EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SUPPLEMENTAL INFORMATION
1st HALF 1988

1. Regulatory Limits

a. Fission and Activation Gases:

(1) Instantaneous - Nuclide Dependant (all release points)

Shield Building Exhaust
Auxiliary Building Exhaust
Condenser Vacuum Exhaust
Service Building Exhaust

NOTE: Total plant release rate limits per nuclide are established by TVA's Radiological Control, Radiation Protection Branch (RCRPB). These limits are further evaluated for each vent based on design flowrate. Technical Specification will not be exceeded until the sum of individual isotope release rate per release rate limit exceeds 1.0.

b. & c. Iodines and particulates, half-lives ≥8 Days

(1) Instantaneous - Nuclide Dependant

NOTE: Total plant release rate limits per nuclide are established by TVA's Radiological Control, Radiation Protection Branch (RCRPB). These limits are further evaluated for each vent based on design flowrate. Technical Specification will not be exceeded until the sum of individual isotope release rate per release rate limit exceeds 1.0.

d. Liquid effluent: $\sum$ MPC≤1.0 (reference 10CFR20, Appendix B, note 3C, Table II, column 2).

e. Tritium

(1) Liquid - ≤3.0E-3 µCi/ml (ref. 10CFR20, Table II, column 2)

(2) Airborne - (reference 10CFR20, Table II, column 1)

Shield Building Exhaust	≤3.138E+03 µCi/sec
Auxiliary Building Exhaust	≤2.555E+04 µCi/sec
Service Building Exhaust	≤1.165E+03 µCi/sec
Condenser Vacuum Exhaust	≤5.043E+00 µCi/sec

NOTE: These limits are established by TVA based on each vent's design flowrate.

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EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SUPPLEMENTAL INFORMATION
1st HALF 1988

2. Maximum Permissible Concentrations

a. Fission and Activation Gases: Not Applicable

b. Iodines: Not Applicable

c. Particulates, half-lives ≥8 days: Not Applicable

d. Liquid effluents: sum of indv. MPC ratios ≤1.0 (ref. 10CFR20, Appendix B, Note 1)

3. Average Energy - Not Applicable

4. Measurements and Approximations of Total Radioactivity

NOTE: Every effort is made to ensure that all effluents from Sequoyah are conducted such that all Technical Specification LLDs are met. Whenever an analysis does not identify a radioisotope, a "0.00E-01 Ci" is recorded for the release. This does not necessarily mean that no activity was released for that particular radioisotope but that the concentration was below the Technical Specification and analysis capability. Refer to Tables A and B for estimates of these typical values.

a. Fission and Activation Gases

Airborne effluent gaseous activity is continuously monitored and recorded. Additional grab samples from the shield building, auxiliary building, service building, and condenser vacuum exhausts are taken and analyzed at least monthly to determine the quantity of noble gas activity released for the month based on the average vent flowrates recorded for the sample period. Also, noble gas samples are collected and evaluated for the shield and auxiliary buildings following startup, shutdown, or rated thermal power change exceeding 15 percent within one hour (sampling only required if dose equivalent I-131 concentration in the primary coolant has increased more than a factor of 3 and the noble gas activity monitor shows that the containment activity has increased more than a factor of 3). The vent flowrates for the shield building, auxiliary building, service building, and condenser vacuum exhausts are determined and recorded once a shift.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SUPPLEMENTAL INFORMATION
1st HALF 1988

4. Measurements and Approximation of Total Radioactivity (continued)

a. Fission and Activation Gases (continued)

The quantity of noble gases released through the shield and auxiliary building exhausts due to purging or venting of containment and releases of waste gas decay tanks are also determined.

The total noble gas activity released for the month is then determined by summing all of the activity released from each vent for all sampling periods, the activity released from purging or venting of containment, and the activity released from waste gas decay tank(s).

b. & c. Iodines and Particulates

Iodine and particulate activity is continuously monitored and recorded. Charcoal and particulate samples are taken from the shield and auxiliary building exhausts and analyzed at least weekly to determine the total activity released from the plant based on the average vent flowrates recorded for sampling period.

