III

VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2
1998 ANNUAL REPORT

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

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PLANT RADIOACTIVE EFFLUENT RELEASES

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PLANT RADIOACTIVE EFFLUENT RELEASES

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1.0 Liquid Effluents

1.1 Regulatory Limits/ODCM

1.1.1 Concentration Limits

In accordance with Technical Specifications 5.5.4.b, the concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS shall be limited at all times to ten times the concentrations specified in 10 CFR 20, Appendix B, Table 2, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 1 E-04 μCi/mL total activity.

1.1.2 Dose Limits

The dose or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released, from each unit, to UNRESTRICTED AREAS shall be limited as follows:

a. During any calendar quarter to less than or equal to 1.5 mrems to the whole body and to less than or equal to 5 mrems to any organ, and

b. During any calendar year to less than or equal to 3 mrems to the whole body and to less than or equal to 10 mrems to any organ.

1.2 Effluent Concentration Limit (ECL)

ECL values used for determining the allowable liquid radwaste release rates and concentrations for the principal gamma emitters, I-131, tritium, Sr-89, Sr-90 and Fe-55 are taken from 10 CFR Part 20, Appendix B, Table II, Column 2. A tolerance factor of up to 10 is utilized to allow flexibility in establishing practical monitor set points which can accommodate effluent releases at concentrations higher than the ECL values stated in 10 CFR 20, Appendix B, Table II, Column 2.

For dissolved or entrained noble gases in liquid radwaste, the ECL is 1E-04 μCi/ml total activity.

For gross alpha in liquid radwaste, the ECL is 2.0E-09 μCi/ml.

For all the above radionuclides or categories of radioactivity, the overall ECL fraction is determined in accordance with 10 CFR Part 20, Appendix B.
The method utilizing the ECL fraction to determine release rates and liquid radwaste effluent radiation monitor set points is described in Subsection 1.3 of this report.

1.3 Measurements and Approximations of Total Radioactivity

Prior to the release of any tank containing liquid radwaste, and following the required recirculations, samples are collected and analyzed in accordance with the Offsite Dose Calculation Manual (ODCM) Table 2-3 "Radioactive Liquid Waste Sampling Program". A sample from each tank which is planned for release is analyzed for principal gamma emitters, I-131, and dissolved and entrained noble gases by gamma spectroscopy. Monthly and quarterly composites are prepared for analysis by extracting aliquots from each sample taken from the tanks which are released. Liquid radwaste sample analyses are performed as follows:

	MEASUREMENT	FREQUENCY	METHOD
1.	Gamma Isotopic	Each Batch	Gamma Spectroscopy with computerized data reduction.
2.	Dissolved or entrained noble gases	Each Batch	Gamma Spectroscopy with computerized data reduction
3.	Tritium	Monthly Composite	Distillation and liquid scintillation counting
4.	Gross Alpha	Monthly Composite	Gas flow proportional counting
5.	Sr-89 & Sr-90	Quarterly Composite	Chemical separation and gas flow proportional or scintillation counting
6.	Fe-55	Quarterly Composite	Chemical separation and liquid scintillation counting

Gamma isotopic measurements are performed using germanium detectors with a resolution of 2.1 keV or lower. A liquid radwaste sample is typically counted for 5400 seconds. A peak search of the resulting gamma ray spectrum is performed by the computer system. Energy and net count data for all significant peaks are determined, and a quantitative reduction or MDC calculation is performed. This ensures that the MDC's are met for the nuclides specified in ODCM Chapter 10 (i.e., Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144). The quantitative calculations, corrections for counting time, decay time, sample volume, sample geometry, detector efficiency, baseline counts, branching ratio and MDC calculations, are made based on the counts at the location in the spectrum where the peak for that radionuclide would be located, if present.

Tritium, Gross Alpha, Sr-89, Sr-90 and Fe-55 are in some cases, analyzed offsite.

The radionuclide concentrations determined by gamma spectroscopic analysis of a sample taken from a tank planned for release and the most current analysis results available for tritium, gross alpha, Sr-89, Sr-90 and Fe-55 are used, along with the corresponding ECL values to determine the ECL fraction. This ECL fraction is used, with appropriate safety factors, tolerance factors, and the minimum assured dilution stream flow to calculate maximum permissible release rates and a liquid effluent monitor setpoint. The monitor setpoint is calculated to assure that the limits of the Offsite Dose Calculation Manual (ODCM) are not exceeded.

A monitor reading in excess of the calculated setpoint results in an automatic termination of the liquid radwaste discharge. Liquid effluent discharge is also automatically terminated if the dilution stream flow rate falls below the minimum assured dilution flow rate used in the setpoint calculations and established as a setpoint on the dilution stream flow monitor.

Radionuclide concentrations, safety factors, dilution stream flow rate, and liquid effluent radiation monitor calibrations are entered into the computer and a pre-release printout is generated. If the release is not permissible, appropriate warnings will be displayed on the computer screen. If the release is permissible, it is approved by the Chemistry Department and sent to the Operations Department for approval and release. When the release is completed, the necessary data from the release (i.e., release volume, etc.) are provided by the Operations Department to the Chemistry Department. These data are input to the computer and a post-release printout is generated. The post release printout contains the actual release rates, release concentrations and quantities, actual dilution flow, and calculated doses to an individual.

1.4 Liquid Effluent Release Data

1.4.1 Tables

Regulatory Guide 1.21 Tables 2A, 2B, and 2-C are found in this report as Tables 1-2A,1-2AA, 1-2B, 1-2BB, 1-2-C, and 1-2-CC. Data is presented on a quarterly basis as required by Regulatory Guide 1.21 for all four quarters.

1.4.2 Total Error Measurement

The total or maximum error associated with the effluent measurement includes the cumulative errors resulting from the total operation of sampling and measurement. Because it may be very difficult to assign error terms for each parameter affecting the final measurement, detailed statistical evaluation of error is not suggested. The objective should be to obtain an overall estimate of the error associated with measurements of radioactive materials released in liquid effluents.

a. Fission and activation total release was calculated from sample analysis

results and release point flow rates.

Sampling and statistical error	10%
Counting Equipment Calibration	10%
Tank Volumes and System Flow Rates	20%
TOTAL ERROR	40%

b. Total Tritium release was calculated from sample analysis results and release point volumes.

Sampling and statistical errors	10%
Counting equipment calibration	10%
Tank volumes and system flow rate	20%
TOTAL ERROR	40%

c. Dissolved and entrained gases were calculated from sample analysis results and release point volumes.

Sampling and statistical error	20%
Counting equipment calibration	10%
Tank volumes and system flow rate	20%
TOTAL ERROR	50%

d. Gross alpha radioactivity was calculated from sample analysis results and release point volumes.

Sampling and statistical error	10%
Counting Equipment calibration	10%
Tank volumes and system flowrates	20%
Compositing sample error	5%
TOTAL ERROR	45%

e. Volume of waste prior to dilution was calculated from level indicators on the tanks and pump discharge flow rates and times.

Level Indicator error	10%
Operator Interpretation of gauge	10%
TOTAL ERROR	20%

f. Volume of dilution water used was calculated from flow rate indicators and pump discharge flow rates and times.

Flow rate indicator error	10%
Operator interpretation of gauge	10%
TOTAL ERROR	20%

1.5 Radiological Impact on Man Due to Liquid Releases

Doses to an individual due to radioactivity in liquid effluent were calculated in accordance with the Offsite Dose Calculation Manual. Results are presented in Table 1-4A,1-4AA for Unit 1 and 1-4B, 1-4BB for Unit 2, for all four quarters.

1.6 Abnormal Releases

1.6.1 There were no abnormal releases for this reporting period.

1.7 River Flow

The average flow rate of the Savannah River at Augusta for the Annual Effluent Report period was obtained from the U.S. Army Corps of Engineers Savannah District Historic Data web page (http://www.sas.usace.army.mil/en/en-h/en-ha/adis.html). The average flow rate for 1998 was 13865 cubic feet per sec.

TABLE 1-2 A

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 1998
ALL LIQUID EFFLUENTS
UNIT : 1
STARTING : 1-JAN-1998 ENDING : 30-JUN-1998

TYPE OF EFFLUENT	UNITS	QUARTER1	QUARTER 2	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM,GASES,ALPHA)	CURIES	7.34E-02	9.22E-02	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	3.36E-07	4.40E-07	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	1.18E+02	1.26E+02	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	5.40E-04	6.01E-04	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C.DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	1.24E-03	2.38E-05	50
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	5.67E-09	1.14E-10	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	2.15E-06	3.47E-06	45
E.WASTE VOL RELEASED(PRE-DILUTION)	LITRE	5.82E+05	5.99E+05	20
F.VOLUME OF DILUTION WATER USED	LITRE	2.18E+08	2.09E+08	20

* Applicable limits are expressed in terms of Dose. SeeTable 1-4A of this report

TABLE1-2AA

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL LIQUID EFFLUENTS
UNIT : 1
STARTING : 1-JUL-1998 ENDING : 31-DEC-1998

TYPE OF EFFLUENT	UNITS	QUARTER3	QUARTER 4	EST.TOTAL ERROR %	
A. FISSION & ACTIVATION PRODUCTS					
1. TOTAL RELEASE (NOT INCLUDING TRITIUM,GASES,ALPHA)	CURIES	1.16E-02	2.02E-02	40	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	8.50E-08	8.91E-08		
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*		
B. TRITIUM					
1. TOTAL RELEASE	CURIES	1.64E+02	2.32E+02	40	*
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.20E-03	1.02E-03		
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*		
C.DISSOLVED AND ENTRAINED GASES					
1. TOTAL RELEASE	CURIES	5.74E-04	1.11E-03	50	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	4.21E-09	4.90E-09		
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*		
D.GROSS ALPHA RADIOACTIVITY					
1. TOTAL RELEASE	CURIES	7.40E-07	2.48E-06	45	
E.WASTE VOL RELEASED(PRE-DILUTION)	LITRE	4.59E+05	6.10E+05	20	
F.VOLUME OF DILUTION WATER USED	LITRE	1.36E+08	2.26E+08	20	

TABLE1-2B

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL LIQUID EFFLUENTS
UNIT : 2
STARTING : 1-JAN-1998 ENDING : 30-JUN-1998

TYPE OF EFFLUENT	UNITS	QUARTER1	QUARTER 2	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM,GASES,ALPHA)	CURIES	2.10E-01	9.60E-02	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	3.38E-07	2.87E-07	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	4.20E+02	2.13E+02	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.76E-04	6.36E-04	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C.DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	4.46E-03	7.71E-04	50
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	7.18E-09	2.30E-09	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	0.00E+00	6.11E-06	45
E.WASTE VOL RELEASED(PRE-DILUTION)	LITRE	1.57E+06	8.93E+05	20
F.VOLUME OF DILUTION WATER USED	LITRE	6.20E+08	3.34E+08	20

* Applicable limits are expressed in terms of Dose. See Table 1-4B of this report

TABLE1-2BB

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL LIQUID EFFLUENTS
UNIT : 2
STARTING : 1-JUL-1998 ENDING : 31-DEC-1998

TYPE OF EFFLUENT	UNITS	QUARTER3	QUARTER 4	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM,GASES,ALPHA)	CURIES	1.04E-02	3.60E-03	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.48E-08	6.61E-08	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	3.10E+02	8.59E+01	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.93E-03	1.58E-03	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C.DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	1.35E-03	3.23E-06	50
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	8.41E-09	5.93E-11	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	7.37E-06	5.35E-06	45
E.WASTE VOL RELEASED(PRE-DILUTION)	LITRE	4.46E+05	1.68E+05	20
F.VOLUME OF DILUTION WATER USED	LITRE	1.60E+08	5.43E+07	20

* Applicable limits are expressed in terms of Dose. See Table 1-4BB of this report

TABLE1-2C

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL LIQUID EFFLUENTS
SITE
STARTING : 1-JAN-1998 ENDING : 30-JUN-1998

TYPE OF EFFLUENT	UNITS	QUARTER1	QUARTER 2	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM,GASES,ALPHA)	CURIES	2.83E-01	1.88E-01	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	3.37E-07	3.46E-07	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	5.38E+02	3.39E+02	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.40E-04	6.23E-04	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C.DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	5.70E-03	7.95E-04	50
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.78E-09	1.46E-09	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	2.15E-06	9.58E-06	45
E.WASTE VOL RELEASED(PRE-DILUTION)	LITRE	2.15E+06	1.49E+06	20
F.VOLUME OF DILUTION WATER USED	LITRE	8.38E+08	5.43E+08	20

* Applicable limits are expressed in terms of Dose. See Table 1-4A and 1-4B of this report

