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1981

SEMIANNUAL RADIOACTIVE
EFFLUENT RELEASE REPORT
RERR-10

SALEM NUCLEAR GENERATING STATION
SALEM UNIT NOS. 1 & 2

UNIT 1 DOCKET NO. 50-272
UNIT 2 DOCKET NO. 50-311
OPERATING LICENSE NO. DPR-70
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UNIT NOS. 1 & 2
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY - JUNE 1981

SALEM NUCLEAR GENERATING STATION
Public Service Electric and Gas Company

M P79 43/33

SALEM NUCLEAR GENERATING STATION
UNIT 1 50-272
UNIT 2 50-311

UNIT NOS. 1 AND 2
RADIOACTIVE EFFLUENT RELEASE REPORT
January 1, 1981 to June 30, 1981

Introduction

This report, RERR-10, summarizes the releases of radioactive materials in liquid, gaseous and solid form from the Salem Nuclear Generating Station Units 1 and 2 for the period January 1, 1981 to June 30, 1981. As requested by the United States Nuclear Regulatory Commission (USNRC) this report was prepared in the format specified for all nuclear power plants as defined in USNRC Regulatory Guide 1.21.

Release of radioactive materials from the Salem station during the reporting period were within the limits set forth in the Environmental Technical Specifications. Calculated radiation exposures to off-site individuals were small fractions of the limits set forth in 10CFR20 and within Appendix I to 10CFR50 and 40CFR190 requirements.

Unit 1 generated 2,662,450 megawatt-hours (gross) of electrical energy.

Unit 2 generated 12,090 megawatt-hours (gross) of electrical energy.

A. SUMMARY INFORMATION

1.0 Regulatory Limits

Symbols utilized in the equations listed below under Sections 1.1 and 1.2 are the same as those used in the Salem Environmental Technical Specifications (ETS). The symbol Q as explained in Section 2.3.3 of the ETS is the release rate of the gaseous activity in units of curies per second. The K, L, M and N terms are actually site dependent dose conversion factors. The equations listed below in Sections 1.1 and 1.2 take into consideration the release point location, building wake effects and physical characteristics of the radionuclides released.

In addition 40CFR190 regulations require that the annual dose equivalent does not exceed 25 mrem to the whole body or any organ (except the thyroid which is limited to 75 mrem).

1.1 Fission and Activation Gases

Gaseous releases from the nuclear units are limited such that at no time will releases of gaseous radioactive materials cause a member of the general public to be exposed to an annual dose rate in excess of 500 mrem to the entire body or 3 rem to the skin in conformance with the requirements of 10CFR20.

Gaseous releases from the units are further restricted such that when releases are averaged over a calendar quarter no member of the general public will be exposed to an annual dose rate in excess of 20 millirads of gamma radiation or 40 millirads of beta radiation.

In addition, it is required that air doses averaged over a twelve month period be less than 40 and 80 millirads for gamma and beta radiation respectively.

At any instant the release rate of radioactive gases must satisfy the following equations whose basis is 10CFR20.

$$2.0\ Q_{tv} * K_v \leq 1$$

$$0.33\ Q_{tv} * (L_v + 1.1\ N_v) \leq 1$$

When averaged over a calendar quarter the release rate for radioactive gases must satisfy the following equation. The basis for these equations is 10CFR50 Appendix I.

$$13\ Q_{tv} * N_v \leq 1$$

$$6.3\ Q_{tv} * M_v \leq 1$$

The limiting Unit 1 release limit Q is calculated to be 1.51E+04 microcuries/sec for both the 1st and 2nd quarters.

The limiting Unit 2 release limit Q is calculated to be 1.52E+04 and 1.35E+04 microcuries/sec for the 1st and 2nd quarters respectively.

When averaged over any twelve consecutive month period, the release rate for radioactive gases must satisfy the following equation. The basis for this equation is 10CFR50 Appendix I.

$$25\ Q_{tv} * N_v \leq 1$$

$$13\ Q_{tv} * M_v \leq 1$$

The release limits of radioactive gases for the Salem Nuclear Generating Station are not fixed numbers, but depend upon the radioactive isotopes present in the effluent.

