ENCLOSURE 3

Vogtle Electric Generating Plant
Annual Radioactive Effluent Release Report for 2006

SOUTHERN NUCLEAR COMPANY

VOGTLE ELECTRIC GENERATING PLANT – UNITS 1 AND 2

NRC DOCKET NOS. 50-424 AND 50-425

FACILITY OPERATING LICENSE NOS. NPF-68 AND NPF-81

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

FOR

JANUARY 1 2006 TO DECEMBER 31, 2006

VOGTLE ELECTRIC GENERATING PLANT
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
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RADIOACTIVE EFFLUENT RELEASE REPORT - 2006

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1.0 Liquid Effluents

1.1 Regulatory Requirements

1.1.1 Concentration Limits

In accordance with Technical Specification 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 2, 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 2, 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 E-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

1.3.1 Total Radioactivity Determination

Prior to the release of any tank containing liquid radwaste, and following the required recirculation, samples are collected and analyzed in accordance with the Offsite Dose Calculation Manual (ODCM) Table 2-3 "Radioactive Liquid Waste Sampling and Analysis 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

1.3.1 Total Radioactivity Determination cont'd

Gamma isotopic measurements are performed using germanium detectors with a resolution of 2.1 keV or lower. 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.

ECL fraction is determined using radionuclide concentrations of a tank planned for release, the most current results available for tritium, gross alpha, Sr-89, Sr-90 and Fe-55 and the corresponding ECL values.
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.

Typically achieved liquid effluent sample analyses minimum detectable concentrations are reported in Table 1-4.

1.3.2 Total Error Estimation

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	24.5%

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	24.5%

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	30%

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%
TOTAL ERROR	24.5%

1.3.2 Total Error Estimation cont'd

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	14%

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

Flow totalizer error	10%
Operator interpretation of gauge	10%
TOTAL ERROR	14%

g. Gross alpha, Sr-89, Sr-90, Fe-55 and H-3 radioactivity has an additional error associated with sample compositing.

Compositing sample error	5%

1.4 Liquid Effluent Release Data

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

1.5 Radiological Impact 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 1-3A for Unit 1 and 1-3B for Unit 2, for all four quarters.

1.6 Liquid Effluents – Batch Releases

Batch release information for liquid effluents is presented in Table 1-5A for Unit 1 and Table 1-5B for Unit 2.

1.7 Liquid Effluents - Abnormal Releases

There were no abnormal releases for this reporting period.

TABLE 1-1A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Summation of All Releases
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

TYPE OF EFFLUENT	UNITS	QUARTER 1	QUARTER 2	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	CURIES	4.74E-03	1.52E-02	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	3.59E-08	2.23E-08	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	6.30E+01	4.76E+02	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	4.78E-04	6.99E-04	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	2.44E-06	1.49E-04	30.0
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.85E-11	2.19E-10	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	25
E. WASTE VOL RELEASED(PRE-DILUTION)	LITERS	3.17E+05	1.08E+06	14
F. VOLUME OF DILUTION WATER USED	LITERS	1.32E+08	6.81E+08	14

* Applicable limits are expressed in terms of dose.
See Tables 1-3A and 1-3B of this report.

TABLE 1-1A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Summation of All Releases
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

TYPE OF EFFLUENT	UNITS	QUARTER 3	QUARTER 4	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	CURIES	9.59E-03	4.20E-02	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.45E-08	1.31E-07	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	3.99E+02	6.03E+01	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.05E-04	1.89E-04	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	2.84E-04	1.39E-05	30.0
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	4.31E-10	4.36E-11	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	25
E. WASTE VOL RELEASED(PRE-DILUTION)	LITERS	1.29E+06	7.17E+05	14
F. VOLUME OF DILUTION WATER USED	LITERS	6.58E+08	3.19E+08	14

* Applicable limits are expressed in terms of dose.
See Tables 1-3A and 1-3B of this report.

TABLE 1-1B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Summation of All Releases
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

TYPE OF EFFLUENT	UNITS	QUARTER 1	QUARTER 2	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	CURIES	5.26E-03	3.13E-03	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.39E-08	1.40E-08	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	3.34E+02	2.30E+02	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	8.81E-04	1.03E-03	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	2.49E-05	3.77E-05	30
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.57E-11	1.69E-10	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	25
E. WASTE VOL RELEASED(PRE-DILUTION)	LITERS	8.64E+05	4.12E+05	14
F. VOLUME OF DILUTION WATER USED	LITERS	3.79E+08	2.23E+08	14

* Applicable limits are expressed in terms of dose.
See Tables 1-3A and 1-3B of this report.

TABLE 1-1B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Summation of All Releases
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

TYPE OF EFFLUENT	UNITS	QUARTER 3	QUARTER 4	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	CURIES	9.25E-03	1.04E-03	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.58E-08	1.56E-08	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	4.05E+02	3.71E+01	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.91E-04	5.55E-04	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	9.64E-04	0.00E+00	30
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.64E-09	0.00E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	25
E. WASTE VOL RELEASED(PRE-DILUTION)	LITERS	8.22E+05	1.62E+05	14
F. VOLUME OF DILUTION WATER USED	LITERS	5.86E+08	6.67E+07	14

* Applicable limits are expressed in terms of dose.
See Tables 1-3A and 1-3B of this report.

TABLE 1-1C

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Summation of All Releases
Unit: Site
Starting : 1-Jan-2006 Ending : 30-Jun-2006

TYPE OF EFFLUENT	UNITS	QUARTER 1	QUARTER 2	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	CURIES	1.00E-02	1.84E-02	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.96E-08	2.03E-08	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	3.97E+02	7.06E+02	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	7.77E-04	7.80E-04	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	2.74E-05	1.87E-04	30
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	5.35E-11	2.07E-10	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	25
E. WASTE VOL RELEASED(PRE-DILUTION)	LITERS	1.18E+06	1.49E+06	14
F. VOLUME OF DILUTION WATER USED	LITERS	5.10E+08	9.03E+08	14

* Applicable limits are expressed in terms of dose.
See Tables 1-3A and 1-3B of this report.

TABLE 1-1C

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Summation of All Releases
Unit: Site
Starting : 1-Jul-2006 Ending : 31-Dec-2006

TYPE OF EFFLUENT	UNITS	QUARTER 3	QUARTER 4	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	CURIES	1.88E-02	4.30E-02	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.51E-08	1.11E-07	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. TRITIUM				
1. TOTAL RELEASE	CURIES	8.04E+02	9.75E+01	24.5
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	6.46E-04	2.52E-04	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CURIES	1.25E-03	1.39E-05	30
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	uCi/ML	1.00E-09	3.60E-11	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CURIES	0.00E+00	0.00E+00	25
E. WASTE VOL RELEASED(PRE-DILUTION)	LITERS	2.11E+06	8.79E+05	14
F. VOLUME OF DILUTION WATER USED	LITERS	1.24E+09	3.85E+08	14

* Applicable limits are expressed in terms of dose.
See Tables 1-3A and 1-3B of this report.

TABLE 1-2A*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDE	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
H-3	CURIES	0.00E+00	0.00E+00	6.30E+01	4.76E+02
FISSION & ACTIVATION PRODUCTS					
CO-58	CURIES	0.00E+00	0.00E+00	2.59E-04	2.21E-03
CO-60	CURIES	0.00E+00	0.00E+00	2.60E-04	6.29E-04
CS-134	CURIES	0.00E+00	0.00E+00	0.00E+00	2.73E-05
CS-137	CURIES	0.00E+00	0.00E+00	1.99E-05	1.74E-04
FE-55	CURIES	0.00E+00	0.00E+00	2.32E-03	1.12E-02
I-133	CURIES	0.00E+00	0.00E+00	0.00E+00	9.29E-07
MN-54	CURIES	0.00E+00	0.00E+00	7.86E-06	7.73E-05
NB-97	CURIES	0.00E+00	0.00E+00	0.00E+00	4.11E-06
SB-125	CURIES	0.00E+00	0.00E+00	0.00E+00	8.56E-04
SR-89	CURIES	0.00E+00	0.00E+00	4.89E-06	1.07E-05
TE-125M	CURIES	0.00E+00	0.00E+00	1.87E-03	0.00E+00
TOTALS	CURIES	0.00E+00	0.00E+00	4.74E-03	1.52E-02
DISSOLVED AND ENTRAINED GASES					
KR-87	CURIES	0.00E+00	0.00E+00	0.00E+00	1.86E-06
XE-133	CURIES	0.00E+00	0.00E+00	2.44E-06	1.47E-04
TOTALS	CURIES	0.00E+00	0.00E+00	2.44E-06	1.49E-04

* Zeroes in this table indicate that no radioactivity was present at detectable levels. See Table 1-4 for typical minimum detectable concentrations.