TABLE1-2CC

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL LIQUID EFFLUENTS
SITE
STARTING : 1-JUL-1998 ENDING : 31-DEC-1998

TYPE OF EFFLUENT	UNITS	QUARTER3	QUARTER 4	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM,GASES,ALPHA)	CURIES	2.20E-02	2.38E-02	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	7.41E-08	8.47E-08	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	4.74E+02	3.18E+02	40
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.60E-03	1.13E-03	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C.DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	1.92E-03	1.11E-03	50
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.48E-09	3.96E-09	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	8.11E-06	7.83E-06	45
E.WASTE VOL RELEASED(PRE-DILUTION)	LITRE	9.05E+05	7.78E+05	20
F.VOLUME OF DILUTION WATER USED	LITRE	2.96E+08	2.80E+08	20

* Applicable limits are expressed in terms of Dose. See Table 1-4AA and 1-4BB of this report

TABLE 1-3A

Vogtle Electric Generating Plant

ANNUAL RADIOACTIVE EFFLUANT RELEASE REPORT-1998

Liquid Effluents

Starting: 1-Jan-1998 Ending: 30-Jun-1998

UNIT : 1

		CONTINUOUS		BATCH	
NUCLIDE	**UNIT**	**QUARTER 1**	**QUARTER 2**	**QUARTER 1**	**QUARTER 2**
H-3	CURIES	0.00E+00	0.00E+00	1.18E+02	1.26E+02
FISSION & ACTIVATION PRODUCTS:					
Ag-110M	CURIES	0.00E+00	0.00E+00	8.62E-05	1.35E-04
Co-57	CURIES	0.00E+00	0.00E+00	4.32E-05	4.20E-06
Co-58	CURIES	0.00E+00	0.00E+00	2.38E-03	1.90E-03
Co-60	CURIES	0.00E+00	0.00E+00	1.62E-02	7.91E-03
Cr-51	CURIES	0.00E+00	0.00E+00	2.01E-03	2.37E-03
Cs-134	CURIES	0.00E+00	0.00E+00	9.59E-04	1.34E-03
Cs-137	CURIES	0.00E+00	0.00E+00	8.99E-04	1.25E-03
Fe-55	CURIES	0.00E+00	0.00E+00	1.83E-02	4.38E-02
I-131	CURIES	0.00E+00	0.00E+00	9.67E-05	3.11E-05
I-132	CURIES	0.00E+00	0.00E+00	2.53E-04	0.00E+00
I-133	CURIES	0.00E+00	0.00E+00	4.77E-05	0.00E+00
La-140	CURIES	0.00E+00	0.00E+00	2.27E-05	7.18E-08
Mn-54	CURIES	0.00E+00	0.00E+00	2.77E-03	1.30E-03
Nb-95	CURIES	0.00E+00	0.00E+00	5.17E-04	2.72E-04
Nb-97	CURIES	0.00E+00	0.00E+00	8.40E-05	2.36E-04
Sb-124	CURIES	0.00E+00	0.00E+00	5.74E-04	1.05E-03
Sb-125	CURIES	0.00E+00	0.00E+00	2.68E-02	2.95E-02
Sr-89	CURIES	0.00E+00	0.00E+00	2.72E-04	1.85E-04
Sr-90	CURIES	0.00E+00	0.00E+00	2.71E-05	1.01E-05
Sr-92	CURIES	0.00E+00	0.00E+00	1.55E-05	0.00E+00
Tc-99M	CURIES	0.00E+00	0.00E+00	1.35E-06	0.00E+00
Te-125M	CURIES	0.00E+00	0.00E+00	6.36E-04	0.00E+00
Te-129M	CURIES	0.00E+00	0.00E+00	0.00E+00	7.82E-04
Te-132	CURIES	0.00E+00	0.00E+00	2.59E-04	0.00E+00
Y-92	CURIES	0.00E+00	0.00E+00	2.61E-05	0.00E+00
Zr-95	CURIES	0.00E+00	0.00E+00	1.87E-04	1.15E-04
TOTALS	CURIES	**0.00E+00**	**0.00E+00**	**7.34E-02**	**9.22E-02**
DISSOLVED AND ENTRAINED GASES:					
Kr-85	CURIES	0.00E+00	0.00E+00	7.17E-04	0.00E+00
Xe-133	CURIES	0.00E+00	0.00E+00	1.99E-04	1.52E-06
Xe-135	CURIES	0.00E+00	0.00E+00	3.28E-04	0.00E+00
Xe-135M	CURIES	0.00E+00	0.00E+00	0.00E+00	2.23E-05
TOTALS	CURIES	**0.00E+00**	**0.00E+00**	**1.24E-03**	**2.38E-05**

TABLE 1-3AA
Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
Liquid Effluents
Starting : 1-Jul-1998 Ending : 31-Dec-1998
UNIT : 1

		CONTINUOUS		BATCH	
NUCLIDE	**UNIT**	**QUARTER3**	**QUARTER4**	**QUARTER3**	**QUARTER4**
H-3	CURIES	0.00E+00	0.00E+00	1.64E+02	2.32E+02
FISSION & ACTIVATION PRODUCTS:					
Ag-110M	CURIES	0.00E+00	0.00E+00	6.88E-05	0.00E+00
Co-57	CURIES	0.00E+00	0.00E+00	0.00E+00	3.37E-06
Co-58	CURIES	0.00E+00	0.00E+00	4.30E-04	4.78E-04
Co-60	CURIES	0.00E+00	0.00E+00	4.48E-03	4.82E-03
Cr-51	CURIES	0.00E+00	0.00E+00	5.98E-05	4.88E-04
Cs-134	CURIES	0.00E+00	0.00E+00	6.20E-04	9.78E-04
Cs-137	CURIES	0.00E+00	0.00E+00	6.29E-04	1.04E-03
Fe-55	CURIES	0.00E+00	0.00E+00	2.51E-03	5.46E-03
Fe-59	CURIES	0.00E+00	0.00E+00	0.00E+00	4.70E-05
I-131	CURIES	0.00E+00	0.00E+00	1.17E-05	7.87E-06
I-132	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
I-133	CURIES	0.00E+00	0.00E+00	3.18E-06	0.00E+00
La-140	CURIES	0.00E+00	0.00E+00	1.32E-05	0.00E+00
Mn-54	CURIES	0.00E+00	0.00E+00	6.24E-04	6.32E-04
Nb-95	CURIES	0.00E+00	0.00E+00	3.61E-06	7.43E-05
Nb-97	CURIES	0.00E+00	0.00E+00	1.46E-04	6.22E-06
Sb-124	CURIES	0.00E+00	0.00E+00	0.00E+00	1.49E-06
Sb-125	CURIES	0.00E+00	0.00E+00	2.01E-03	1.16E-03
Sr-89	CURIES	0.00E+00	0.00E+00	5.09E-06	1.57E-05
Sr-90	CURIES	0.00E+00	0.00E+00	1.44E-06	7.67E-13
Sr-92	CURIES	0.00E+00	0.00E+00	2.15E-05	0.00E+00
Te-125M	CURIES	0.00E+00	0.00E+00	0.00E+00	4.93E-03
Zr-95	CURIES	0.00E+00	0.00E+00	0.00E+00	4.95E-05
TOTALS		**0.00E+00**	**0.00E+00**	**1.16E-02**	**2.02E-02**
DISSOLVED AND ENTRAINED GASES:					
Xe-133	CURIES	0.00E+00	0.00E+00	5.67E-04	1.11E-03
Xe-135	CURIES	0.00E+00	0.00E+00	6.84E-06	0.00E+00
TOTALS		**0.00E+00**	**0.00E+00**	**5.74E-04**	**1.11E-03**
G-ALPHA	CURIES	0.00E+00	0.00E+00	7.40E-07	2.48E-06

TABLE 1-3B
Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
Liquid Effluents
Starting : 1-Jan-1998 Ending : 30-Jun-1998
UNIT : 2

		CONTINUOUS		BATCH	
NUCLIDE	**UNIT**	**QUARTER1**	**QUARTER 2**	**QUARTER1**	**QUARTER 2**
H-3	CURIES	0.00E+00	0.00E+00	4.20E+02	2.13E+02
FISSION & ACTIVATION PRODUCT					
Ag-110M	CURIES	0.00E+00	0.00E+00	3.76E-05	3.75E-05
Ce-141	CURIES	0.00E+00	0.00E+00	1.28E-04	0.00E+00
Co-57	CURIES	0.00E+00	0.00E+00	1.04E-04	0.00E+00
Co-58	CURIES	0.00E+00	0.00E+00	8.87E-03	2.37E-03
Co-60	CURIES	0.00E+00	0.00E+00	3.98E-02	9.35E-03
Cr-51	CURIES	0.00E+00	0.00E+00	7.87E-03	6.18E-03
Cs-134	CURIES	0.00E+00	0.00E+00	3.95E-03	1.87E-03
Cs-137	CURIES	0.00E+00	0.00E+00	3.48E-03	1.87E-03
Fe-55	CURIES	0.00E+00	0.00E+00	3.08E-02	5.30E-03
Fe-59	CURIES	0.00E+00	0.00E+00	1.15E-04	2.05E-05
I-131	CURIES	0.00E+00	0.00E+00	4.55E-04	2.28E-04
I-132	CURIES	0.00E+00	0.00E+00	1.27E-03	5.54E-05
I-133	CURIES	0.00E+00	0.00E+00	8.76E-06	0.00E+00
La-140	CURIES	0.00E+00	0.00E+00	2.96E-05	0.00E+00
Mn-54	CURIES	0.00E+00	0.00E+00	7.07E-03	1.55E-03
Na-24	CURIES	0.00E+00	0.00E+00	0.00E+00	1.50E-05
Nb-95	CURIES	0.00E+00	0.00E+00	1.70E-03	3.67E-04
Nb-97	CURIES	0.00E+00	0.00E+00	5.16E-04	9.73E-05
Ru-103	CURIES	0.00E+00	0.00E+00	2.49E-05	0.00E+00
Sb-122	CURIES	0.00E+00	0.00E+00	2.77E-06	0.00E+00
Sb-124	CURIES	0.00E+00	0.00E+00	1.99E-03	2.26E-03
Sb-125	CURIES	0.00E+00	0.00E+00	9.71E-02	5.58E-02
Sn-113	CURIES	0.00E+00	0.00E+00	1.21E-04	0.00E+00
Sr-89	CURIES	0.00E+00	0.00E+00	2.96E-04	3.88E-05
Sr-90	CURIES	0.00E+00	0.00E+00	1.70E-05	6.02E-06
Sr-92	CURIES	0.00E+00	0.00E+00	7.84E-05	2.44E-05
Te-125M	CURIES	0.00E+00	0.00E+00	0.00E+00	6.72E-03
Te-129M	CURIES	0.00E+00	0.00E+00	1.83E-03	1.61E-03
Te-132	CURIES	0.00E+00	0.00E+00	1.26E-03	3.97E-05
Y-92	CURIES	0.00E+00	0.00E+00	0.00E+00	4.93E-05
Zn-65	CURIES	0.00E+00	0.00E+00	2.13E-04	0.00E+00
Zr-95	CURIES	0.00E+00	0.00E+00	6.97E-04	1.25E-04
TOTALS	CURIES	0.00E+00	0.00E+00	**2.10E-01**	**9.60E-02**
DISSOLVED AND ENTRAINED GASES					
Ar-41	CURIES	0.00E+00	0.00E+00	2.70E-05	0.00E+00
Xe-133	CURIES	0.00E+00	0.00E+00	4.36E-03	7.71E-04
Xe-135	CURIES	0.00E+00	0.00E+00	7.67E-05	0.00E+00
TOTALS		**0.00E+00**	**0.00E+00**	**4.46E-03**	**7.71E-04**
G-ALPHA	CURIES	0.00E+00	0.00E+00	0.00E+00	6.11E-06

TABLE 1-3BB
Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
Liquid Effluents
Starting : 1-Jul-1998 Ending : 31-Dec-1998
UNIT : 2