1.2 Iodine and Particulates, Half Life > 8 days

The regulatory limits for iodines and particulates are listed below.

The release rates of iodine and particulates are restricted such that no member of the general public will receive a dose at a rate in excess of 1.5 rem/yr. to the thyroid.

Releases of iodines and particulates are further restricted to prevent any member of the general public from receiving a dose rate in excess of 30 mrem in a calendar quarter or 60 mrem in any twelve month period. The equations which govern these conditions are listed below:

At any instant of time the release rate for radioactive iodines and particulates material with a half life greater than 8 days is limited by the equation below. The basis for this equation is 10CFR20.

$$(1.5 \times 10^5)\ Q_v \leq 1$$

During any calendar quarter the release limit is governed by the equations listed below. The basis for these equations is 10CFR50 Appendix I.

$$\text{2 curies of I-131}$$
$$\text{and}$$
$$Q_v \times 13 \times (1.5 \times 10^5) \leq 1$$

During any twelve month period radioactive releases should conform to the following constraints of 10CFR50 Appendix I.

$$25 \times (1.5 \times 10^5) \times Q_v \leq 1$$
$$\text{and}$$
$$\text{4 curies of I-131}$$

1.3 Liquid Effluents

The regulatory limits for radioactive liquids released from the plant are governed by 10CFR20, Appendix B, Table II, Column 2.

In addition, the following limits apply:

The cumulative release of radioactive effluents, excluding tritium and dissolved gases, shall be less than 10 Ci in a calendar quarter for each unit.

The cumulative release of radioactive effluents, excluding tritium and dissolved gases, shall be less than 20 Ci in any twelve consecutive months.

2.0 Maximum Permissible Concentrations

Regulatory Guide 1.21 requires that the licensee provide the MPC's used in determining allowable release rates for radioactive releases. We have addressed this question below.

a. Fission Gases - MPC values were not used to determine the maximum release rates.

b. Iodines - MPC values were not used to determine the maximum release rates.

c. Particulates, Half Lives > 8 days - MPC limits were not used to determine the maximum release rates.

d. Liquid effluents - MPC values as stated in 10CR20, Appendix B, Table 11, Column 2 were used.

3.0 Average Energy

Regulatory Guide 1.21 requires that the licensee provide the average energy of the radionuclide mixture in releases of fission and activation gases, if applicable.

Release limits for the SNGS are not based upon average energy, hence, this section does not apply.

4.0 Measurements and Approximation of Total Radioactivity

4.1 Liquid effluents are monitored in accordance with Table 2.3-3 of the Environmental Technical Specifications. During the period of record, all wastes from the chemical drain tank and the laundry and hot shower tanks were routed to the hold-up tanks for monitoring. Technical Specifications require these tanks to be recirculated the equivalent of two tank volumes to produce uniform mixing and sample extraction and analyzation before any releases are made. Batch releases included releases from the waste monitor tanks, waste monitor hold-up tank, and the chemical and volume control tanks. Continuous releases included releases from intermittent blowdown of the steam generators. The predominate gamma emitting isotopes detected were Co58, Co60, Cs134, and Cs137. At no time did releases exceed limits.

4.2 Gaseous effluent streams are monitored in accordance with Table 2.3-4 of the Environmental Technical Specifications. The plant vent is the final release point of all planned gaseous effluents and is continually monitored by four very sensitive Geiger Mueller tubes. The vent is also continuously sampled for iodine and particulates with a charcoal cartridge and filter paper connected in series to a low volume air sampler. The filter and charcoal are changed weekly, weather permitting, and analyzed on a multichannel analyzer in the laboratory. Sampling is also performed on all gas decay tanks and containment purges prior to release to the environment. The results of these analyses are used as the basis for the cumulative release of gaseous effluents into the environment. All tritium samples were taken by bubbling gas through water and then counting the tritiated water on a liquid scintillation counter.

4.3 The estimated total error of the reported continuous gaseous releases is within 50%. This error is due primarily to variability of waste stream flow rates and changes in isotopic distributions of waste streams between sampling periods. The estimated total error of the reported batch gaseous releases is within 10%.