Also, particulate and charcoal samples are taken from the auxiliary and shield building exhausts once per 24 hours for 2 days following startup, shutdown, or a rated thermal power change exceeding 15 percent within one hour. The quantity of iodine and particulate released from each vent during each sampling period is then determined using the average vent flowrates recorded for the sampling period and activity concentration.

The vent flowrates from the shield and auxiliary building exhausts are recorded once a shift.

The total particulate and iodine activity released for the month is then determined by summing all of the activity released from the shield and auxiliary building exhausts for all sampling periods.

d. Liquid Effluents

(1) Batch (Radwaste and condensate regenerants to cooling tower blowdown)

Total gamma isotopic activity concentrations are determined on each batch of liquid effluent prior to release. The total curie content of a released batch is determined by summing each nuclide's concentration and multiplying by the total volume discharged. The total activity released during a month is then determined by summing the activity content of each batch discharged during the month.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SUPPLEMENTAL INFORMATION
1st HALF 1988

4. Measurements and Approximation of Total Radioactivity (continued)

(2) Continuous Releases and Periodic Continuous Releases (Condensate regenerants, turbine building sump and steam generator blowdown)

Total gamma isotopic activity concentration is determined daily on a composite sample from the condensate system and turbine building sump and weekly for steam generator blowdown. The total curie content of the continuous release is determined by summing each nuclide's concentration and multiplying by the total volume discharged. The total activity released during the month is then determined by summing the activity content of each daily and weekly composite for month.

5. Batch

		Value		Units
		Quarter 1st	Quarter 2nd	
a.	Liquid			
1.	Number of batches released (Radwaste only)	70	94	Each
2.	Total time period for batch releases	9,635	12,797	Minutes
3.	Maximum time period for a batch release	170	195	Minutes
4.	Average time period for batch releases	138	136	Minutes
5.	Minimum stream flow during periods of effluent into a flowing stream:	(a)	(a)	
	(a) See RCRPB's annual Radiological Impact Assessment Report.			
b.	Gaseous			
1	Number of batches released	59	74	Each
2	Total time period for batch releases	4071	7657	Minutes
3	Maximum time period for a batch release	420	1428	Minutes
4	Average time period for batch releases	69	103	Minutes
5	Minimum time period for a batch release	15	28	Minutes

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SUPPLEMENTAL INFORMATION
1st HALF 1988

	Value		Units
	Quarter 1st	Quarter 2nd	
6. Abnormal Releases			
a. Liquid			
(1) Number of Releases	0	2	
(2) Total Activity Released	0.00E-01	1.07E-06	Ci
b. Gaseous			
(1) Number of Releases	0	1	
(2) Total Activity Released	0.00E-01	4.30E-01	Ci

7. Offsite Dose Calculation Manual (ODCM)

Were any changes made to the ODCM during the reporting period?
__X__ Yes _____ No
If yes, add an attachment at the end of report. (Attachment 3)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

		Unit	1st Qtr	Total %Error	2nd Qtr	Total %Error
A.	Fission and Activation Products					
1.	Total Releases	Curies	1.33E-01	±1.8 E+01	2.11E-01	±1.8 + 01
2.	Average Diluted Conc. During Period of All Identified Isotopes	µCi/ml	1.85E-07		2.30E-07	
3.	Percent of Applicable Limit (∑MPC≤1)	%	7.14E-01		8.83E-01	
B.	Tritium					
1.	Total Release	Curies	1.52E+01	±1.8E+01	1.56E+01	±1.8E+01
2.	Average Diluted Conc. During Period	µCi/ml	2.12E-05		1.70E-05	
3.	Percent of Applicable Limit (3.0E-03 µCi/ml)	%	7.07E-01		5.66E-01	
C.	Dissolved and Entrained Gases					
1.	Total Release	Curies	0.00E-01	±3.9E+01	8.88E-03	±3.9E+01
2.	Average Diluted Conc. During Period	µCi/ml	0.00E-01		9.66E-09	
3.	Percent of Applicable Limit (2.0E-04 µCi/ml)	%	0.00E-01		4.83E-03	
D.	Gross Alpha Radioactivity					
1.	Total Release	Curies	0.00E-01	±2.0E+01	0.00E-01	±2.0E+01
E.	Volume of Waste Release					
	(Before Dilution)	Liters	2.26E+08	±4.0E+00	2.51E+08	±4.0E+00
F.	Volume of Dilution Water for Period	Liters	4.91E+08	±1.1E+01	6.68E+08	±1.1E+01