TABLE 1-2A*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDE	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
H-3	CURIES	0.00E+00	0.00E+00	3.99E+02	6.03E+01
FISSION & ACTIVATION PRODUCTS					
CO-57	CURIES	0.00E+00	0.00E+00	0.00E+00	2.61E-05
CO-58	CURIES	0.00E+00	0.00E+00	2.34E-04	5.80E-03
CO-60	CURIES	0.00E+00	0.00E+00	6.21E-04	1.77E-03
CR-51	CURIES	0.00E+00	0.00E+00	0.00E+00	8.10E-04
CS-134	CURIES	0.00E+00	0.00E+00	1.64E-05	6.79E-05
CS-137	CURIES	0.00E+00	0.00E+00	1.69E-04	6.50E-04
FE-55	CURIES	0.00E+00	0.00E+00	5.12E-03	3.11E-02
FE-59	CURIES	0.00E+00	0.00E+00	0.00E+00	3.22E-05
MN-54	CURIES	0.00E+00	0.00E+00	2.60E-05	1.28E-04
NB-95	CURIES	0.00E+00	0.00E+00	6.91E-06	1.78E-04
SB-124	CURIES	0.00E+00	0.00E+00	0.00E+00	2.07E-06
SB-125	CURIES	0.00E+00	0.00E+00	9.40E-04	1.20E-03
SR-89	CURIES	0.00E+00	0.00E+00	9.21E-05	5.12E-05
TE-125M	CURIES	0.00E+00	0.00E+00	2.37E-03	0.00E+00
ZR-95	CURIES	0.00E+00	0.00E+00	0.00E+00	9.94E-05
TOTALS	CURIES	0.00E+00	0.00E+00	9.59E-03	4.20E-02
DISSOLVED AND ENTRAINED GASES					
XE-131M	CURIES	0.00E+00	0.00E+00	2.74E-05	0.00E+00
XE-133	CURIES	0.00E+00	0.00E+00	2.57E-04	1.39E-05
TOTALS	CURIES	0.00E+00	0.00E+00	2.84E-04	1.39E-05

* Zeroes in this table indicate that no radioactivity was present at detectable levels. See Table 1-4 for typical minimum detectable concentrations.

TABLE 1-2B*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDE	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
H-3	CURIES	0.00E+00	0.00E+00	3.34E+02	2.30E+02
FISSION & ACTIVATION PRODUCTS					
CE-141	CURIES	0.00E+00	0.00E+00	1.14E-06	0.00E+00
CO-57	CURIES	0.00E+00	0.00E+00	7.24E-06	0.00E+00
CO-58	CURIES	0.00E+00	0.00E+00	8.06E-04	2.95E-04
CO-60	CURIES	0.00E+00	0.00E+00	1.42E-03	1.61E-04
CS-134	CURIES	0.00E+00	0.00E+00	2.51E-06	4.67E-06
CS-137	CURIES	0.00E+00	0.00E+00	0.00E+00	4.69E-05
FE-55	CURIES	0.00E+00	0.00E+00	2.89E-03	2.13E-03
MN-54	CURIES	0.00E+00	0.00E+00	8.76E-05	4.49E-06
NB-95	CURIES	0.00E+00	0.00E+00	1.03E-05	0.00E+00
SB-125	CURIES	0.00E+00	0.00E+00	3.46E-05	4.94E-04
SR-89	CURIES	0.00E+00	0.00E+00	3.27E-06	2.84E-13
TOTALS	CURIES	0.00E+00	0.00E+00	5.26E-03	3.13E-03
DISSOLVED AND ENTRAINED GASES					
XE-133	CURIES	0.00E+00	0.00E+00	2.49E-05	3.77E-05
TOTALS	CURIES	0.00E+00	0.00E+00	2.49E-05	3.77E-05

* Zeroes in this table indicate that no radioactivity was present at detectable levels. See Table 1-4 for typical minimum detectable concentrations.

TABLE 1-2B*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDE	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
H-3	CURIES	0.00E+00	0.00E+00	4.05E+02	3.71E+01
FISSION & ACTIVATION PRODUCTS					
CO-58	CURIES	0.00E+00	0.00E+00	9.55E-05	5.44E-04
CO-60	CURIES	0.00E+00	0.00E+00	3.16E-04	1.15E-04
CS-134	CURIES	0.00E+00	0.00E+00	1.58E-06	0.00E+00
CS-137	CURIES	0.00E+00	0.00E+00	1.01E-05	2.07E-06
FE-55	CURIES	0.00E+00	0.00E+00	7.42E-03	2.79E-04
SB-125	CURIES	0.00E+00	0.00E+00	1.40E-04	1.04E-04
SR-89	CURIES	0.00E+00	0.00E+00	7.39E-13	0.00E+00
TE-125M	CURIES	0.00E+00	0.00E+00	1.26E-03	0.00E+00
TOTALS	CURIES	0.00E+00	0.00E+00	9.25E-03	1.04E-03
DISSOLVED AND ENTRAINED GASES					
XE-133	CURIES	0.00E+00	0.00E+00	9.32E-04	0.00E+00
XE-133M	CURIES	0.00E+00	0.00E+00	1.57E-05	0.00E+00
XE-135	CURIES	0.00E+00	0.00E+00	1.68E-05	0.00E+00
TOTALS	CURIES	0.00E+00	0.00E+00	9.64E-04	0.00E+00

* Zeroes in this table indicate that no radioactivity was present at detectable levels. See Table 1-4 for typical minimum detectable concentrations.

TABLE 1-2C*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents
Unit: Site
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDE	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
H-3	CURIES	0.00E+00	0.00E+00	3.97E+02	7.06E+02
FISSION & ACTIVATION PRODUCTS					
CE-141	CURIES	0.00E+00	0.00E+00	1.14E-06	0.00E+00
CO-57	CURIES	0.00E+00	0.00E+00	7.24E-06	0.00E+00
CO-58	CURIES	0.00E+00	0.00E+00	1.07E-03	2.51E-03
CO-60	CURIES	0.00E+00	0.00E+00	1.68E-03	7.90E-04
CS-134	CURIES	0.00E+00	0.00E+00	2.51E-06	3.19E-05
CS-137	CURIES	0.00E+00	0.00E+00	1.99E-05	2.21E-04
FE-55	CURIES	0.00E+00	0.00E+00	5.21E-03	1.34E-02
I-133	CURIES	0.00E+00	0.00E+00	0.00E+00	9.29E-07
MN-54	CURIES	0.00E+00	0.00E+00	9.54E-05	8.18E-05
NB-95	CURIES	0.00E+00	0.00E+00	1.03E-05	0.00E+00
NB-97	CURIES	0.00E+00	0.00E+00	0.00E+00	4.11E-06
SB-125	CURIES	0.00E+00	0.00E+00	3.46E-05	1.35E-03
SR-89	CURIES	0.00E+00	0.00E+00	8.16E-06	1.07E-05
TE-125M	CURIES	0.00E+00	0.00E+00	1.87E-03	0.00E+00
TOTALS	CURIES	0.00E+00	0.00E+00	1.00E-02	1.84E-02
DISSOLVED AND ENTRAINED GASES					
KR-87	CURIES	0.00E+00	0.00E+00	0.00E+00	1.86E-06
XE-133	CURIES	0.00E+00	0.00E+00	2.74E-05	1.85E-04
TOTALS	CURIES	0.00E+00	0.00E+00	2.74E-05	1.87E-04

* Zeroes in this table indicate that no radioactivity was present at detectable levels. See Table 1-4 for typical minimum detectable concentrations.

TABLE 1-2C*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents
Unit: Site
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDE	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
H-3	CURIES	0.00E+00	0.00E+00	8.04E+02	9.75E+01
FISSION & ACTIVATION PRODUCTS					
CO-57	CURIES	0.00E+00	0.00E+00	0.00E+00	2.61E-05
CO-58	CURIES	0.00E+00	0.00E+00	3.29E-04	6.35E-03
CO-60	CURIES	0.00E+00	0.00E+00	9.37E-04	1.88E-03
CR-51	CURIES	0.00E+00	0.00E+00	0.00E+00	8.10E-04
CS-134	CURIES	0.00E+00	0.00E+00	1.80E-05	6.79E-05
CS-137	CURIES	0.00E+00	0.00E+00	1.79E-04	6.52E-04
FE-55	CURIES	0.00E+00	0.00E+00	1.25E-02	3.14E-02
FE-59	CURIES	0.00E+00	0.00E+00	0.00E+00	3.22E-05
MN-54	CURIES	0.00E+00	0.00E+00	2.60E-05	1.28E-04
NB-95	CURIES	0.00E+00	0.00E+00	6.91E-06	1.78E-04
SB-124	CURIES	0.00E+00	0.00E+00	0.00E+00	2.07E-06
SB-125	CURIES	0.00E+00	0.00E+00	1.08E-03	1.31E-03
SR-89	CURIES	0.00E+00	0.00E+00	9.21E-05	5.12E-05
TE-125M	CURIES	0.00E+00	0.00E+00	3.63E-03	0.00E+00
ZR-95	CURIES	0.00E+00	0.00E+00	0.00E+00	9.94E-05
TOTALS	CURIES	0.00E+00	0.00E+00	1.88E-02	4.30E-02
DISSOLVED AND ENTRAINED GASES					
XE-131M	CURIES	0.00E+00	0.00E+00	2.74E-05	0.00E+00
XE-133	CURIES	0.00E+00	0.00E+00	1.19E-03	1.39E-05
XE-133M	CURIES	0.00E+00	0.00E+00	1.57E-05	0.00E+00
XE-135	CURIES	0.00E+00	0.00E+00	1.68E-05	0.00E+00
TOTALS	CURIES	0.00E+00	0.00E+00	1.25E-03	1.39E-05

* Zeroes in this table indicate that no radioactivity was present at detectable levels. See Table 1-4 for typical minimum detectable concentrations.