The estimated total error of reported liquid releases is within 25%.

5.0 Batch Releases

Batch releases of gaseous and liquid effluent are provided in Tables 4A-1 and 4B-1 for Unit 1 and 4A-2 and 4B-2 for Unit 2.

6.0 Unplanned Releases

On March 14, 1981, 600 gallons of liquid waste from the No. 22 Waste Monitor Tank was released to the environment. It was determined that 3.6×10^{-5} Ci had been released. This event was reported as LER 81-27/03L on April 14, 1981.

Part B. Gaseous Effluents

See Summary Tables 1A-1 thru 1C-1 representative of Salem Unit 1 operations.

See Summary Tables 1A-2 thru 1C-2 representative of Salem Unit 2 operations.

Part C. Liquid Effluents

See Summary Tables 2A-1 and 2B-1 representative of Salem Unit 1 operations.

See Summary Tables 2A-2 and 2B-2 representative of Salem Unit 2 operations.

Part D. Solid Waste

See Summary Table 3 Units 1 and 2

Part E. Radiological Impact on Man

The calculated individual doses in this section are based on actual locations of nearby residents and farms. The population dose impact is based on historical site specific data i.e., food production, milk production, feed for milch animals and seafood production.

The doses were calculated using methods described in Regulatory Guide 1.109 and represent calculations for the six month reporting interval. Doses from batch and continuous releases were calculated using the meteorological dispersion coefficient X/Q for the six month reporting interval.

Liquid Pathways

Doses to individuals in the population from liquid releases are primarily from the seafood ingestion pathway. The total body dose to an individual was calculated to be 1.21E-02 mrem. The calculated population total body dose was 4.64E-02 person-rem. The highest organ dose from liquid releases was 5.59E-02 mrem to the gastrointestinal tract.

Air Pathways

The resulting whole body and skin doses to an individual were calculated to be 8.96E-03 mrem and 1.01E-02 mrem respectively. The calculated population total body dose was 4.64E-01 person-rem. The average total body dose to the population within fifty miles of the site was 8.67E-05 mrem/person.

Direct Radiation

Direct radiation may be estimated by TLD measurements. One method for comparing TLD measurements is by comparison with preoperational data. As mentioned in previous Effluent Release Reports, TLD measurements at location 10S1 and 11S1 have averaged higher than at other locations. This was due to trace activity in the Refueling Water Storage Tank. The average of all on site TLD locations, except 10S1 and 11S1, was found to be 5.30 mrem/month. This value is within the statistical variation of the preoperational mean which was 4.42 $\pm$ 1.18 mrem/month.

All offsite monitoring locations remained within preoperational ranges. It should be noted that the nearest resident is 3.5 miles away. It can thus be concluded that there was no measurable dose to any offsite locations from direct radiation.

Part F. Meteorological Data

Cumulative joint wind frequency distribution by atmospheric stability class at the 300 foot elevation is provided for the first and second quarters of 1981 as Table 5 and 6.

TABLE 1A-1
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES
UNIT 1

	Unit	1st Quarter	2nd Quarter	Est.Total(1) Error %
A. Fission & Activation Gases				
1. Total release	Ci	7.43E+01	1.05E+02	2.50E+01
2. Average release rate for period	uCi/sec.	9.56E+00	1.34E+01	
3. Percent of technical specification limit (See ETS Spec. 2.3.3.b)	%	2.44E-05	8.94E-04	
B. Iodines				
1. Total iodine-131	Ci	8.74E-04	7.49E-03	2.50E+01
2. Average release rate for period	uCi/sec.	1.12E-04	9.53E-04	
3. Percent of technical specification limit	%	2.18E-02	1.86E-01	
C. Particulates				
1. Particulates with half-lives> 8 days	Ci	1.76E-04	3.26E-01	2.50E+01
2. Average release rate for period	uCi/sec.	2.26E-05	4.15E-02	
3. Percent of technical specification limit	%	4.41E-03	8.09E+00	
4. Gross alpha radioactivity (2)	Ci	0.00E+00	0.00E+00	
D. Tritium				
1. Total release	Ci	1.07E+00	2.96E-01	
2. Average release rate for period	uCi/sec.	1.38E-01	3.76E-02	
3. Percent of technical specification limit	%	N/A	N/A	

(1) For batch releases the estimated overall error is within 10%.
(2) Analyses indicate no measurable alpha emitting transuranics.

