

SEMI-ANNUAL REPORT
Radioactive Effluent Releases
July 1, 1979 thru December 31, 1979

Docket # 50-331
Control # 800304068
Date 2-21-80 of Document
FBI/DOJ/DOE/DOH/DOA

8003040

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RADIATION EFFLUENT REPORT

July 1, 1979 thru December 31, 1979

ITEM	UNITS	3RD QUARTER 1979	4TH QUARTER 1979
A. Gaseous Effluents			
1. Gross Radioactivity	curies	2.83 E03	2.76 E03
2. Maximum 1 hour Release Rate	μCi/sec	6.82 E03	1.04 E04
3. Nuclides Released Xe-138	curies	2.65 E01	7.59 E01
Kr-87	curies	7.43 E00	5.14 E00
Kr-88	curies	1.44 E02	9.26 E01
Kr-85m	curies	1.94 E02	1.34 E02
Xe-135	curies	1.90 E02	4.29 E01
Xe-133	curies	2.23 E03	2.34 E03
Kr-85(cal.)	curies	<1.28 E02	<1.71 E02
Xe-135m(cal.)	curies	<8.35 E01	<4.98 E01
Ar-41	curies	3.30 E00	5.94 E00
N-13	curies	3.21 E01	3.81 E01
4. Tritium Released	curies	1.69 E00	4.81 E00
5. Percent of ETS (16% Limit) Note 1	%	1.116%	0.3313%

RADIATION EFFLUENT REPORT

July 1, 1979 thru December 31, 1979

ITEM	UNITS	3RD QUARTER 1979	4TH QUARTER 1979
B. Iodine Releases			
1.Total I-131 Released	curies	5.11 E-03	2.88 E-03
2.Total I-133 Released	curies	2.49 E-02	1.18 E-02
3.Total I-135 Released	curies	<1.76 E-01	<7.59 E-02
4.Percent ETS Limit (I-131)Note 2	%	4.072%	1.876%
C. Particulate Releases			
1.Total Release	curies	4.53 E-03	1.55 E-02
2.Gross Alpha Released	curies	9.09 E-07	1.64 E-05
3.Nuclides Released Co-60	curies	1.39 E-03	1.07 E-03
Mn-54	curies	5.88 E-04	4.04 E-04
Cr-51	curies	2.22 E-03	1.32 E-02
Cs-137	curies	5.82 E-06	2.68 E-05
Cs-134	curies	3.23 E-05	2.78 E-05
Fe-59	curies	5.04 E-06	1.03 E-04
Co-58	curies	1.30 E-04	1.74 E-04
Sr-89	curies	1.27 E-04	1.63 E-04
Sr-90	curies	7.51 E-06	4.45 E-06
Unidentified	curies	2.43 E-05	3.27 E-04
4.Percent ETS Limit (Part.) Note 3	%	3.875%	13.41%
5.Percent ETS Limit (I-131 & Part.)Note 4	%	7.948%	15.29%

NOTE 1

$$\% \text{ ETS} = \frac{\frac{Q_S \bar{E}}{0.21} + \frac{Q_V}{(1.4 \times 10^5)(\text{MPC})}}{0.16} \times 100$$

NOTE 2

$$\% \text{ ETS(I-131)} = \frac{\frac{Q_S}{1.3 \times 10^{-6}} + \frac{Q_V}{1.8 \times 10^{-7}}}{0.08} \times 100$$

NOTE 3

$$\% \text{ ETS(PART)} = \frac{\frac{Q_S}{1.3 \times 10^{-6}} + \frac{Q_V}{1.8 \times 10^{-7}}}{0.08} \times 100$$

NOTE 4

$$\% \text{ ETS(P\&I-131)} = \frac{\frac{Q_S}{1.3 \times 10^{-6}} + \frac{Q_V}{1.8 \times 10^{-7}}}{0.08} \times 100$$

RADIATION EFFLUENT REPORT

July 1, 1979 thru December 31, 1979

LIQUID EFFLUENTS	UNITS	3RD QUARTER 1979	4TH QUARTER 1979
A. Gross Radioactivity	curies		
B. Average Concentration	$\mu\text{Ci/ml}$		
C. Maximum Concentration	$\mu\text{Ci/ml}$		
D. Tritium			
1. Total Acitivity	curies		
2. Average Concentration	$\mu\text{Ci/ml}$		
E. Alpha			
1. Total Activity	curies		
2. Average Concentration	$\mu\text{Ci/ml}$		
F. Noble Gases			
1. Total Activity	curies		
2. Average Concentration	$\mu\text{Ci/ml}$		
G. Volume			
1. Tank	Liters		
2. Dilution	Liters		
3. Total	Liters		
H. Nuclides Released	curies		
I. ETS	%	0	0

SOLID RADIOACTIVE WASTE

July thru September 1979

a. Solid radioactive waste

1. Total amount of solid radioactive waste packaged (in cubic feet).
4,616.1 cubic feet
2. Total estimated gross radioactivity (in curies) of packaged material.
99.4825 curies
3. Disposition of material including date and destination if shipped off-site.

Date	Disposition
7/11/79	CHEM NUC - Barnwell, S.C.
7/12/79	CHEM NUC - Barnwell, S.C.
7/16/79	CHEM NUC - Barnwell, S.C.
7/19/79	CHEM NUC - Barnwell, S.C.
7/20/79	CHEM NUC - Barnwell, S.C.
8/7/79	CHEM NUC - Barnwell, S.C.
8/9/79	CHEM NUC - Barnwell, S.C.
8/22/79	CHEM NUC - Barnwell, S.C.
8/24/79	CHEM NUC - Barnwell, S.C.
9/6/79	CHEM NUC - Barnwell, S.C.
9/12/79	CHEM NUC - Barnwell, S.C.
9/13/79	CHEM NUC - Barnwell, S.C.
9/14/79	CHEM NUC - Barnwell, S.C.

SOLID RADIOACTIVE WASTE

October thru December 1979

a. Solid radioactive waste

1. Total amount of solid radioactive waste packaged (in cubic feet).
8,335.2 cubic feet.
2. Total estimated gross radioactivity (in curies) of packaged material.
105.492 curies
3. Disposition of material including date and destination if shipped off-site.

Date	Disposition
10/2/79	CHEM NUC - Barnwell, S.C.
10/9/79	CHEM NUC - Barnwell, S.C.
10/11/79	CHEM NUC - Barnwell, S.C.
10/25/79	CHEM NUC - Barnwell, S.C.
10/25/79	CHEM NUC - Barnwell, S.C.
10/25/79	CHEM NUC - Barnwell, S.C.
10/29/79	CHEM NUC - Barnwell, S.C.
11/1/79	CHEM NUC - Barnwell, S.C.
11/19/79	CHEM NUC - Barnwell, S.C.
11/28/79	CHEM NUC - Barnwell, S.C.
11/29/79	CHEM NUC - Barnwell, S.C.
11/29/79	CHEM NUC - Barnwell, S.C.
11/30/79	CHEM NUC - Barnwell, S.C.
12/12/79	CHEM NUC - Barnwell, S.C.
12/17/79	CHEM NUC - Barnwell, S.C.
12/17/79	CHEM NUC - Barnwell, S.C.
12/28/79	CHEM NUC - Barnwell, S.C.