NUCLIDE	UNIT	CONTINUOUS QUARTER3	QUARTER 4		
H-3	CURIES	0.00E+00	0.00E+00	3.10E+02	8.59E+01
FISSION & ACTIVATION PRODUCT					
Ag-110M	CURIES	0.00E+00	0.00E+00	2.21E-05	0.00E+00
Ce-141	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ce-144	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-57	CURIES	0.00E+00	0.00E+00	9.16E-06	0.00E+00
Co-58	CURIES	0.00E+00	0.00E+00	4.36E-04	3.80E-05
Co-60	CURIES	0.00E+00	0.00E+00	3.29E-03	1.50E-03
Cr-51	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-134	CURIES	0.00E+00	0.00E+00	6.53E-04	3.05E-05
Cs-136	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-137	CURIES	0.00E+00	0.00E+00	6.18E-04	2.78E-05
Fe-55	CURIES	0.00E+00	0.00E+00	2.83E-03	1.50E-03
Fe-59	CURIES	0.00E+00	0.00E+00	9.14E-06	0.00E+00
I-131	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
I-132	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
I-133	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
La-140	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mn-54	CURIES	0.00E+00	0.00E+00	4.76E-04	1.64E-04
Na-24	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nb-95	CURIES	0.00E+00	0.00E+00	4.11E-05	0.00E+00
Nb-97	CURIES	0.00E+00	0.00E+00	1.03E-04	1.28E-05
Rb-86	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sb-125	CURIES	0.00E+00	0.00E+00	1.92E-03	3.00E-04
Sn-113	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sr-89	CURIES	0.00E+00	0.00E+00	1.80E-05	1.78E-05
Sr-90	CURIES	0.00E+00	0.00E+00	1.42E-14	2.13E-14
Sr-92	CURIES	0.00E+00	0.00E+00	7.38E-06	0.00E+00
Tc-99M	CURIES	0.00E+00	0.00E+00	0.00E+00	3.78E-06
Zr-95	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zr-97	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTALS		**0.00E+00**	**0.00E+00**	**1.04E-02**	**3.59E-03**
Xe-133	CURIES	0.00E+00	0.00E+00	1.34E-03	3.23E-06
Xe-135	CURIES	0.00E+00	0.00E+00	1.29E-05	0.00E+00
TOTALS		**0.00E+00**	**0.00E+00**	**1.35E-03**	**3.23E-06**
G-ALPHA	CURIES	0.00E+00	0.00E+00	7.37E-06	5.35E-06

TABLE 1-3C

Vogtle Electric Generating Plant

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998

Liquid Effluents

Starting : 1-Jan-1998 Ending : 30-Jun-1998

SITE

		CONTINUOUS		BATCH	
NUCLIDE	**UNIT**	**QUARTER 1**	**QUARTER 2**	**QUARTER 1**	**QUARTER 2**
H-3	CURIES	0.00E+00	0.00E+00	5.38E+02	3.39E+02
FISSION & ACTIVATION PRODUCT					
Ag-110M	CURIES	0.00E+00	0.00E+00	1.24E-04	1.73E-04
Ce-144	CURIES	0.00E+00	0.00E+00	1.28E-04	0.00E+00
Co-57	CURIES	0.00E+00	0.00E+00	1.47E-04	4.20E-06
Co-58	CURIES	0.00E+00	0.00E+00	1.13E-02	4.27E-03
Co-60	CURIES	0.00E+00	0.00E+00	5.60E-02	1.73E-02
Cr-51	CURIES	0.00E+00	0.00E+00	9.88E-03	8.55E-03
Cs-134	CURIES	0.00E+00	0.00E+00	4.91E-03	3.21E-03
Cs-137	CURIES	0.00E+00	0.00E+00	4.38E-03	3.12E-03
Fe-55	CURIES	0.00E+00	0.00E+00	4.91E-02	4.91E-02
Fe-59	CURIES	0.00E+00	0.00E+00	1.15E-04	2.05E-05
I-131	CURIES	0.00E+00	0.00E+00	5.52E-04	2.59E-04
I-132	CURIES	0.00E+00	0.00E+00	1.52E-03	5.54E-05
I-133	CURIES	0.00E+00	0.00E+00	5.64E-05	0.00E+00
La-140	CURIES	0.00E+00	0.00E+00	5.23E-05	7.18E-08
Mn-54	CURIES	0.00E+00	0.00E+00	9.84E-03	2.85E-03
Na-24	CURIES	0.00E+00	0.00E+00	0.00E+00	1.50E-05
Nb-95	CURIES	0.00E+00	0.00E+00	2.22E-03	6.39E-04
Nb-97	CURIES	0.00E+00	0.00E+00	6.00E-04	3.33E-04
Ru-103	CURIES	0.00E+00	0.00E+00	2.49E-05	0.00E+00
Sb-122	CURIES	0.00E+00	0.00E+00	2.77E-06	0.00E+00
Sb-124	CURIES	0.00E+00	0.00E+00	2.57E-03	3.31E-03
Sb-125	CURIES	0.00E+00	0.00E+00	1.24E-01	8.53E-02
Sn-113	CURIES	0.00E+00	0.00E+00	1.21E-04	0.00E+00
Sr-89	CURIES	0.00E+00	0.00E+00	5.68E-04	2.24E-04
Sr-90	CURIES	0.00E+00	0.00E+00	4.41E-05	1.61E-05
Sr-92	CURIES	0.00E+00	0.00E+00	9.38E-05	2.44E-05
Tc-99M	CURIES	0.00E+00	0.00E+00	1.35E-06	0.00E+00
Te-125M	CURIES	0.00E+00	0.00E+00	6.36E-04	6.72E-03
Te-129M	CURIES	0.00E+00	0.00E+00	1.83E-03	2.39E-03
Te-132	CURIES	0.00E+00	0.00E+00	1.52E-03	3.97E-05
Y-92	CURIES	0.00E+00	0.00E+00	2.61E-05	4.93E-05
Zn-65	CURIES	0.00E+00	0.00E+00	2.13E-04	0.00E+00
Zr-95	CURIES	0.00E+00	0.00E+00	8.84E-04	2.40E-04
TOTALS	CURIES	**0.00E+00**	**0.00E+00**	**2.83E-01**	**1.88E-01**
DISSOLVED AND ENTRAINED GASES					
Ar-41	CURIES	0.00E+00	0.00E+00	2.70E-05	0.00E+00
Kr-85	CURIES	0.00E+00	0.00E+00	7.17E-04	0.00E+00
Xe-133	CURIES	0.00E+00	0.00E+00	4.56E-03	7.72E-04
Xe-135	CURIES	0.00E+00	0.00E+00	4.05E-04	0.00E+00
Xe-135M	CURIES	0.00E+00	0.00E+00	0.00E+00	2.23E-05
TOTALS		**0.00E+00**	**0.00E+00**	**5.71E-03**	**7.95E-04**
G-ALPHA	CURIES	0.00E+00	0.00E+00	2.15E-06	9.57E-06

TABLE 1-3CC
Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
Liquid Effluents
Starting : 1-Jul-1998 Ending : 31-Dec-1998
SITE

		CONTINUOUS		BATCH	
NUCLIDE	**UNIT**	**QUARTER 3**	**QUARTER 4**	**QUARTER 3**	**QUARTER 4**
H-3	CURIES	0.00E+00	0.00E+00	4.74E+02	3.18E+02
FISSION & ACTIVATION PRODUCT					
Ag-110M	CURIES	0.00E+00	0.00E+00	9.09E-05	0.00E+00
Ce-141	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ce-144	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-57	CURIES	0.00E+00	0.00E+00	9.16E-06	3.37E-06
Co-58	CURIES	0.00E+00	0.00E+00	8.66E-04	5.16E-04
Co-60	CURIES	0.00E+00	0.00E+00	7.77E-03	6.32E-03
Cr-51	CURIES	0.00E+00	0.00E+00	5.98E-05	4.88E-04
Cs-134	CURIES	0.00E+00	0.00E+00	1.27E-03	1.01E-03
Cs-136	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-137	CURIES	0.00E+00	0.00E+00	1.25E-03	1.07E-03
Fe-55	CURIES	0.00E+00	0.00E+00	5.34E-03	6.96E-03
Fe-59	CURIES	0.00E+00	0.00E+00	9.14E-06	4.70E-05
I-131	CURIES	0.00E+00	0.00E+00	1.17E-05	7.87E-06
I-132	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
I-133	CURIES	0.00E+00	0.00E+00	3.18E-06	0.00E+00
La-140	CURIES	0.00E+00	0.00E+00	1.32E-05	0.00E+00
Mn-54	CURIES	0.00E+00	0.00E+00	1.10E-03	7.96E-04
Na-24	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nb-95	CURIES	0.00E+00	0.00E+00	4.47E-05	7.43E-05
Nb-97	CURIES	0.00E+00	0.00E+00	2.49E-04	1.90E-05
Rb-86	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rh-105	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ru-103	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sb-122	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sb-124	CURIES	0.00E+00	0.00E+00	0.00E+00	1.49E-06
Sb-125	CURIES	0.00E+00	0.00E+00	3.93E-03	1.46E-03
Sn-113	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sr-89	CURIES	0.00E+00	0.00E+00	2.31E-05	3.35E-05
Sr-90	CURIES	0.00E+00	0.00E+00	1.44E-06	7.88E-13
Sr-92	CURIES	0.00E+00	0.00E+00	2.89E-05	0.00E+00
Tc-99M	CURIES	0.00E+00	0.00E+00	0.00E+00	3.78E-06
Te-125M	CURIES	0.00E+00	0.00E+00	0.00E+00	4.93E-03
Te129M	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Te-132	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Y-92	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zn-65	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zr-95	CURIES	0.00E+00	0.00E+00	0.00E+00	4.95E-05
Zr-97	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTALS		**0.00E+00**	**0.00E+00**	**2.21E-02**	**2.38E-02**
Xe-133	CURIES	0.00E+00	0.00E+00	1.91E-03	1.11E-03
Xe-135	CURIES	0.00E+00	0.00E+00	1.97E-05	0.00E+00
TOTALS		**0.00E+00**	**0.00E+00**	**1.91E-03**	**1.11E-03**
G-ALPHA	CURIES	0.00E+00	0.00E+00	8.11E-06	7.83E-06

TABLE 1-4A
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
INDIVIDUAL DOSES DUE TO LIQUID RELEASES
JANUARY, 1998 THROUGH JUNE, 1998

UNIT 1

CUMULATIVE DOSE PER QUARTER

ORGAN	ODCM LIMIT	UNITS	QUARTER 1	% OF ODCM LIMIT	QUARTER 2	% OF ODCM LIMIT
Bone	*5.0*	mrem	6.86E-03	1.37E-01	2.19E-02	4.38E-01
Liver	*5.0*	mrem	1.31E-02	2.62E-01	4.13E-02	8.27E-01
T. Body	*1.5*	mrem	1.03E-02	6.86E-01	3.19E-02	2.13E+00
Thyroid	*5.0*	mrem	1.66E-03	3.33E-02	3.65E-03	7.31E-02
Kidney	*5.0*	mrem	5.41E-02	1.08E-01	1.62E-02	3.24E-01
Lung	*5.0*	Mrem	3.68E-02	7.35E-01	7.10E-02	1.42E+00
GI-LLI	*5.0*	Mrem	6.68E-03	1.34E-01	1.23E-02	2.47E-01

CUMULATIVE DOSE PER YEAR

ORGAN	*ODCM LIMIT*	*UNITS*	*YEAR TO DATE*	*% OF ODCM LIMIT*
Bone	*10.0*	mrem	2.87E-02	2.87E-01
Liver	*10.0*	mrem	5.44E-02	5.44E-01
T. Body	*3.0*	mrem	4.22E-02	1.41E+00
Thyroid	*10.0*	mrem	5.32E-03	5.32E-02
Kidney	*10.0*	mrem	2.16E-02	2.16E-01
Lung	*10.0*	mrem	1.08E-01	1.08E+00
GI-LLI	*10.0*	mrem	1.90E-02	1.90E-01

TABLE 1-4AA
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
INDIVIDUAL DOSES DUE TO LIQUID RELEASES
July, 1998 THROUGH December, 1998

UNIT 1

CUMULATIVE DOSE PER QUARTER

ORGAN	ODCM LIMIT	UNITS	QUARTER 3	% OF ODCM LIMIT	QUARTER 4	% OF ODCM LIMIT
Bone	*5.0*	mrem	1.02E-02	2.05E-01	1.51E-02	3.03E-01
Liver	*5.0*	mrem	2.36E-02	4.72E-01	3.34E-02	6.67E-01
T. Body	*1.5*	mrem	1.89E-02	1.26E+00	2.65E-02	1.77E+00
Thyroid	*5.0*	mrem	5.17E-03	1.03E-01	6.70E-03	1.34E-01
Kidney	*5.0*	mrem	1.12E-02	2.24E-01	1.64E-02	3.28E-01
Lung	*5.0*	mrem	1.26E-02	2.51E-01	1.23E-02	2.47E-01
GI-LLI	*5.0*	mrem	6.73E-03	1.35E-01	9.18E-03	1.84E-01

CUMULATIVE DOSE PER YEAR

ORGAN	*ODCM LIMIT*	*UNITS*	*YEAR TO DATE*	*% OF ODCM LIMIT*
Bone	*10.0*	mrem	5.41E-02	5.41E-01
Liver	*10.0*	mrem	1.11E-01	1.11E+00
T. Body	*3.0*	mrem	8.76E-02	2.92E+00
Thyroid	*10.0*	mrem	1.72E-02	1.72E-01
Kidney	*10.0*	mrem	4.92E-02	4.92E-01
Lung	*10.0*	mrem	1.33E-01	1.33E+00
GI-LLI	*10.0*	mrem	3.49E-02	3.49E-01