TABLE 1A-2
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES
UNIT 2

	Unit	1st Quarter	2nd Quarter	Est.Total(1) Error %
A. Fission & Activation Gases				
1. Total release	Ci	1.90E-01	1.43E-02	2.50E+01
2. Average release rate for period	uCi/sec.	2.44E-02	1.82E-03	
3. Percent of technical specification limit (See ETS Spec. 2.3.3.b)	%	1.60E-06	1.35E-07	
B. Iodines				
1. Total iodine-131	Ci	2.45E-08	7.28E-09	2.50E+01
2. Average release rate for period	uCi/sec.	2.34E-06	9.26E-10	
3. Percent of technical specification limit	%	4.56E-04	1.81E-07	
C. Particulates				
1. Particulates with half-lives> 8 days	Ci	4.09E-06	3.53E-03	2.50E+01
2. Average release rate for period	uCi/sec.	5.26E-07	4.49E-04	
3. Percent of technical specification limit	%	1.03E-04	8.76E-02	
4. Gross alpha radioactivity (2)	Ci	-	-	
D. Tritium				
1. Total release	Ci	0.00E+00	0.00E+00	2.50E+01
2. Average release rate for period	uCi/sec.	-	-	
3. Percent of technical specification limit	%	N/A	N/A	

(1) For batch releases the estimated overall error is within 10%.
(2) Analyses indicate no measurable alpha emitting transuranics.

TABLE 1B-1
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)
GASEOUS EFFLUENTS-ELEVATED RELEASES
UNIT 1

Nuclides Released	Unit	CONTINUOUS MODE 1st Quarter	CONTINUOUS MODE 2nd Quarter	BATCH MODE 1st Quarter	BATCH MODE 2nd Quarter
1. Fission gases					
Krypton-85	Ci			2.30E-01	8.51E-02
Krypton-85m	Ci			5.87E-03	2.38E-02
Krypton-87	Ci				6.36E-03
Krypton-88	Ci				2.59E-02
Xenon-133	Ci	8.32E-03	3.13E-03	7.22E+01	1.03E+02
Xenon-135	Ci	8.83E-02	1.79E-02	8.85E-01	1.53E+00
Xenon-135m	Ci				
Xenon-138	Ci				
Xenon-133m	Ci			9.25E-01	6.14E-01
Argon-41	Ci				2.43E-03
Fluorine-18	Ci				3.09E-04
Unidentified	Ci				
Total for period	Ci	9.66E-02	2.10E-02	7.42E+01	1.05E+02
2. Iodines					
Iodine-131	Ci	8.74E-04	4.30E-03		3.19E-03
Iodine-133	Ci	4.96E-04	3.04E-04		1.21E-04
Iodine-135	Ci				
Total for period	Ci	1.37E-03	4.60E-03	0.00E+00	3.31E-03

TABLE 1B-1
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1980)
GASEOUS EFFLUENTS-ELEVATED RELEASES
(Continued)
UNIT 1

Nuclides Released	Unit 1	CONTINUOUS MODE 1st Quarter	CONTINUOUS MODE 2nd Quarter	BATCH MODE 1st Quarter	BATCH MODE 2nd Quarter
3. Particulates					
Chrominum-51	Ci				
Manganese-54	Ci				3.29E-03
Cobalt-58	Ci				
Cobalt-60	Ci		6.05E-06	1.76E-04	2.34E-01
Iron-59	Ci				
Rubidium-88	Ci				8.31E-02
Yttrium-88	Ci				4.44E-03
Strontium-89	Ci				
Strontium-90	Ci				
Niobium-95					
Zirconium-95	Ci				
Tin-117m	Ci				
Cesium-138	Ci				5.82E-04
Cesium-137	Ci		3.10E-06		4.11E-05
Cesium-139	Ci				6.99E-04
Gross Alpha	Ci				
Total For Period	Ci		9.15E-06	1.76E-04	3.26E-01
4. Tritium					
Tritium	Ci	9.20E-01	2.45E-01	1.48E-01	5.09E-02