NOTE: Percent of applicable limit is based on identified isotope concentration after dilution, related to their appropriate MPC concentration and sum of all the isotope fractions compared to 1.0.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
LIQUID EFFLUENTS - TOTAL PLANT DISCHARGE

G. Isotope Summary (Note: Refer to Table A for values reported as 0.00E-01)

Required by Technical Specification/Others

Fission and Activation Products

Nuclide	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter 1st	Quarter 2nd
1. Strontium-89	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
2. Strontium-90	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
3. Iron-55	Ci	0.00E-01	0.00E-01	2.50E-02	4.82E-02
4. Manganese-54	Ci	1.62E-05	1.[illegible]3E-05	1.62E-04	1.06E-03
5. Cobalt-58	Ci	0.00E-01	4.98E-0[illegible]	1.51E-05	1.25E-05
6. Iron-59	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
7. Cobalt-60	Ci	1.96E-04	6.81E-04	4.69E-02	1.08E-01
8. Zinc-65	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
9. Molybdenum-99	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
10. Iodine-131	Ci	0.00E-01	3.20E-06	0.00E-01	4.87E-04
11. Cesium-134	Ci	1.01E-03	1.93E-03	1.33E-02	8.47E-03
12. Cesium-137	Ci	2.38E-03	6.08E-03	3.42E-02	2.34E-02
13. Cerium-141	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
14. Cerium-144	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
Others (Specify)					
15. Antimony-125	Ci	0.00E-01	0.00E-01	9.75E-03	1.21E-02
16. Cobalt-57	Ci	4.87E-07	0.00E-01	1.13E-05	1.36E-05
17. Silver-110m	Ci	0.00E-01	0.00E-01	0.00E-01	1.88E-04
18. Technetium-99m	Ci	0.00E-01	3.90E-06	0.00E-01	1.03E-04
19. Zirconium-97	Ci	0.00E-01	0.00E-01	0.00E-01	6.83E-05

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
LIQUID EFFLUENTS - TOTAL PLANT DISCHARGE
(CONTINUED)

Nuclide	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter 1st	Quarter 2nd
20. Niobium-95	Ci	0.00E-01	0.00E-01	0.00E-01	3.60E-06
21. Barium-139	Ci	0.00E-01	0.00E-01	0.00E-01	1.55E-07
22. Yttrium-91m	Ci	0.00E-01	0.00E-01	0.00E-01	1.88E-08
23. Iodine-133	Ci	0.00E-01	5.51E-06	0.00E-01	3.66E-06
24. Chromium-51	Ci	0.00E-01	2.87E-05	0.00E-01	0.00E-01
25. Tellurium-132	Ci	0.00E-01	2.20E-06	0.00E-01	0.00E-01
Total for Period	Ci	3.60E-03	8.80E-03	1.29E-01	2.02E-01

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
LIQUID EFFLUENTS - TOTAL PLANT DISCHARGE
(CONTINUED)