TABLE 1-3A

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSES TO A MEMBER OF THE PUBLIC DUE TO LIQUID RELEASES
Unit: 1
Starting: 01-Jan-2006 Ending: 30-Jun-2006

Cumulative Doses per Quarter

Organ	ODCM Limit	Units	Quarter 1	% of ODCM Limit	Quarter 2	% of ODCM Limit
Bone	5.0	mrem	1.54E-04	3.09E-03	1.34E-03	2.67E-02
Liver	5.0	mrem	1.10E-03	2.20E-02	1.12E-02	2.23E-01
TBody	1.5	mrem	1.04E-03	6.91E-02	1.05E-02	7.03E-01
Thyroid	5.0	mrem	9.51E-04	1.90E-02	9.28E-03	1.86E-01
Kidney	5.0	mrem	1.14E-03	2.27E-02	9.88E-03	1.98E-01
Lung	5.0	mrem	9.63E-04	1.93E-02	1.13E-02	2.25E-01
GILLI	5.0	mrem	1.12E-03	2.23E-02	9.62E-03	1.92E-01

Cumulative Doses per Year

Organ	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Bone	10.0	mrem	1.49E-03	1.49E-02
Liver	10.0	mrem	1.23E-02	1.23E-01
TBody	3.0	mrem	1.16E-02	3.86E-01
Thyroid	10.0	mrem	1.02E-02	1.02E-01
Kidney	10.0	mrem	1.10E-02	1.10E-01
Lung	10.0	mrem	1.22E-02	1.22E-01
GILLI	10.0	mrem	1.07E-02	1.07E-01

TABLE 1-3A

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSES TO A MEMBER OF THE PUBLIC DUE TO LIQUID RELEASES
Unit: 1
Starting: 01-Jul-2006 Ending: 31-Dec-2006

Cumulative Doses per Quarter

Organ	ODCM Limit	Units	Quarter 1	% of ODCM Limit	Quarter 2	% of ODCM Limit
Bone	5.0	mrem	1.70E-03	3.40E-02	5.33E-03	1.07E-01
Liver	5.0	mrem	1.29E-02	2.58E-01	8.85E-03	1.77E-01
TBody	1.5	mrem	1.22E-02	8.11E-01	6.37E-03	4.25E-01
Thyroid	5.0	mrem	1.08E-02	2.16E-01	1.52E-03	3.04E-02
Kidney	5.0	mrem	1.20E-02	2.41E-01	3.89E-03	7.78E-02
Lung	5.0	mrem	1.33E-02	2.66E-01	5.15E-03	1.03E-01
GILLI	5.0	mrem	1.17E-02	2.34E-01	2.59E-03	5.18E-02

Cumulative Doses per Year

Organ	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Bone	10.0	mrem	8.52E-03	8.52E-02
Liver	10.0	mrem	3.40E-02	3.40E-01
TBody	3.0	mrem	3.01E-02	1.00E+00
Thyroid	10.0	mrem	2.25E-02	2.25E-01
Kidney	10.0	mrem	2.70E-02	2.70E-01
Lung	10.0	mrem	3.07E-02	3.07E-01
GILLI	10.0	mrem	2.50E-02	2.50E-01

TABLE 1-3B

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSES TO A MEMBER OF THE PUBLIC DUE TO LIQUID RELEASES
Unit: 2
Starting: 01-Jan-2006 Ending: 30-Jun-2006

Cumulative Doses per Quarter

Organ	ODCM Limit	Units	Quarter 1	% of ODCM Limit	Quarter 2	% of ODCM Limit
Bone	5.0	mrem	3.11E-05	6.23E-04	5.13E-04	1.03E-02
Liver	5.0	mrem	4.78E-03	9.56E-02	5.38E-03	1.08E-01
TBody	1.5	mrem	4.77E-03	3.18E-01	5.15E-03	3.43E-01
Thyroid	5.0	mrem	4.73E-03	9.47E-02	4.68E-03	9.36E-02
Kidney	5.0	mrem	4.74E-03	9.49E-02	4.91E-03	9.82E-02
Lung	5.0	mrem	4.80E-03	9.60E-02	6.12E-03	1.22E-01
GILLI	5.0	mrem	4.87E-03	9.74E-02	4.85E-03	9.70E-02

Cumulative Doses per Year

Organ	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Bone	10.0	mrem	5.44E-04	5.44E-03
Liver	10.0	mrem	1.02E-02	1.02E-01
TBody	3.0	mrem	9.92E-03	3.31E-01
Thyroid	10.0	mrem	9.42E-03	9.42E-02
Kidney	10.0	mrem	9.65E-03	9.65E-02
Lung	10.0	mrem	1.09E-02	1.09E-01
GILLI	10.0	mrem	9.72E-03	9.72E-02

TABLE 1-3B

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSES TO A MEMBER OF THE PUBLIC DUE TO LIQUID RELEASES
Unit: 2
Starting: 01-Jul-2006 Ending: 31-Dec-2006

Cumulative Doses per Quarter

Organ	ODCM Limit	Units	Quarter 3	% of ODCM Limit	Quarter 4	% of ODCM Limit
Bone	5.0	mrem	2.83E-04	5.65E-03	2.85E-05	5.70E-04
Liver	5.0	mrem	1.11E-02	2.23E-01	1.11E-03	2.22E-02
TBody	1.5	mrem	1.10E-02	7.35E-01	1.10E-03	7.33E-02
Thyroid	5.0	mrem	1.09E-02	2.19E-01	1.08E-03	2.15E-02
Kidney	5.0	mrem	1.13E-02	2.26E-01	1.09E-03	2.17E-02
Lung	5.0	mrem	1.13E-02	2.26E-01	1.34E-03	2.68E-02
GILLI	5.0	mrem	1.14E-02	2.27E-01	1.13E-03	2.27E-02

Cumulative Doses per Year

Organ	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Bone	10.0	mrem	8.55E-04	8.55E-03
Liver	10.0	mrem	2.24E-02	2.24E-01
TBody	3.0	mrem	2.20E-02	7.35E-01
Thyroid	10.0	mrem	2.14E-02	2.14E-01
Kidney	10.0	mrem	2.20E-02	2.20E-01
Lung	10.0	mrem	2.36E-02	2.36E-01
GILLI	10.0	mrem	2.22E-02	2.22E-01

TABLE 1-4
VOGTLE ELECTRIC GENERATING PLANT
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
MINIMUM DETECTABLE CONCENTRATIONS - LIQUID SAMPLE ANALYSES

JANUARY 2006 - DECEMBER 2006

The values in this table represent a priori Minimum Detectable Concentrations (MDC) that 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 1-5A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Batch Release Summary
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

NUMBER OF BATCH RELEASES	:	43	
TOTAL TIME PERIOD FOR BATCH RELEASES	:	8435.62	MINUTES
MAXIMUM TIME PERIOD FOR A BATCH RELEASE	:	674.87	MINUTES
AVERAGE TIME PERIOD FOR BATCH RELEASES	:	196.18	MINUTES
MINIMUM TIME PERIOD FOR A BATCH RELEASE	:	50.10	MINUTES

TABLE 1-5A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Batch Release Summary
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

NUMBER OF BATCH RELEASES	:	61	
TOTAL TIME PERIOD FOR BATCH RELEASES	:	11290.93	MINUTES
MAXIMUM TIME PERIOD FOR A BATCH RELEASE	:	619.00	MINUTES
AVERAGE TIME PERIOD FOR BATCH RELEASES	:	185.10	MINUTES
MINIMUM TIME PERIOD FOR A BATCH RELEASE	:	3.87	MINUTES

The average flow rate of the Savannah River at Augusta for the Radioactive Effluent Release Report period was obtained from the U.S. Army Corps of Engineers Savannah District Historic Data web page
http://water.sas.usace.army.mil/cf/DataQuery/DataQuery.cfm
The average flow rate for 2006 was 5083 cubic feet per sec.

TABLE 1-5B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Batch Release Summary
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

NUMBER OF BATCH RELEASES	:	32	
TOTAL TIME PERIOD FOR BATCH RELEASES	:	6832.92	MINUTES
MAXIMUM TIME PERIOD FOR A BATCH RELEASE	:	563.08	MINUTES
AVERAGE TIME PERIOD FOR BATCH RELEASES	:	213.53	MINUTES
MINIMUM TIME PERIOD FOR A BATCH RELEASE	:	53.92	MINUTES

TABLE 1-5B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Batch Release Summary
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

NUMBER OF BATCH RELEASES	:	22	
TOTAL TIME PERIOD FOR BATCH RELEASES	:	7924.32	MINUTES
MAXIMUM TIME PERIOD FOR A BATCH RELEASE	:	910.50	MINUTES
AVERAGE TIME PERIOD FOR BATCH RELEASES	:	360.20	MINUTES
MINIMUM TIME PERIOD FOR A BATCH RELEASE	:	67.67	MINUTES

The average flow rate of the Savannah River at Augusta for the Radioactive Effluent Release Report period was obtained from the U.S. Army Corps of Engineers Savannah District Historic Data web page
http://water.sas.usace.army.mil/cf/DataQuery/DataQuery.cfm
The average flow rate for 2006 was 5083 cubic feet per sec.

TABLE 1-6A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Abnormal Release Summary
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

NUMBER OF RELEASES	:	0	
TOTAL TIME FOR ALL RELEASES	:	0.00	MINUTES
MAXIMUM TIME FOR A RELEASE	:	0.00	MINUTES
AVERAGE TIME FOR A RELEASE	:	0.00	MINUTES
MINIMUM TIME FOR A RELEASE	:	0.00	MINUTES
TOTAL ACTIVITY FOR ALL RELEASES	:	0.00E+00	CURIES

TABLE 1-6A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Abnormal Release Summary
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

NUMBER OF RELEASES	:	0	
TOTAL TIME FOR ALL RELEASES	:	0.00	MINUTES
MAXIMUM TIME FOR A RELEASE	:	0.00	MINUTES
AVERAGE TIME FOR A RELEASE	:	0.00	MINUTES
MINIMUM TIME FOR A RELEASE	:	0.00	MINUTES
TOTAL ACTIVITY FOR ALL RELEASES	:	0.00E+00	CURIES

TABLE 1-6B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Abnormal Release Summary
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

NUMBER OF RELEASES	:	0	
TOTAL TIME FOR ALL RELEASES	:	0.00	MINUTES
MAXIMUM TIME FOR A RELEASE	:	0.00	MINUTES
AVERAGE TIME FOR A RELEASE	:	0.00	MINUTES
MINIMUM TIME FOR A RELEASE	:	0.00	MINUTES
TOTAL ACTIVITY FOR ALL RELEASES	:	0.00E+00	CURIES

TABLE 1-6B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Liquid Effluents - Abnormal Release Summary
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

NUMBER OF RELEASES	:	0	
TOTAL TIME FOR ALL RELEASES	:	0.00	MINUTES
MAXIMUM TIME FOR A RELEASE	:	0.00	MINUTES
AVERAGE TIME FOR A RELEASE	:	0.00	MINUTES
MINIMUM TIME FOR A RELEASE	:	0.00	MINUTES
TOTAL ACTIVITY FOR ALL RELEASES	:	0.00E+00	CURIES

2.0 Gaseous Effluents

2.1 Regulatory Requirements

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

2.1.1 Dose Rate Limits

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 Doses Due to Noble Gases in Gaseous Releases

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 Doses to a Member of the Public

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.