TABLE 1B-2
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)
GASEOUS EFFLUENTS-ELEVATED RELEASES
UNIT 2

Nuclides Released	Unit	CONTINUOUS MODE 1st Quarter	CONTINUOUS MODE 2nd Quarter	BATCH MODE 1st Quarter	BATCH MODE 2nd Quarter
1. Fission gases					
Krypton-85	Ci				
Krypton-85m	Ci				
Krypton-87	Ci				
Krypton-88	Ci				
Xenon-133	Ci	5.57E-05		1.88E-01	1.27E-02
Xenon-135	Ci	1.32E-03		4.78E-04	1.64E-03
Xenon-135m	Ci				
Xenon-138	Ci				
Xenon-133m	Ci				
Argon-41	Ci				
Fluorine-18	Ci				
Unidentified	Ci				
Total for period	Ci	1.38E-03		1.89E-01	1.43E-02
2. Iodines					
Iodine-131	Ci	2.45E-08	7.28E-09		
Iodine-133	Ci	1.82E-05			
Iodine-135	Ci				
Total for period	Ci	1.82E-05	7.28E-09		

TABLE 1B-2
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)
GASEOUS EFFLUENTS-ELEVATED RELEASES
(Continued)
UNIT 2

Nuclides Released	Unit 2	CONTINUOUS MODE 1st Quarter	CONTINUOUS MODE 2nd Quarter	BATCH MODE 1st Quarter	BATCH MODE 2nd Quarter
3. Particulates					
Chrominum-51	Ci				
Manganese-54	Ci				1.60E-06
Cobalt-58	Ci				
Cobalt-60	Ci				3.52E-03
Iron-59	Ci				
Rubidium-88	Ci				
Yttrium-88	Ci				
Strontium-89	Ci				
Strontium-90	Ci				
Niobium-95					
Zirconium-95	Ci				
Tin-117m	Ci				
Cesium-134	Ci				1.05E-06
Cesium-137	Ci	4.09E-06	5.52E-09		1.23E-06
Cerium-139	Ci				
Gross Alpha	Ci				
Total For Period	Ci	4.09E-06	5.52E-09		3.53E-03
4. Tritium					
Tritium	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TABLE 1C

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1981

UNITS 1 AND 2

GASEOUS EFFLUENTS-GROUND-LEVEL RELEASES

Nuclides Releases	Unit	1st Quarter	2nd Quarter	1st Quarter	2nd Quarter

There were no ground level releases for the period of record.

TABLE 2A-1

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)

UNIT 1

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Units	1st Quarter	2nd Quarter	Est. Total Error, %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	3.56E-01	4.78E-02	2.50E+01
2. Average diluted concentration during period	uCi/ml	4.67E-08	8.64E-09	
3. Percent of applicable limits of Technical Specifications	%	3.56E+00	4.78E-01	
B. Tritium				
1. Total release	Ci	1.04E+02	7.48E+01	2.50E+01
2. Average diluted concentration during period	uCi/ml	1.36E-05	1.35E-05	
3. Percent of applicable limit	%	N/A	N/A	
C. Dissolved and entrained gases				
1. Total release	Ci	1.05E+00	7.43E-01	2.50E+01
2. Average diluted concentration during period	uCi/ml	1.38E-07	1.34E-07	
3. Percent of applicable limit	%	N/A	N/A	
D. Gross alpha radioactivity				
1. Total release	Ci	0.00E+00	0.00E+00	2.50E+01
E. Volume of waste release (prior to dilution - Batch Release)	liters	3.15E+06	2.46E+06	1.00E+01
F. Volume of dilution water used during period - Batch Release	liters	7.62E+09	5.53E+09	2.50E+01

N/A - Not Applicable

TABLE 2A-2

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)