G. Isotope Summary (NOTE: Refer to Table A for values reported as 0.00E-01)

Required by Technical Specification/Others

Dissolved and Entrained Noble Gases

Nuclide	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter 1st	Quarter 2nd
1. Krypton-87	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
2. Krypton-88	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
3. Xenon-133	Ci	0.00E-01	0.00E-01	0.00E-01	8.75E-03
4. Xenon-133m	Ci	0.00E-01	0.00E-01	0.00E-01	2.24E-05
5. Xenon-135	Ci	0.00E-01	0.00E-01	0.00E-01	1.03E-04
6. Xenon-138	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
Others (Specify)					
7. Krypton-85m	Ci	0.00E-01	0.00E-01	0.00E-01	5.17E-07
Total for Period	Ci	0.00E-01	0.00E-01	0.00E-01	8.88E-03

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
TABLE A
LIQUID "TYPICAL LLD" EVALUATION (1)

Nuclide	Tech. Spec. LLD	At (2) 15 min	30 min	1 hr	2 hr	3 hr
Manganese-54	5.0E-07	9.12E-09	9.12E-09	9.12E-09	9.12E-09	9.12E-09
Cobalt-58	5.0E-07	8.21E-09	8.21E-09	8.21E-09	8.21E-09	8.22E-09
Iron-59	5.0E-07	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08
Cobalt-60	5.0E-07	1.08E-08	1.08E-08	1.08E-08	1.08E-08	1.08E-08
Zinc-65	5.0E-07	2.14E-08	2.14E-08	2.14E-08	2.14E-08	2.14E-08
Molybdenum-99	5.0E-07	5.24E-08	5.25E-08	5.28E-08	5.34E-08	5.39E-08
Cesium-134	5.0E-07	9.82E-09	9.82E-09	9.82E-09	9.82E-09	9.82E-09
Cesium-137	5.0E-07	9.31E-09	9.31E-09	9.31E-09	9.31E-09	9.31E-09
Cerium-141	5.0E-07	1.06E-08	1.06E-08	1.07E-08	1.07E-08	1.07E-08
Cerium-144	5.0E-06	4.03E-08	4.03E-08	4.03E-08	4.03E-08	4.03E-08
Iodine-131	1.0E-06	7.28E-09	7.28E-09	7.30E-09	7.32E-09	7.35E-09
Krypton-87	1.0E-05	1.62E-08	1.85E-08	2.43E-08	4.20E-08	7.24E-08
Krypton-88	1.0E-05	2.13E-08	2.27E-08	2.56E-08	3.27E-08	4.17E-08
Xenon-133	1.0E-05	2.03E-08	2.04E-08	2.04E-08	2.05E-08	2.06E-08
Xenon-133m	1.0E-05	5.05E-08	5.07E-08	5.10E-08	5.17E-08	5.24E-08
Xenon-135	1.0E-05	5.60E-09	5.70E-09	5.93E-09	6.40E-09	6.90E-09
Xenon-138	1.0E-05	2.82E-08	5.97E-08	2.55E-07	4.79E-06	9.01E-05

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
TABLE A
LIQUID "TYPICAL LLD" EVALUATION(1)
(Continued)

Nuclide	Tech. Spec. LLD
(Others)(3)	
Tritium	1.0E-05
Gross Alpha	1.0E-07
Strontium-89	5.0E-08
Strontium-90	5.0E-08
Iron-55	1.0E-06

NOTES: (1) All evaluations are in μCi/ml. All analyses are performed to ensure that Technical Specification LLD limits are met, and these are typical LLD values.

(2) Δt is the time between sample collection and counting time.

(3) All of these analyses are required to meet Technical Specification LLD limits, and are individually evaluated to ensure compliance.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES
(GROUND LEVEL RELEASES)

