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February 26, 2001
2130-01-20056

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Dear Sir:

Subject: Oyster Creek Generating Station
Docket No. 50-219
2000 Annual Radioactive Effluent Release Report

Attached is a copy of the Oyster Creek Annual Radioactive Effluent Release Report for the period covering January through December 31, 2000. This submittal is made in accordance with 10 CFR 50.36(a)(2) and our Operating License and Technical Specifications.

If you should have any questions or require further information, please contact Ms. Brenda DeMerchant, OC Licensing Engineer, at 609-971-4642.

Very truly yours,



Ron J. DeGregorio
Vice President
Oyster Creek

Enclosure

cc: Administrator, Region I
NRC Project Manager
NRC Sr. Resident Inspector
Chief, Bureau of Nuclear Engrg., NJ Dept. of Env. Protection

IE48

2000
Annual Radioactive Effluent Release Report
Oyster Creek Generating Station
AmerGen Energy Company

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EXECUTIVE SUMMARY

AMERGEN ENERGY COMPANY OYSTER CREEK GENERATING STATION ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT JANUARY 1, 2000 THROUGH DECEMBER 31, 2000

This report summarizes the radioactive liquid and gaseous effluents from the Oyster Creek Generating Station and the calculated maximum hypothetical radiation exposure to the public resulting from those effluents. This report covers the period of operation from January 1, 2000 through December 31, 2000.

Radioactive gaseous releases from the plant are monitored by radiation monitors and filtering systems installed in the plant stacks. Regarding liquid releases, representative samples are collected and analyzed prior to discharge. These methods accurately determine the types and quantities of radioactive materials being released to the environment.

Utilizing gaseous effluent data, the maximum hypothetical dose to any individual in the vicinity of the plant was calculated. Similarly, liquid effluent data were used to calculate a maximum hypothetical dose to an individual from liquid effluents for any shoreline exposure. Doses to the public from consumption of shellfish and fish harvested from the canal were also calculated.

Calculations of the maximum hypothetical dose to an individual from liquid and gaseous effluents were performed using a mathematical model, which is based on the methods defined by the U.S. Nuclear Regulatory Commission.

The maximum hypothetical doses are conservative overestimates of the actual off-site doses which are likely to occur. For example, the dose does not take into consideration the removal of radioactive material from salt water by precipitation of insoluble salts, absorption onto sediment, or biological removal.

Radioactive airborne discharges from the facility during 2000 consisted of 182 curies of noble gases, $1.69\text{E-}1$ (0.169) curies of radioiodines, $1.43\text{E-}2$ curies of particulate activity, and 52.2 curies of tritium.

One liquid radioactive discharge, which was the result of flushing the Fire Service System, was made from the facility during the reporting period. A total of 620 gallons ($2.35\text{E}3$ liters) of water containing $1.37\text{E-}5$ curies of tritium was released to the discharge canal. No other nuclides were detected in this release.

The maximum hypothetical calculated organ dose (thyroid) to any individual due to gaseous effluents (0.204 mrem/year) was approximately 1.36 percent of the annual limit. The maximum hypothetical calculated whole body dose to any individual due to gaseous effluents ($2.47\text{E-}3$ mrem/year) was $4.94\text{E-}4$ percent of the annual limit.

The maximum hypothetical calculated organ dose (GI tract) attributable to liquid effluents ($1.68\text{E-}10$ mrem/year) was $1.68\text{E-}9$ percent of the annual limit while the maximum hypothetical calculated whole body dose to any individual due to liquid effluents ($1.68\text{E-}10$ mrem/year) was $5.60\text{E-}9$ percent of the annual limit.

Twenty-five (25) solid, low level radioactive waste shipments, totaling approximately 359.1 cubic meters, were shipped from the Oyster Creek Generating Station during the reporting period. This material went to either a licensed burial site or to a waste processor for volume reduction. Dewatering was used in lieu of solidification of resins and filter sludge.

The total maximum hypothetical whole body dose of $2.36\text{E-}2$ mrem/year received by any individual from gaseous and liquid effluents from the Oyster Creek Generating Station for the reporting period is over 12,000 times lower than the dose the average individual in the Oyster Creek area received from natural background radiation, including that from radon (300 mrem) during the same time period. Natural background radiation dose averages approximately 100 mrem whole body per year in the Central New Jersey area. In addition, the average equivalent dose to the whole body from naturally occurring radon is about 200 mrem per year.

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 1
ANNUAL OFFSITE DOSES DUE TO RADIONUCLIDES IN EFFLUENTS
January 1, 2000 through December 31, 2000

| Reference | ODCM 4.6.1.1.4.A | ODCM 4.6.1.1.4.A | ODCM 4.6.1.1.5.A | ODCM 4.6.1.1.5.A | ODCM 4.6.1.1.5.B | ODCM 4.6.1.1.6.A | ODCM 4.6.1.1.6.A | ODCM 4.6.1.1.7.A |
|-----------------------------|----------------------------------|--------------------------------|-------------------------------------|-------------------------------|--|-------------------------------------|------------------------------------|--|
| | Liquid Total Body mrem | Liquid GI Tract mrem | Noble Gas Total Body mrem | Noble Gas Skin mrem | H-3, Iodines, & Particulates Thyroid mrem | Noble Gas Gamma Dose mRad | Noble Gas Beta Dose mRad | I-131, I-133, & Particulates Thyroid mrem |
| ODCM Limit | 3.0 mrem/year | 10.0 mrem/year | 500 mrem/year | 3000 mrem/year | 1500 mrem/year | 10 mRad/year | 20 mRad/year | 15 mrem/year |
| 2000 Dose | 1.68E-10 mrem | 1.68E-10 mrem | 2.47E-03 mrem | 4.71E-03 mrem | 2.04E-01 mrem | 1.52E-02 mrem | 1.10E-02 mrem | 2.04E-01 mrem |
| Percent of Limit | 5.60E-09 Percent | 1.68E-09 Percent | 4.94E-04 Percent | 1.57E-04 Percent | 1.36E-02 Percent | 1.52E-01 Percent | 5.50E-02 Percent | 1.36E+00 Percent |

| Reference | ODCM 4.6.1.1.8.A | ODCM 4.6.1.1.8.A |
|-----------------------------|---|--------------------------------------|
| | All Effluents Total Body mrem | All Effluents Thyroid mrem |
| ODCM Limit | 25 mrem/year | 75 mrem/year |
| 2000 Dose | 2.36E-02 mrem | 2.06E-01 mrem |
| Percent of Limit | 9.44E-02 Percent | 2.75E-01 Percent |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY 1, 2000 THROUGH DECEMBER 31, 2000

YEAR 2000 EVENT REPORT

LIQUID EFFLUENT RELEASES

One only liquid radioactive release occurred when 620 gallons (2.35E3 liters) of water were released to the Discharge Canal from the Fire Service System. The total amount of radioactivity released was 1.37E-5 curies of tritium.

CHANGES TO THE OFFSITE DOSE CALCULATION MANUAL

One revision to the Oyster Creek Generating Station Offsite Dose Calculation Manual (ODCM) was made during the reporting period. These changes to the ODCM consisted of revising a factor in a liquid radiation monitor alarm setpoint equation, revising the distances to and the exhibit showing the OCGS site boundary, and fine tuning the distance and azimuth information used to describe the locations of the sampling stations for the Radiological Environmental Monitoring Program.

EFFLUENT MONITORS OUT OF SERVICE GREATER THAN 30 DAYS

The following effluent monitors were out of service for greater than thirty days:

- 1-5 Sump Liquid Radiation Monitor; from January 1, 2000 to June 9, 2000; due to detector failure to meet calibration criteria.
- AOG Building Vent Radiation Monitor; from August 8, 2000 through December 31, 2000; due to being out of calibration.
- Radwaste Liquid Overboard Discharge Monitor; from October 16, 2000 through December 31, 2000; due to Radwaste overboard discharge line being abandoned.

CHANGES TO THE PROCESS CONTROL PLAN

There were no changes to the Process Control Plan (PCP) during 2000.

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000
SUPPLEMENTAL INFORMATION

Facility: Oyster Creek Generating Station

Licensee: AmerGen Energy Company, L.L.C.

1. Regulatory Limits

a. Fission and activation gases:

Technical Specification 3.6.E.1:

The gross radioactivity in noble gases discharged from the main condenser air ejector shall not exceed 0.21/E Ci/sec after the holdup line where E is the average gamma energy (Mev per atomic transformation).

ODCM 4.6.1.1.5.A

The dose equivalent rate in the UNRESTRICTED AREA due to radioactive noble gas in gaseous effluent shall not exceed 500 mrem/year to the total body or 3000 mrem/year to the skin.

Note: The total body dose limit of 500 mrem/year has been superseded by 10 CFR 20.1301.a.1 which states:

The total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (1 millisievert) in a year, exclusive of the dose contributions from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released in accordance with Sec. 35.75, from voluntary participation in medical research programs, and from the licensee's disposal of radioactive material into sanitary sewerage in accordance with Section 20.2003.

ODCM 4.6.1.1.6.A

The air dose in the UNRESTRICTED AREA due to noble gas released in gaseous effluent shall not exceed:

- 5 mRad/calendar quarter due to gamma radiation
- 10 mRad/calendar quarter due to beta radiation
- 10 mRad/calendar year due to gamma radiation, or
- 20 mRad/calendar year due to beta radiation.

ODCM 4.6.1.1.8.A

The annual dose to a MEMBER OF THE PUBLIC due to radioactive material in effluent from the OCNGS in the Unrestricted Area shall not exceed 75 mrem to his/her thyroid or 25 mrem to his/her total body or to any other organ.

b. Iodines

ODCM 4.6.1.1.5.B.