UNIT 2

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Units	1st Quarter	2nd Quarter	Est. Total Error, %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpna)	Ci	2.39E-01	9.39E-02	2.50E+01
2. Average diluted concentration during period	uCi/ml	3.83E-08	6.71E-09	
3. Percent of applicable limits of Technical Specifications	%	2.39E+00	9.39E-01	
B. Tritium				
1. Total release	Ci	1.39E+02	7.15E+01	
2. Average diluted concentration during period	uCi/ml	2.23E-05	5.11E-06	
3. Percent of applicable limit	%	N/A	N/A	
C. Dissolved and entrained gases				
1. Total release	Ci	4.77E-01	1.30E-01	2.50E+01
2. Average diluted concentration during period	uCi/ml	7.64E-08	9.29E-09	
3. Percent of applicable limit	%	N/A	N/A	
D. Gross alpha radioactivity				
1. Total release	Ci	0.00E+00	0.00E+00	2.50E+01
E. Volume of waste release (prior to dilution - Batch Release)	liters	1.99E+06	4.42E+06	1.00E+01
F. Volume of dilution water used during period - Batch Release	liters	6.24E+09	1.40E+10	2.50E+01

N/A - Not Applicable

TABLE 2B-1

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)

LIQUID EFFLUENTS UNIT 1

		CONTINUOUS MODE		BATCH MODE	
Nuclides Released	Unit	1st Quarter	2nd Quarter	1st Quarter	2nd Quarter
Strontium-89	Ci				
Strontium-90	Ci				
Cesium-134	Ci			2.75E-02	3.48E-03
Cesium-137	Ci			2.85E-02	3.78E-03
Iodine-131	Ci			6.74E-02	2.87E-04
Iodine-133	Ci			2.33E-03	
Cobalt-58	Ci			8.49E-02	1.24E-02
Cobalt-60	Ci			1.04E-01	1.07E-02
Cadmium-109	Ci				
Manganese-54	Ci			1.36E-02	1.55E-02
Chromium-51	Ci			4.72E-04	1.31E-03
Cesium-136	Ci			1.42E-03	
Zirconium-95	Ci			8.01E-05	1.71E-04
Tin-113	Ci				
Barium-140	Ci				
Lanthanum-140	Ci				
Cerium-139	Ci				
Tungsten-187	Ci				
Niobium-95	Ci			2.19E-04	
Antimony-124	Ci			6.15E-04	
Antimony-125	Ci			4.28E-03	
Tritium	Ci	9.54E-04	0.00E+00	1.04E+02	7.48E+01
Iron-59	Ci				1.22E-04
Sodium-24	Ci			2.09E-02	
Molybdenum 99	Ci			2.52E-04	
Total for period (above) excluding H3	Ci	0.00E+00	0.00E+00	3.56E-01	4.78E-02
Xenon-133m	Ci			8.08E-03	8.53E-03
Xenon-133	Ci			1.02E+00	7.12E-01
Xenon-135	Ci			2.00E-02	2.22E-02
Krypton-88	Ci				
Argon-41	Ci				

TABLE 2B-2

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1981)

LIQUID EFFLUENTS UNIT 2

		CONTINUOUS MODE		BATCH MODE	
Nuclides Released	Unit	1st Quarter	2nd Quarter	1st Quarter	2nd Quarter
Strontium-89	Ci				
Strontium-90	Ci				
Cesium-134	Ci			7.15E-03	2.92E-03
Cesium-137	Ci			8.48E-03	7.41E-03
Iodine-131	Ci			4.39E-04	1.27E-04
Iodine-133	Ci				
Cobalt-58	Ci			1.02E-01	4.58E-02
Cobalt-60	Ci			1.15E-01	2.19E-02
Cadmium-109	Ci				
Manganese-54	Ci			3.81E-03	8.32E-03
Chromium-51	Ci			5.30E-04	1.46E-03
Cesium-136	Ci				
Zirconium-95	Ci				4.23E-05
Tin-113	Ci				
Barium-140	Ci				
Lanthanum-140	Ci				
Cerium-139	Ci				
Tungsten-187	Ci				2.49E-04
Niobium-95	Ci				
Antimony-124	Ci				6.56E-04
Antimony-125	Ci			1.46E-03	2.16E-03
Tritium	Ci		0.00E+00	1.39E+02	7.15E+01
Iron-59	Ci				
Sodium-24	Ci				2.82E-03
Yttrium-91	Ci				
Total for period (above) excluding H3	Ci	0.00E+00	0.00E+00	2.39E-01	9.39E-02
Xenon-133m	Ci			5.30E-03	
Xenon-133	Ci			4.56E-01	1.26E-01
Xenon-135	Ci			1.60E-02	4.00E-03
Krypton-88	Ci				
Argon-41	Ci				