TABLE 1-4B
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
INDIVIDUAL DOSES DUE TO LIQUID RELEASES
JANUARY, 1998 THROUGH JUNE, 1998

UNIT 2

CUMULATIVE DOSE PER QUARTER

ORGAN	ODCM LIMIT	UNITS	QUARTER 1	% OF ODCM LIMIT	QUARTER 2	% OF ODCM LIMIT
Bone	*5.0*	mrem	2.78E-02	5.56E-01	3.27E-02	6.54E-01
Liver	*5.0*	mrem	5.45E-02	1.09E-01	6.27E-02	1.25E+00
T. Body	*1.5*	mrem	4.27E-02	2.84E+00	4.88E-02	3.25E+00
Thyroid	*5.0*	mrem	6.32E-03	1.26E-01	6.66E-03	1.33E-01
Kidney	*5.0*	mrem	2.28E-02	4.57E-01	2.63E-02	5.25E-01
Lung	*5.0*	mrem	1.35E-01	2.69E+00	1.45E-01	2.89E+00
GI-LLI	*5.0*	mrem	2.38E-02	4.77E-01	2.31E-02	4.63E-01

CUMULATIVE DOSE PER YEAR

ORGAN	*ODCM LIMIT*	*UNITS*	*YEAR TO DATE*	*% OF ODCM LIMIT*
Bone	*10.0*	mrem	6.05E-02	6.05E-01
Liver	*10.0*	mrem	1.17E-01	1.17E+00
T. Body	*3.0*	mrem	9.15E-02	3.05E+00
Thyroid	*10.0*	mrem	1.30E-02	1.30E-01
Kidney	*10.0*	mrem	4.91E-02	4.91E-01
Lung	*10.0*	mrem	2.79E-01	2.79E+00
GI-LLI	*10.0*	mrem	4.70E-02	4.70E-01

TABLE 1-4BB
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
INDIVIDUAL DOSES DUE TO LIQUID RELEASES
JULY, 1998 THROUGH DECEMBER, 1998

UNIT 2

CUMULATIVE DOSE PER QUARTER

ORGAN	ODCM LIMIT	UNITS	QUARTER 3	% OF ODCM LIMIT	QUARTER 4	% OF ODCM LIMIT
Bone	5.0	mrem	1.06E-02	2.11E-01	4.93E-04	9.86E-03
Liver	5.0	mrem	2.83E-02	5.67E-01	3.66E-03	7.33E-02
T. Body	1.5	mrem	2.35E-02	1.57E+00	3.45E-03	2.30E-01
Thyroid	5.0	mrem	9.14E-03	1.83E-01	2.79E-03	5.59E-02
Kidney	5.0	mrem	1.55E-02	3.09E-01	3.07E-03	6.14E-02
Lung	5.0	mrem	1.64E-01	3.28E-01	3.76E-03	7.52E-02
GI-LLI	5.0	mrem	1.06E-02	2.12E-01	3.16E-03	6.33E-02

CUMULATIVE DOSE PER YEAR

ORGAN	ODCM LIMIT	UNITS	YEAR TO DATE	% of ODCM LIMIT
Bone	10.0	mrem	7.16E-02	7.16E-01
Liver	10.0	mrem	1.49E-01	1.49E+00
T. Body	3.0	mrem	1.18E-01	3.95E+00
Thyroid	10.0	mrem	2.49E-02	2.49E-01
Kidney	10.0	mrem	6.76E-02	6.76E-01
Lung	10.0	mrem	3.00E-01	3.00E+00
GI-LLI	10.0	mrem	6.07E-02	6.07E-01

TABLE 1-5

MINIMUM DETECTABLE CONCENTRATIONS - LIQUID SAMPLE ANALYSES

VOGTLE ELECTRIC GENERATING PLANT
JANUARY, 1998 - DECEMBER 31, 1998

The values in this table represent a priori Minimum Detectable Concentration (MDC) which are typically achieved in laboratory analyses of liquid radwaste samples.

RADIONUCLIDE	*MDC*	*UNITS*
Mn-54	2.73E-08	µCi/ml
Fe-59	8.33E-08	µCi/ml
Co-58	3.78E-08	µCi/ml
Co-60	6.76E-08	µCi/ml
Zn-65	1.32E-07	µCi/ml
Mo-99	4.31E-07	µCi/ml
Cs-134	3.06E-08	µCi/ml
Cs-137	4.51E-08	µCi/ml
Ce-141	6.99E-08	µCi/ml
Ce-144	2.95E-07	µCi/ml
I-131	5.97E-08	µCi/ml
Xe-133	9.11E-08	µCi/ml
Xe-135	4.27E-08	µCi/ml
Fe-55	1.00E-06	µCi/ml
Sr-89	5.00E-08	µCi/ml
Sr-90	7.00E-09	µCi/ml
H-3	2.00E-06	µCi/ml
Gross Alpha	7.00E-08	µCi/ml

TABLE 1-6A

VOGTLE ELECTRIC GENERATING PLANT - UNIT 1

BATCH RELEASE SUMMARY OF ALL RELEASES

STARTING: JANUARY, 1998 ENDING: JUNE, 1998

LIQUID RELEASES

Number of Releases	49		Total
Time For All Releases	5298.00	minutes	
Maximum Time For a Release	315.00	minutes	
Average Time For a Release	108.12	minutes	
Minimum Time For a Release	4.00	minutes	

GASEOUS RELEASES

Number of Releases:	54	
Total Time For All Releases	5678.00	minutes
Maximum Time For A Release	1356.00	minutes
Average Time For A Release	105.15	minutes
Minimum Time For A Release	30.00	minutes

TABLE 1-6AA

VOGTLE ELECTRIC GENERATING PLANT - UNIT 1

BATCH RELEASE SUMMARY OF ALL RELEASES

STARTING: JULY, 1998 ENDING: DECEMBER, 1998

LIQUID RELEASES

Number of Releases	36	
Total Time For All Releases	5040.35	minutes
Maximum Time For a Release	385.00	minutes
Average Time For a Release	140.01	minutes
Minimum Time For a Release	21.00	minutes

GASEOUS RELEASES

Number of Releases:	56	
Total Time For All Releases	4204.00	minutes
Maximum Time For a Release	209.00	minutes
Average Time For a Release	75.07	minutes
Minimum Time For a Release	8.00	minutes

TABLE 1-6B

VOGTLE ELECTRIC GENERATING PLANT - UNIT 2

BATCH RELEASE SUMMARY OF ALL RELEASES

STARTING: JANUARY, 1998 ENDING: JUNE, 1998

LIQUID RELEASES

Number of Releases	62	
Total Time For All Releases	11650.98	minutes
Maximum Time For a Release	363.00	minutes
Average Time For a Release	187.92	minutes
Minimum Time For a Release	50.00	minutes

GASEOUS RELEASES

Number of Releases:	83	
Total Time For All Releases	60877.67	minutes
Maximum Time For A Release	5267.00	minutes
Average Time For A Release	733.47	minutes
Minimum Time For A Release	13.00	minutes

TABLE 1-6BB

VOGTLE ELECTRIC GENERATING PLANT - UNIT 2

BATCH RELEASE SUMMARY OF ALL RELEASES

STARTING: JULY, 1998 ENDING: DECEMBER, 1998

LIQUID RELEASES

Number of Releases	19	
Total Time For All Releases	2977.00	minutes
Maximum Time For A Release	362.00	minutes
Average Time For A Release	156.68	minutes
Minimum Time For A Release	69.00	minutes

GASEOUS RELEASES

Number of Releases	19	
Total Time For All Releases	1240.00	minutes
Maximum Time For a Release	138.00	minutes
Average Time For A Release	65.26	minutes
Minimum Time For A Release	14.00	minutes

2.0 *Gaseous Effluents*

2.1 ODCM Specifications

The ODCM Specifications presented in this section are for Unit 1 and Unit 2.

2.1.1 Dose Rate Limit

The dose rate due to radioactive materials released in gaseous effluents from the site to areas at and beyond the SITE BOUNDARY shall be limited to the following:

a. For noble gases, Less than or equal to 500 mrems/yr. to the whole body and less than or equal to 3000 mrems/yr. to the skin and,

b. For Iodine-131, for Iodine-133, for tritium and for all radionuclides in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrems/yr. to any organ.

2.1.2 Air Dose Due To Noble Gas

The air dose due to noble gases released in gaseous effluents, from each unit, to areas at and beyond the SITE BOUNDARY shall be limited to the following:

a. During any calendar quarter: Less than or equal to 5 mrads for gamma radiation and less than or equal to 10 mrads for beta radiation, and

b. During any calendar year: Less than or equal to 10 mrads for gamma radiation and less than or equal to 20 mrads for beta radiation.

2.1.3 Dose To Any Organ

The dose to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released, from each unit, to areas at and beyond the SITE BOUNDARY shall be limited to the following.

a. During any calendar quarter: Less than or equal to 7.5 mrems to any organ.

b. During any calendar year: Less than or equal to 15 mrems to any organ.

2.1.4 Total Fuel Cycle Dose Commitment (40CFR190)

The annual (calendar year) dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources shall be limited to less than or equal to 25 mrems to the whole body or to any organ, except the thyroid, which shall be limited to less than or equal to 75 mrems.

2.2 Release Points of Gaseous Effluents

Gaseous Effluents at the Vogtle Electric Generating Plant are currently confined to four paths: plant vents (Unit 1 and Unit 2), the condenser air ejector and steam packing exhauster systems (Unit 1 and Unit 2).

Waste gas decay tanks are batch released through the Unit 1 plant vent. The Containment purges are released through their respective plant vents.

2.3 Sample Collection and Analysis

All of the paths can be continuously monitored for gaseous radioactivity. Each is equipped with an integrated-type sample collection device for collecting particulates and iodines. During this reporting period, there were no continuous radioactive releases through the condenser air ejector and steam packing exhauster system vents. Batch Waste Gas Decay Tank releases are analyzed for noble gases before each release. The containment atmosphere is analyzed for noble gases prior to each release and for tritium at least on a monthly basis.

Sample analyses results and release flow rates form the basis for calculating released quantities of radionuclide specific radioactivity, dose rates associated with gaseous releases, and cumulative doses for the current quarter and year.

With each release period and batch release, radioactivity, dose rates, and cumulative doses are calculated. Cumulative dose results are tabulated, along with the percent of the ODCM limits for each release for the current quarter and year.

2.4 *Total Quantities of Radioactivity, Dose Rates, and Cumulative Doses*

The methods for determining release quantities of radioactivity, dose rates, and cumulative doses are as follows:

2.4.1 *Fission and Activation Gas*

The released radioactivity is determined from sample analyses results collected as described above and average release flow rates over the period represented by the collected sample.

Instantaneous dose rates due to noble gases, radioiodines, tritium, and particulates are calculated. Calculated dose rates are compared to the dose rate limits specified in ODCM 3.1.2 for noble gases, radioiodines, tritium, and particulates. Dose rate calculation methodology is presented in the ODCM.

Beta and gamma air doses due to noble gases are calculated for the location in the unrestricted area with the potential for the highest exposure due to gaseous releases. Air doses are calculated for each release period and cumulative totals are kept for each unit for the calendar quarter and year. Cumulative air doses are compared with the dose limits specified in ODCM 3.1.3. Current percent of the ODCM limits are shown on the printout for each release period. Air dose calculation methodology is presented in the ODCM.

2.4.2 *Radioiodines, Tritium and Particulate Releases*

The released quantities of radioiodines are determined using the weekly samples and release flow rates for the two plant vent release points.

The released quantities of particulates are determined using the weekly (filter) samples and release flow rates for the two release points.

After each quarter, the particulate filters from each Plant vent are combined, for strontium analysis. Strontium concentrations are input to the composite file of the computer to be used for release dose rate and individual dose calculations.

Individual doses due to radioiodines, tritium and particulates are calculated for the controlling receptor, which for Vogtle Electric Generating Plant is a child exposed to the inhalation and ground-plane pathways. Individual doses are calculated for each release period, and cumulative totals are kept for each unit for the current calendar quarter and year. Cumulative individual doses are compared to the dose limits specified in ODCM 3.1.4.

Current percent of ODCM limits are shown on this report for each release period

2.4.3 *Gross Alpha Release*

The gross alpha release is calculated each month by counting the particulate filters for each week for gross alpha activity. The four or five weeks' numbers are then recorded on a data sheet and the activity is summed at the end of the month. This concentration is used for release calculations.

2.5 Gaseous Effluent Release Data

2.5.1 Methodology

Regulatory Guide 1.21 Tables 1A, 1B, and 1C are found in this report as Tables 2-2A, 2-2AA, 2-2B, 2-2BB, 2-2C, 2-2CC, 2-3A, 2-3AA, 2-3B, 2-3BB, 2-3C, 2-3CC, 2-4A, 2-4AA, 2-4B, 2-4BB, 2-4C, and 2-4CC. Data are presented on a quarterly basis as required by Regulatory Guide 1.21.