Summation of All Releases	Unit	1st Qtr	Total %Error	2nd Qtr	Total %Error
A. Noble Gases					
1. Total Releases	Ci	0.00E-01	±1.1E+01	3.49E+01	±1.1E+01
2. Average Release Rate for Period	µCi/sec	0.00E-01		4.44E+00	
3. Percent of Technical Specification Limit	%	0.00E-01		1.50E-03	
B. Iodines					
1. Total Iodine-131	Ci	0.00E-01	±1.3E+01	2.53E-05	±1.3E+01
2. Average Release Rate for Period	µCi/sec	0.00E-01		3.22E-06	
3. Percent of Technical Specification Limit (1.60E-01 µCi/sec)	%	0.00E-01		2.01E-03	
C. Particulates					
1. Particulates with half-lives ≥8 days	Ci	5.10E-05	±1.6E+01	3.08E-05	±1.6E+01
2. Average Release Rate for Period	µCi/sec	6.49E-06		3.92E-06	
3. Percent of Technical Specification Limit	%	4.89E-04		2.22E-04	
4. Gross Alpha Radioactivity	Ci	0.00E-01	±2.1E+01	0.00E-01	±2.1E+01
D. Tritium					
1. Total Release	Ci	9.31E-01	±1.5E+01	2.43E+00	±1.5E+01
2. Average Release Rate for Period	µCi/sec	1.18E-01		3.09E-01	
3. Percent of Technical Specification Limit (3.3E+04 µCi/sec)	%	3.59E-04		9.37E-04	

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES
(GROUND LEVEL RELEASES)

	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter 1st	Quarter 2nd
E. Noble Gases					
Required by Technical Specification/Others					
1. Krypton-87	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
2. Krypton-88	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
3. Xenon-133	Ci	0.00E-01	2.60E-01	0.00E-01	3.34E+01
4. Xenon-133m	Ci	0.00E-01	0.00E-01	0.00E-01	5.42E-01
5. Xenon-135	Ci	0.00E-01	0.00E-01	0.00E-01	4.85E-01
6. Xenon-138	Ci	0.00E-01	0.00E-01	0.00E-01	0.00E-01
Others (Specify)					
7. Krypton-85	Ci	0.00E-01	0.00E-01	0.00E-01	1.43E-01
8. Argon-41	Ci	0.00E-01	0.00E-01	0.00E-01	5.77E-02
9. Krypton-85m	Ci	0.00E-01	0.00E-01	0.00E-01	1.56E-02
Total for Period	Ci	0.00E-01	2.60E-01	0.00E-01	3.46E+01
F. Iodines					
1. Iodine-131	Ci	0.00E-01	2.53E-05		
2. Iodine-133	Ci	0.00E-01	0.00E-01		
3. Iodine-135	Ci	0.00E-01	0.00E-01		
Total for Period	Ci	0.00E-01	2.53E-01		

NOTE: Refer to Table B for values reported as 0.00E-01.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES
(GROUND LEVEL RELEASES)

G. Particulates

Required by Technical Specification/Others

	Nuclide	Unit	Continuous Mode Quarter 1st	Quarter 2nd
1.	Strontium-89	Ci	0.00E-01	0.00E-01
2.	Strontium-90	Ci	0.00E-01	0.00E-01
3.	Iron-59	Ci	0.00E-01	0.00E-01
4.	Cobalt-60	Ci	4.72E-05	2.96E-05
5.	Zinc-65	Ci	0.00E-01	0.00E-01
6.	Manganese-54	Ci	0.00E-01	0.00E-01
7.	Cobalt-58	Ci	0.00E-01	0.00E-01
8.	Molybdenum-99	Ci	0.00E-01	0.00E-01
9.	Cesium-134	Ci	0.00E-01	0.00E-01
10.	Cesium-137	Ci	3.81E-06	0.00E-01
11.	Cerium-141	Ci	0.00E-01	0.00E-01
12.	Cerium-144 Others (Specify)	Ci	0.00E-01	0.00E-01
13.	Cobalt-57	Ci	6.23E-09	3.38E-07
14.	Technetium-99m	Ci	0.00E-01	8.20E-07
Total for Period		Ci	5.10E-05	3.08E-05

NOTE: Refer to Table B for values reported as 0.00E-01.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
TABLE B
GASEOUS "TYPICAL LLD" EVALUATION(1)