TABLE 3

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1981

UNITS 1 AND 2

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

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

1. Type of waste		Units	6-month Period	Est. Total Error, %
a.	Spent resins, filters sludges, evaporator bottoms	m3 Ci	1.1E+02 5.1E+02	1.50E+01
b.	Dry compressible waste, contaminated equip.	m3 Ci	4.0E+02 2.3E+01	1.50E+01
c.	Irradiated components, control rods,	m3 Ci	0.00E+00 0.00E+00	
d.	Others (describe)	m3 Ci	0.00E+00 0.00E+00	

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

a.	Cobalt - 58	73.1%	3.7E+02
	Cobalt - 60	14.9%	7.6E+01
	Manganese - 54	3.0%	1.5E+01
	Fe 55	9.0	4.6E+01
b.	Cobalt - 58	73.1%	1.7E+01
	Cobalt - 60	14.9%	3.4E+00
	Manganese - 54	3.0%	7.0E-01
	Fe 55	9.0	2.1E+00
c.			. E
d.			. E

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
49	Truck	Barnwell, South Carolina
4	Truck	Beatty, Nevada

B. IRRADIATED FUEL SHIPMENTS (Disposition)

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

TABLE 4A-1

SALEM NUCLEAR GENERATING STATION (1981)
UNIT 1

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates January 1 - March 31, 1981

2. Type of release (Gas)

3. Number of releases during the 1st Quarter 1.50E+01

4. Total time duration for all releases of type listed above 3.57E+03 minutes

5. Maximum duration for releases of type listed above 1.47E+03 minutes

6. Average duration for all releases of type listed above 2.38E+02 minutes

7. Minimum duration for release of type listed above 6.40E+01 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. N/A

TABLE 4A-2

SALEM NUCLEAR GENERATING STATION (1981)
UNIT 2

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates January 1 - March 31, 1981

2. Type of release (Gas)

3. Number of releases during the 1st Quarter 6.0E+00

4. Total time duration for all releases of type listed above 7.37E+02 minutes

5. Maximum duration for releases of type listed above 1.32E+02 minutes

6. Average duration for all releases of type listed above 1.23E+02 minutes

7. Minimum duration for release of type listed above 1.15E+02 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. N/A

TABLE 4A-1 (Cont'd)

SALEM NUCLEAR GENERATING STATION (1981)
UNIT 1

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates April 1 - June 30, 1981

2. Type of release (Gas)

3. Number of releases during the 2nd Quarter 2.50E+01

4. Total time duration for all releases of type listed above 7.13E+03 minutes

5. Maximum duration for releases of type listed above 1.86E+03 minutes

6. Average duration for all releases of type listed above 2.85E+02 minutes

7. Minimum duration for release of type listed above 7.60E+01 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. N/A

TABLE 4A-2 (Cont'd)

SALEM NUCLEAR GENERATING STATION (1981)
UNIT 2

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates April 1 - June 30, 1981

2. Type of release (Gas)

3. Number of releases during the 2nd Quarter 4.0E+01

4. Total time duration for all releases of type listed above 4.65E+03 minutes

5. Maximum duration for releases of type listed above 2.15E+02 minutes

6. Average duration for all releases of type listed above 1.16E+02 minutes

7. Minimum duration for release of type listed above 6.1E+01 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. N/A

TABLE 4B-1

SALEM NUCLEAR GENERATING STATION (1981)
UNIT 1

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates January 1 - March 31, 1981

