TABLE 1A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1981

GASEOUS EFFLUENTS—SUMMATION OF ALL RELEASES

	Unit	Quarter 3rd	Quarter 4th	Est. Total Error, %
A. Fission & activation gases				
1. Total release	Ci	3.35 E-2	2.27 E-2	2.50 E 1
2. Average release rate for period	μCi/sec	4.21 E-3	2.86 E-3	
3. Percent of Technical specification limit	%	7.39 E-5	5.02 E-5	
B. Iodines				
1. Total iodine-131	Ci	<2E-12	<2E-12	N.A.
2. Average release rate for period	μCi/sec	N.A.	N.A.	
3. Percent of technical specification limit	%	N.A.	N.A.	
C. Particulates				
1. Particulates with half-lives >8 days	Ci	4.57 E-5	1.33 E-4	2.50 E 1
2. Average release rate for period	μCi/sec	5.75 E-6	1.67 E-5	
3. Percent of technical specification limit	%	1.15 E-2	3.35 E-2	
4. Gross alpha radioactivity	Ci	<2E-15	2.77 E-7	
D. Tritium				
1. Total release	Ci	4.89 E-4	4.02 E-4	2.50 E 1
2. Average release rate for period	μCi/sec	6.15 E-5	5.06 E-5	
3. Percent of technical specification limit	%	1.62 E-6	1.33 E-6	

Note: All less than (<) values are in uCi/cc.

Tech. Specs. - A.3. - $\leq$ 1.9E4 m^3/sec.
Limits

B.3. - 0.05 uCi/sec.

C.3. - 0.05 uCi/sec.

D.3. - $\leq$ 1.9E4 m^3/sec.

TABLE 1C

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1981

GASEOUS EFFLUENTS—GROUND-LEVEL RELEASES

Nuclides Released	Unit	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
1. Fission gases					
krypton-85	Ci	<2E-5	<2E-5	3.35E-2	2.27E-2
krypton-85m	Ci	<5E-7	<5E-7	<5E-7	<5E-7
krypton-87	Ci	<5E-7	<5E-7	<5E-7	<5E-7
krypton-88	Ci	<2E-7	<2E-7	<2E-7	<2E-7
xenon-133	Ci	<2E-7	<2E-7	<2E-7	<2E-7
xenon-135	Ci	<5E-8	<5E-8	<5E-8	<5E-8
xenon-135m	Ci	<4E-6	<4E-6	<4E-6	<4E-6
xenon-138	Ci	<4E-6	<4E-6	<4E-6	<4E-6
Others (specify)	Ci				
	Ci				
	Ci				
unidentified	Ci				
Total for period	Ci	N.A.	N.A.	3.35E-2	2.27E-2
2. Iodines					
iodine-131	Ci	<2E-12	<2E-12	<5E-8	<5E-8
iodine-133	Ci	<2E-12	<2E-12	<4E-8	<4E-8
iodine-135	Ci	<2E-12	<2E-12	<5E-7	<5E-7
Total for period	Ci	N.A.	N.A.	N.A.	N.A.
3. Particulates					
strontium-89	Ci	<6E-15	6.87E-6		
strontium-90	Ci	3.85E-10	1.24E-5		
cesium-134	Ci	<3E-12	<3E-12	<6E-10	<6E-10
cesium-137	Ci	7.00E-6	9.65E-5	3.35E-5	1.69E-5
barium-lanthanum-140	Ci	<5E-12	<5E-12	<9E-9	<9E-9
Others (specify)	Ci				
Gross α	Ci	<2E-15	2.77E-7		
Cobalt 60	Ci	5.16E-6	<3E-12	<9E-10	<9E-10
unidentified	Ci				

Note: All (<) less than values are in uCi/cc.

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1981

LIQUID EFFLUENTS—SUMMATION OF ALL RELEASES

	Unit	Quarter 3rd	Quarter 4th	Est. Total Error, %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	3.13E-2	2.83E-2	2.50E 1
2. Average diluted concentration during period	µCi/ml	1.90E-9	2.01E-9	
3. Percent of applicable limit	%	1.25E 0	1.13E-2	
B. Tritium				
1. Total release	Ci	2.07E 0	6.50E-1	2.50E 1
2. Average diluted concentration during period	µCi/ml	1.25E-7	4.61E-8	
3. Percent of applicable limit	%	4.20E-3	1.54E-3	
C. Dissolved and entrained gases				
1. Total release	Ci	<1E-4	<1E-4	N.A.
2. Average diluted concentration during period	µCi/ml	N.A.	N.A.	
3. Percent of applicable limit	%	N.A.	N.A.	
D. Gross alpha radioactivity				
1. Total release	Ci	<1E-7	<1E-7	N.A.
E. Volume of waste released (prior to dilution)	liter	4.70E 5	1.89E 9	2.50E 1
F. Volume of dilution water used during period	liter	1.65E 10	1.41E 10	1.00E 1

Note: All less than (<) values are in uCi/ml

Tech. Specs. Limits
- A.3. = 2.5 Curies/quarter
- B.3. - 10 CFR 20, Appendix B, Table II.
- C.3. = 10 CFR 20, Appendix B, Table II.

TABLE 2B

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1981

LIQUID EFFLUENTS

		CONTINUOUS MODE		BATCH MODE	
Nuclides Released	Unit	3rd Quarter	4th Quarter	3rd Quarter	4th Quarter
strontium-89	Ci	<5E-8	<5E-8	<5E-8	* <5E-8
strontium-90	Ci	<5E-8	<5E-8	5.60E-6	3.77E-5
cesium-134	Ci	<5E-7	<5E-7	6.02E-3	2.91E-3
cesium-137	Ci	<5E-7	<5E-7	2.50E-2	2.19E-2
iodine-131	Ci	<1E-6	<1E-6	<1E-6	<1E-6
cobalt-58	Ci	<5E-7	<5E-7	<5E-7	<5E-7
cobalt-60	Ci	<5E-7	<5E-7	1.58E-4	2.12E-3
iron-59	Ci	<5E-7	<5E-7	<5E-7	<5E-7
zinc-65	Ci	<5E-7	<5E-7	<5E-7	<5E-7
manganese-54	Ci	<5E-7	<5E-7	<5E-7	6.39E-5
chromium-51	Ci	<5E-7	<5E-7	<5E-7	<5E-7
zirconium-niobium-95	Ci	<5E-7	<5E-7	<5E-7	<5E-7
molybdenum-99	Ci				
technetium-99m	Ci				
barium-lanthanum-140	Ci				
cerium-141	Ci	↓	↓	↓	↓
Other (specify)					
Sb-125	Ci	<5E-7	<5E-7	1.59E-4	3.68E-5
I-132	Ci	<1E-6	<1E-6	<1E-6	<1E-6
Fe-55	Ci	<1E-6	<1E-6	<1E-6	1.19E-3
	Ci				
unidentified	Ci				
Total for period (above)	Ci			3.13E-2	2.83E-2
xenon-133	Ci	<1E-5	<1E-5	<1E-5	<1E-5
xenon-135	Ci	<1E-5	<1E-5	<1E-5	<1E-5

Note: All less than (<) values are in uCi/ml.

* The Tech Spec required LLD of 5.0 E-8 was not achieved during this quarter due to a vendor error. The vendor has been advised and has agreed to meet the required LLD for future samples.