The dose equivalent rate in the UNRESTRICTED AREA due to tritium (H-3), I-131, I-133, and to radioactive material in particulate form having half-lives of 8 days or more in gaseous effluents shall not exceed 1500 mrem/year to any body organ when the dose rate due to H-3, Sr-89, Sr-90, and alpha-emitting radionuclides is averaged over no more than 3 months and the dose rate due to other radionuclides is averaged over no more than 31 days.

ODCM 4.6.1.1.7.A.

The dose to a MEMBER OF THE PUBLIC from I-131, I-133, and from radionuclides in particulate form having half-lives of 8 days or more in gaseous effluent, in the UNRESTRICTED AREA shall not exceed 7.5 mrem to any body organ per calendar quarter or 15 mrem to any body organ per calendar year.

c. Particulates, half-lives > 8 Days:

ODCM 4.6.1.1.5.B.

The dose equivalent rate in the UNRESTRICTED AREA due to tritium (H-3), I-131, I-133, and to radioactive material in particulate form having half-lives of 8 days or more in gaseous effluents shall not exceed 1500 mrem/year to any body organ when the dose rate due to H-3, Sr-89, Sr-90, and alpha-emitting radionuclides is averaged over no more than 3 months and the dose rate due to other radionuclides is averaged over no more than 31 days.

ODCM 4.6.1.1.7.A.

The dose to a MEMBER OF THE PUBLIC from I-131, I-133, and from radionuclides in particulate form having half-lives of 8 days or more in gaseous effluent, in the UNRESTRICTED AREA shall not exceed 7.5 mrem to any body organ per calendar quarter or 15 mrem to any body organ per calendar year.

d. Liquid effluents:

ODCM 4.6.1.1.3.A.

The concentration of radioactive material, other than noble gases, in liquid effluents in the discharge canal at the U.S. Route 9 bridge shall not exceed 10 times the Liquid Effluent Concentrations specified in 10 CFR Part 20.1001-20.2401, Appendix B, Table II, Column 2.

ODCM 4.6.1.1.3.B.

The concentration of noble gases dissolved or entrained in liquid effluent in the discharge canal at the U.S. Route 9 bridge shall not exceed 2.0e-4 μ Ci/ml.

ODCM 4.6.1.1.4.A.

The dose to a MEMBER OF THE PUBLIC due to radioactive material in liquid effluent in the UNRESTRICTED AREA shall not exceed:

- 1.5 mrem to the Total Body during any calendar quarter,
- 5.0 mrem to any body organ during any calendar quarter,
- 3.0 mrem to the Total Body during any calendar year, or
- 10.0 mrem to any body organ during any calendar year.

ODCM 4.6.1.1.8.A

The annual dose to a MEMBER OF THE PUBLIC due to radioactive material in effluents from the OCNGS in the Unrestricted Area shall not exceed 75 mrem to his/her thyroid or 25 mrem to his/her total body or to any other organ.

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SUPPLEMENTAL INFORMATION

2. Maximum Permissible Concentrations

MPCs used in determining allowable release rates or concentrations:

- a. Fission and activation gases:
Per OCGS ODCM limits, no MPCs are used to calculate allowable fission and activation gas release rates or concentrations.
- b. Iodines:
Per OCGS ODCM limits, no MPCs are used to calculate allowable iodine gaseous release rates or concentrations.
- c. Particulates, half-lives > 8 Days:
Per OCGS ODCM limits, no MPCs are used to calculate allowable particulate gaseous release rates or concentrations.
- d. Liquid effluents:
The MPC for Tritium (H-3) is $1 \text{ E-3 } \mu\text{Ci/ml}$.

3. Average Energy

The average energy (E) of the radionuclide mixture in releases of fission and activation gases:

| | | |
|-----------------|----------|--------------------------------|
| First Quarter: | 2.48E-01 | Mev (gamma - elevated release) |
| Second Quarter: | 2.48E-01 | Mev (gamma - elevated release) |
| Third Quarter: | 2.15E-01 | Mev (gamma - elevated release) |
| Fourth Quarter: | 3.44E-01 | Mev (gamma - elevated release) |
| Annual: | 2.30E-01 | Mev (gamma - elevated release) |

4. Measurements and Approximations of Total Radioactivity

The methods used to measure or approximate the total radioactivity in effluents and the methods used to determine radionuclide composition:

- a. Fission and activation gases:
 1. Stack - A continuous recording of gross radioactivity and the incorporation of isotopic data obtained from a weekly grab sample analyzed using gamma spectroscopy.
 2. Augmented Offgas (AOG) Vent - The continuous recording of gross activity and the incorporation of isotopic data obtained from a monthly grab sample analyzed using gamma spectroscopy.
 3. Turbine Building Stack and Feedpump Room Vent - The continuous recording of gross activity and the incorporation of isotopic data obtained from a monthly grab sample analyzed using gamma spectroscopy
- b. Iodines:
 1. Stack - Filters are changed weekly and analyzed using gamma spectroscopy.
 2. Augmented Offgas (AOG) Vent - Filters are changed weekly and analyzed using gamma spectroscopy.
 3. Turbine Building Stack and Feedpump Room Vent - Filters are changed weekly and analyzed using gamma spectroscopy.
- c. Particulates:
 1. Stack - Filters are changed weekly and analyzed using a low background beta counter and gamma spectroscopy.
 2. Augmented Offgas (AOG) Vent - Filters are changed weekly and analyzed using gamma spectroscopy.
 3. Turbine Building Stack and Feedpump Room Vent - Filters are changed weekly and analyzed using gamma spectroscopy.
- d. Liquid effluents:
Analysis per batch release using gamma spectrometry with a germanium detector, a low background beta counter, and a liquid scintillation counter.

5. Batch Releases

- a. Liquid
 1. Number of batch releases: 1 release
 2. Total time period for batch releases: 1690 minutes
 3. Maximum time period for a batch release: 1690 minutes
 4. Average time period for batch releases: 1690 minutes
 5. Minimum time period for a batch release: 1690 minutes
 6. Average stream flow during periods of release of effluent into a flowing stream: $3.75 \text{ E5 gallons/minute}$
- b. Gaseous
 1. Number of batch releases: None
 2. Total time period for batch release: N/A
 3. Maximum time period for a batch release: N/A
 4. Average time period for batch releases: N/A
 5. Minimum time period for a batch release: N/A

6. Abnormal releases

- a. Liquid
 1. Number of releases: None
 2. Total activity released: N/A
- b. Gaseous
 1. Number of releases: None
 2. Total activity released: N/A

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

| | Unit | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 | Yearly Total | Est. Total Error, % |
|---|--------------|--------------|--------------|--------------|--------------|-----------------|------------------------|
| A. Fission & activation gases | | | | | | | |
| 1. Total release | Ci | 7.13E-01 | 2.13E+00 | 1.57E+02 | 2.22E+01 | 1.82E+02 | +/- 25 |
| 2. Average release rate for period | μ Ci/sec | 9.07E-02 | 2.71E-01 | 1.97E+01 | 2.79E+00 | 5.75E+00 | |
| 3. Percent of Technical Specification | | | | | | | |
| a. 0.21/Energy (average) - gamma (elevated release only) | % | 1.07E-05 | 3.20E-05 | 2.01E-03 | 4.57E-04 | 6.29E-04 | |
| b. Dose rate due to gaseous effluent - | | | | | | | |
| Total Body - 500 mrem/year | % | | | | | 4.94E-04 | |
| Skin - 3000 mrem/year | % | | | | | 1.57E-04 | |
| c. Air dose due to noble gas in gaseous effluent - | | | | | | | |
| 5 mRad/calendar quarter due to gamma radiation | % | 2.40E-04 | 6.90E-04 | 2.40E-02 | 2.90E-01 | | |
| 10 mRad/calendar quarter due to beta radiation | % | 2.66E-05 | 1.59E-04 | 7.53E-03 | 1.10E-01 | | |
| 10 mRad/calendar year due to gamma radiation | % | | | | | 1.52E-01 | |
| 20 mRad/calendar year due to beta radiation | % | | | | | 5.50E-02 | |
| B. Iodines | | | | | | | |
| 1. Total iodine-131 | Ci | 1.61E-04 | 3.53E-04 | 1.66E-02 | 3.30E-02 | 5.01E-02 | +/- 25 |
| 2. Average release rate for period | μ Ci/sec | 2.05E-05 | 4.49E-05 | 2.09E-03 | 4.14E-03 | 1.58E-03 | |
| 3. Percent of Technical Specification | | | | | | | |
| a. Dose rate due to gaseous effluent - | | | | | | | |
| Any body organ - 1500 mrem/year (H-3, I-131, I-133, & Part. T1/2 > 8 D) | % | | | | | 1.36E-02 | |
| b. Dose due to radioiodine and particulates in gaseous effluent - | | | | | | | |
| Any body organ per calendar quarter - 7.5 mrem | % | 1.07E-02 | 4.01E-02 | 5.91E-01 | 2.21E+00 | | |
| Any body organ per calendar year - 15 mrem | % | | | | | 1.36E+00 | |
| C. Particulates | | | | | | | |
| 1. Particulates with half-lives > 8 days | Ci | 6.86E-04 | 8.85E-04 | 7.43E-03 | 5.31E-03 | 1.43E-02 | +/- 25 |
| 2. Average release rate for period | μ Ci/sec | 8.73E-05 | 1.13E-04 | 9.35E-04 | 6.68E-04 | 4.52E-04 | |
| 3. Percent of Technical Specification | | | | | | | |
| a. Dose rate due to gaseous effluent - | | | | | | | |
| Any body organ - 1500 mrem/year (H-3, I-131, I-133, & Part. T1/2 > 8 D) | % | | | | | 1.36E-02 | |
| b. Dose due to radioiodine and particulates in gaseous effluent - | | | | | | | |
| Any body organ per calendar quarter - 7.5 mrem | % | 1.07E-02 | 4.01E-02 | 5.91E-01 | 2.21E+00 | | |
| Any body organ per calendar year - 15 mrem | % | | | | | 1.36E+00 | |
| 4. Gross alpha radioactivity | Ci | < LLD | 1.23E-06 | 1.677E-06 | 1.59E-06 | 4.498E-06 | |
| C. Tritium | | | | | | | |
| 1. Total Release | Ci | 2.18E+01 | 1.30E+01 | 7.11E+00 | 1.02E+01 | 5.22E+01 | +/- 25 |
| 2. Average release rate for period | μ Ci/sec | 2.77E+00 | 1.66E+00 | 8.95E-01 | 1.29E+00 | 1.65E+00 | |
| 3. Percent of Technical Specification | | | | | | | |
| a. Dose rate due to gaseous effluent - | | | | | | | |
| Any body organ - 1500 mrem/year (H-3, I-131, I-133, & Part. T1/2 > 8 D) | % | | | | | 1.36E-02 | |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 1B
GASEOUS EFFLUENTS - ELEVATED RELEASES