2.2 Measurements and Approximations of Total Radioactivity

2.2.1 Sample Collection and Analysis

Gaseous Effluents at the Vogtle Electric Generating Plant are currently confined to six paths: plant vents (Unit 1 and Unit 2), the condenser air ejector, the steam packing exhauster systems (Unit 1 and Unit 2), Radwaste Processing Facility and the DAW (Dry Active Waste Building).

Waste gas decay tanks are batch released through the Unit 1 plant vent. The containment purges are released through their respective plant vents. Containment atmosphere is also released via the containment equipment hatch during periods when the equipment hatch is open with containment purge/vent being stopped. Approval was granted by the NRC to open the equipment hatch during fuel movement; a release permit is generated when the equipment hatch is opened and the containment exhaust fan is not discharging to the plant vent. Any detected activity in the containment equipment hatch permit is included in the Ground Release Table of the effluent report.

All of the paths with the exception of the DAW and RPF can be continuously monitored for gaseous radioactivity. The RPF is equipped with an integrated-type sample collection device for collecting particulates. Plant vent, containment, steam jet air ejector, steam-packing exhauster are equipped with an integrated-type sample collection device for collecting particulates and iodines. Samples of the DAW are collected using portable monitoring equipment during periods of operation. During this reporting period, there were no continuous radioactive releases through the condenser air ejector and the steam packing exhauster system vents. There were no releases from the DAW. 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.

Typically achieved minimum detectable concentrations for gaseous effluent sample analyses are reported in Table 2-6.

2.2.2 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:

2.2.2.1 Fission and Activation Gases

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. 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.

2.2.2.2 Radioiodines, Tritium and Particulate Releases

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

Doses to a Member of the Public due to radioiodines, tritium and particulates are calculated for the controlling receptor, which is described in Table 3-7of the ODCM. Doses are calculated for each release period, and cumulative totals are kept for each unit for the current calendar quarter and year. Cumulative doses are compared to the dose limits specified in ODCM 3.1.4.

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

2.2.2.3 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.

2.2.3 Total Error Estimation

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	26.5%

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	55%

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	54%

2.2.3 Total Error Estimation cont'd

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	20%

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	55%

2.3 Gaseous Effluent Release Data

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

To complete table 2-1A, and 2-1B, 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 2-1A, and 2-1B 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 2-4A, and 2-4B along with the percent of the ODCM limits.

Limits for cumulative doses to a Member of the Public due to radioiodines, tritium and particulates, are specified in ODCM 3.1.4. Cumulative doses to a Member of the Public are presented in Table 2-5A, and 2-5B along with percent of ODCM limits.

2.4 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 2-4A and 2-4B.

Cumulative doses to a Member of the Public were calculated for each unit in accordance with ODCM 3.4.3. These results are presented in Tables 2-5A and 2-5B.

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

2.5 Gaseous Effluents - Batch Releases

Other data pertinent to batch releases of radioactive gaseous effluent from Unit 1 and Unit 2 are listed in Table 2-7A and 2-7B.

2.6 Gaseous Effluents - Abnormal Releases

There were 5 unplanned releases of gaseous radioactivity for 2006.

2.6.1 Condition Reports (CR's) # 2006103594 and 2006103597) document the release of U-1 Waste Gas Decay Tank (WGDT) # 6 on 3-25-2006.
Action Item 2006201391 and Release Permit # 60069.035.001.G were generated in response to this event.

2.6 Gaseous Effluents - Abnormal Releases cont'd

2.6.2 CR # 2006105710 documents the release of U-2 WGDT # 3 on 5-21-2006. Action Item 2006204449 and Release Permit # 60230.042.002.G were generated in response to this event.

2.6.3 CR # 2006111115 documents the release of U-2 WGDT # 4 on 9-26-2006. Action Item 2006204450 and Release Permit # 60209.040.001.G were generated in response to this event.

2.6.4 CR # 2006110602 documents the release of U-2 WGDT # 1 on 9-26-2006. Action Item 2006204450 and Release Permit # 60210.043.001.G were generated in response to this event.

2.6.5 CR # 2006113845 documents the release of U-1 WGDT # 7 on 12-15-2006. Action Item 2007200016 and Release Permit # 60279.036.001.G were generated in response to this event.

TABLE 2-1A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Summation of All Releases
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

TYPE OF EFFLUENT	UNITS	QUARTER 1	QUARTER 2	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	3.44E-01	9.97E-02	26.5
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	4.42E-02	1.27E-02	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	0.00E+00	0.00E+00	55
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	0.00E+00	0.00E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1. PARTICULATES(HALF-LIVES>8 DAYS)	CURIES	8.24E-06	1.54E-05	54
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.06E-06	1.96E-06	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
4. GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	55
D. TRITIUM				
1. TOTAL RELEASE	CURIES	7.35E+00	8.02E+00	20
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	9.45E-01	1.02E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	

* Applicable limits are expressed in terms of dose.
See Tables 2-4A, 2-4B, 2-5A, and 2-5B of this report.

TABLE 2-1A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Summation of All Releases
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

TYPE OF EFFLUENT	UNITS	QUARTER 3	QUARTER 4	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	9.23E-02	4.44E-02	26.5
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.16E-02	5.58E-03	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	0.00E+00	2.55E-07	55
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	0.00E+00	3.21E-08	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1. PARTICULATES(HALF-LIVES>8 DAYS)	CURIES	6.11E-15	5.15E-05	54
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	7.68E-16	6.48E-06	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
4. GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	55
D. TRITIUM				
1. TOTAL RELEASE	CURIES	1.79E+01	2.65E+01	20
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	2.25E+00	3.33E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	

* Applicable limits are expressed in terms of dose.
See Tables 2-4A, 2-4B, 2-5A, and 2-5B of this report.

TABLE 2-1B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Summation of All Releases
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

TYPE OF EFFLUENT	UNITS	QUARTER 1	QUARTER 2	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	7.42E-01	9.13E-01	26.5
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	9.54E-02	1.16E-01	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	0.00E+00	0.00E+00	55
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	0.00E+00	0.00E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1. PARTICULATES(HALF-LIVES>8 DAYS)	CURIES	3.93E-07	5.83E-07	54
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	5.06E-08	7.42E-08	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
4. GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	55
D. TRITIUM				
1. TOTAL RELEASE	CURIES	8.71E+00	2.08E+00	20
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.12E+00	2.64E-01	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	

* Applicable limits are expressed in terms of dose.
See Tables 2-4A, 2-4B, 2-5A, and 2-5B of this report.

TABLE 2-1B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Summation of All Releases
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

TYPE OF EFFLUENT	UNITS	QUARTER 3	QUARTER 4	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	4.63E-01	2.49E-01	26.5
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	5.83E-02	3.13E-02	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	0.00E+00	0.00E+00	55
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	0.00E+00	0.00E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1. PARTICULATES(HALF-LIVES>8 DAYS)	CURIES	1.60E-07	5.13E-07	54
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	2.02E-08	6.45E-08	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
4. GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	55
D. TRITIUM				
1. TOTAL RELEASE	CURIES	4.93E+00	6.05E+00	20
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	6.20E-01	7.61E-01	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	

* Applicable limits are expressed in terms of dose.
See Tables 2-4A, 2-4B, 2-5A, and 2-5B of this report.

TABLE 2-1C

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Summation of All Releases
Unit: Site
Starting : 1-Jan-2006 Ending : 30-Jun-2006

TYPE OF EFFLUENT	UNITS	QUARTER 1	QUARTER 2	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	1.09E+00	1.01E+00	26.5
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.40E-01	1.29E-01	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	0.00E+00	0.00E+00	55
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	0.00E+00	0.00E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1. PARTICULATES(HALF-LIVES>8 DAYS)	CURIES	8.64E-06	1.60E-05	54
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	1.11E-06	2.03E-06	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
4. GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	55
D. TRITIUM				
1. TOTAL RELEASE	CURIES	1.61E+01	1.01E+01	20
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	2.06E+00	1.28E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	

* Applicable limits are expressed in terms of dose.
See Tables 2-4A, 2-4B, 2-5A, and 2-5B of this report.

