

Table 1A
Effluent and Waste Disposal Semiannual Report Year 1983
Gaseous Effluents - Summation of All Releases

	Unit	Quarter I	Quarter II	Est. Total Error, %
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A. Fission and activation gases

1. Total release	Ci	1.18E+05	1.16E+05	7.69E+00
2. Average release rate for period	µCi/sec	1.57E+04	1.36E+04	
3. Percent of technical specification limit	%	4.04E+01	3.99E+01	

B. Iodines

1. Total iodine-131 (gaseous and particulate)	Ci	1.28E+00	5.78E-01	5.88E+00
2. Average release rate for period	µCi/sec	1.70E-01	6.76E-02	
3. I-131 contribution to percent of technical specification limit	%	5.83E+01	2.36E+01	

C. Particulates

1. Particulates with half-lives of greater than eight days	Ci	1.38E+00	6.18E-01	1.49E+01
2. Average release rate for period	µCi/sec	1.84E-01	7.23E-02	
3. Percent of technical specification limit	%	8.01E+01	2.77E+01	
4. Gross alpha radioactivity	Ci	2.99E-07	1.83E-07	

D. Tritium

1. Total release	Ci	7.13E-01	2.53E+00	7.94E+00
2. Average release rate for period	µCi/sec	9.48E-02	3.22E-01	
*3. Percent of technical specification limit	%	2.06E-03	8.46E-03	

*Based on 10CFR20, Appendix B, limit of 4E-05 µCi/ml for H₃ submersion in an unrestricted area.

Table 1B
Effluent and Waste Disposal Semiannual Report Year 1983
Gaseous Effluents - Elevated Release

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter I	Quarter II	Quarter	Quarter
1. Fission gases					
argon-41	Ci	3.21E+01	1.38E+01		
krypton-85m	Ci	3.38E+03	3.48E+03		
krypton-85	Ci	3.08E+02	9.80E+03		
krypton-87	Ci	1.28E+04	9.48E+03		
krypton-88	Ci	9.82E+03	7.56E+03		
xenon-133m	Ci	2.22E+03	<MDA		
xenon-133	Ci	4.23E+03	3.47E+03		
xenon-135m	Ci	1.57E+04	1.52E+04		
xenon 135	Ci	1.70E+04	1.29E+04		
xenon-138	Ci	4.88E+04	4.79E+04		
unidentified	Ci	1.23E+03	1.29E+03		
Total for period	Ci	1.15E+05	1.10E+05		
2. Gaseous Iodines					
iodine-131	Ci	1.28E+00	5.74E-01		
iodine 132	Ci	2.67E-01	7.85E-01		
iodine 133	Ci	1.00E+01	3.06E+00		
iodine-134	Ci	9.66E-02	1.99E-01		
iodine-135	Ci	3.06E+00	4.45E+00		
Total for period	Ci	1.47E+01	9.07E+00		
3. Particulates					
strontium-89	Ci	2.14E-03	5.12E-03		
strontium-90	Ci	2.71E-06	3.29E-06		
cesium-134	Ci	4.94E-06	3.08E-06		
cesium-137	Ci	6.14E-05	1.25E-04		
barium-lanthanum-140	Ci	1.98E-03	1.31E-04		
cobalt-58	Ci	4.12E-04	1.28E-03		
cobalt-60	Ci	8.08E-04	6.62E-04		
chromium-51	Ci	2.77E-04	2.45E-04		
zirconium-niobium-95	Ci	<MDA	3.64E-05		
zinc-65	Ci	<MDA	1.57E-05		
cerium-144	Ci	2.03E-04	1.96E-04		
iron-59	Ci	3.88E-02	1.68E-02		
manganese-54	Ci	2.41E-04	1.30E-03		
iodine-131	Ci	1.28E+00	5.74E-01		
unidentified	Ci	1.59E-02	7.91E-03		
Total for period	Ci	1.34E+00	6.08E-01		
4.0 Tritium					
hydrogen-3	Ci	1.75E-01	4.64E-01		

Table 1C
Effluent and Waste Disposal Semiannual Report Year 1983
Gaseous Effluents - Ground Level Releases