| Nuclides Released | Unit | Continuous Mode | | | | Yearly Total |
|-------------------------|------|-----------------|-----------|-----------|-----------|--------------|
| | | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 | |
| 1. Fission gases | | | | | | |
| krypton-85 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| krypton-85m | Ci | < LLD | < LLD | 6.00E+00 | 1.32E+00 | 7.32E+00 |
| krypton-87 | Ci | < LLD | < LLD | 1.85E+01 | 2.82E+00 | 2.13E+01 |
| krypton-88 | Ci | < LLD | < LLD | < LLD | 9.34E-01 | 9.34E-01 |
| xenon-133 | Ci | < LLD | < LLD | 7.28E+01 | 5.13E+00 | 7.79E+01 |
| xenon-135 | Ci | 7.13E-01 | 2.13E+00 | 5.96E+01 | 1.03E+01 | 7.27E+01 |
| xenon-135m | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| xenon-138 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| Others | | | | | | |
| None | | | | | | |
| | | | | | | |
| Total for period | Ci | 7.13E-01 | 2.13E+00 | 1.57E+02 | 2.05E+01 | 1.80E+02 |

| | | | | | | |
|-------------------------|----|----------|----------|----------|----------|----------|
| 2. Iodines | | | | | | |
| iodine-131 | Ci | 1.61E-04 | 3.53E-04 | 1.66E-02 | 3.16E-02 | 4.87E-02 |
| iodine-132 | Ci | < LLD | < LLD | 2.13E-02 | 1.21E-02 | 3.34E-02 |
| iodine-133 | Ci | 5.56E-04 | 1.82E-03 | 1.98E-02 | 2.93E-02 | 5.15E-02 |
| iodine-135 | Ci | < LLD | < LLD | 1.07E-02 | 2.48E-02 | 3.55E-02 |
| Total for period | Ci | 7.17E-04 | 2.17E-03 | 6.84E-02 | 9.78E-02 | 1.69E-01 |

| | | | | | | |
|-------------------------|----|----------|----------|----------|----------|----------|
| C. Particulates | | | | | | |
| strontium-89 | Ci | 2.47E-04 | 4.36E-04 | 5.77E-03 | 3.47E-03 | 9.92E-03 |
| strontium-90 | Ci | 2.80E-06 | 1.11E-06 | 1.65E-05 | 6.64E-05 | 8.68E-05 |
| cesium-134 | Ci | < LLD | < LLD | 2.84E-05 | < LLD | 2.84E-05 |
| cesium-137 | Ci | 9.33E-06 | 3.09E-06 | 1.39E-04 | 8.72E-05 | 2.39E-04 |
| barium-140 | Ci | 1.08E-04 | 4.44E-04 | 1.40E-03 | 1.55E-03 | 3.50E-03 |
| lanthanum-140 | Ci | < LLD |
| Others | | | | | | |
| chromium-51 | Ci | 5.92E-07 | < LLD | < LLD | < LLD | 5.92E-07 |
| manganese-54 | Ci | 6.10E-06 | < LLD | 1.99E-05 | 2.53E-05 | 5.13E-05 |
| cobalt-58 | Ci | 8.61E-08 | < LLD | < LLD | < LLD | 8.61E-08 |
| cobalt-60 | Ci | 3.10E-04 | < LLD | 5.06E-05 | 1.11E-04 | 4.72E-04 |
| technetium-99m | Ci | 6.08E-08 | < LLD | < LLD | < LLD | 6.08E-08 |
| Total for period | Ci | 6.84E-04 | 8.84E-04 | 7.42E-03 | 5.31E-03 | 1.43E-02 |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 1C
GASEOUS EFFLUENTS - GROUND-LEVEL RELEASES

| Nuclides Released | Unit | Continuous Mode | | | | Yearly Total |
|-------------------------|------|-----------------|-----------|-----------|-----------|--------------|
| | | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 | |
| 1. Fission gases | | | | | | |
| krypton-85 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| krypton-85m | Ci | < LLD | < LLD | < LLD | 7.15E-02 | 7.15E-02 |
| krypton-87 | Ci | < LLD | < LLD | < LLD | 3.02E-01 | 3.02E-01 |
| krypton-88 | Ci | < LLD | < LLD | < LLD | 1.87E-01 | 1.87E-01 |
| xenon-133 | Ci | < LLD | < LLD | < LLD | 1.29E-03 | 1.29E-03 |
| xenon-135 | Ci | < LLD | < LLD | < LLD | 1.15E+00 | 1.15E+00 |
| xenon-135m | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| xenon-138 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| Others | | | | | | |
| None | | | | | | |
| | | | | | | |
| Total for period | Ci | < LLD | < LLD | < LLD | 1.71E+00 | 1.71E+00 |
| 2. Iodines | | | | | | |
| iodine-131 | Ci | < LLD | < LLD | 2.59E-05 | 1.36E-03 | 1.39E-03 |
| iodine-133 | Ci | < LLD | < LLD | 7.14E-06 | 5.11E-05 | 5.82E-05 |
| iodine-135 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| Total for period | Ci | < LLD | < LLD | 3.30E-05 | 1.41E-03 | 1.44E-03 |
| C. Particulates | | | | | | |
| strontium-89 | Ci | 2.33E-06 | < LLD | 2.3E-07 | 7.10E-08 | 2.63E-06 |
| strontium-90 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| cesium-134 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| cesium-137 | Ci | 1.68E-08 | 4.51E-07 | 9.61E-07 | < LLD | 1.43E-06 |
| barium-140 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| lanthanum-140 | Ci | < LLD | < LLD | < LLD | < LLD | < LLD |
| Others | | | | | | |
| manganese-54 | Ci | 9.37E-08 | < LLD | < LLD | < LLD | 9.37E-08 |
| cobalt-60 | Ci | < LLD | < LLD | < LLD | 4.36E-06 | 4.36E-06 |
| | | | | | | |
| Total for period | Ci | 2.44E-06 | 4.51E-07 | 1.19E-06 | 4.43E-06 | 8.51E-06 |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

| | Unit | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 | Yearly Total | Est. Total Error, % |
|---|--------|--------------|--------------|--------------|--------------|-----------------|------------------------|
| A. Fission & activation products | | | | | | | |
| 1. Total release (not including tritium, gases, alpha) | Ci | <LLD | <LLD | <LLD | <LLD | <LLD | +/- 25 |
| 2. Average diluted concentration during period | uCi/ml | - | - | - | - | - | |
| 3. Percent of Technical Specification | | | | | | | |
| a. Radioactivity Concentration in Liquid Effluent The concentration of radioactive material, other than noble gases shall not exceed 10 times the liquid effluent concentrations specified in 10CFR Part 20.1001-20.2401, Appendix B, Table II, Column 2 | % | | | | | - | |
| b. Limit on Dose Due to Liquid Effluent | | | | | | | |
| Total Body - 1.5 mrem/calendar quarter | % | - | - | - | - | | |
| Any Body Organ - 5.0 mrem/calendar quarter | % | - | - | - | - | | |
| Total Body - 3.0 mrem/calendar year | % | | | | | - | |
| Any Body Organ - 10.0 mrem/calendar year | % | | | | | - | |
| B. Tritium | | | | | | | |
| 1. Total release | Ci | <LLD | <LLD | <LLD | 1.37E-05 | 1.37E-05 | +/- 25 |
| 2. Average diluted concentration during period | uCi/ml | - | - | - | 3.82E-14 | 7.95E-15 | |
| 3. Percent of Technical Specification | | | | | | | |
| a. Shall not exceed 10 times the liquid effluent concentrations specified in 10CFR Part 20.1001-20.2401, Appendix B, Table II, Column 2 | % | | | | | 7.95E-11 | |
| b. Limit on Dose Due to Liquid Effluent | | | | | | | |
| Total Body - 1.5 mrem/calendar quarter | % | - | - | - | 1.12E-08 | | |
| Any Body Organ - 5.0 mrem/calendar quarter | % | - | - | - | 3.36E-09 | | |
| Total Body - 3.0 mrem/calendar year | % | | | | | 5.60E-09 | |
| Any Body Organ - 10.0 mrem/calendar year | % | | | | | 1.68E-09 | |
| C. Dissolved and entrained gases | | | | | | | |
| 1. Total release | Ci | <LLD | <LLD | <LLD | <LLD | <LLD | +/- 25 |
| 2. Average diluted concentration during period | uCi/ml | - | - | - | - | - | |
| 3. Percent of Technical Specification | | | | | | | |
| a. Shall not exceed 2.0 E-4 uCi/ml | % | | | | | - | |
| b. Limit on Dose Due to Liquid Effluent | | | | | | | |
| Total Body - 1.5 mrem/calendar quarter | % | - | - | - | - | | |
| Any Body Organ - 5.0 mrem/calendar quarter | % | - | - | - | - | | |
| Total Body - 3.0 mrem/calendar year | % | | | | | - | |
| Any Body Organ - 10.0 mrem/calendar year | % | | | | | - | |
| D. Gross alpha radioactivity | | | | | | | |
| 1. Total release | Ci | <LLD | <LLD | <LLD | <LLD | <LLD | +/- 25 |
| E. Volume of waste released (prior to dilution) | | | | | | | |
| | liters | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.35E+03 | 2.35E+03 | +/- 10 |
| F. Volume of dilution water used during period | | | | | | | |
| | liters | 4.30E+11 | 4.68E+11 | 4.66E+11 | 3.59E+11 | 1.72E+12 | +/- 10 |