TABLE 2-1C
Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Summation of All Releases
Unit: Site
Starting : 1-Jul-2006 Ending : 31-Dec-2006

TYPE OF EFFLUENT	UNITS	QUARTER 3	QUARTER 4	EST. TOT ERROR %
A. FISSION & ACTIVATION PRODUCTS				
1. TOTAL RELEASE	CURIES	5.55E-01	2.94E-01	26.5
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	6.99E-02	3.69E-02	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
B. RADIOIODINES				
1. TOTAL IODINE-131	CURIES	0.00E+00	2.55E-07	55
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	0.00E+00	3.21E-08	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
C. PARTICULATES				
1. PARTICULATES(HALF-LIVES>8 DAYS)	CURIES	1.60E-07	5.20E-05	54
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	2.02E-08	6.55E-06	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	
4. GROSS ALPHA RADIOACTIVITY	CURIES	0.00E+00	0.00E+00	55
D. TRITIUM				
1. TOTAL RELEASE	CURIES	2.28E+01	3.25E+01	20
2. AVERAGE RELEASE RATE FOR PERIOD	uCi/Sec	2.87E+00	4.09E+00	
3. PERCENT OF APPLICABLE LIMIT	%	*	*	

* Applicable limits are expressed in terms of dose.
See Tables 2-4A, 2-4B, 2-5A, and 2-5B of this report.

TABLE 2-2A*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Mixed-Mode Level Releases
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
FISSION GASES					
XE-135M	CURIES	0.00E+00	0.00E+00	6.13E-04	0.00E+00
KR-87	CURIES	0.00E+00	0.00E+00	1.01E-03	0.00E+00
AR-41	CURIES	0.00E+00	0.00E+00	4.91E-02	4.35E-02
KR-88	CURIES	0.00E+00	0.00E+00	2.84E-03	0.00E+00
KR-85M	CURIES	0.00E+00	0.00E+00	2.43E-03	0.00E+00
XE-135	CURIES	0.00E+00	0.00E+00	3.78E-02	0.00E+00
XE-133M	CURIES	0.00E+00	0.00E+00	4.84E-04	0.00E+00
XE-133	CURIES	0.00E+00	0.00E+00	1.64E-01	5.62E-02
XE-131M	CURIES	0.00E+00	0.00E+00	1.19E-03	0.00E+00
KR-85	CURIES	0.00E+00	0.00E+00	8.36E-02	0.00E+00
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	3.44E-01	9.97E-02
PARTICULATES					
SR-89	CURIES	8.24E-06	1.54E-05	0.00E+00	0.00E+00
TOTAL FOR PERIOD	CURIES	8.24E-06	1.54E-05	0.00E+00	0.00E+00
H-3	CURIES	7.34E+00	7.43E+00	7.13E-03	5.89E-01

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-2A*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Mixed-Mode Level Releases
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
FISSION GASES					
XE-135M	CURIES	0.00E+00	0.00E+00	0.00E+00	1.73E-04
KR-87	CURIES	0.00E+00	0.00E+00	4.62E-05	1.71E-04
AR-41	CURIES	0.00E+00	0.00E+00	8.63E-02	2.68E-02
KR-88	CURIES	0.00E+00	0.00E+00	0.00E+00	4.54E-04
KR-85M	CURIES	0.00E+00	0.00E+00	0.00E+00	3.01E-04
XE-135	CURIES	0.00E+00	0.00E+00	0.00E+00	4.68E-03
XE-133M	CURIES	0.00E+00	0.00E+00	0.00E+00	4.92E-04
XE-133	CURIES	0.00E+00	0.00E+00	5.95E-03	1.13E-02
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	9.23E-02	4.44E-02
IODINES					
I-131	CURIES	0.00E+00	2.55E-07	0.00E+00	0.00E+00
TOTAL FOR PERIOD	CURIES	0.00E+00	2.55E-07	0.00E+00	0.00E+00
PARTICULATES					
CR-51	CURIES	0.00E+00	1.43E-06	0.00E+00	0.00E+00
SR-89	CURIES	6.11E-15	5.68E-13	0.00E+00	0.00E+00
NB-95	CURIES	0.00E+00	2.10E-07	0.00E+00	0.00E+00
CO-58	CURIES	0.00E+00	2.71E-06	0.00E+00	0.00E+00
MN-54	CURIES	0.00E+00	2.30E-07	0.00E+00	0.00E+00
CO-60	CURIES	0.00E+00	8.00E-07	0.00E+00	0.00E+00
TOTAL FOR PERIOD	CURIES	6.11E-15	5.38E-06	0.00E+00	0.00E+00
H-3	CURIES	1.75E+01	2.61E+01	4.00E-01	3.51E-01

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-2B*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Mixed-Mode Level Releases
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
FISSION GASES					
XE-135M	CURIES	0.00E+00	0.00E+00	0.00E+00	8.88E-03
KR-87	CURIES	0.00E+00	0.00E+00	7.80E-05	8.79E-03
AR-41	CURIES	0.00E+00	0.00E+00	1.46E-02	3.37E-02
KR-88	CURIES	0.00E+00	0.00E+00	0.00E+00	2.34E-02
KR-85M	CURIES	0.00E+00	0.00E+00	0.00E+00	1.55E-02
XE-135	CURIES	0.00E+00	0.00E+00	2.00E-03	2.41E-01
XE-133M	CURIES	0.00E+00	0.00E+00	1.41E-03	2.53E-02
XE-133	CURIES	0.00E+00	0.00E+00	3.86E-01	5.56E-01
KR-85	CURIES	0.00E+00	0.00E+00	3.38E-01	0.00E+00
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	7.42E-01	9.13E-01
PARTICULATES					
SR-89	CURIES	3.93E-07	5.83E-07	0.00E+00	0.00E+00
TOTAL FOR PERIOD	CURIES	3.93E-07	5.83E-07	0.00E+00	0.00E+00
H-3	CURIES	8.28E+00	2.07E+00	4.29E-01	4.20E-03

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-2B*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Mixed-Mode Level Releases
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
FISSION GASES					
XE-135M	CURIES	0.00E+00	0.00E+00	2.82E-03	0.00E+00
KR-87	CURIES	0.00E+00	0.00E+00	2.79E-03	0.00E+00
AR-41	CURIES	0.00E+00	0.00E+00	2.44E-02	2.47E-01
KR-88	CURIES	0.00E+00	0.00E+00	7.40E-03	0.00E+00
KR-85M	CURIES	0.00E+00	0.00E+00	5.70E-03	0.00E+00
XE-135	CURIES	0.00E+00	0.00E+00	1.03E-01	0.00E+00
XE-133M	CURIES	0.00E+00	0.00E+00	1.17E-02	0.00E+00
XE-133	CURIES	0.00E+00	0.00E+00	3.05E-01	1.71E-03
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	4.63E-01	2.49E-01
PARTICULATES					
SR-89	CURIES	1.60E-07	5.13E-07	0.00E+00	0.00E+00
TOTAL FOR PERIOD	CURIES	1.60E-07	5.13E-07	0.00E+00	0.00E+00
H-3	CURIES	4.92E+00	6.03E+00	1.28E-02	2.32E-02

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-2C*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Mixed-Mode Level Releases
Unit: Site
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
FISSION GASES					
XE-135M	CURIES	0.00E+00	0.00E+00	6.13E-04	8.88E-03
KR-87	CURIES	0.00E+00	0.00E+00	1.09E-03	8.79E-03
AR-41	CURIES	0.00E+00	0.00E+00	6.37E-02	7.72E-02
KR-88	CURIES	0.00E+00	0.00E+00	2.84E-03	2.34E-02
KR-85M	CURIES	0.00E+00	0.00E+00	2.43E-03	1.55E-02
XE-135	CURIES	0.00E+00	0.00E+00	3.98E-02	2.41E-01
XE-133M	CURIES	0.00E+00	0.00E+00	1.90E-03	2.53E-02
XE-133	CURIES	0.00E+00	0.00E+00	5.50E-01	6.12E-01
XE-131M	CURIES	0.00E+00	0.00E+00	1.19E-03	0.00E+00
KR-85	CURIES	0.00E+00	0.00E+00	4.22E-01	0.00E+00
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	1.09E+00	1.01E+00
PARTICULATES					
SR-89	CURIES	8.64E-06	1.60E-05	0.00E+00	0.00E+00
TOTAL FOR PERIOD	CURIES	8.64E-06	1.60E-05	0.00E+00	0.00E+00
H-3	CURIES	1.56E+01	9.51E+00	4.36E-01	5.94E-01

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-2C*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Mixed-Mode Level Releases
Unit: Site
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
FISSION GASES					
XE-135M	CURIES	0.00E+00	0.00E+00	2.82E-03	1.73E-04
KR-87	CURIES	0.00E+00	0.00E+00	2.84E-03	1.71E-04
AR-41	CURIES	0.00E+00	0.00E+00	1.11E-01	2.74E-01
KR-88	CURIES	0.00E+00	0.00E+00	7.40E-03	4.54E-04
KR-85M	CURIES	0.00E+00	0.00E+00	5.70E-03	3.01E-04
XE-135	CURIES	0.00E+00	0.00E+00	1.03E-01	4.68E-03
XE-133M	CURIES	0.00E+00	0.00E+00	1.17E-02	4.92E-04
XE-133	CURIES	0.00E+00	0.00E+00	3.11E-01	1.30E-02
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	5.55E-01	2.94E-01
IODINES					
I-131	CURIES	0.00E+00	2.55E-07	0.00E+00	0.00E+00
TOTAL FOR PERIOD	CURIES	0.00E+00	2.55E-07	0.00E+00	0.00E+00
PARTICULATES					
CR-51	CURIES	0.00E+00	1.43E-06	0.00E+00	0.00E+00
SR-89	CURIES	1.60E-07	5.13E-07	0.00E+00	0.00E+00
NB-95	CURIES	0.00E+00	2.10E-07	0.00E+00	0.00E+00
CO-58	CURIES	0.00E+00	2.71E-06	0.00E+00	0.00E+00
MN-54	CURIES	0.00E+00	2.30E-07	0.00E+00	0.00E+00
CO-60	CURIES	0.00E+00	8.00E-07	0.00E+00	0.00E+00
TOTAL FOR PERIOD	CURIES	1.60E-07	5.89E-06	0.00E+00	0.00E+00
H-3	CURIES	2.24E+01	3.21E+01	4.13E-01	3.75E-01

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations

TABLE 2-3A*

RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Ground Level Releases
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-3A*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Ground Level Releases
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
PARTICULATES					
CO-58	CURIES	0.00E+00	0.00E+00	0.00E+00	4.61E-05
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	0.00E+00	4.61E-05
H-3	CURIES	0.00E+00	0.00E+00	1.75E-02	1.62E-02

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-3B*

RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Ground Level Releases
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-3B*

RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Ground Level Releases
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-3C*

RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Ground Level Releases
Unit: Site
Starting : 1-Jan-2006 Ending : 30-Jun-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	0.00E+00	0.00E+00

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-3C*

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents-Ground Level Releases
Unit: Site
Starting : 1-Jul-2006 Ending : 31-Dec-2006

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNIT	QUARTER 3	QUARTER 4	QUARTER 3	QUARTER 4
PARTICULATES					
CO-58	CURIES	0.00E+00	0.00E+00	0.00E+00	4.61E-05
TOTAL FOR PERIOD	CURIES	0.00E+00	0.00E+00	0.00E+00	4.61E-05
H-3	CURIES	0.00E+00	0.00E+00	1.75E-02	1.62E-02

* Zeroes in this table indicate that no radioactivity was present at detectable levels.
See Table 2-6 for typical minimum detectable concentrations.