Noble Gas

		Δt (2)				
Nuclide	Tech. Spec. LLD	15 min	30 min	1 hr	2 hr	3 hr
Krypton-87	1.0E-04	2.91E-07	3.34E-07	4.39E-07	7.56E-07	1.30E-06
Krypton-88	1.0E-04	3.59E-07	3.82E-07	4.31E-07	5.51E-07	7.03E-07
Xenon-133	1.0E-04	1.97E-07	1.98E-07	1.98E-07	1.99E-07	2.00E-07
Xenon-133M	1.0E-04	8.75E-07	8.78E-07	8.84E-07	8.95E-07	9.07E-07
Xenon-135	1.0E-04	9.76E-08	9.95E-08	1.03E-07	1.12E-07	1.20E-07
Xenon-138	1.0E-04	4.93E-07	1.03E-06	4.46E-06	8.38E-05	1.58E-03
Particulate Sample						
Manganese-54	1.0E-10	3.88E-14	3.88E-14	3.88E-14	3.88E-14	3.88E-14
Cobalt-58	1.0E-10	3.49E-14	3.49E-14	3.49E-14	3.50E-14	3.50E-14
Iron-59	1.0E-10	7.25E-14	7.25E-14	7.25E-14	7.26E-14	7.26E-14
Cobalt-60	1.0E-10	4.95E-14	4.95E-14	4.95E-14	4.95E-14	4.95E-14
Zinc-65	1.0E-10	9.54E-14	9.54E-14	9.54E-14	9.54E-14	9.54E-14
Molybdenum-99	1.0E-10	2.49E-13	2.49E-13	2.51E-13	2.53E-13	2.56E-13
Cesium-134	1.0E-10	4.15E-14	4.15E-14	4.15E-14	4.15E-14	4.15E-14
Cesium-137	1.0E-10	3.85E-14	3.85E-14	3.85E-14	3.85E-14	3.85E-14
Cerium-141	1.0E-10	3.70E-14	3.70E-14	3.70E-14	3.70E-14	3.71E-14
Cerium-144	1.0E-10	1.32E-13	1.32E-13	1.32E-13	1.32E-13	1.32E-13
Iodine-131	1.0E-10	3.09E-14	3.09E-14	3.09E-14	3.11E-14	3.12E-14
Strontium-89(3)	1.0E-11					
Strontium-90(3)	1.0E-11					
Gross Alpha (3)	1.0E-11					

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
TABLE B
GASEOUS "TYPICAL LLD" EVALUATION(1)
(Continued)

		Δt(2)				
Charcoal Sample	Tech. Spec. LLD	15 min	30 min	1 hr	2 hr	3 hr
Iodine-131	1.0E-11	4.31E-14	4.32E-14	4.32E-14	4.34E-14	4.36E-14
Others						
Tritium (3)	1.0E-06					

NOTES

(1) All evaluations are in μCi/cc. All analyses are performed to ensure that Technical Specification LLD limits are met, and these are typical LLD values. Alpha emitters are counted for a set time of 20 minutes.

(2) Δt for noble gases is the time from sampling to analysis. Δt for charcoal and particulate samples is the time from filter removal from sampling apparatus to analysis, assuming an average flow of 2 CFM for a 24-hour sampling period.

(3) These isotopes are individually evaluated to ensure compliance with Technical Specification LLD limits.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
SOLID WASTE (RADIOACTIVE) SHIPMENTS

A. Solid Waste Shipped Offsite for Burial or Disposal (not Irradiated Fuel)

1. Type of Waste	Unit	6 Month Period	Est. Tot. Error %
a. Spent resins, filter sludges evaporator bottoms, etc.	m^3	5.27E+01	±1.50E+01
	Ci	2.43E+01	±1.50E+01
b. Dry Active Waste, Compressible Waste,	m^3	3.18E+02	±1.50E+01
Contaminated equip., etc.	Ci	5.43E+01	±1.50E+01
c. Irradiated Components,	m^3	None	N/A
Control Rods, etc.	Ci	None	N/A
d. Other (describe)	m^3	3.41E+00	±1.50E+01
Dewatered Mechanical Filters	Ci	4.81E-01	±1.50E+01