OYSTER CREEK GENERATING STATION
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TABLE 2B
LIQUID EFFLUENTS

| Nuclides Released | Unit | Batch Mode | | | | Yearly Total |
|-------------------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 | |
| strontium-89 | Ci | < LLD |
| strontium-90 | Ci | < LLD |
| cesium-134 | Ci | < LLD |
| cesium-137 | Ci | < LLD |
| iodine-131 | Ci | < LLD |
| | | | | | | |
| cobalt-58 | Ci | < LLD |
| cobalt-60 | Ci | < LLD |
| iron-59 | Ci | < LLD |
| zinc-65 | Ci | < LLD |
| manganese-54 | Ci | < LLD |
| chromium-51 | Ci | < LLD |
| | | | | | | |
| zirconium-95 | Ci | < LLD |
| niobium-95 | Ci | < LLD |
| technetium-99m | Ci | < LLD |
| barium-140 | Ci | < LLD |
| lanthanum-140 | Ci | < LLD |
| cerium-141 | Ci | < LLD |
| | | | | | | |
| Other | Ci | None | None | None | None | None |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| unidentified | Ci | None | None | None | None | None |
| | | | | | | |
| Total for period | Ci | < LLD |
| | | | | | | |
| xenon-133 | Ci | < LLD |
| xenon-135 | Ci | < LLD |
| | | | | | | |
| Total for period | Ci | < LLD |

OYSTER CREEK GENERATING STATION
 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000
 TABLE 3A
 SOLID WASTE AND IRRADIATED FUEL SHIPMENTS - SUMMARY

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

| 1. Type of waste | Unit | Yearly Total | Est. Total Error, % |
|---|----------------|--------------|---------------------|
| a. Spent resins, filters, filter sludges, etc | m ³ | 3.26E+01 | +/- 25 |
| | Ci | 7.33E+01 | |
| b. Dry compressible waste, contaminated equipment, etc. | m ³ | 3.03E+02 | +/- 25 |
| | Ci | 9.77E-01 | |
| c. Irradiated components, control rods, etc. | m ³ | 3.25E+00 | +/- 25 |
| | Ci | 1.79E+04 | |
| d. Evaporator Bottoms (shipped in liquid form to a Waste Processor) | m ³ | 2.03E+01 | +/- 25 |
| | Ci | 8.46E-01 | |

Note: No solidification agent was used during the reporting period

| 2. Estimate of major nuclear composition (by type of waste) | Percentage (%) | Activity (Ci) |
|---|----------------|---------------|
| a. cobalt-60 _____ | 4.68E+01 | 3.43E+01 |
| cesium-137 _____ | 2.66E+01 | 1.95E+01 |
| iron-55 _____ | 1.14E+01 | 8.36E+00 |
| b. cobalt-60 _____ | 5.89E+01 | 5.75E-01 |
| cesium-137 _____ | 1.80E+01 | 1.76E-01 |
| iron-55 _____ | 1.20E+01 | 1.17E-01 |
| c. cobalt-60 _____ | 7.04E+01 | 1.26E+04 |
| iron-55 _____ | 2.44E+01 | 4.35E+03 |
| nickel-63 _____ | 4.92E+00 | 8.78E+02 |
| d. cesium-137 _____ | 7.74E+01 | 6.55E-01 |
| H-3 _____ | 1.63E+01 | 1.38E-01 |
| cobalt-60 _____ | 4.92E+00 | 4.16E-02 |

Note - See attached tables (Table 3B) for additional data

3. Solid Waste Disposition

| <u>Number of Shipments</u> | <u>Mode of Transportation</u> | <u>Destination</u> |
|----------------------------|-------------------------------|--------------------|
| 9 | Motor Vehicle | Barnwell, S.C. |
| 2 | Motor Vehicle | Richland, W.A. |
| 5 | Motor Vehicle | Oak Ridge, T.N. |
| 9 | Motor Vehicle | Wampum, P.A. |

B. IRRADIATED FUEL SHIPMENTS (Disposition)

| <u>Number of Shipments</u> | <u>Mode of Transportation</u> | <u>Destination</u> |
|----------------------------|-------------------------------|--------------------|
| None Shipped | | |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 3B
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Waste Stream - Summary Of All Wastes

Period of Performance: January 1, 2000 through December 31, 2000

| Waste Class | Volume Shipped | | Activity Shipped (Curies) | Percent Error (Percent) |
|-------------|--------------------|-------------------|------------------------------|----------------------------|
| | (Ft ³) | (M ³) | | |
| A | 12311.1 | 348.7 | 4.13E+00 | +/- 25 % |
| B | 252.8 | 7.2 | 7.10E+01 | +/- 25 % |
| C | 114.8 | 3.3 | 1.79E+04 | +/- 25 % |
| All | 12678.7 | 359.1 | 1.79E+04 | +/- 25 % |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 3B (cont.)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Estimate of Major Nuclide Composition - Summary of All Shipments

Period of Performance: January 1, 2000 through December 31, 2000

Waste Class: A

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------|----------|----------|
| Co-60 | 2.16E+00 | 5.22E+01 |
| Cs-137 | 8.53E-01 | 2.06E+01 |
| Fe-55 | 4.05E-01 | 9.80E+00 |
| Mn-54 | 3.51E-01 | 8.48E+00 |
| H-3 | 1.52E-01 | 3.69E+00 |
| Fe-59 | 5.29E-02 | 1.28E+00 |
| Co-58 | 3.19E-02 | 7.72E-01 |
| Cr-51 | 1.38E-02 | 3.34E-01 |
| Sr-90 | 2.25E-03 | 5.45E-02 |
| Pu-241 | 2.10E-03 | 5.09E-02 |
| Ni-63 | 3.67E-02 | 8.89E-01 |
| Ni-59 | 8.40E-04 | 2.03E-02 |
| Cm-242 | 9.63E-06 | 2.33E-04 |
| Other | 7.44E-02 | 1.80E+00 |
| Total | 4.13E+00 | 1.00E+02 |

Waste Class: B

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------|----------|----------|
| Co-60 | 3.28E+01 | 4.62E+01 |
| Cs-137 | 1.95E+01 | 2.75E+01 |
| Fe-55 | 8.07E+00 | 1.14E+01 |
| Mn-54 | 4.85E+00 | 6.83E+00 |
| Cr-51 | 2.14E+00 | 3.01E+00 |
| H-3 | 6.46E-01 | 9.10E-01 |
| Ni-63 | 3.73E-01 | 5.25E-01 |
| Sr-90 | 2.47E-01 | 3.48E-01 |
| Pu-241 | 1.78E-01 | 2.51E-01 |
| Ni-59 | 3.26E-03 | 4.59E-03 |
| Cm-242 | 1.69E-03 | 2.38E-03 |
| Other | 2.19E+00 | 3.08E+00 |
| Total | 7.10E+01 | 1.00E+02 |

Waste Class: C

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------|----------|----------|
| Co-60 | 1.26E+04 | 7.04E+01 |
| Fe-55 | 4.35E+03 | 2.44E+01 |
| Ni-63 | 8.78E+02 | 4.92E+00 |
| Mn-54 | 2.63E+01 | 1.47E-01 |
| Ni-59 | 4.94E+00 | 2.77E-02 |
| C-14 | 1.53E+00 | 8.54E-03 |
| H-3 | 1.08E-01 | 6.06E-04 |
| Nb-94 | 1.57E-02 | 8.80E-05 |
| Pu-241 | 1.12E-02 | 6.28E-05 |
| Tc-99 | 7.28E-03 | 4.08E-05 |
| Cm-242 | 3.55E-04 | 1.99E-06 |
| Other | 1.91E+01 | 1.07E-01 |
| Total | 1.79E+04 | 1.00E+02 |

Waste Class: All

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------|----------|----------|
| Co-60 | 1.26E+04 | 7.03E+01 |
| Fe-55 | 4.36E+03 | 2.43E+01 |
| Ni-63 | 8.78E+02 | 4.90E+00 |
| Mn-54 | 3.15E+01 | 1.76E-01 |
| Cs-137 | 2.04E+01 | 1.13E-01 |
| Ni-59 | 4.94E+00 | 2.76E-02 |
| Cr-51 | 2.15E+00 | 1.20E-02 |
| C-14 | 1.53E+00 | 8.50E-03 |
| H-3 | 9.07E-01 | 5.05E-03 |
| Sr-90 | 2.49E-01 | 1.39E-03 |
| Pu-241 | 1.91E-01 | 1.07E-03 |
| Fe-59 | 5.29E-02 | 2.95E-04 |
| Co-58 | 3.19E-02 | 1.78E-04 |
| Nb-94 | 1.57E-02 | 8.76E-05 |
| Tc-99 | 7.28E-03 | 4.06E-05 |
| Cm-242 | 2.05E-03 | 1.15E-05 |
| Other | 2.14E+01 | 1.19E-01 |
| Total | 1.79E+04 | 1.00E+02 |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 3B (cont.)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Waste Stream - Spent Resins, Filters, and Filter Sludge