To complete table 2-2A,2-2AA, 2-2B, and 2-2BB, the total release for each of the four categories (fission and activation gases, iodines, particulates, and tritium) was divided by the number of seconds in the quarter to obtain a release rate in µCi/second for each category. However, the percent of the ODCM limits are not applicable because VEGP has no curie limits for gaseous releases. Applicable limits are expressed in terms of dose. Noble gases are limited as specified in ODCM 3.1.2. The other three categories (tritium, radioiodines, and particulates) are limited as a group as specified in ODCM 3.1.2.

Dose rates due to noble gas releases and due to radioiodines, tritium, and particulate releases were calculated as part of the pre-release and post-release permits. No limits were exceeded for this reporting period.

Gross alpha radioactivity is reported in Table 2-2A, 2-2AA, 2-2B, and 2-2BB as curies released in each quarter.

Limits for cumulative beta and gamma air doses due to noble gases are specified in ODCM 3.1.3. Cumulative air doses are presented in Table 2-6A, 2-6AA, 2-6B, and 2-6BB along with the percent of the ODCM limits.

Limits for cumulative individual doses due to radioiodines, tritium and particulates, are specified in ODCM 3.1.4. Cumulative individual doses are presented in Table 2-7A, 2-7AA, 2-7B, and 2-7BB along with percent of ODCM limits.

The total or maximum error associated with the effluent measurement will include the cumulative errors resulting from the total operation of sampling and measurement. Because it may be very difficult to assign error terms for each parameter affecting the final measurement, detailed statistical evaluation of error are not suggested. The objective should be to obtain an overall estimate of the error associated with measurements of radioactive materials released in liquid and gaseous effluents and solid waste.

Estimated errors are based on errors in counting equipment calibration, counting statistics, vent-flow rates, vent sample flow rates, non-steady release rates, chemical yield factors, and sample losses for such items as charcoal cartridges.

a. Fission and activation total release was calculated from sample analysis results and release point flow rates.

Sampling and statistical error in counting	10%
Counting equipment calibration	10%
Vent flow Rates	10%
Non-steady release rates	20%
TOTAL ERROR	50%

b. I-131 releases were calculated from each weekly sample:

Statistical error in counting	10%
Counting equipment calibration	10%
Vent Flow Rates	10%
Vent Sample Flow Rates	50%
Non-Steady release rates	10%
Losses from charcoal cartridges	10%
TOTAL ERROR	100%

c. Particulates with half lives greater than 8 day releases were calculated from sample and analysis results and release point flow rates.

Statistical error at MDC concentration	10%
Counting equipment calibration	10%
Vent flow rates	10%
Vent sample flow rates	50%
Non steady release rates	10%
TOTAL ERROR	90%

d. Total tritium releases were calculated from sample analysis results and release point flow rates.

Water vapor in sample stream determination	10%
Vent flow rates	10%
Counting calibration and statistics 10%	
Non-steady release rates	10%
TOTAL ERROR	40%

e. Gross Alpha radioactivity was calculated from sample analysis results

and release point flow rates.

Statistical error at MDC concentration	10%
Counting equipment calibration	10%
Vent flow rates	10%
Vent sample flow rates	50%
Non Steady release rates	10%
TOTAL ERROR	90%

2.5.2 Gaseous Batch Data

Other data pertinent to batch releases of radioactive gaseous effluent from Unit 1 and Unit 2 are listed in Table 1-6A, 1-6AA, 1-6B, and 1-6BB.

2.6 Radiological Impact Due to Gaseous Releases

Dose rates due to the release of noble gases were calculated for the site in accordance with ODCM 3.4.1.1 Dose rates due to radioiodines, tritium, and particulates in gaseous releases were calculated in accordance with ODCM 3.4.1.2.

Dose rates were calculated as part of pre-release and post release permits, no limits were exceeded for this reporting period.

Cumulative air doses due to noble gas releases were calculated for each unit in accordance with ODCM 3.4.2. These results are presented in Tables 2-6A, 2-6AA, 2-6B, and 2-6BB.

Dose rates and doses were calculated using the methodology presented in the Vogtle Electric Generating Plant Offsite Dose Calculation Manual.

2.7 Abnormal Releases

There were no unplanned gaseous releases in 1998.

TABLE2-2A

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL AIRBORNE EFFLUENTS
UNIT : 1
STARTING : 1-JAN-1998 ENDING : 30-JUN-1998

TYPE OF EFFLUENT	UNITS	QUARTER1	QUARTER 2	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	1.09E+01	1.05E-01	50
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.40E+00	1.34E-02	
3. PERCENTAGE OF APPLICABLE LIMIT	%	N/A	N/A	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	2.40E-05	3.33E-06	100
2.AVERAGE RELEASE RATE FOR PERIOD DURING PERIOD	uCi/Sec	3.09E-06	4.24E-07	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1.PARTICULATES(HALF-LIVES >8DAYS)	CURIES	1.27E-06	1.09E-10	90
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.63E-07	1.39E-11	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.TRITIUM				
1.TOTAL RELEASE	CURIES	5.89E+01	2.85E+01	40
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	7.57E+00	3.62E+00	
3.PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
4.GROSS ALPHA RADIOACTIVITY	CURIES	7.31E-06	0.00E+00	90

* Applicable limits are expressed in terms of Dose. See Tables 2-6A and 2-7A of this report

TABLE2-2AA

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL AIRBORNE EFFLUENTS
UNIT : 1
STARTING : 1-JUL-1998 ENDING : 31-DEC-1998

TYPE OF EFFLUENT	UNITS	QUARTER3	QUARTER 4	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	6.60E-01	1.63E-01	50
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	8.30E-02	2.05E-02	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	3.78E-06	0.00E+00	100
2.AVERAGE RELEASE RATE FOR PERIOD DURING PERIOD	uCi/Sec	4.76E-07	0.00E+00	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1.PARTICULATES(HALF-LIVES >8DAYS)	CURIES	3.66E-07	9.43E-08	90
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	4.60E-08	1.19E-08	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.TRITIUM				
1.TOTAL RELEASE	CURIES	2.20E+01	4.37E+01	40
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	2.77E+00	5.50E+00	
3.PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
4.GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	90

* Applicable limits are expressed in terms of Dose. See Tables 2-6AA and 2-7AA of this report

TABLE2-2B

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL AIRBORNE EFFLUENTS
UNIT : 2
STARTING : 1-JAN-1998 ENDING : 30-JUN-1998

TYPE OF EFFLUENT	UNITS	QUARTER1	QUARTER 2	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	3.25E+02	7.09E-01	50
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	4.18E+01	9.02E-02	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	2.56E-04	5.59E-05	100
2.AVERAGE RELEASE RATE FOR PERIOD DURING PERIOD	uCi/Sec	3.29E-05	7.11E-06	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1.PARTICULATES(HALF-LIVES >8DAYS)	CURIES	1.20E-05	4.62E-07	90
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.54E-06	5.88E-08	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.TRITIUM				
1.TOTAL RELEASE	CURIES	3.11E+01	2.80E+01	40
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	4.00E+00	3.56E+00	
3.PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
4.GROSS ALPHA RADIOACTIVITY	CURIES	7.11E-14	0.00E+00	90

* Applicable limits are expressed in terms of Dose. See Tables 2-6B and 2-7B of this report

TABLE2-2BB

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL AIRBORNE EFFLUENTS
UNIT : 2
STARTING : 1-JUL-1998 ENDING : 31-DEC-1998

TYPE OF EFFLUENT	UNITS	QUARTER3	QUARTER 4	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	9.28E-02	1.10E-01	50
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.17E-02	1.38E-02	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	2.82E-06	1.52E-06	100
2.AVERAGE RELEASE RATE FOR PERIOD DURING PERIOD	uCi/Sec	3.55E-07	1.91E-07	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1.PARTICULATES(HALF-LIVES >8DAYS)	CURIES	5.52E-07	3.52E-07	90
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	6.94E-08	4.43E-08	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.TRITIUM				
1.TOTAL RELEASE	CURIES	2.64E+01	1.13E+01	40
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	3.32E+00	1.42E+00	
3.PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
4.GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	90

* Applicable limits are expressed in terms of Dose. See Tables 2-6BB and 2-7BB of this report

TABLE2-2C

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL AIRBORNE EFFLUENTS
SITE
STARTING : 1-JAN-1998 ENDING : 30-JUN-1998

TYPE OF EFFLUENT	UNITS	QUARTER1	QUARTER 2	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	3.36E+02	8.14E-01	50
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	4.32E+01	1.04E-01	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	2.80E-04	5.92E-05	100
2.AVERAGE RELEASE RATE FOR PERIOD DURING PERIOD	uCi/Sec	3.60E-05	7.53E-06	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1.PARTICULATES(HALF-LIVES >8DAYS)	CURIES	1.33E-05	4.62E-07	90
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.71E-06	5.88E-08	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.TRITIUM				
1.TOTAL RELEASE	CURIES	9.00E+01	5.65E+01	40
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.16E+01	7.19E+00	
3.PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
4.GROSS ALPHA RADIOACTIVITY	CURIES	7.31E-06	0.00E+00	90

* Applicable limits are expressed in terms of Dose. See Tables 2-6A , 2-6B, 2-7A and 2-7B of this report

TABLE2-2CC

SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT-1998
ALL AIRBORNE EFFLUENTS
SITE
STARTING : 1-JUL-1998 ENDING : 31-DEC-1998

TYPE OF EFFLUENT	UNITS	QUARTER3	QUARTER 4	EST.TOTAL ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	7.53E-01	2.73E-01	50
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	9.47E-02	3.43E-02	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	6.60E-06	1.52E-06	100
2.AVERAGE RELEASE RATE FOR PERIOD DURING PERIOD	uCi/Sec	8.30E-07	1.91E-07	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1.PARTICULATES(HALF-LIVES >8DAYS)	CURIES	9.18E-07	4.46E-07	90
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.15E-07	5.61E-08	
3. PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
D.TRITIUM				
1.TOTAL RELEASE	CURIES	4.84E+01	5.50E+01	40
2.AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	6.09E+00	6.92E+00	
3.PERCENTAGE OF APPLICABLE LIMIT	%	*	*	
4.GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	90

* Applicable limits are expressed in terms of Dose. See Tables 2-6AA, 2-6BB, 2-7AA and 2-7BB of this report

TABLE 2-3A

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - MIXED MODE

JANUARY, 1998 THROUGH JUNE, 1998

UNIT 1

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		*QUARTER 1*	*QUARTER 2*	*QUARTER 1*	*QUARTER 2*
Ar-41	Ci	0.00E+00	0.00E+00	4.65E-02	5.01E-02
Kr-85	Ci	0.00E+00	0.00E+00	3.41E+00	0.00E+00
Kr-85m	Ci	0.00E+00	0.00E+00	6.32E-05	0.00E+00
Xe-133	Ci	5.39E+00	0.00E+00	1.62E-01	5.07E-02
Xe-135	Ci	1.83E+00	0.00E+00	7.96E-03	3.83E-03
TOTAL FOR PERIOD	Ci	7.22E+00	0.00E+00	3.63E+00	1.05E-01
2. Iodine's					
I-131	Ci	2.38E-05	3.33E-06	0.00E+00	0.00E+00
I-133	Ci	5.01E-06	3.22E-06	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	2.88E-05	6.55E-06	0.00E+00	0.00E+00
3. Particulates					
Cs-134	Ci	1.19E-06	0.00E+00	0.00E+00	0.00E+00
Sr-89	Ci	6.38E-08	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	1.26E-06	0.00E+00	0.00E+00	0.00E+00
G-ALPHA	Ci	7.30E-06	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	5.88E+01	2.84E+01	3.41E-02	3.52E-02

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-3AA

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - MIXED MODE

JULY, 1998 THROUGH DECEMBER, 1998

UNIT 1

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
Ar-41	Ci	0.00E+00	0.00E+00	5.33E-02	6.69E-02
Kr-85m	Ci	0.00E+00	0.00E+00	0.00E+00	2.69E-03
Kr-87	Ci	0.00E+00	0.00E+00	0.00E+00	6.03E-03
Kr-88	Ci	0.00E+00	0.00E+00	0.00E+00	7.53E-03
Xe-133	Ci	5.45E-01	0.00E+00	5.73E-02	4.04E-02
Xe-133m	Ci	0.00E+00	0.00E+00	0.00E+00	5.03E-04
Xe-135	Ci	0.00E+00	0.00E+00	4.61E-03	2.42E-02
Xe-135m	Ci	0.00E+00	0.00E+00	0.00E+00	4.23E-03
Xe-138	Ci	0.00E+00	0.00E+00	0.00E+00	1.01E-02
TOTAL FOR PERIOD	Ci	5.45E-01	0.00E+00	1.15E-01	1.63E-01
2. Iodines					
I-131	Ci	3.78E-06	0.00E+00	0.00E+00	0.00E+00
I-133	Ci	9.74E-06	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	1.35E-05	0.00E+00	0.00E+00	0.00E+00
3. Particulates					
CO-57	Ci	0.00E+00	7.13E-08	0.00E+00	0.00E+00
SR-89	Ci	3.66E-07	2.30E-08	0.00E+00	0.00E+00
SR-90	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	3.66E-07	9.43E-08	0.00E+00	0.00E+00
G-ALPHA	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	2.19E+01	4.37E+01	3.09E-02	3.33E-02

* Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-3B

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - MIXED MODE

JANUARY, 1998 THROUGH JUNE, 1998

UNIT 2

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		*QUARTER 1*	*QUARTER 2*	*QUARTER 1*	*QUARTER 2*
Ar-41	Ci	0.00E+00	0.00E+00	2.20E-02	6.78E-02
Kr-85	Ci	0.00E+00	0.00E+00	2.68E+01	0.00E+00
Kr-85m	Ci	0.00E+00	0.00E+00	0.00E+00	9.70E-05
Xe-135	Ci	1.03E+00	0.00E+00	5.32E-03	1.12E-02
Xe-133m	Ci	0.00E+00	0.00E+00	1.47E+00	0.00E+00
Xe-131m	Ci	0.00E+00	0.00E+00	7.06E+00	0.00E+00
Xe-133	Ci	4.12E+01	0.00E+00	2.47E+02	5.92E-01
TOTAL FOR PERIOD	Ci	4.22E+01	0.00E+00	2.82E+02	6.71E-01
2. Iodine's					
I-131	Ci	1.90E-04	1.50E-06	0.00E+00	0.00E+00
I-133	Ci	1.32E-04	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	3.22E-04	1.50E-06	0.00E+00	0.00E+00
3. Particulates					
Co-58	Ci	2.18E-06	1.08E-07	0.00E+00	0.00E+00
Co-60	Ci	6.18E-06	3.54E-07	0.00E+00	0.00E+00
Cr-51	Ci	3.27E-06	0.00E00	0.00E+00	0.00E+00
I-131	Ci	2.00E-07	0.00E+00	0.00E+00	0.00E+00
Mn-54	Ci	1.71E-07	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	1.20E-05	4.62E-07	0.00E+00	0.00E+00
G-ALPHA	Ci	7.11E-14	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	2.70E+01	2.78E+01	3.90E+00	2.35E-01

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-3BB

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - MIXED MODE

JULY, 1998 THROUGH DECEMBER, 1998

UNIT 2

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
Ar-41	Ci	0.00E+00	0.00E+00	1.37E-02	1.65E-02
Kr-85m	Ci	0.00E+00	0.00E+00	3.81E-05	0.00E+00
Xe-133	Ci	0.00E+00	0.00E+00	7.70E-02	9.05E-02
Xe-133m	Ci	0.00E+00	0.00E+00	4.31E-04	0.00E+00
Xe-135	Ci	0.00E+00	0.00E+00	1.58E-03	3.22 E-03
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	9.28E-02	1.10E-01
2. Iodines					
I-131	Ci	2.82E-06	1.07E-05	0.00E+00	0.00E+00
I-133	Ci	2.35E-05	1.52E-06	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	2.63E-05	1.22E-05	0.00E+00	0.00E+00
3. Particulates					
Co-60	Ci	4.31E-07	0.00E+00	0.00E+00	0.00E+00
Sr-89	Ci	1.21E-07	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	5.52E-07	3.52E-07	0.00E+00	0.00E+00
G-ALPHA	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	2.64E+01	1.13E+01	4.66E-03	2.21E-02

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-3C

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - MIXED MODE

JANUARY, 1998 THROUGH JUNE, 1998

SITE

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		*QUARTER 1*	*QUARTER 2*	*QUARTER 1*	*QUARTER 2*
Ar-41	Ci	0.00E+00	0.00E+00	6.85E-02	1.18E-01
Kr-85	Ci	0.00E+00	0.00E+00	3.02E+01	0.00E+00
Kr-85m	Ci	0.00E+00	0.00E+00	6.32E-05	9.70E-05
Xe-131m	Ci	0.00E+00	0.00E+00	7.06E+00	0.00E+00
Xe-133	Ci	4.65E+01	0.00E+00	2.47E+02	6.43E-01
Xe-133m	Ci	0.00E+00	0.00E+00	1.47E+00	0.00E+00
Xe-135	Ci	2.85E+00	0.00E+00	1.33E-02	1.50E-02
TOTAL FOR PERIOD	Ci	4.94E+01	0.00E+00	2.86E+02	7.76E-01
2. Iodines					
I-131	Ci	2.14E-04	4.83E-06	0.00E+00	0.00E+00
I-133	Ci	1.37E-04	3.22E-06	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	3.51E-04	8.05E-06	0.00E+00	0.00E+00
3. Particulates					
Sr-89	Ci	6.38E-08	0.00E+00	0.00E+00	0.00E+00
Mn-54	Ci	1.71E-07	0.00E+00	0.00E+00	0.00E+00
Cr-51	Ci	3.27E-06	0.00E+00	0.00E+00	0.00E+00
Cs-134	Ci	1.19E-06	0.00E+00	0.00E+00	0.00E+00
I-131	Ci	2.00E-07	0.00E+00	0.00E+00	0.00E+00
Co-58	Ci	2.18E-06	0.00E+00	0.00E+00	0.00E+00
Co-60	Ci	6.18E-06	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	1.33E-05	4.62E-07	0.00E+00	0.00E+00
G-ALPHA	Ci	7.30E-06	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	8.58E+01	5.62E+01	3.94E+00	2.70E-01

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-3CC

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - MIXED MODE

JULY, 1998 THROUGH DECEMBER, 1998

SITE

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		*QUARTER 3*	*QUARTER 4*	*QUARTER 3*	*QUARTER 4*
Ar-41	Ci	0.00E+00	0.00E+00	6.70E-02	8.34E-02
Kr-85m	Ci	0.00E+00	0.00E+00	3.81E-05	2.69E-03
Kr-87	Ci	0.00E+00	0.00E+00	0.00E+00	6.03E-03
Kr-88	Ci	0.00E+00	0.00E+00	0.00E+00	7.53E-03
Xe-133	Ci	5.45E-01	0.00E+00	1.34E-01	1.31E-01
Xe-133m	Ci	0.00E+00	0.00E+00	4.31E-04	5.03E-04
Xe-135	Ci	0.00E+00	0.00E+00	6.18E-03	2.74E-02
Xe-135M	Ci	0.00E+00	0.00E+00	0.00E+00	4.23E-03
Xe-138	Ci	0.00E+00	0.00E+00	0.00E+00	1.01E-02
TOTAL FOR PERIOD	Ci	5.45E-01	0.00E+00	2.08E-01	2.73E-01
2. Iodines					
I-131	Ci	6.60E-06	1.52E-06	0.00E+00	0.00E+00
I-133	Ci	3.32E-05	1.07E-05	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	3.98E-05	1.22E-05	0.00E+00	0.00E+00
3. Particulates					
Co-57	Ci	0.00E+00	7.13E-08	0.00E+00	0.00E+00
Co-60	Ci	4.31E-07	0.00E+00	0.00E+00	0.00E+00
Sr-89	Ci	4.87E-07	2.30E-08	0.00E+00	0.00E+00
Sr-90	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	9.18E-07	4.46E-07	0.00E+00	0.00E+00
G-ALPHA	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	4.83E+01	5.50E+01	3.56E-02	5.54E-02

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-4A

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - GROUND MODE

JANUARY, 1998 THROUGH JUNE, 1998
UNIT 1

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		*QUARTER 1*	*QUARTER 2*	*QUARTER 1*	*QUARTER 2*
Xe-135	Ci	3.72E-03	0.00E+00	0.00E+00	0.00E+00
Xe-133	Ci	4.07E-02	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	4.44E-02	0.00E+00	0.00E+00	0.00E+00
2. Iodines					
I-131	Ci	1.91E-07	3.57E-10	0.00E+00	0.00E+00
I-133	Ci	1.21E-07	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	3.12E-07	3.57E-10	0.00E+00	0.00E+00
3. Particulates					
Co-58	Ci	1.85E-09	1.09E-10	0.00E+00	0.00E+00
Co-60	Ci	5.49E-09	0.00E+00	0.00E+00	0.00E+00
I-131	Ci	1.81E-10	0.00E+00	0.00E+00	0.00E+00
Cr-51	Ci	2.83E-09	0.00E+00	0.00E+00	0.00E+00
Sr-89	Ci	8.23E-11	0.00E+00	0.00E+00	0.00E+00
Mn-54	Ci	1.55E-10	0.00E+00	0.00E+00	0.00E+00
Cs-134	Ci	1.85E-09	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	1.24E-08	1.09E-10	0.00E+00	0.00E+00
H-3	Ci	1.19E-01	9.54E-03	0.00E+00	0.00E+00

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-4AA

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS GROUND MODE

JULY, 1998 THROUGH DECEMBER, 1998

UNIT 1

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Iodines					
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3. Particulates					
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-4B

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - GROUND MODE

JANUARY, 1998 THROUGH JUNE, 1998

UNIT 2

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
Ar-41	Ci	0.00E+00	0.00E+00	4.63E-02	0.00E+00
Xe-133	Ci	0.00E+00	0.00E+00	6.96E-01	3.81-02
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	7.42E-01	3.81E-02
2. Iodines					
I-131	Ci	0.00E+00	0.00E+00	6.62E-05	5.44E-05
I-133	Ci	0.00E+00	0.00E+00	4.11E-07	0.00E+00
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	6.66E-05	5.45E-05
3. Particulates					
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	0.00E+00	0.00E+00	1.59E-01	1.68E-03

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-4BB

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - GROUND MODE

JULY, 1998 THROUGH DECEMBER, 1998

UNIT 2

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		*QUARTER 3*	*QUARTER 4*	*QUARTER 3*	*QUARTER 4*
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Iodines					
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3. Particulates					
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-4C

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - GROUND MODE

JANUARY, 1998 THROUGH JUNE, 1998

SITE

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
Ar-41	Ci	0.00E+00	0.00E+00	4.63E-02	0.00E+00
Xe-135	Ci	3.72E-03	0.00E+00	0.00E+00	0.00E+00
Xe-133	Ci	4.07E-02	0.00E+00	6.96E-01	3.81E-02
TOTAL FOR PERIOD	Ci	4.44E-02	0.00E+00	7.42E-01	3.81E-02
2. IODINES					
I-131	Ci	1.91E-07	3.57E-10	6.62E-05	5.44E-05
I-133	Ci	1.21E-07	0.00E+00	4.11E-07	0.00E+00
TOTAL FOR PERIOD	Ci	3.12E-07	3.57E-10	6.66E-05	5.45E-05
3. PARTICULATES					
I-131	Ci	1.81E-10	0.00E+00	0.00E+00	0.00E+00
Cr-51	Ci	2.83E-09	0.00E+00	0.00E+00	0.00E+00
Sr-89	Ci	8.23E-11	0.00E+00	0.00E+00	0.00E+00
Mn-54	Ci	1.55E-10	0.00E+00	0.00E+00	0.00E+00
Cs-134	Ci	1.85E-09	0.00E+00	0.00E+00	0.00E+00
Co-58	Ci	1.85E-09	1.09E-10	0.00E+00	0.00E+00
Co-60	Ci	5.49E-09	0.00E+00	0.00E+00	0.00E+00
TOTAL FOR PERIOD	Ci	1.24E-08	1.09E-10	0.00E+00	0.00E+00
H-3	Ci	1.19E-01	9.54E-03	1.59E-01	1.68E-03

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-4CC

VOGTLE ELECTRIC GENERATING PLANT

ANNUAL EFFLUENTS - GROUND MODE

JULY, 1998 THROUGH DECEMBER, 1998

SITE

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
1. Fission Gasses		*QUARTER 3*	*QUARTER 4*	*QUARTER 3*	*QUARTER 4*
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Iodines					
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3. Particulates					
TOTAL FOR PERIOD	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
H-3	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*Zeroes in this table indicate that no radioactivity was present above detectable levels. See Table 2-8 for typical minimum detectable concentrations.

