LIQUID EFFLUENTS

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER	QUARTER	QUARTER	QUARTER
		3	4	3	4
CS-134	CI	1.05E-03	1.04E-03		
CS-137	CI	3.14E-03	3.03E-03		
I-131	CI	3.30E-04	6.30E-04		
SH-89	CI	2.90E-04	9.60E-04		
Sr-90	CI	9.00E-05	1.50E-04		
Cu-64	CI	2.00E-03	2.81E-03		
Cu-60	CI	2.14E-02	3.00E-02		
CH-51	CI	4.54E-03	2.96E-03		
FE-59	CI		6.40E-04		
MN-54	CI	1.23E-03	2.54E-03		
Ni-95	CI	5.20E-04	4.30E-04		
Zn-95	CI	4.20E-04	1.40E-04		
BA-140	CI	2.10E-04	4.00E-04		
CE-141	CI	1.80E-04	4.40E-04		
CE-144	CI	9.20E-04	7.50E-04		
LA-140	CI	2.40E-04	4.70E-04		
HU-103	CI	4.30E-04	2.70E-04		

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EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1974

LIQUID EFFLUENTS--SUMMATION OF ALL RELEASES

	UNIT	QUARTER 1	QUARTER 2	EST. TOTAL EMISS. #
A. FUSION AND ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)				
	CI	1.10E-01	1.30E-01	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD				
	UCI/ML #	1.00E-09	2.60E-09	1.7E-08
3. PERCENT OF APPLICABLE LIMIT				
		1.00E-00	2.60E-01	1.7E-01
H. TRITIUM				
1. TOTAL RELEASE				
	CI	5.70E-03	1.50E-02	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD				
	UCI/ML #	N/A	1.00E-10	1.9E-10
3. PERCENT OF APPLICABLE LIMIT				
		N/A	N/A	
C. DISSOLVED AND ENGRAINED GASES				
1. TOTAL RELEASE				
	CI	0.00E-00	0.00E-00	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD				
	UCI/ML #			
3. PERCENT OF APPLICABLE LIMIT				
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE				
	CI	1.10E-04	1.30E-02	
E. VOLUME OF WASTE RELEASED (DUE TO DILUTION)				
	LITERS	6.60E-05	5.80E-05	
F. VOLUME OF DILUTION WATER USED DURING PERIOD				
	LITERS	6.40E-10	7.70E-10	

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EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	UNIT	QUARTER 3	QUARTER 4	EST. TOTAL ERROR, %
A. FISSION AND ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	CI	3.80E-02	4.80E-02	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	UCI/ML	4.70E-10	6.70E-10	
3. PERCENT OF APPLICABLE LIMIT	%	4.70E-01	6.70E-01	
B. TRITIUM				
1. TOTAL RELEASE	CI	1.30E 01	3.00E-02	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	1.6E-07UCI/ML	4.60E-07	4.50E-10	7.1E-10
3. PERCENT OF APPLICABLE LIMIT	%	N/A	N/A	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CI	0.00E 00	0.00E 00	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	UCI/ML			
3. PERCENT OF APPLICABLE LIMIT	%			
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CI	4.50E-05	6.50E-05	
E. VOLUME OF WASTE RELEASED (PRIOR TO DILUTION)				
	LITERS	2.60E 05	2.60E 05	
F. VOLUME OF DILUTION WATER USED DURING PERIOD				
	LITERS	4.00E 10	7.20E 10	

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