TABLE 2-4A

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
AIR DOSES DUE TO GASEOUS RELEASES
Unit: 1
Starting: 01-Jan-2006 Ending: 30-Jun-2006

Cumulative Doses per Quarter

Type of Radiation	ODCM Limit	Units	Quarter 1	% of ODCM Limit	Quarter 2	% of ODCM Limit
Gamma	5.0	mrad	9.43E-06	1.89E-04	6.22E-06	1.24E-04
Beta	10.0	mrad	9.02E-06	9.02E-05	2.95E-06	2.95E-05

Cumulative Doses per Year

Type of Radiation	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Gamma	10.0	mrad	1.56E-05	1.56E-04
Beta	20.0	mrad	1.20E-05	5.99E-05

TABLE 2-4A

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
AIR DOSES DUE TO GASEOUS RELEASES
Unit: 1
Starting: 01-Jul-2006 Ending: 31-Dec-2006

Cumulative Doses per Quarter

Type of Radiation	ODCM Limit	Units	Quarter 3	% of ODCM Limit	Quarter 4	% of ODCM Limit
Gamma	5.0	mrad	1.18E-05	2.36E-04	3.98E-06	7.95E-05
Beta	10.0	mrad	4.24E-06	4.24E-05	1.70E-06	1.70E-05

Cumulative Doses per Year

Type of Radiation	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Gamma	10.0	mrad	3.14E-05	3.14E-04
Beta	20.0	mrad	1.79E-05	8.96E-05

TABLE 2-4B

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
AIR DOSES DUE TO GASEOUS RELEASES
Unit: 2
Starting: 01-Jan-2006 Ending: 30-Jun-2006

Cumulative Doses per Quarter

Type of Radiation	ODCM Limit	Units	Quarter 1	% of ODCM Limit	Quarter 2	% of ODCM Limit
Gamma	5.0	mrad	4.14E-06	8.27E-05	2.11E-05	4.21E-04
Beta	10.0	mrad	1.64E-05	1.64E-04	2.23E-05	2.23E-04

Cumulative Doses per Year

Type of Radiation	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Gamma	10.0	mrad	2.52E-05	2.52E-04
Beta	20.0	mrad	3.87E-05	1.93E-04

TABLE 2-4B

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
AIR DOSES DUE TO GASEOUS RELEASES
Unit: 2
Starting: 01-Jul-2006 Ending: 31-Dec-2006

Cumulative Doses per Quarter

Type of Radiation	ODCM Limit	Units	Quarter 3	% of ODCM Limit	Quarter 4	% of ODCM Limit
Gamma	5.0	mrad	1.00E-05	2.00E-04	3.37E-05	6.74E-04
Beta	10.0	mrad	1.08E-05	1.08E-04	1.19E-05	1.19E-04

Cumulative Doses per Year

Type of Radiation	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Gamma	10.0	mrad	6.89E-05	6.89E-04
Beta	20.0	mrad	6.14E-05	3.07E-04

TABLE 2-5A

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSES TO A MEMBER OF THE PUBLIC DUE TO RADIOIODINES, TRITIUM,
AND PARTICULATES IN GASEOUS RELEASES
Unit: 1
Starting: 01-Jan-2006 Ending: 30-Jun-2006

Cumulative Doses per Quarter

Organ	ODCM Limit	Units	Quarter 1	% of ODCM Limit	Quarter 2	% of ODCM Limit
Bone	7.5	mrem	1.95E-06	2.60E-05	3.65E-06	4.86E-05
Liver	7.5	mrem	4.72E-05	6.30E-04	5.16E-05	6.88E-04
TBody	7.5	mrem	4.73E-05	6.31E-04	5.17E-05	6.89E-04
Thyroid	7.5	mrem	4.72E-05	6.30E-04	5.16E-05	6.88E-04
Kidney	7.5	mrem	4.72E-05	6.30E-04	5.16E-05	6.88E-04
Lung	7.5	mrem	4.73E-05	6.30E-04	5.16E-05	6.88E-04
GILLI	7.5	mrem	4.73E-05	6.31E-04	5.17E-05	6.90E-04

Cumulative Doses per Year

Organ	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Bone	15.0	mrem	5.60E-06	3.73E-05
Liver	15.0	mrem	9.88E-05	6.59E-04
TBody	15.0	mrem	9.90E-05	6.60E-04
Thyroid	15.0	mrem	9.88E-05	6.59E-04
Kidney	15.0	mrem	9.88E-05	6.59E-04
Lung	15.0	mrem	9.89E-05	6.59E-04
GILLI	15.0	mrem	9.90E-05	6.60E-04

TABLE 2-5A

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSES TO A MEMBER OF THE PUBLIC DUE TO RADIOIODINES, TRITIUM,
AND PARTICULATES IN GASEOUS RELEASES
Unit: 1
Starting: 01-Jul-2006 Ending: 31-Dec-2006

Cumulative Doses per Quarter

Organ	ODCM Limit	Units	Quarter 3	% of ODCM Limit	Quarter 4	% of ODCM Limit
Bone	7.5	mrem	4.19E-15	5.58E-14	3.08E-07	4.10E-06
Liver	7.5	mrem	1.15E-04	1.54E-03	1.71E-04	2.28E-03
TBody	7.5	mrem	1.15E-04	1.54E-03	1.71E-04	2.28E-03
Thyroid	7.5	mrem	1.15E-04	1.54E-03	1.71E-04	2.28E-03
Kidney	7.5	mrem	1.15E-04	1.54E-03	1.71E-04	2.28E-03
Lung	7.5	mrem	1.15E-04	1.54E-03	1.71E-04	2.28E-03
GILLI	7.5	mrem	1.15E-04	1.54E-03	1.71E-04	2.28E-03

Cumulative Doses per Year

Organ	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Bone	15.0	mrem	5.90E-06	3.94E-05
Liver	15.0	mrem	3.85E-04	2.57E-03
TBody	15.0	mrem	3.85E-04	2.57E-03
Thyroid	15.0	mrem	3.85E-04	2.57E-03
Kidney	15.0	mrem	3.85E-04	2.57E-03
Lung	15.0	mrem	3.85E-04	2.57E-03
GILLI	15.0	mrem	3.85E-04	2.57E-03

TABLE 2-5B

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSES TO A MEMBER OF THE PUBLIC DUE TO RADIOIODINES, TRITIUM,
AND PARTICULATES IN GASEOUS RELEASES
Unit: 2
Starting: 01-Jan-2006 Ending: 30-Jun-2006

Cumulative Doses per Quarter

Organ	ODCM Limit	Units	Quarter 1	% of ODCM Limit	Quarter 2	% of ODCM Limit
Bone	7.5	mrem	9.30E-08	1.24E-06	1.38E-07	1.84E-06
Liver	7.5	mrem	5.60E-05	7.47E-04	1.34E-05	1.78E-04
TBody	7.5	mrem	5.60E-05	7.47E-04	1.34E-05	1.78E-04
Thyroid	7.5	mrem	5.60E-05	7.47E-04	1.34E-05	1.78E-04
Kidney	7.5	mrem	5.60E-05	7.47E-04	1.34E-05	1.78E-04
Lung	7.5	mrem	5.60E-05	7.47E-04	1.34E-05	1.78E-04
GILLI	7.5	mrem	5.60E-05	7.47E-04	1.34E-05	1.78E-04

Cumulative Doses per Year

Organ	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Bone	15.0	mrem	2.31E-07	1.54E-06
Liver	15.0	mrem	6.94E-05	4.63E-04
TBody	15.0	mrem	6.94E-05	4.63E-04
Thyroid	15.0	mrem	6.94E-05	4.63E-04
Kidney	15.0	mrem	6.94E-05	4.63E-04
Lung	15.0	mrem	6.94E-05	4.63E-04
GILLI	15.0	mrem	6.94E-05	4.63E-04

TABLE 2-5B

Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSES TO A MEMBER OF THE PUBLIC DUE TO RADIOIODINES, TRITIUM,
AND PARTICULATES IN GASEOUS RELEASES
Unit: 2
Starting: 01-Jul-2006 Ending: 31-Dec-2006