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

a. Spent resin, filter sludges, evaporator bottoms, etc. (nuclides determined by measurement)

		Curies	Percent
1.	Tritium	8.55E-02	3.52E-01
2.	Carbon-14	2.46E-01	1.01E+00
3.	Iron-55	2.21E+00	9.09E+00
4.	Nickel-63	6.02E+00	2.48E+01
5.	Cobalt-60	1.44E+01	5.93E+01
6.	Strontium-90	2.72E-01	1.12E+00
7.	Technetium-99	1.40E-03	5.76E-03
8.	Cesium-134	3.22E-01	1.33E+00
9.	Cesium-137	6.92E-01	2.85E+00
10.	Manganese-54	3.97E-02	1.63E-01
11.	Cobalt-57	5.11E-03	2.10E-02
12.	Zinc-65	3.29E-03	1.35E-02
13.	Nickel-59	2.61E-02	1.07E-01
14.	Iodine-129	1.86E-03	7.65E-03
15.	Plutonium-238	6.16E-05	2.53E-04
16.	Plutonium-239	2.24E-05	9.22E-05
17.	Plutonium-241	2.64E-03	1.09E-02
18.	Antimony-125	2.84E-03	1.17E-02
19.	Potassium-40	2.87E-03	1.18E-02

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
SOLID WASTE (RADIOACTIVE) SHIPMENTS

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

b. Dry Active Waste, compressible waste, contaminated equipment, etc,; (nuclides determined by estimate)

	Curies	Percent
1. Tritium	5.02E-03	9.23E-03
2. Carbon-14	1.29E-01	2.37E-01
3. Chromium-51	6.85E-01	1.26E+00
4. Iron-55	0.00E-01	0.00E-01
5. Cobalt-58	4.53E+01	8.34E+01
6. Cobalt-60	4.43E+00	8.16E+00
7. Nickel-63	2.23E+00	4.11E+00
8. Technetium-99	1.52E+00	2.80E+00
9. Iodine-129	1.51E-04	2.78E-04
10. Other Nuclides	N/A	N/A
c. Irradiated Components	N/A	N/A
d. Other (describe)	N/A	N/A

Dewatered Mechanical Filters

1. Tritium	2.97E-01	6.18E+01
2. Carbon-14	8.66E-04	1.80E-01
3. Manganese-54	5.85E-03	1.21E+00
4. Iron-55	8.01E-02	1.66E+01
5. Cobalt-60	7.28E-02	1.51E+01
6. Nickel-63	2.45E-02	5.08E+00
7. Technetium-99	3.57E-09	7.42E-07
8. Iodine-129	1.73E-09	3.60E-07

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
1st HALF 1988
SOLID WASTE (RADIOACTIVE) SHIPMENTS

3. Solid Waste Disposition

Number of Shipments	Type Quantity	Mode of Transportation	Destination
a) Spent resin, filter sludges, evaporator bottoms, etc.			
11	A-LSA	Major Freight	Barnwell South Carolina
b) Dry Active Waste, compressible waste, contaminated equipment, etc.			
10	A-LSA	Motor Freight	Barnwell South Carolina
c) Irradiated components, control rods, etc.			
d) 1	Dewatered Mechanical Filters	Motor Freight	Barnwell South Carolina

4. Irradiated Fuel Shipments (Disposition)

Number of Shipments	Type Quantity	Mode of Transportation	Destination
None	N/A	N/A	N/A

5. Solidification of Waste

Was solidification performed? _____ Yes __X__ No

If yes, solidification media: N/A

6. Were any changes made to the process control program? __X__ Yes _____ No
If yes, add as an attachment at the end of report in accordance with Technical Specification Administrative Control 6.13.