Period of Performance: January 1, 2000 through December 31, 2000

| Waste Class | Volume Shipped | | Activity Shipped (Curies) | Percent Error (Percent) |
|-------------|--------------------|-------------------|------------------------------|----------------------------|
| | (Ft ³) | (M ³) | | |
| A | 897.0 | 25.4 | 2.31 | +/- 25 % |
| B | 252.8 | 7.2 | 71 | +/- 25 % |
| C | 0.0 | 0.0 | 0 | +/- 25 % |
| All | 1149.8 | 32.6 | 73.3 | +/- 25 % |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 3B (cont.)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Estimate of Major Nuclide Composition - Spent Resins, Filters, and Filter Sludge

Period of Performance: January 1, 2000 through December 31, 2000

Waste Class: A

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------------|-----------------|-----------------|
| Co-60 | 1.54E+00 | 6.67E+01 |
| Mn-54 | 3.01E-01 | 1.30E+01 |
| Fe-55 | 2.88E-01 | 1.25E+01 |
| Fe-59 | 5.29E-02 | 2.29E+00 |
| Co-58 | 3.19E-02 | 1.38E+00 |
| Ni-63 | 2.93E-02 | 1.27E+00 |
| Cs-137 | 2.24E-02 | 9.70E-01 |
| H-3 | 1.04E-02 | 4.50E-01 |
| Ni-59 | 7.69E-04 | 3.33E-02 |
| Pu-241 | 1.26E-04 | 5.45E-03 |
| Sr-90 | 9.65E-05 | 4.18E-03 |
| Cm-242 | 1.49E-06 | 6.45E-05 |
| Other | 3.31E-02 | 1.43E+00 |
| Total | 2.31E+00 | 1.00E+02 |

Waste Class: B

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------------|-----------------|-----------------|
| Co-60 | 3.28E+01 | 4.62E+01 |
| Cs-137 | 1.95E+01 | 2.75E+01 |
| Fe-55 | 8.07E+00 | 1.14E+01 |
| Mn-54 | 4.85E+00 | 6.83E+00 |
| Cr-51 | 2.14E+00 | 3.01E+00 |
| H-3 | 6.46E-01 | 9.10E-01 |
| Ni-63 | 3.73E-01 | 5.25E-01 |
| Sr-90 | 2.47E-01 | 3.48E-01 |
| Pu-241 | 1.78E-01 | 2.51E-01 |
| Ni-59 | 3.26E-03 | 4.59E-03 |
| Cm-242 | 1.69E-03 | 2.38E-03 |
| Other | 2.19E+00 | 3.08E+00 |
| Total | 7.10E+01 | 1.00E+02 |

Waste Class: C

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------------|------------|------------|
| N | | |
| O | | |
| N | | |
| E | | |
| S | | |
| H | | |
| I | | |
| P | | |
| P | | |
| E | | |
| D | | |
| Total | N/A | N/A |

Waste Class: All

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------------|-----------------|-----------------|
| Co-60 | 3.43E+01 | 4.68E+01 |
| Cs-137 | 1.95E+01 | 2.66E+01 |
| Fe-55 | 8.36E+00 | 1.14E+01 |
| Mn-54 | 5.15E+00 | 7.03E+00 |
| Cr-51 | 2.14E+00 | 2.92E+00 |
| H-3 | 6.56E-01 | 8.95E-01 |
| Ni-63 | 4.02E-01 | 5.49E-01 |
| Sr-90 | 2.47E-01 | 3.37E-01 |
| Pu-241 | 1.78E-01 | 2.43E-01 |
| Fe-59 | 5.29E-02 | 7.22E-02 |
| Co-58 | 3.19E-02 | 4.35E-02 |
| Ni-59 | 4.03E-03 | 5.50E-03 |
| Cm-242 | 1.69E-03 | 2.31E-03 |
| Other | 2.22E+00 | 3.03E+00 |
| Total | 7.33E+01 | 1.00E+02 |

OYSTER CREEK GENERATING STATION
 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000
 TABLE 3B (CONT.)
 SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Waste Stream - Dry Activated Waste Shipped To An Offsite Waste Processor

Period of Performance: January 1, 2000 through December 31, 2000

| Waste Class | Volume Shipped | | Activity Shipped (Curies) | Percent Error (Percent) |
|-------------|--------------------|-------------------|------------------------------|----------------------------|
| | (Ft ³) | (M ³) | | |
| A | 10696.5 | 302.9 | 9.77E-01 | +/- 25 % |
| B | 0.0 | 0.0 | 0.00E+00 | |
| C | 0.0 | 0.0 | 0.00E+00 | |
| All | 10696.5 | 302.9 | 9.77E-01 | +/- 25 % |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 3B (cont.)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Estimate of Major Nuclide Composition - Dry Activated Waste Shipped to an Offsite Waste Processor

Period of Performance: January 1, 2000 through December 31, 2000

Waste Class: A

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------|----------|----------|
| Co-60 | 5.75E-01 | 5.89E+01 |
| Cs-137 | 1.76E-01 | 1.80E+01 |
| Fe-55 | 1.17E-01 | 1.20E+01 |
| Mn-54 | 4.96E-02 | 5.08E+00 |
| Cr-51 | 1.38E-02 | 1.41E+00 |
| Ni-63 | 5.22E-03 | 5.34E-01 |
| H-3 | 4.02E-03 | 4.11E-01 |
| Sr-90 | 1.56E-03 | 1.60E-01 |
| Pu-241 | 1.14E-03 | 1.17E-01 |
| Ni-59 | 4.97E-05 | 5.09E-03 |
| Cm-242 | 8.14E-06 | 8.33E-04 |
| Other | 3.36E-02 | 3.44E+00 |
| | | |
| | | |
| Total | 9.77E-01 | 1.00E+02 |

Waste Class: B

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|-------|-----|-----|
| | N | |
| | O | |
| | N | |
| | E | |
| | | |
| | S | |
| | H | |
| | I | |
| | P | |
| | P | |
| | E | |
| | D | |
| | | |
| | | |
| Total | N/A | N/A |

Waste Class: C

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|-------|-----|-----|
| | N | |
| | O | |
| | N | |
| | E | |
| | | |
| | S | |
| | H | |
| | I | |
| | P | |
| | P | |
| | E | |
| | D | |
| | | |
| | | |
| Total | N/A | N/A |

Waste Class: All

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|---------|----------------------|-----------------------------------|
|---------|----------------------|-----------------------------------|

| | | |
|--------|----------|----------|
| Co-60 | 5.75E-01 | 5.89E+01 |
| Cs-137 | 1.76E-01 | 1.80E+01 |
| Fe-55 | 1.17E-01 | 1.20E+01 |
| Mn-54 | 4.96E-02 | 5.08E+00 |
| Cr-51 | 1.38E-02 | 1.41E+00 |
| Ni-63 | 5.22E-03 | 5.34E-01 |
| H-3 | 4.02E-03 | 4.11E-01 |
| Sr-90 | 1.56E-03 | 1.60E-01 |
| Pu-241 | 1.14E-03 | 1.17E-01 |
| Ni-59 | 4.97E-05 | 5.09E-03 |
| Cm-242 | 8.14E-06 | 8.33E-04 |
| Other | 3.36E-02 | 3.44E+00 |
| | | |
| | | |
| Total | 9.77E-01 | 1.00E+02 |

OYSTER CREEK GENERATING STATION
 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000
 TABLE 3B (CONT.)
 SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Waste Stream - Irradiated Components

Period of Performance: January 1, 2000 through December 31, 2000

| Waste Class | Volume Shipped | | Activity Shipped (Curies) | Percent Error (Percent) |
|-------------|--------------------|-------------------|------------------------------|----------------------------|
| | (Ft ³) | (M ³) | | |
| A | 0.0 | 0.0 | 0.00E+00 | |
| B | 0.0 | 0.0 | 0.00E+00 | |
| C | 114.8 | 3.3 | 1.79E+04 | +/- 25 % |
| All | 114.8 | 3.3 | 1.79E+04 | +/- 25 % |

OYSTER CREEK GENERATING STATION
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT - 2000

TABLE 3B (cont.)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Estimate of Major Nuclide Composition - Irradiated Components

Period of Performance: January 1, 2000 through December 31, 2000

Waste Class: A

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|--------------|----------------------|-----------------------------------|
| N | | |
| O | | |
| N | | |
| E | | |
| | | |
| S | | |
| H | | |
| I | | |
| P | | |
| P | | |
| E | | |
| D | | |
| | | |
| | | |
| Total | N/A | N/A |

Waste Class: B

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|--------------|----------------------|-----------------------------------|
| N | | |
| O | | |
| N | | |
| E | | |
| | | |
| S | | |
| H | | |
| I | | |
| P | | |
| P | | |
| E | | |
| D | | |
| | | |
| | | |
| Total | N/A | N/A |

Waste Class: C

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|--------------|----------------------|-----------------------------------|
| Co-60 | 1.26E+04 | 7.04E+01 |
| Fe-55 | 4.35E+03 | 2.44E+01 |
| Ni-63 | 8.78E+02 | 4.92E+00 |
| Mn-54 | 2.63E+01 | 1.47E-01 |
| Ni-59 | 4.94E+00 | 2.77E-02 |
| C-14 | 1.53E+00 | 8.54E-03 |
| H-3 | 1.08E-01 | 6.06E-04 |
| Nb-94 | 1.57E-02 | 8.80E-05 |
| Pu-241 | 1.12E-02 | 6.28E-05 |
| Tc-99 | 7.28E-03 | 4.08E-05 |
| Cm-242 | 3.55E-04 | 1.99E-06 |
| Other | 1.91E+01 | 1.07E-01 |
| | | |
| | | |
| Total | 1.79E+04 | 1.00E+02 |