Cumulative Doses per Quarter

Organ	ODCM Limit	Units	Quarter 3	% of ODCM Limit	Quarter 4	% of ODCM Limit
Bone	7.5	mrem	3.80E-08	5.06E-07	1.21E-07	1.62E-06
Liver	7.5	mrem	3.17E-05	4.23E-04	3.89E-05	5.19E-04
TBody	7.5	mrem	3.17E-05	4.23E-04	3.89E-05	5.19E-04
Thyroid	7.5	mrem	3.17E-05	4.23E-04	3.89E-05	5.19E-04
Kidney	7.5	mrem	3.17E-05	4.23E-04	3.89E-05	5.19E-04
Lung	7.5	mrem	3.17E-05	4.23E-04	3.89E-05	5.19E-04
GILLI	7.5	mrem	3.17E-05	4.23E-04	3.89E-05	5.19E-04

Cumulative Doses per Year

Organ	ODCM Limit	Units	Year to Ending Date	% of ODCM Limit
Bone	15.0	mrem	3.90E-07	2.60E-06
Liver	15.0	mrem	1.40E-04	9.33E-04
TBody	15.0	mrem	1.40E-04	9.34E-04
Thyroid	15.0	mrem	1.40E-04	9.33E-04
Kidney	15.0	mrem	1.40E-04	9.33E-04
Lung	15.0	mrem	1.40E-04	9.33E-04
GILLI	15.0	mrem	1.40E-04	9.34E-04

TABLE 2-6

VOGTLE ELECTRIC GENERATING PLANT
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
MINIMUM DETECTABLE CONCENTRATIONS - GASEOUS SAMPLE ANALYSES

JANUARY, 2006 THROUGH DECEMBER, 2006

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

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

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

TABLE 2-7A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Batch Release Summary
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

GASEOUS RELEASES

NUMBER OF BATCH RELEASES	:	47	
TOTAL TIME PERIOD FOR BATCH RELEASES	:	10171.00	MINUTES
MAXIMUM TIME PERIOD FOR A BATCH RELEASE	:	4565.00	MINUTES
AVERAGE TIME PERIOD FOR BATCH RELEASES	:	216.40	MINUTES
MINIMUM TIME FOR A BATCH RELEASE	:	26.00	MINUTES

TABLE 2-7A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Batch Release Summary
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

GASEOUS RELEASES

NUMBER OF BATCH RELEASES	:	65	
TOTAL TIME PERIOD FOR BATCH RELEASES	:	52426.72	MINUTES
MAXIMUM TIME PERIOD FOR A BATCH RELEASE	:	6903.92	MINUTES
AVERAGE TIME PERIOD FOR BATCH RELEASES	:	806.56	MINUTES
MINIMUM TIME FOR A BATCH RELEASE	:	7.00	MINUTES

TABLE 2-7B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Batch Release Summary
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

GASEOUS RELEASES

NUMBER OF BATCH RELEASES	:	30	
TOTAL TIME PERIOD FOR BATCH RELEASES	:	29141.90	MINUTES
MAXIMUM TIME PERIOD FOR A BATCH RELEASE	:	8981.92	MINUTES
AVERAGE TIME PERIOD FOR BATCH RELEASES	:	971.40	MINUTES
MINIMUM TIME FOR A BATCH RELEASE	:	20.00	MINUTES

TABLE 2-7B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Batch Release Summary
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

GASEOUS RELEASES

NUMBER OF BATCH RELEASES	:	20	
TOTAL TIME PERIOD FOR BATCH RELEASES	:	1402.00	MINUTES
MAXIMUM TIME PERIOD FOR A BATCH RELEASE	:	139.00	MINUTES
AVERAGE TIME PERIOD FOR BATCH RELEASES	:	70.10	MINUTES
MINIMUM TIME FOR A BATCH RELEASE	:	4.00	MINUTES

TABLE 2-8A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Abnormal Release Summary
Unit: 1
Starting : 1-Jan-2006 Ending : 30-Jun-2006

NUMBER OF RELEASES	:	1	
TOTAL TIME FOR ALL RELEASES	:	497.00	MINUTES
MAXIMUM TIME FOR A RELEASE	:	497.00	MINUTES
AVERAGE TIME FOR A RELEASE	:	497.00	MINUTES
MINIMUM TIME FOR A RELEASE	:	497.00	MINUTES
TOTAL ACTIVITY FOR ALL RELEASES	:	2.64E-01	CURIES

TABLE 2-8A

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Abnormal Release Summary
Unit: 1
Starting : 1-Jul-2006 Ending : 31-Dec-2006

NUMBER OF RELEASES	:	1	
TOTAL TIME FOR ALL RELEASES	:	692.00	MINUTES
MAXIMUM TIME FOR A RELEASE	:	692.00	MINUTES
AVERAGE TIME FOR A RELEASE	:	692.00	MINUTES
MINIMUM TIME FOR A RELEASE	:	692.00	MINUTES
TOTAL ACTIVITY FOR ALL RELEASES	:	1.73E-02	CURIES

TABLE 2-8B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Abnormal Release Summary
Unit: 2
Starting : 1-Jan-2006 Ending : 30-Jun-2006

NUMBER OF RELEASES	:	1	
TOTAL TIME FOR ALL RELEASES	:	2160.00	MINUTES
MAXIMUM TIME FOR A RELEASE	:	2160.00	MINUTES
AVERAGE TIME FOR A RELEASE	:	2160.00	MINUTES
MINIMUM TIME FOR A RELEASE	:	2160.00	MINUTES
TOTAL ACTIVITY FOR ALL RELEASES	:	8.88E-01	CURIES

TABLE 2-8B

Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
Gaseous Effluents - Abnormal Release Summary
Unit: 2
Starting : 1-Jul-2006 Ending : 31-Dec-2006

NUMBER OF RELEASES	:	2	
TOTAL TIME FOR ALL RELEASES	:	2760.00	MINUTES
MAXIMUM TIME FOR A RELEASE	:	1380.00	MINUTES
AVERAGE TIME FOR A RELEASE	:	1380.00	MINUTES
MINIMUM TIME FOR A RELEASE	:	1380.00	MINUTES
TOTAL ACTIVITY FOR ALL RELEASES	:	4.39E-01	CURIES

3.0 Solid Waste

3.1 Regulatory Requirements

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

3.1.1 Solid Radioactive Waste System

10.2.1 Process Control Program (PCP)

Radioactive wastes shall be solidified or dewatered in accordance with the PCP 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 Radioactive Effluent Release Report, submitted in accordance with Technical Specification 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.

TABLE 3-1
Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT AND WASTE DISPOSAL REPORT - 2006
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
Units 1 and 2

JANUARY 1, 2006 THROUGH JUNE 30, 2006

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	NONE	
	Ci	NONE	N/A
b. Dry compressible waste, contaminated equip, etc.	m3	21.87	
	Ci	146.3	40
c. Irradiated components, control rods, etc.	m3	NONE	
	Ci	NONE	N/A
d. Other (describe)	m3	NONE	
	Ci	NONE	N/A

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

a.	N/A	%	N/A
	N/A	%	N/A
	N/A	%	N/A
	N/A	%	N/A
b.	Fe-55	%	37.48
	Ni-63	%	20.76
	H-3	%	17.90
	All others	%	23.85
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

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
9	Tractor / Trailer	Duratek, Oak Ridge, TN
2	Cask / Tractor / Trailer	Studsvik, Erwin, TN
1	Cask / Tractor / Trailer	Duratek, Oak Ridge, TN

TABLE 3-1
Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT AND WASTE DISPOSAL REPORT - 2006
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
Units 1 and 2

JANUARY 1, 2006 THROUGH JUNE 30, 2006

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
None	None	None

ADDITIONAL INFORMATION REQUIRED BY ODCM:

Shipments Sent Directly to Disposal at Barnwell, SC.

Shipment No.	Waste Class	Type Container	Shipping Class	Solidification Agent	Volume (direct disposal only)
NONE					

Shipments to a Waste Processor:

Shipment No.	Waste Class	Type Container	Shipping Class	Solidification Agent	Processor
RVRS-06-001	A	Excepted Package	LSA (1)	None	Duratek
RVRS-06-002	A	Excepted Package	LQ	None	Duratek
RVRS-06-003	B	DOT 7A Type A	LSA (2)	None	Studsvik
RVRS-06-004	A	Excepted Package	LSA (1)	None	Duratek
RVRS-06-005	C	DOT 7A Type A	LSA (2)	None	Duratek
RVRS-06-006	B	DOT 7A Type A	LSA (2)	None	Studsvik
RVRS-06-007	A	Excepted Package	LQ	None	Duratek
RVRS-06-008	A	Excepted Package	LQ	None	Duratek
RVRS-06-009	A	Excepted Package	LQ	None	Duratek
RVRS-06-010	A	Excepted Package	LQ	None	Duratek
RVRS-06-011	A	Excepted Package	LQ	None	Duratek
RVRS-06-012	A	Excepted Package	LSA (1)	None	Duratek

TABLE 3-1
Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT - 2006
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
Units 1 and 2

JULY 1, 2006 THROUGH DECEMBER 31, 2006

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	NONE	
	Ci	NONE	N/A
b. Dry compressible waste, contaminated equip, etc.	m3	74.72	
	Ci	191.30	40
c. Irradiated components, control rods, etc.	m3	NONE	
	Ci	NONE	N/A
d. Other (describe)	m3	NONE	
	Ci	NONE	N/A

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

a.	N/A	%	N/A
	N/A	%	N/A
	N/A	%	N/A
	N/A	%	N/A
b.	Fe-55	%	68.87
	Ni-63	%	17.03
	Co-60	%	8.378
	All others	%	5.726
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

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
5	Rail Car	Pacific EcoSolutions, Richland, WA
3	Cask / Tractor / Trailer	Studsvik, Erwin, TN
11	Tractor / Trailer	Duratek, Oak Ridge, TN

TABLE 3-1
Vogtle Electric Generating Plant
RADIOACTIVE EFFLUENT AND WASTE DISPOSAL REPORT - 2006
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
Units 1 and 2

July 1, 2006 THROUGH December 31, 2006

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
None	None	None

ADDITIONAL INFORMATION REQUIRED BY ODCM:

Shipments Sent Directly to Disposal at Barnwell, SC.