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter I	Quarter II	Quarter	Quarter
1. Fission gases					
argon-41	Ci	<MDA	<MDA		
krypton-85m	Ci	2.84E+00	1.09E+01		
krypton-85	Ci	<MDA	<MDA		
krypton-87	Ci	<MDA	<MDA		
krypton-88	Ci	1.35E+01	5.18E+01		
xenon-133m	Ci	1.15E+02	1.30E+02		
xenon-133	Ci	2.16E+03	3.97E+03		
xenon-135m	Ci	1.26E+01	4.84E+01		
xenon 135	Ci	5.62E+02	2.10E+03		
xenon-138	Ci	<MDA	<MDA		
unidentified	Ci	3.53E+02	1.52E+02		
Total for period	Ci	3.22E+03	6.45E+03		

2. Gaseous Iodines

iodine-131	Ci	5.93E-03	3.91E-03		
iodine 132	Ci	6.44E-03	7.90E-03		
iodine 133	Ci	3.14E-02	1.02E-02		
iodine-134	Ci	6.01E-03	<MDA		
iodine-135	Ci	4.11E-02	1.27E-02		
Total for period	Ci	9.09E-02	3.47E-02		

3. Particulates

strontium-89	Ci	6.65E-05	1.97E-05		
strontium-90	Ci	1.71E-06	4.56E-07		
cesium-134	Ci	6.04E-05	1.92E-05		
cesium-137	Ci	2.26E-04	6.04E-05		
barium-lanthanum-140	Ci	2.59E-04	3.56E-05		
cobalt-58	Ci	4.27E-05	6.96E-06		
cobalt-60	Ci	1.72E-03	8.13E-04		
chromium-51	Ci	3.32E-02	4.17E-03		
zirconium-niobium-95	Ci	<MDA	<MDA		
zinc-65	Ci	<MDA	<MDA		
iron-59	Ci	1.78E-05	<MDA		
manganese-54	Ci	8.64E-04	4.05E-04		
iodine-131	Ci	5.93E-03	3.91E-03		
cerium-141	Ci	<MDA	<MDA		
cerium-144	Ci	<MDA	<MDA		
cobalt-57	Ci	<MDA	<MDA		
	Ci	3.30E-07	<MDA		
silver-111	Ci	<MDA	<MDA		
unidentified	Ci	1.72E-03	8.86E-04		
Total for period	Ci	4.41E-02	1.03E-02		

4.0 Tritium

hydrogen-3	Ci	5.38E-01	2.07E+00		
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Table 3

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (YEAR) Jan. - June 1983

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. Solid Waste Shipped Offsite for Burial or Disposal (Not irradiated fuel)

1. Type of Waste	Unit	6-month period	Est. Total Error, %
a. Spent resins, filter sludges, evaporated bottoms, etc.	m ³	5.38E+02	1.50E+01
	Ci	2.02E+03	
b. Dry compressible waste, contaminated equip., etc.	m ³	1.52E+03	2.00E+01
	Ci	4.91E+01	
c. Irradiated components, control rods, etc.	m ³	1.70E+00	2.00E+01
	Ci	1.03E+03	
d. Other (describe)	m ³	0.00-01	0.00E-01
	Ci	0.00E-01	

2. Estimate of major nuclide composition (by type of waste)

A + B	%	
Cr-51	%	1.44E+01
Mn-54	%	1.53E+01
Fe-59	%	6.00E-01
Co-58	%	3.80E+00
Co-60	%	5.33E+01
Zn-65	%	4.00E-01
I-131	%	1.40E+00
Cs-134	%	3.30E+00
Cs-137	%	4.90E+00
La-140	%	1.50E+00
Ba-140	%	1.10E+00
	%	
Cr-51	%	9.60E+00
Mn-54	%	1.61E+01
Fe-59	%	5.00E-01
Co-58	%	2.20E+00
Co-60	%	3.28E+01
Zn-65	%	7.00E-01
Cs-134	%	1.68E+01
Cs-137	%	2.13E+01

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
131	Sole Use Vehicle	Chem-Nuclear Systems, Inc. Barnwell, SC
14	Sole Use Vehicle	US Ecology Richland, WA

B. Irradiated Fuel Shipments (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
N/A	N/A	N/A