Waste Class: All

| Nuclide | Activity (Curies) | Percent Abundance (Percent) |
|--------------|----------------------|-----------------------------------|
| Co-60 | 1.26E+04 | 7.04E+01 |
| Fe-55 | 4.35E+03 | 2.44E+01 |
| Ni-63 | 8.78E+02 | 4.92E+00 |
| Mn-54 | 2.63E+01 | 1.47E-01 |
| Ni-59 | 4.94E+00 | 2.77E-02 |
| C-14 | 1.53E+00 | 8.54E-03 |
| H-3 | 1.08E-01 | 6.06E-04 |
| Nb-94 | 1.57E-02 | 8.80E-05 |
| Pu-241 | 1.12E-02 | 6.28E-05 |
| Tc-99 | 7.28E-03 | 4.08E-05 |
| Cm-242 | 3.55E-04 | 1.99E-06 |
| Other | 1.91E+01 | 1.07E-01 |
| | | |
| | | |
| Total | 1.79E+04 | 1.00E+02 |

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 TABLE 3B (CONT.)
 SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Waste Stream - Liquid Evaporator Bottoms Shipped To An Offsite Waste Processor

Period of Performance: January 1, 2000 through December 31, 2000

| Waste Class | Volume Shipped | | Activity Shipped (Curies) | Percent Error (Percent) |
|-------------|--------------------|-------------------|------------------------------|----------------------------|
| | (Ft ³) | (M ³) | | |
| A | 717.6 | 20.3 | 8.46E-01 | +/- 25 % |
| B | 0.0 | 0.0 | 0.00E+00 | |
| C | 0.0 | 0.0 | 0.00E+00 | |
| All | 717.6 | 20.3 | 8.46E-01 | +/- 25 % |

Note: All waste was processed at an off-site processor and no waste was buried

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TABLE 4A
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | All Pasquill Categories |
| ELEVATION: | 33 foot |

| Wind Direction | Wind Speed (mph) at 33 foot level | | | | | | Total |
|--------------------------------|-----------------------------------|-------------|-------------|------------|-----------|----------|-------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 73 | 126 | 56 | 3 | 0 | 0 | 258 |
| NNE | 68 | 122 | 81 | 11 | 0 | 0 | 282 |
| NE | 62 | 166 | 133 | 46 | 0 | 0 | 407 |
| ENE | 49 | 213 | 226 | 64 | 0 | 0 | 552 |
| E | 40 | 176 | 103 | 5 | 0 | 0 | 324 |
| ESE | 34 | 119 | 58 | 4 | 0 | 0 | 215 |
| SE | 46 | 156 | 112 | 12 | 0 | 0 | 326 |
| SSE | 61 | 117 | 118 | 12 | 3 | 0 | 311 |
| S | 100 | 170 | 179 | 46 | 8 | 3 | 506 |
| SSW | 106 | 191 | 177 | 85 | 5 | 0 | 564 |
| SW | 179 | 317 | 105 | 14 | 0 | 0 | 615 |
| WSW | 282 | 445 | 164 | 16 | 2 | 0 | 909 |
| W | 288 | 362 | 202 | 55 | 2 | 0 | 909 |
| WNW | 195 | 356 | 297 | 121 | 10 | 0 | 979 |
| NW | 242 | 401 | 280 | 91 | 3 | 0 | 1017 |
| NNW | 132 | 266 | 156 | 39 | 0 | 0 | 593 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 1957 | 3703 | 2447 | 624 | 33 | 3 | 8767 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 18 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category A |
| ELEVATION: | 33 foot |

| Wind Direction | Wind Speed (mph) at 33 foot level | | | | | | Total |
|--------------------------------|-----------------------------------|-------|--------|---------|---------|------|-------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 1 | 16 | 18 | 1 | 0 | 0 | 36 |
| NNE | 1 | 14 | 5 | 0 | 0 | 0 | 20 |
| NE | 1 | 25 | 34 | 1 | 0 | 0 | 61 |
| ENE | 0 | 37 | 64 | 19 | 0 | 0 | 120 |
| E | 1 | 47 | 33 | 4 | 0 | 0 | 85 |
| ESE | 0 | 39 | 29 | 0 | 0 | 0 | 68 |
| SE | 0 | 26 | 66 | 0 | 0 | 0 | 92 |
| SSE | 0 | 5 | 63 | 5 | 0 | 0 | 73 |
| S | 0 | 10 | 66 | 33 | 5 | 0 | 114 |
| SSW | 1 | 12 | 32 | 38 | 2 | 0 | 85 |
| SW | 1 | 19 | 34 | 4 | 0 | 0 | 58 |
| WSW | 0 | 30 | 74 | 8 | 0 | 0 | 112 |
| W | 1 | 37 | 72 | 21 | 1 | 0 | 132 |
| WNW | 0 | 29 | 94 | 43 | 4 | 0 | 170 |
| NW | 1 | 35 | 97 | 35 | 1 | 0 | 169 |
| NNW | 2 | 27 | 59 | 16 | 0 | 0 | 104 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 10 | 408 | 840 | 228 | 13 | 0 | 1499 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 18 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category B |
| ELEVATION: | 33 foot |

| Wind Direction | Wind Speed (mph) at 33 foot level | | | | | | Total |
|--------------------------------|-----------------------------------|------------|------------|-----------|----------|----------|------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 1 | 14 | 4 | 0 | 0 | 0 | 19 |
| NNE | 2 | 10 | 2 | 0 | 0 | 0 | 14 |
| NE | 5 | 14 | 10 | 0 | 0 | 0 | 29 |
| ENE | 0 | 26 | 15 | 1 | 0 | 0 | 42 |
| E | 1 | 18 | 7 | 0 | 0 | 0 | 26 |
| ESE | 2 | 11 | 1 | 0 | 0 | 0 | 14 |
| SE | 0 | 20 | 14 | 1 | 0 | 0 | 35 |
| SSE | 1 | 12 | 14 | 0 | 0 | 0 | 27 |
| S | 2 | 8 | 24 | 2 | 0 | 0 | 36 |
| SSW | 0 | 7 | 18 | 4 | 1 | 0 | 30 |
| SW | 1 | 17 | 6 | 0 | 0 | 0 | 24 |
| WSW | 1 | 19 | 18 | 0 | 0 | 0 | 38 |
| W | 1 | 10 | 17 | 4 | 0 | 0 | 32 |
| WNW | 3 | 19 | 17 | 19 | 0 | 0 | 58 |
| NW | 3 | 18 | 29 | 18 | 2 | 0 | 70 |
| NNW | 2 | 20 | 10 | 5 | 0 | 0 | 37 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 25 | 243 | 206 | 54 | 3 | 0 | 531 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 18 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category C |
| ELEVATION: | 33 foot |

| Wind Direction | Wind Speed (mph) at 33 foot level | | | | | | Total |
|--------------------------------|-----------------------------------|-------|--------|---------|---------|------|-------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 2 | 2 | 3 | 0 | 0 | 0 | 7 |
| NNE | 0 | 7 | 2 | 0 | 0 | 0 | 9 |
| NE | 1 | 7 | 5 | 1 | 0 | 0 | 14 |
| ENE | 0 | 11 | 8 | 1 | 0 | 0 | 20 |
| E | 3 | 11 | 3 | 0 | 0 | 0 | 17 |
| ESE | 1 | 11 | 2 | 0 | 0 | 0 | 14 |
| SE | 2 | 10 | 2 | 0 | 0 | 0 | 14 |
| SSE | 0 | 5 | 6 | 0 | 0 | 0 | 11 |
| S | 2 | 5 | 9 | 0 | 1 | 0 | 17 |
| SSW | 0 | 6 | 5 | 5 | 0 | 0 | 16 |
| SW | 1 | 2 | 1 | 1 | 0 | 0 | 5 |
| WSW | 1 | 7 | 4 | 1 | 0 | 0 | 13 |
| W | 0 | 8 | 7 | 5 | 0 | 0 | 20 |
| WNW | 0 | 8 | 7 | 10 | 1 | 0 | 26 |
| NW | 2 | 10 | 5 | 4 | 0 | 0 | 21 |
| NNW | 0 | 10 | 4 | 1 | 0 | 0 | 15 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 15 | 120 | 73 | 29 | 2 | 0 | 239 |
| Periods of Calm (hours): | 0 | | | | | | Hours |
| Hours of missing data (Total): | 18 | | | | | | Hours |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category D |
| ELEVATION: | 33 foot |

| Wind Direction | Wind Speed (mph) at 33 foot level | | | | | | Total |
|--------------------------------|-----------------------------------|------------|------------|------------|----------|----------|-------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 15 | 51 | 18 | 1 | 0 | 0 | 85 |
| NNE | 21 | 60 | 29 | 9 | 0 | 0 | 119 |
| NE | 21 | 71 | 57 | 15 | 0 | 0 | 164 |
| ENE | 21 | 100 | 112 | 22 | 0 | 0 | 255 |
| E | 19 | 63 | 42 | 1 | 0 | 0 | 125 |
| ESE | 9 | 40 | 20 | 2 | 0 | 0 | 71 |
| SE | 11 | 62 | 22 | 3 | 0 | 0 | 98 |
| SSE | 13 | 48 | 22 | 1 | 1 | 0 | 85 |
| S | 13 | 62 | 44 | 6 | 0 | 2 | 127 |
| SSW | 16 | 42 | 57 | 26 | 1 | 0 | 142 |
| SW | 15 | 33 | 27 | 4 | 0 | 0 | 79 |
| WSW | 9 | 49 | 30 | 4 | 2 | 0 | 94 |
| W | 12 | 35 | 39 | 14 | 1 | 0 | 101 |
| WNW | 12 | 43 | 71 | 36 | 4 | 0 | 166 |
| NW | 21 | 86 | 56 | 24 | 0 | 0 | 187 |
| NNW | 23 | 69 | 39 | 13 | 0 | 0 | 144 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 251 | 914 | 685 | 181 | 9 | 2 | 2042 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 18 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category E |
| ELEVATION: | 33 foot |