TABLE 2-6A
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
AIR DOSE DUE TO NOBLE GAS RELEASES
JANUARY, 1998 THROUGH JUNE, 1998

UNIT 1

CUMULATIVE DOSE PER QUARTER

TYPE OF RADIATION	ODCM LIMIT	UNITS	QUARTER 1	% OF ODCM LIMIT	QUARTER 2	% OF ODCM LIMIT
BETA	10.0	mrad	2.55E-04	2.55E-03	3.33E-06	3.33E-05
GAMMA	5.0	mrad	8.93E-05	1.79E-03	7.20E-06	1.44E-04

CUMULATIVE DOSES PER YEAR (YEAR TO DATE)

TYPE OF RADIATION	ODCM LIMIT	UNITS	YEAR TO DATE	% OF ODCM LIMIT
BETA	20.0	mrad	2.59E-04	1.29E-03
GAMMA	10.0	mrad	9.65E-05	9.65E-04

TABLE 2-6AA
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
AIR DOSE DUE TO NOBLE GAS RELEASES
JULY, 1998 THROUGH DECEMBER, 1998

UNIT 1

CUMULATIVE DOSE PER QUARTER

TYPE OF RADIATION	ODCM LIMIT	UNITS	QUARTER 3	% OF ODCM LIMIT	QUARTER 4	% OF ODCM LIMIT
BETA	10.0	mrad	1.20E-05	1.20E-04	6.78E-06	6.78E-05
GAMMA	5.0	mrad	1.05E-05	2.10E-04	1.38E-05	2.77E-04

CUMULATIVE DOSES PER YEAR (YEAR TO DATE)

TYPE OF RADIATION	ODCM LIMIT	UNITS	YEAR TO DATE	% OF ODCM LIMIT
BETA	20.0	mrad	2.77E-04	1.39E-03
GAMMA	10.0	mrad	1.21E-04	1.21E-03

TABLE 2-6B
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
AIR DOSE DUE TO NOBLE GAS RELEASES
JANUARY, 1998 THROUGH JUNE, 1998

UNIT 2

CUMULATIVE DOSE PER QUARTER

TYPE OF RADIATION	ODCM LIMIT	UNITS	QUARTER 1	% OF ODCM LIMIT	QUARTER 2	% OF ODCM LIMIT
BETA	10.0	mrad	5.45E-03	5.45E-02	1.60E-05	1.60E-04
GAMMA	5.0	mrad	1.61E-03	3.21E-02	1.37E-05	2.74E-04

CUMULATIVE DOSES PER YEAR (YEAR TO DATE)

TYPE OF RADIATION	ODCM LIMIT	UNITS	YEAR TO DATE	% OF ODCM LIMIT
BETA	20.0	mrad	5.47E-03	2.73E-02
GAMMA	10.0	mrad	1.62E-03	1.62E-02

TABLE 2-6BB
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
AIR DOSE DUE TO NOBLE GAS RELEASES
JULY, 1998 THROUGH DECEMBER, 1998

UNIT 2

CUMULATIVE DOSE PER QUARTER

TYPE OF RADIATION	ODCM LIMIT	UNITS	QUARTER 3	% OF ODCM LIMIT	QUARTER 4	% OF ODCM LIMIT
BETA	10.0	mrad	1.91E-06	1.91E-05	2.30E-06	2.30E-05
GAMMA	5.0	mrad	2.31E-06	4.63E-05	2.81E-06	5.61E-05

CUMULATIVE DOSES PER YEAR (YEAR TO DATE)

TYPE OF RADIATION	ODCM LIMIT	UNITS	YEAR TO DATE	% OF ODCM LIMIT
BETA	20.0	mrad	5.47E-03	2.74E-02
GAMMA	10.0	mrad	1.62E-03	1.62E-02

TABLE 2-7A
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
INDIVIDUAL DOSES DUE TO RADIOIODINE, TRITIUM
JANUARY, 1998 THROUGH JUNE, 1998

UNIT 1

CUMULATIVE DOSE PER QUARTER

ORGAN	ODCM LIMIT	UNITS	QUARTER 1	% OF ODCM LIMIT	QUARTER 2	% OF ODCM LIMIT
Bone	*7.5*	mrem	2.26E-07	3.01E-06	4.09E-09	5.45E-08
GI-LLI	*7.5*	mrem	3.80E-04	5.06E-03	1.83E-04	2.44E-03
Kidney	*7.5*	mrem	3.80E-04	5.07E-03	1.83E-04	2.44E-03
Liver	*7.5*	mrem	3.80E-04	5.07E-03	1.83E-04	2.44E-03
Lung	*7.5*	mrem	3.80E-04	5.06E-03	1.83E-04	2.44E-03
T. Body	*7.5*	mrem	3.80E-04	5.07E-03	1.83E-04	2.44E-03
Thyroid	*7.5*	mrem	3.88E-04	5.18E-03	1.84E-04	2.46E-03

CUMULATIVE DOSE PER YEAR

ORGAN	*ODCM LIMIT*	*UNITS*	*YEAR TO DATE*	*% of ODCM LIMIT*
Bone	*15.0*	mrem	2.30E-07	1.53E-06
GI-LLI	*15.0*	mrem	5.63E-04	3.75E-03
Kidney	*15.0*	mrem	5.63E-04	3.75E-03
Liver	*15.0*	mrem	5.63E-04	3.75E-03
Lung	*15.0*	mrem	5.63E-04	3.75E-03
T. Body	*15.0*	mrem	5.63E-04	3.75E-03
Thyroid	*15.0*	mrem	5.73E-04	3.82E-03

TABLE 2-7AA
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
INDIVIDUAL DOSES DUE TO RADIOIODINE, TRITIUM
JULY, 1998 THROUGH DECEMBER, 1998

UNIT 1

CUMULATIVE DOSE PER QUARTER

ORGAN	ODCM LIMIT	UNITS	QUARTER 3	% OF ODCM LIMIT	QUARTER 4	% OF ODCM LIMIT
Bone	*7.5*	mrem	7.91E-08	1.05E-06	5.43E-09	7.24E-08
GI-LLI	*7.5*	mrem	1.41E-04	1.88E-03	2.81E-04	3.75E-03
Kidney	*7.5*	mrem	1.41E-04	1.88E-03	2.81E-04	3.75E-03
Liver	*7.5*	mrem	1.41E-04	1.88E-03	2.81E-04	3.75E-03
Lung	*7.5*	mrem	1.41E-04	1.88E-03	2.81E-04	3.75E-03
T. Body	*7.5*	mrem	1.41E-04	1.88E-03	2.81E-04	3.75E-03
Thyroid	*7.5*	mrem	1.43E-04	1.90E-03	2.81E-04	3.75E-03

CUMULATIVE DOSE PER YEAR

ORGAN	*ODCM LIMIT*	*UNITS*	*YEAR TO DATE*	*% of ODCM LIMIT*
Bone	*15.0*	mrem	1.56E-07	1.04E-06
GI-LLI	*15.0*	mrem	9.85E-04	6.57E-03
Kidney	*15.0*	mrem	9.86E-04	6.57E-03
Liver	*15.0*	mrem	9.86E-04	6.57E-03
Lung	*15.0*	mrem	9.85E-04	6.57E-03
T. Body	*15.0*	mrem	9.85E-04	6.57E-03
Thyroid	*15.0*	mrem	9.97E-04	6.64E-03

TABLE 2-7B
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
INDIVIDUAL DOSES DUE TO RADIOIODINE, TRITIUM
JANUARY, 1998 THROUGH JUNE, 1998

UNIT 2

CUMULATIVE DOSE PER QUARTER

ORGAN	ODCM LIMIT	UNITS	QUARTER 1	% OF ODCM LIMIT	QUARTER 2	% OF ODCM LIMIT
Bone	*7.5*	mrem	1.21E-06	1.61E-05	1.61E-07	2.15E-06
GI-LLI	*7.5*	mrem	2.02E-04	2.69E-03	1.80E-04	2.41E-03
Kidney	*7.5*	mrem	2.02E-04	2.70E-03	1.81E-04	2.41E-03
Liver	*7.5*	mrem	2.02E-04	2.70E-03	1.80E-04	2.41E-03
Lung	*7.5*	mrem	2.02E-04	2.69E-03	1.80E-04	2.41E-03
T. Body	*7.5*	mrem	2.02E-04	2.69E-03	1.80E-04	2.41E-03
Thyroid	*7.5*	mrem	3.11E-04	4.15E-03	2.14E-04	2.86E-03

CUMULATIVE DOSE PER YEAR

ORGAN	*ODCM LIMIT*	*UNITS*	*YEAR TO DATE*	*% of ODCM LIMIT*
Bone	*15.0*	mrem	1.37E-06	9.14E-06
GI-LLI	*15.0*	mrem	3.82E-04	2.55E-03
Kidney	*15.0*	mrem	3.83E-04	2.55E-03
Liver	*15.0*	mrem	3.83E-04	2.55E-03
Lung	*15.0*	mrem	3.82E-04	2.55E-03
T. Body	*15.0*	mrem	3.82E-04	2.55E-03
Thyroid	*15.0*	mrem	5.25E-04	3.50E-03

TABLE 2-7BB
VOGTLE ELECTRIC GENERATING PLANT
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
INDIVIDUAL DOSES DUE TO RADIOIODINE, TRITIUM
JULY, 1998 THROUGH DECEMBER, 1998

UNIT 2

CUMULATIVE DOSE PER QUARTER

ORGAN	ODCM LIMIT	UNITS	QUARTER 3	% OF ODCM LIMIT	QUARTER 4	% OF ODCM LIMIT
Bone	*7.5*	mrem	9.39E-08	1.25E-06	2.39E-09	3.19E-08
GI-LLI	*7.5*	mrem	1.70E-04	2.26E-03	7.28E-05	9.70E-04
Kidney	*7.5*	mrem	1.70E-04	2.26E-03	7.28E-05	9.70E-04
Liver	*7.5*	mrem	1.70E-04	2.26E-03	7.28E-05	9.70E-04
Lung	*7.5*	mrem	1.70E-04	2.26E-03	7.28E-05	9.70E-04
T. Body	*7.5*	mrem	1.70E-04	2.26E-03	7.28E-05	9.70E-04
Thyroid	*7.5*	mrem	1.71E-04	2.28E-03	7.34E-05	9.79E-04

CUMULATIVE DOSE PER YEAR

ORGAN	*ODCM LIMIT*	*UNITS*	*YEAR TO DATE*	*% of ODCM LIMIT*
Bone	*15.0*	mrem	1.47E-06	9.78E-06
GI-LLI	*15.0*	mrem	6.25E-04	4.17E-03
Kidney	*15.0*	mrem	6.25E-04	4.17E-03
Liver	*15.0*	mrem	6.25E-04	4.17E-03
Lung	*15.0*	mrem	6.25E-04	4.16E-03
T. Body	*15.0*	mrem	6.25E-04	4.17E-03
Thyroid	*15.0*	mrem	7.70E-04	5.13E-03

TABLE 2-8

MINIMUM DETECTABLE CONCENTRATIONS - GASEOUS SAMPLE ANALYSES

VOGTLE ELECTRIC GENERATING PLANT

JANUARY, 1998 THROUGH DECEMBER, 1998

The values in this table represent a priori Minimum Detectable Concentration (MDC) which are typically achieved in laboratory analyses of gaseous radwaste samples.

RADIONUCLIDE	MDC	UNITS
Kr-87	1.82E-08	µCi/cc
Kr-88	2.53E-08	µCi/cc
Xe-133	2.05E-08	µCi/cc
Xe-133m	8.63E-08	µCi/cc
Xe-135	7.12E-08	µCi/cc
Xe-138	1.05E-07	µCi/cc
I-131	7.93E-15*	µCi/cc
Mn-54	3.94E-14*	µCi/cc
Fe-59	2.45E-14*	µCi/cc
Co-58	1.39E-14*	µCi/cc
Co-60	1.75E-14*	µCi/cc
Zn-65	2.82E-14*	µCi/cc
Mo-99	9.57E-14*	µCi/cc
Cs-134	1.12E-14*	µCi/cc
Cs-137	8.71E-15*	µCi/cc
Ce-141	8.62E-15*	µCi/cc
Ce-144	2.77E-14*	µCi/cc
Sr-89	1.00E-13	µCi/cc
Sr-90	1.00E-13	µCi/cc
H-3	9.00E-08	µCi/cc
Gross Alpha	1.00E-13	µCi/cc

* **Based on an estimated sample volume of 5.7E+08 cc.**

3.0 Solid Waste

3.1 Regulatory Limits/ODCM

The ODCM Limits presented in this section are stated in part for Unit 1 and Unit 2.

3.1.1 Use of Solid Radioactive Waste System

10.2.1 Process Control Program

Radioactive wastes shall be solidified or dewatered in accordance with the Process Control Program to meet shipping and transportation requirements during transit and disposal site requirements when received at the disposal site.

3.1.2 Reporting Requirements

12.1 (PCP) states in part:

The Annual Radioactive Effluent Release Report, submitted in accordance with Technical Specifications 5.6.3, shall include a summary of the quantities of solid radwaste released from the units, as outlined in Regulatory Guide 1.21.

3.2 Solid Waste Data

Regulatory Guide 1.21, Table 3 is found in this report as Table 3-1.