Shipment No.	Waste Class	Type Container	Shipping Class	Solidification Agent	Volume (direct disposal only)
NONE					

Shipments to a Waste Processor:

Shipment No.	Waste Class	Type Container	Shipping Class	Solidification Agent	Processor
RVRS-05-013	A	Excepted Package	LSA (1)	None	Duratek
RVRS-05-014	B	DOT 7A Type A	LSA (2)	None	Studsvik
RVRS-05-015	A	Excepted Package	LQ	None	Duratek
RVRS-05-016	A	Excepted Package	LSA (2)	None	Duratek
RVRS-05-017	B	DOT 7A Type A	LSA (2)	None	Studsvik
RVRS-05-018	A	Excepted Package	LSA (1)	None	Duratek
RVRS-05-019	A	Excepted Package	LSA (1)	None	Duratek
RVRS-05-020	A	Excepted Package	LSA (2)	None	Duratek
RVRS-05-021	A	Excepted Package	LSA (2)	None	Duratek
RVRS-05-022	A	Excepted Package	LQ	None	Pacific EcoSoluitons
RVRS-05-023	A	Excepted Package	LQ	None	Pacific EcoSoluitons
RVRS-05-024	A	Excepted Package	LQ	None	Pacific EcoSoluitons
RVRS-05-025	A	Excepted Package	LQ	None	Pacific EcoSoluitons
RVRS-05-026	A	Excepted Package	LQ	None	Pacific EcoSoluitons
RVRS-05-027	A	Excepted Package	LQ	None	Duratek
RVRS-05-028	A	Excepted Package	LQ	None	Duratek
RVRS-05-029	A	Excepted Package	LSA (1)	None	Duratek
RVRS-05-030	B	DOT 7A Type A	LSA (2)	None	Studsvik
RVRS-05-031	A	Excepted Package	LSA (2)	None	Duratek

4.0 Doses to Members of the Public Inside the Site Boundary

4.1 Regulatory Requirements

ODCM 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".

4.2 Demonstration of Compliance

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 listed in Tables 2-2A, and 2-2B for the mixed mode releases. Similarly, it is listed in tables 2-3A and 2-3B for the ground level releases.

The maximum doses in units of mrem to a MEMBER OF THE PUBLIC due to their activities inside the site boundary during the reporting period are presented in Table 4-1.

TABLE 4-1
Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSE TO A MEMBER OF THE PUBLIC
DUE TO ACTIVITIES INSIDE THE SITE BOUNDARY
Unit: Site

Starting: 01-Jan-2006 Ending: 30-Jun-2006

Location Name	VISITOR CENTER
Distance (kilometers)	4.47E-01
Sector	SE
Occupancy Factor	4.57E-04 (4.00E+00 hr/yr)
Age Group	CHILD

Ground Level Releases:	
Noble Gas X/Q (sec/m3)	5.93E-06
Particulate X/Q (sec/m3)	5.58E-06
Particulate D/Q (m-2)	2.28E-08
Mixed Mode Releases:	
Noble Gas X/Q (sec/m3)	7.12E-07
Particulate X/Q (sec/m3)	6.74E-07
Particulate D/Q (m-2)	5.77E-09
Elevated Releases:	
Noble Gas X/Q (sec/m3)	N/A
Particulate X/Q (sec/m3)	N/A
Particulate D/Q (m-2)	N/A

	Units	Quarter 1	Quarter 2	Quarters 1 and 2	Year to Ending Date
Bone	mrem	8.90E-09	1.81E-08	2.70E-08	2.70E-08
Liver	mrem	1.90E-07	1.30E-07	3.21E-07	3.21E-07
TBody	mrem	1.90E-07	1.30E-07	3.21E-07	3.21E-07
Thyroid	mrem	1.90E-07	1.30E-07	3.21E-07	3.21E-07
Kidney	mrem	1.90E-07	1.30E-07	3.21E-07	3.21E-07
Lung	mrem	1.90E-07	1.31E-07	3.21E-07	3.21E-07
GI-LLI	mrem	1.90E-07	1.30E-07	3.21E-07	3.21E-07

TABLE 4-1
Vogtle Electric Generating Plant
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2006
DOSE TO A MEMBER OF THE PUBLIC
DUE TO ACTIVITIES INSIDE THE SITE BOUNDARY
Unit: Site

Starting: 01-Jul-2006 Ending: 31-Dec-2006

Location Name	VISITOR CENTER
Distance (kilometers)	4.47E-01
Sector	SE
Occupancy Factor	4.57E-04 (4.00E+00 hr/yr)
Age Group	CHILD

Ground Level Releases:	
Noble Gas X/Q (sec/m3)	5.93E-06
Particulate X/Q (sec/m3)	5.58E-06
Particulate D/Q (m-2)	2.28E-08
Mixed Mode Releases:	
Noble Gas X/Q (sec/m3)	7.12E-07
Particulate X/Q (sec/m3)	6.74E-07
Particulate D/Q (m-2)	5.77E-09
Elevated Releases:	
Noble Gas X/Q (sec/m3)	N/A
Particulate X/Q (sec/m3)	N/A
Particulate D/Q (m-2)	N/A

	Units	Quarter 3	Quarter 4	Quarters 3 and 4	Year to Ending Date
Bone	mrem	1.45E-08	3.26E-08	4.70E-08	7.40E-08
Liver	mrem	2.67E-07	3.84E-07	6.51E-07	9.72E-07
TBody	mrem	2.67E-07	3.84E-07	6.51E-07	9.72E-07
Thyroid	mrem	2.67E-07	3.84E-07	6.51E-07	9.72E-07
Kidney	mrem	2.67E-07	3.84E-07	6.51E-07	9.72E-07
Lung	mrem	2.67E-07	3.88E-07	6.55E-07	9.77E-07
GI-LLI	mrem	2.67E-07	3.84E-07	6.51E-07	9.72E-07

5.0 Total Dose from Uranium Fuel Cycle (40CFR190)

5.1 Regulatory Requirements

ODCM 5.1 states in part that 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.

5.2 Demonstration of Compliance

The requirements of 40CFR190 were met.

6.0 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.

7.0 Program Deviations

7.1 Inoperable Liquid or Gaseous Effluent Monitoring Instrumentation

7.1.1 Regulatory Requirement

ODCM 7.2.2.6 states in part that 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.

7.1.2 Description of Deviations

7.1.2.1 The Unit 2 Turbine Building Effluent Line radiation monitor, 2RE-848, was determined to be inoperable and not corrected within the specified time requirement of ODCM Section 2.1.1.

Condition Reports 2006103077 and 2006108608 document the events of inoperability.

Action Item 2006204256 provides details of the dates of inoperability as follows.

Data was reviewed for the period 3/12/06 (date of CR# 2006103077 which identified problem w/ flow) until 8/11/06 when info LCO # 2-2006-100I was initiated to ensure action statements were implemented in accordance with the ODCM.
Based on the data available in rounds (SOP 11880-2), 2RE0848 flow was outside the range of 2-8 gpm on the following dates during that time period: 3/12 to 3/23, 4/25 to 5/22, 6/1 to 6/12, 6/15 to 7/29, 8/4 to 8/9. The criteria of 2-8 gpm was provided by Engineering in AI 2006204254 as the flow required for operability.

This inoperability was not corrected within the specified time requirement because personnel were unaware that sample flow outside of range could affect system operability. CR # 2006108608 describes in further detail the reason for the monitor not being corrected within the specified time period.

7.2 Tanks Exceeding Curie Content Limits

7.2.1 Regulatory Requirements

ODCM 7.2.2.6 states in part that 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.

7.2.2 Description of Deviations

Limits for outdoor liquid hold-up tanks used for radioactive liquids were not exceeded during this reporting period.
Limits for the gas storage tanks were not exceeded during this reporting period.

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

8.1 Regulatory Requirements

ODCM 7.2.2.5 states in part that changes to the ODCM shall be submitted with the Radioactive Effluent Release Report. These changes may be due to changes in the radiological environmental monitoring program sampling locations as required by ODCM 4.1.1.2.3 or changes to dose calculation locations as required by ODCM 4.1.2.2.2. Land uses and dose calculation locations within five miles of VEGP must be determined by a land use census as required by ODCM 4.1.2.

8.2 Description of Changes

There were no changes made to the Vogtle Electric Generating Plant ODCM for the period January 1, 2006 through December 31, 2006.

The Land Use Census was conducted November 28, 2006 by Georgia Power Company Environmental Lab personnel. The results of the census for 2006 require no changes to the REMP sampling locations or to the dose calculation locations.

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

9.1 Regulatory Requirements

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.

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 Radioactive Effluent Release Report for the period in which the change was implemented.

9.2 Description of Major Changes

Gaseous Radwaste System

There were no major changes to the gaseous radwaste systems in the 2006 assessment period.

Liquid Radwaste System

Major changes to the liquid radwaste facilities are those that contribute to significant changes in release; i.e., either decreases or increases in release volume or activity/dose.
This is to indicate that no major changes to the liquid radwaste systems occurred during the 2006 assessment period.
While a new improved technology (Reverse Osmosis) is employed as the primary method of liquid radwaste processing, this new technology does not represent a change that negatively impacts any effluent releases. No process streams and no anticipated volumes were changed from the previous year.

Solid Radwaste System

There were no major changes to the solid radwaste systems in the 2006 assessment period.