| Wind Direction | Wind Speed (mph) at 33 foot level | | | | | | Total |
|--------------------------------|-----------------------------------|-------------|------------|------------|----------|----------|-------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 24 | 35 | 12 | 1 | 0 | 0 | 72 |
| NNE | 21 | 28 | 40 | 2 | 0 | 0 | 91 |
| NE | 21 | 44 | 24 | 27 | 0 | 0 | 116 |
| ENE | 18 | 38 | 26 | 20 | 0 | 0 | 102 |
| E | 7 | 33 | 18 | 0 | 0 | 0 | 58 |
| ESE | 9 | 17 | 6 | 2 | 0 | 0 | 34 |
| SE | 22 | 33 | 8 | 8 | 0 | 0 | 71 |
| SSE | 25 | 42 | 13 | 6 | 2 | 0 | 88 |
| S | 42 | 67 | 36 | 5 | 2 | 1 | 153 |
| SSW | 38 | 103 | 65 | 12 | 1 | 0 | 219 |
| SW | 53 | 155 | 36 | 5 | 0 | 0 | 249 |
| WSW | 39 | 146 | 36 | 3 | 0 | 0 | 224 |
| W | 41 | 119 | 65 | 10 | 0 | 0 | 235 |
| WNW | 37 | 162 | 106 | 13 | 1 | 0 | 319 |
| NW | 41 | 135 | 92 | 10 | 0 | 0 | 278 |
| NNW | 38 | 81 | 43 | 4 | 0 | 0 | 166 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 476 | 1238 | 626 | 128 | 6 | 1 | 2475 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 18 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category F |
| ELEVATION: | 33 foot |

| Wind Direction | Wind Speed (mph) at 33 foot level | | | | | | Total |
|--------------------------------|-----------------------------------|------------|-----------|----------|----------|----------|------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 13 | 7 | 1 | 0 | 0 | 0 | 21 |
| NNE | 8 | 3 | 3 | 0 | 0 | 0 | 14 |
| NE | 6 | 5 | 3 | 2 | 0 | 0 | 16 |
| ENE | 6 | 1 | 1 | 1 | 0 | 0 | 9 |
| E | 4 | 4 | 0 | 0 | 0 | 0 | 8 |
| ESE | 5 | 1 | 0 | 0 | 0 | 0 | 6 |
| SE | 9 | 3 | 0 | 0 | 0 | 0 | 12 |
| SSE | 10 | 5 | 0 | 0 | 0 | 0 | 15 |
| S | 23 | 16 | 0 | 0 | 0 | 0 | 39 |
| SSW | 31 | 18 | 0 | 0 | 0 | 0 | 49 |
| SW | 39 | 65 | 1 | 0 | 0 | 0 | 105 |
| WSW | 60 | 90 | 2 | 0 | 0 | 0 | 152 |
| W | 40 | 67 | 1 | 1 | 0 | 0 | 109 |
| WNW | 38 | 60 | 2 | 0 | 0 | 0 | 100 |
| NW | 38 | 57 | 1 | 0 | 0 | 0 | 96 |
| NNW | 17 | 32 | 1 | 0 | 0 | 0 | 50 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 347 | 434 | 16 | 4 | 0 | 0 | 801 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 18 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category G |
| ELEVATION: | 33 foot |

| Wind Direction | Wind Speed (mph) at 33 foot level | | | | | | Total |
|--------------------------------|-----------------------------------|------------|----------|----------|----------|----------|-------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 17 | 1 | 0 | 0 | 0 | 0 | 18 |
| NNE | 15 | 0 | 0 | 0 | 0 | 0 | 15 |
| NE | 7 | 0 | 0 | 0 | 0 | 0 | 7 |
| ENE | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| E | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| ESE | 8 | 0 | 0 | 0 | 0 | 0 | 8 |
| SE | 2 | 2 | 0 | 0 | 0 | 0 | 4 |
| SSE | 12 | 0 | 0 | 0 | 0 | 0 | 12 |
| S | 18 | 2 | 0 | 0 | 0 | 0 | 20 |
| SSW | 20 | 3 | 0 | 0 | 0 | 0 | 23 |
| SW | 69 | 26 | 0 | 0 | 0 | 0 | 95 |
| WSW | 172 | 104 | 0 | 0 | 0 | 0 | 276 |
| W | 193 | 86 | 1 | 0 | 0 | 0 | 280 |
| WNW | 105 | 35 | 0 | 0 | 0 | 0 | 140 |
| NW | 136 | 60 | 0 | 0 | 0 | 0 | 196 |
| NNW | 50 | 27 | 0 | 0 | 0 | 0 | 77 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 833 | 346 | 1 | 0 | 0 | 0 | 1180 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 18 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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**TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a**

| | |
|--------------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | All Pasquill Categories |
| ELEVATION: | 380 foot |

| Wind Direction | Wind Speed (mph) at 380 foot level | | | | | | Total |
|--------------------------------|------------------------------------|-------|--------|---------|---------|------|-------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 11 | 55 | 120 | 109 | 71 | 10 | 376 |
| NNE | 16 | 78 | 143 | 118 | 38 | 30 | 423 |
| NE | 17 | 82 | 152 | 155 | 104 | 50 | 560 |
| ENE | 6 | 61 | 155 | 144 | 108 | 59 | 533 |
| E | 13 | 60 | 154 | 105 | 95 | 27 | 454 |
| ESE | 13 | 75 | 109 | 58 | 38 | 20 | 313 |
| SE | 19 | 57 | 145 | 49 | 25 | 15 | 310 |
| SSE | 8 | 63 | 140 | 93 | 24 | 9 | 337 |
| S | 8 | 54 | 159 | 189 | 42 | 26 | 478 |
| SSW | 9 | 50 | 135 | 246 | 145 | 78 | 663 |
| SW | 10 | 49 | 106 | 210 | 187 | 55 | 617 |
| WSW | 6 | 38 | 147 | 251 | 154 | 54 | 650 |
| W | 5 | 53 | 144 | 225 | 206 | 77 | 710 |
| WNW | 7 | 41 | 137 | 240 | 291 | 171 | 887 |
| NW | 5 | 46 | 139 | 266 | 284 | 151 | 891 |
| NNW | 5 | 42 | 111 | 191 | 170 | 46 | 565 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 158 | 904 | 2196 | 2649 | 1982 | 878 | 8767 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 17 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category A |
| ELEVATION: | 380 foot |

| Wind Direction | Wind Speed (mph) at 380 foot level | | | | | | Total |
|--------------------------------|------------------------------------|-------|--------|---------|---------|------|-------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 0 | 1 | 0 | 0 | 2 | 0 | 3 |
| NNE | 0 | 2 | 2 | 0 | 0 | 0 | 4 |
| NE | 0 | 1 | 3 | 8 | 1 | 3 | 16 |
| ENE | 0 | 0 | 5 | 4 | 3 | 1 | 13 |
| E | 0 | 1 | 2 | 6 | 1 | 0 | 10 |
| ESE | 0 | 0 | 4 | 3 | 0 | 0 | 7 |
| SE | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| SSE | 0 | 0 | 2 | 7 | 1 | 0 | 10 |
| S | 0 | 0 | 2 | 9 | 0 | 0 | 11 |
| SSW | 0 | 0 | 1 | 8 | 5 | 3 | 17 |
| SW | 0 | 0 | 1 | 1 | 1 | 0 | 3 |
| WSW | 0 | 0 | 6 | 6 | 2 | 0 | 14 |
| W | 0 | 0 | 2 | 13 | 4 | 3 | 22 |
| WNW | 0 | 0 | 2 | 6 | 13 | 6 | 27 |
| NW | 0 | 0 | 7 | 5 | 16 | 5 | 33 |
| NNW | 0 | 0 | 0 | 2 | 2 | 1 | 5 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0 | 5 | 41 | 78 | 51 | 22 | 197 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 17 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|--------------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category B |
| ELEVATION: | 380 foot |

| Wind Direction | Wind Speed (mph) at 380 foot level | | | | | | Total |
|--------------------------------|------------------------------------|-------|--------|---------|---------|------|-------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 0 | 0 | 5 | 3 | 3 | 0 | 11 |
| NNE | 0 | 1 | 6 | 1 | 0 | 0 | 8 |
| NE | 1 | 0 | 7 | 13 | 7 | 0 | 28 |
| ENE | 0 | 0 | 10 | 11 | 1 | 2 | 24 |
| E | 0 | 1 | 11 | 5 | 2 | 0 | 19 |
| ESE | 0 | 0 | 4 | 5 | 1 | 0 | 10 |
| SE | 0 | 0 | 16 | 7 | 0 | 0 | 23 |
| SSE | 0 | 0 | 5 | 7 | 1 | 0 | 13 |
| S | 0 | 0 | 4 | 18 | 4 | 0 | 26 |
| SSW | 0 | 0 | 1 | 8 | 9 | 10 | 28 |
| SW | 0 | 1 | 7 | 6 | 3 | 0 | 17 |
| WSW | 0 | 0 | 10 | 17 | 6 | 0 | 33 |
| W | 0 | 2 | 8 | 11 | 8 | 3 | 32 |
| WNW | 0 | 0 | 16 | 19 | 15 | 10 | 60 |
| NW | 0 | 0 | 4 | 20 | 13 | 10 | 47 |
| NNW | 0 | 0 | 2 | 12 | 8 | 1 | 23 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 1 | 5 | 116 | 163 | 81 | 36 | 402 |
| Periods of Calm (hours): | 0 | | | | | | Hours |
| Hours of missing data (Total): | 17 | | | | | | Hours |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category C |
| ELEVATION: | 380 foot |