4.0 The Vogtle Electric Generating Plant Offsite Dose Calculation Manual (ODCM)

4.1 Changes to the Vogtle Electric Generating Plant Offsite Dose Calculation Manual (ODCM)

7.2.2.5 of ODCM

There were no changes to the Vogtle Electric Generating Plant ODCM for the period January 1, 1998 through December 31, 1998.

4.2 The Radiological Environmental Monitoring Program

4.0 of ODCM

The Radiological Environmental Monitoring Program (REMP) shall be conducted as specified in Table 4-1.

Section 4.1.1.2.3 states in part:

If adequate samples of milk, or during the growing season, grass or leafy vegetation, can no longer be obtained from one or more of the sample locations required, or if the availability is frequently or persistently wanting, efforts shall be made: to identify specific locations for obtaining suitable replacement samples; and to add any replacement locations to the REMP given in the ODCM within 30 days.

Pursuant to Technical Specification 5.5.1, documentation shall be submitted in the next Radioactive Effluent Release Report for the change(s) in the ODCM, including revised figure(s) and table(s) reflecting the changes to the location(s), with supporting information identifying the cause of the unavailability of samples and justifying the selection of any new location(s).

4.1.2 of ODCM states in part:

"A Land Use Census shall be conducted . . . . ."

The Action Statement for this requirement states in part:

a. " With a Land Use Census identifying a location(s) that yields a calculated dose or dose commitment greater than values currently being calculated in accordance with Section 3.4.3, identify the new location(s) in the next Radioactive Effluent Release Report ".

4.3 Changes in the Radiological Environmental Monitoring Program

For this reporting period, there have been no changes to the Radiological Environmental Monitoring Program.

5.0 Doses to Members of the Public Inside the Site Boundary

7.2.2.3 states in part:

"The report shall also include assessment of the radiation doses from radioactive liquid and gaseous effluents to MEMBERS OF THE PUBLIC due to their activities inside the SITE BOUNDARY during the report period; this assessment must be performed in accordance with Chapter 6. All assumptions used in making these assessments (i.e., specific activity, exposure time, and location) shall be included in the report".

The location of concern within the site boundary is the Visitors Center. The activities at the Visitor Center consist of occasional attendance at meetings and/or short visits for informational purposes.

There will be no radiation dose at this location due to radioactive liquid effluents. Delineated in Table 4-1 for this location are the values of the basic data assumed in the dose assessment due to radioactive gaseous effluents. Listed in this table are distance and direction from a point midway between the center of Unit 1 and the Unit 2 reactors, the dispersion and deposition factors for any releases from the plant vent (mixed mode) and from the turbine building (ground level), and the estimated maximum occupancy factor for an individual and the assumed age group of this individual.

The source term is not listed in Table 4-1. The source term is listed in Tables 2-3A, 2-3AA, 2-3B, and 2-3BB for the mixed mode releases. Similarly, it is listed in Tables 2-4A, 2-4AA, 2-4B, and 2-4BB for the ground level releases.

The maximum doses in units of mrem to an individual MEMBER OF THE PUBLIC due to their activities inside the site boundary during the reporting period were assessed to be as follows:

VISITOR CENTER

	Quarter 1 and 2	Quarter 3 and 4
Total Body (Direct Radiation from Plume)	9.98E-07	1.95E-08

VISITOR CENTER

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Maximum Organ (Thyroid) (Inhalation Ground Plane)	2.17E-06	7.09E-07	5.67E-07	5.91E-07

TABLE 3-1

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (1998)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

JANUARY 1, 1998 THROUGH JUNE 30, 1998

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, evaporator bottoms, etc.	m3 Ci	1.877E+01 2.773E+05	1.0E+01
b. Dry compressible waste, contaminated equip, etc.	m3 Ci	1.064E+01 2.902E+00	4.0E+01
c. Irradiated components, control rods, etc.	m3 Ci	5.409E-01 2.71E+02	1.0E+01
d. Other (describe)	m3 Ci	NONE	N/A

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

a.	Ni-63	%	3.779E+01
	Fe-55	%	1.845E+01
	Cs-134	%	1.336E+01
	All others	%	3.04E+01
b.	Fe-55	%	6.150E+01
	Co-60	%	1.777E+01
	Ni-63	%	1.356E+01
	All others	%	7.168E+00
c.	Fe-55	%	6.199E+01
	Co-60	%	3.177E+01
	Ni-63	%	3.557E+00
	All others	%	2.676E+00
d.	N/A	%	N/A
	N/A	%	N/A

Table 3-1 Cont'd

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (1998)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

JANUARY 1, 1998 THROUGH JUNE 30, 1998

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
5	Tractor / Trailer / Cask	Chem-Nuclear Systems, Inc. Barnwell, SC
9	Tractor / Trailer	Scientific Ecology Group, Oak Ridge TN.
4	Tractor / Trailer	American Ecology Recycle Center, Oak Ridge TN.

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
None	None	None

TABLE 3-1 cont'd

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (1998)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

JANUARY 1, 1998 THROUGH JUNE 30, 1998

ADDITIONAL INFORMATION REQUIRED BY ODCM:

Shipments Directly to disposal:

Shipment No.	Waste Class	Type Container	Shipping Class	Solidification Agent	VOLUME (direct to disposal only)
RWS-98-001	B STABLE	TYPE A	LSA 2	NONE	135.8
RWS-98-002	A STABLE	TYPE A	LSA 2	NONE	19.1
RWS-98-003	B STABLE	TYPE A	LSA 2	NONE	135.8
RWS-98-004	B STABLE	TYPE A	LSA 2	NONE	195.7
RWS-98-005	B STABLE	TYPE A	LSA 2	NONE	195.7

Shipments to a Waste Processor

Shipment No.	Waste Class	Type Container	Shipping Class	Solidification Agent
RVRS-98-001	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-002	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-003	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-004	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-005	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-006	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-007	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-008	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-009	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-010	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-011	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-012	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-013	A UNSTABLE	STRONG TIGHT	LQ	NONE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (1998)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

JULY 1, 1998 THROUGH DECEMBER 31, 1998.

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, evaporator bottoms, etc.	m3 Ci	 NONE	 N/A
b. Dry compressible waste, contaminated equip, etc.	m3 Ci	6.424E+00 1.284E+01	 4.0E+01
c. Irradiated components, control rods, etc.	m3 Ci	 NONE	 N/A
d. Other (describe)	m3 Ci	 NONE	 N/A

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

a.	NONE	%	N/A
	NONE	%	N/A
	NONE	%	N/A
	NONE	%	N/A
b.	H-3	%	6.037E+01
	Ni-63	%	1.668E+01
	Co-58	%	3.578E+00
	All others	%	1.937E+01
c.	N/A	%	N/A
	N/A	%	N/A
	N/A	%	N/A
	N/A	%	N/A
d.	N/A	%	N/A
	N/A	%	N/A
	N/A	%	N/A

TABLE 3-1 cont'd

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1998)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

JULY 1, 1998 THROUGH DECEMBER 31, 1998.

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
5	Tractor / Trailer	Scientific Ecology Group, Oak Ridge TN.
5	Tractor / Trailer	American Ecology Recycle Center, Oak Ridge TN.
1	Tractor / Trailer	Diversified Scientific Services, Inc. Oak Ridge, TN
3	Tractor / Trailer	Allied Technology, Richland Washington
1	Tractor / Cask / Trailer	Allied Technology, Oak Ridge, TN
2	Tractor / Trailer	Manufactured Sciences Inc. Oak Ridge, TN

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
None	None	None

TABLE 3-1 Cont'd

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (1998)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

JULY 1, 1998 THROUGH DECEMBER 31, 1998.

ADDITIONAL INFORMATION REQUIRED BY ODCM:

Shipment No.	Waste Class	Type Container	Shipping Class	Solidification Agent
RVRS-98-014	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-015	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-016	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-017	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-018	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-019	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-020	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-021	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-022	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-023	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-024	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-025	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-026	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-027	A UNSTABLE	STRONG TIGHT	LQ	NONE
RVRS-98-028	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-029	A UNSTABLE	STRONG TIGHT	LSA 2	NONE
RVRS-98-030	A UNSTABLE	STRONG TIGHT	LQ	NONE

TABLE 3-1
Addendum
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (1998)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Container volumes for years 1996 and 1997

Shipment No.	VOLUME in ft3
RWS-96-001	174.3
RWS-96-002	132.4
RWS-96-003	174.3
RWS-96-004	195.2
RWS-96-005	195.2

Shipment No.	VOLUME in ft3
RWS-97-001	135.8
RWS-97-002	135.8
RWS-97-003	26.2

Table 4-1

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 1998
DOSE TO A MEMBER OF THE PUBLIC
DUE TO ACTIVITIES INSIDE THE SITE BOUNDARY

Starting: 01-Jan-1998 Ending: 31-Dec-1998

Location Name		Visitor Center
Distance (meters)		4.47e+02
Sector		SE
X/Q(sec/m3)	(1)	5.93E-06
Depleted X/Q(sec/m3)	(2)	5.58E-06
D/Q(m^2)	(1)	2.28E-08
X/Q(Sec/m3)	(2)	7.12E-07
Depleted X/Q(sec/m3)	(2)	6.74E-07
D/Q(m2)	(2)	5.77E-09
Occupancy Factor		0.00046(4hr/yr)
Age Group		Child

VISITOR CENTER

	UNITS	QTR 1	QTR2	Total Q1 & Q2	QTR3	QTR4	Total Q3 & Q4
Total Body Dose	mrem	9.85e-07	1.32e-08	9.98e-07	8.34e-09	1.12e-08	1.95E-08
Organ							
Bone	mrem	1.03E-06	1.50E-08	1.05e-06	9.05E-09	1.11E-08	2.02E-08
Liver	mrem	2.04E-06	6.36E-07	2.68E-06	5.65E-07	5.90E-07	1.16E-06
Tbody	mrem	2.04E-06	6.36E-07	2.68E-06	5.65E-07	5.90E-07	1.16E-06
Thyroid	mrem	2.17E-06	7.09E-07	2.88E-06	5.67E-07	5.91E-07	1.16E-06
Kidney	mrem	2.04E-06	6.37E-07	2.68E-06	5.65E-07	5.90E-07	1.16E-06
Lung	mrem	2.04E-06	6.36E-07	2.68E-06	5.65E-07	5.90E-07	1.16E-06
GI-LLI	mrem	2.04E-06	6.36E-07	2.68E-06	5.65E-07	5.90E-07	1.16E-06

6.0 Major Changes to Liquid, Gaseous, or Solid Radwaste Treatment Systems

ODCM 7.2.2.7 states in part:

As required by Sections 2.1.5 and 3.1.6, licensee initiated MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (liquid and gaseous) shall be reported to the Nuclear Regulatory Commission in the Radioactive Effluent Release Report covering the period in which the change was reviewed and accepted for implementation.

Note 1: In lieu of inclusion in the Radioactive Effluents Release Report, this same information may be submitted as part of the annual FSAR update.

Gaseous Radwaste System

There were no major changes to the gaseous radwaste system in 1998.

Liquid Radwaste System

There were no major changes to the Liquid Radwaste Treatment System in 1998.

PCP 12.1 states in part:

Licensee major initiated changes to the solid radioactive waste treatment system shall be reported to the Nuclear Regulatory Commission in the Annual Radioactive Effluent Release Report for the period in which the change was implemented.

Solid Radwaste System

There were no major changes to the solid radwaste system in 1998.

7.0 Meteorological Data

ODCM 7.2.2.2 states in part:

The Radioactive Effluent Release Report shall include an annual summary of hourly meteorological data collected over the previous year. This annual summary may be either in the form of an hour-by-hour listing of wind speed, wind direction, atmospheric stability, and precipitation (if measured) on magnetic tape; or in the form of joint frequency distributions of wind speed, wind direction and atmospheric stability.

In lieu of submission with the Radioactive Effluent Release Report, the licensee has the option of retaining this summary of required meteorological data on site in a file that shall be provided to the NRC upon request.

8.0 Program Deviations

ODCM 7.2.2.6 states in part that:

8.1 Inoperable Liquid or Gaseous Effluent Monitoring Instrumentation

The report shall include deviations from the liquid and gaseous effluent monitoring instrumentation operability requirements included in Sections 2.1.1 and 3.1.1, respectively. The report shall include an explanation as to why the inoperability of liquid or gaseous effluent monitoring instrumentation was not corrected within the specified time requirement.

The inoperability of liquid and gaseous effluent monitors was corrected within the specified time for this reporting period.

8.2 Tanks Exceeding Curie Content Limits

The report shall include a description of the events leading to liquid holdup tanks or gas storage tanks exceeding the limits of Technical Specifications 5.5.12.

There were no outdoor liquid hold-up tanks used for radioactive liquids during this reporting period. Limits for the gas storage tanks were not exceeded during this reporting period.