7. Were any major changes made to the radioactive waste systems (liquid, gaseous or solid)? _____ Yes __X__ No. If yes, add an attachment at the end of report in accordance with Technical Specification administrative control 6.15.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

1st HALF 1988

ATTACHMENT 1

INOPERABLE INSTRUMENTATION

Pursuant to Technical Specification LCO 3.3.3.10, the following information is provided concerning radioactive effluent monitoring instrumentation which was inoperable for greater than 30 consecutive days during the period January 1, 1988, through June 30, 1988.

The Turbine Building Station Sump Discharge Monitor, O-RM-90-212, was declared inoperable on January 5, 1988, at 1:05 a.m. and remained inoperable until March 2, 1988, at 8:25 p.m., a total time of 57 days, 19 hours, and 20 minutes. The reason for this period of inoperability was due to the necessity of working a design change which allowed the monitor to discharge directly to the Turbine Building Sump instead of discharging back to the same header from which flow is diverted into the monitor.

Flow indicator 1-FI-30-242, which measures air flow rate through Unit 1 Shield Building Exhaust, was declared inoperable on October 31, 1987, for exhaust flow rates of less than 8000 cubic feet per minute and remains inoperable at this time. 2-FI-30-242, which measures air flow rate through Unit 2 Shield Building Exhaust, was declared inoperable for exhaust flow rates of less than 8000 cubic feet per minute on November 25, 1987, and remains inoperable. It was determined that these two instruments cannot accurately measure exhaust flow rates that are less than 8000 cubic feet per minute; they are considered operable for flows above 8000 cfm. When inoperable, exhaust flow rates are estimated based on the design flow rates of exhaust fans in operation. Current plans are to replace this instrumentation on both shield building exhausts.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

1st HALF 1988

ATTACHMENT 2

Process Control Program Changes

At the direction of the solidification vendor, Chem Nuclear System Inc, Barnwell S.C., the sample calculation sheet for oily waste was revised to accurately represent the overall height (in inches) of the solidified mass. The previous revision omitted some of the additives in the sample calculation sheet which prevented an accurate ending volume calculation.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

1st HALF 1988

ATTACHMENT 3

Following are descriptions of changes made to the Sequoyah Offsite Dose Calculation Manual (ODCM) during the period January 1, 1988, to June 30, 1988, and the affected pages. (Revisions 18 and 19)

SQN ODCM Change Description Form

Description of change:

Table 3.1 and Figure 3.6 need to be revised to reflect the environmental radiological monitoring requirements for SQN. Specifically, Rev. 17 of the SQN ODCM contains the environmental monitoring requirements for BFN not SQN. Further, monitoring locations 22 and 23 need to be deleted from Figure 3.6. These locations were, in a previous ODCM revision, deleted from Table 3.2 but inadvertently retained on Figure 3.6

Affected pages: 69 through 72, 85.

Justification for change:

The SQN ODCM must reflect the environmental radiological program for SQN.

Effects on setpoints and dose calculations:

This change will have no effect on effluent setpoints or dose calculations.

RARC Review: _____ Date: 1/5/88
RARC Chairman

Appendix 1
SQN ODCM Change Description Form

Description of change: (1) Addition of sampling locations and analysis frequencies to reflect the program currently being conducted and to correct typographical errors. (2) Change fish type from white crappie to crappie. (3) Revise figures to indicate the additional sampling locations and to identify map references.

Pages affected: (1) Revise page 35; Table 3.1; Replace Tables 3.2, 3.3 on Figures 3.1, 3.2, 3.3; Delete Figures 3.4, 3.5, 3.6.

Justification for change: (1) The program currently being conducted exceeds the requirements of the ODCM. This change would reflect the current program in the ODCM. (2) Allows the collection of black crappie when white crappie are not available. (3) Identify added locations on the figures.

Analysis of effect of change on dose calculations, projections, or setpoint calculations:

These changes will have no impact on dose calculations, projections, or setpoint calculations.

Attach marked-up pages from the current revision of the SQN CDCM which show the change.

RARC Review: _____ Date: 3/30/88
RARC Chairman

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