| Wind Direction | Wind Speed (mph) at 380 foot level | | | | | | Total |
|--------------------------------|------------------------------------|-------|--------|---------|---------|------|-------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 0 | 3 | 7 | 3 | 1 | 0 | 14 |
| NNE | 0 | 0 | 4 | 0 | 1 | 0 | 5 |
| NE | 0 | 3 | 15 | 15 | 2 | 1 | 36 |
| ENE | 0 | 3 | 23 | 8 | 6 | 3 | 43 |
| E | 0 | 0 | 22 | 3 | 6 | 0 | 31 |
| ESE | 0 | 8 | 18 | 5 | 1 | 0 | 32 |
| SE | 0 | 0 | 25 | 5 | 0 | 0 | 30 |
| SSE | 0 | 0 | 16 | 17 | 0 | 0 | 33 |
| S | 0 | 3 | 7 | 16 | 5 | 0 | 31 |
| SSW | 0 | 3 | 7 | 17 | 4 | 7 | 38 |
| SW | 0 | 4 | 5 | 10 | 4 | 1 | 24 |
| WSW | 0 | 3 | 26 | 22 | 5 | 1 | 57 |
| W | 0 | 2 | 21 | 16 | 16 | 3 | 58 |
| WNW | 0 | 3 | 12 | 23 | 25 | 20 | 83 |
| NW | 0 | 3 | 15 | 32 | 19 | 19 | 88 |
| NNW | 0 | 3 | 12 | 17 | 7 | 2 | 41 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0 | 41 | 235 | 209 | 102 | 57 | 644 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 17 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category D |
| ELEVATION: | 380 foot |

| Wind Direction | Wind Speed (mph) at 380 foot level | | | | | | Total |
|--------------------------------|------------------------------------|------------|------------|------------|------------|------------|-------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 5 | 32 | 45 | 20 | 15 | 3 | 120 |
| NNE | 5 | 44 | 65 | 52 | 26 | 25 | 217 |
| NE | 6 | 44 | 81 | 81 | 64 | 37 | 313 |
| ENE | 1 | 28 | 87 | 85 | 78 | 40 | 319 |
| E | 8 | 27 | 81 | 64 | 36 | 11 | 227 |
| ESE | 2 | 42 | 53 | 24 | 11 | 15 | 147 |
| SE | 5 | 32 | 77 | 19 | 15 | 6 | 154 |
| SSE | 3 | 34 | 69 | 33 | 8 | 1 | 148 |
| S | 5 | 19 | 75 | 68 | 18 | 7 | 192 |
| SSW | 3 | 18 | 48 | 70 | 52 | 36 | 227 |
| SW | 5 | 21 | 36 | 50 | 29 | 9 | 150 |
| WSW | 1 | 13 | 44 | 82 | 23 | 10 | 173 |
| W | 2 | 28 | 47 | 64 | 58 | 31 | 230 |
| WNW | 2 | 20 | 52 | 75 | 81 | 82 | 312 |
| NW | 0 | 27 | 60 | 82 | 83 | 88 | 340 |
| NNW | 2 | 23 | 60 | 62 | 37 | 26 | 210 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 55 | 452 | 980 | 931 | 634 | 427 | 3479 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 17 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category E |
| ELEVATION: | 380 foot |

| Wind Direction | Wind Speed (mph) at 380 foot level | | | | | | Total |
|--------------------------------|------------------------------------|-------|--------|---------|---------|------|-------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 3 | 9 | 27 | 24 | 12 | 1 | 76 |
| NNE | 4 | 13 | 31 | 23 | 5 | 3 | 79 |
| NE | 5 | 12 | 19 | 27 | 20 | 8 | 91 |
| ENE | 1 | 13 | 15 | 26 | 18 | 10 | 83 |
| E | 3 | 13 | 23 | 21 | 42 | 15 | 117 |
| ESE | 3 | 12 | 20 | 14 | 22 | 5 | 76 |
| SE | 8 | 13 | 17 | 14 | 10 | 9 | 71 |
| SSE | 1 | 10 | 32 | 23 | 12 | 7 | 85 |
| S | 2 | 17 | 32 | 55 | 14 | 19 | 139 |
| SSW | 2 | 10 | 48 | 106 | 58 | 20 | 244 |
| SW | 3 | 15 | 38 | 87 | 94 | 22 | 259 |
| WSW | 0 | 7 | 26 | 59 | 60 | 18 | 170 |
| W | 1 | 6 | 32 | 76 | 69 | 20 | 204 |
| WNW | 1 | 8 | 30 | 68 | 86 | 37 | 230 |
| NW | 4 | 10 | 20 | 73 | 93 | 14 | 214 |
| NNW | 2 | 7 | 11 | 51 | 52 | 4 | 127 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 43 | 175 | 421 | 747 | 667 | 212 | 2265 |
| Periods of Calm (hours): | 0 | | Hours | | | | |
| Hours of missing data (Total): | 17 | | Hours | | | | |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category F |
| ELEVATION: | 380 foot |

| Wind Direction | Wind Speed (mph) at 380 foot level | | | | | | Total |
|--------------------------------|------------------------------------|-----------|------------|------------|------------|-----------|------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 2 | 5 | 11 | 26 | 17 | 4 | 65 |
| NNE | 3 | 4 | 9 | 13 | 3 | 2 | 34 |
| NE | 2 | 4 | 10 | 2 | 9 | 1 | 28 |
| ENE | 1 | 6 | 6 | 6 | 2 | 3 | 24 |
| E | 1 | 13 | 6 | 4 | 8 | 1 | 33 |
| ESE | 4 | 5 | 5 | 4 | 3 | 0 | 21 |
| SE | 2 | 3 | 2 | 4 | 0 | 0 | 11 |
| SSE | 2 | 8 | 7 | 6 | 2 | 1 | 26 |
| S | 0 | 6 | 22 | 17 | 1 | 0 | 46 |
| SSW | 3 | 7 | 10 | 19 | 15 | 0 | 54 |
| SW | 2 | 3 | 10 | 31 | 41 | 16 | 103 |
| WSW | 2 | 2 | 12 | 44 | 48 | 20 | 128 |
| W | 2 | 6 | 13 | 20 | 23 | 8 | 72 |
| WNW | 1 | 1 | 13 | 40 | 38 | 8 | 101 |
| NW | 0 | 1 | 17 | 30 | 46 | 11 | 105 |
| NNW | 0 | 7 | 5 | 19 | 40 | 9 | 80 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 27 | 81 | 158 | 285 | 296 | 84 | 931 |
| Periods of Calm (hours): | 0 | | | | | | Hours |
| Hours of missing data (Total): | 17 | | | | | | Hours |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4A (cont.)
HOURS AT EACH WIND SPEED AND DIRECTION ^a

| | |
|-------------------|---|
| PERIOD OF RECORD: | January 1, 2000 through December 31, 2000 |
| STABILITY CLASS: | Pasquill Category G |
| ELEVATION: | 380 foot |

| Wind Direction | Wind Speed (mph) at 380 foot level | | | | | | Total |
|--------------------------------|------------------------------------|------------|------------|------------|------------|-----------|------------|
| | 1 - 3 | 4 - 7 | 8 - 12 | 13 - 18 | 19 - 24 | > 24 | |
| N | 1 | 5 | 25 | 33 | 21 | 2 | 87 |
| NNE | 4 | 14 | 26 | 29 | 3 | 0 | 76 |
| NE | 3 | 18 | 17 | 9 | 1 | 0 | 48 |
| ENE | 3 | 11 | 9 | 4 | 0 | 0 | 27 |
| E | 1 | 5 | 9 | 2 | 0 | 0 | 17 |
| ESE | 4 | 8 | 5 | 3 | 0 | 0 | 20 |
| SE | 4 | 9 | 6 | 0 | 0 | 0 | 19 |
| SSE | 2 | 11 | 9 | 0 | 0 | 0 | 22 |
| S | 1 | 9 | 17 | 6 | 0 | 0 | 33 |
| SSW | 1 | 12 | 20 | 18 | 2 | 2 | 55 |
| SW | 0 | 5 | 9 | 25 | 15 | 7 | 61 |
| WSW | 3 | 13 | 23 | 21 | 10 | 5 | 75 |
| W | 0 | 9 | 21 | 25 | 28 | 9 | 92 |
| WNW | 3 | 9 | 12 | 9 | 33 | 8 | 74 |
| NW | 1 | 5 | 16 | 24 | 14 | 4 | 64 |
| NNW | 1 | 2 | 21 | 28 | 24 | 3 | 79 |
| VARIABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 32 | 145 | 245 | 236 | 151 | 40 | 849 |
| Periods of Calm (hours): | 0 | | | | | | Hours |
| Hours of missing data (Total): | 17 | | | | | | Hours |

^a The total number of hours of each category of wind direction for the indicated period of record, stability class and elevation

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TABLE 4B
CLASSIFICATION OF ATMOSPHERIC STABILITY

| Stability Classification | Pasquill Categories | Sigma-Theta ^a (degrees) | Temperature change with height (degrees-C/100m) |
|--------------------------|---------------------|------------------------------------|---|
| Extremely unstable | A | 25.0 | < -1.9 |
| Moderately unstable | B | 20.0 | -1.9 to -1.7 |
| Slightly unstable | C | 15.0 | -1.7 to -1.5 |
| Neutral | D | 10.0 | -1.5 to -0.5 |
| Slightly stable | E | 5.0 | -0.5 to 1.5 |
| Moderately stable | F | 2.5 | 1.5 to 4.0 |
| Extremely stable | G | 1.7 | > 4.0 |

^a Standard deviation of horizontal wind direction fluctuation over a period of 15 minutes to 1 hour. The values shown are averages for each stability classification.