2. Type of release (Liquid)

3. Number of releases during the 1st Quarter 5.1E+01

4. Total time duration for all releases of type listed above 1.09E+04 minutes

5. Maximum duration for releases of type listed above 6.41E+02 minutes

6. Average duration for all releases of type listed above 2.14E+02 minutes

7. Minimum duration for release of type listed above 7.5E+01 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. 1.85E+05 gpm

TABLE 4B-2

SALEM NUCLEAR GENERATING STATION (1981)
UNIT 2

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates January 1 - March 31, 1981

2. Type of release (Liquid)

3. Number of releases during the 1st Quarter 3.2E+01

4. Total time duration for all releases of type listed above 9.10E+03 minutes

5. Maximum duration for releases of type listed above 1.03E+03 minutes

6. Average duration for all releases of type listed above 2.84E+02 minutes

7. Minimum duration for release of type listed above 1.60E+02 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. 1.85E+05 gpm

TABLE 4B-1 (Cont'd)

SALEM NUCLEAR GENERATING STATION (1981)
UNIT 1

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates April 1 - June 30, 1981

2. Type of release (Liquid)

3. Number of releases during the 2nd Quarter 3.9E+01

4. Total time duration for all releases of type listed above 7.91E+03 minutes

5. Maximum duration for releases of type listed above 3.88E+02 minutes

6. Average duration for all releases of type listed above 2.01E+02 minutes

7. Minimum duration for release of type listed above 1.59E+02 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release 1.85E+05 gpm

TABLE 4B-2 (Cont'd)

SALEM NUCLEAR GENERATING STATION (1981)
UNIT 2

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates April 1 - June 30, 1981

2. Type of release (Liquid)

3. Number of releases during the 2nd Quarter 6.6E+01

4. Total time duration for all releases of type listed above 1.86E+04 minutes

5. Maximum duration for releases of type listed above 7.80E+02 minutes

6. Average duration for all releases of type listed above 2.81E+02 minutes

7. Minimum duration for release of type listed above 1.59E+02 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release 1.96E+05 gpm

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: EXTREMELY UNSTABLE DELTA T <-1.9 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	1	0	1
NW	0	0	0	0	0	5	5
NNW	0	0	0	0	0	1	1
TOTAL	0	0	0	0	1	6	7

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 0

TABLE 5

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: MODERATELY UNSTABLE DELTA T -1.9 TO -1.7 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	1	1	0	2
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	1	1	0	0	0	2
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	1	0	0	0	0	1
W	0	0	0	3	4	0	7
WNW	0	0	0	5	4	3	12
NW	0	0	1	2	7	11	21
NNW	0	0	2	3	3	1	9
TOTAL	0	2	4	14	19	15	54

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 0

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: SLIGHTLY UNSTABLE DELTA T -1.7 TO -1.5 C
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	1	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	1	0	0	0	1
SW	0	1	1	1	0	0	3
WSW	0	0	1	0	3	0	4
W	0	0	1	4	1	0	6
WNW	0	1	1	4	3	2	11
NW	0	0	0	1	2	4	7
NNW	0	0	1	9	4	1	15
TOTAL	0	2	7	20	13	7	49

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 1

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: NEUTRAL DELTA T -1.5 TO -0.5 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	4	5	8	4	2	23
NNE	0	4	5	4	4	0	17
NE	2	2	5	5	7	0	21
ENE	0	2	2	11	4	0	19
E	0	1	0	0	1	0	2
ESE	0	1	0	0	0	1	2
SE	2	10	2	2	0	1	17
SSE	1	6	1	12	1	2	23
S	2	6	5	12	11	0	36
SSW	0	1	6	2	3	0	12
SW	0	6	4	3	8	0	21
WSW	1	5	12	15	10	4	47
W	0	8	18	42	27	23	118
WNW	1	3	15	39	43	24	125
NW	0	3	10	34	49	56	152
NNW	0	6	11	30	14	22	83
TOTAL	9	68	101	219	186	135	718

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 35

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: SLIGHTLY STABLE DELTA T -0.5 TO 1.5 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	2	13	8	7	0	30
NNE	0	7	8	11	4	0	30
NE	0	7	7	6	6	0	26
ENE	2	0	5	9	0	0	16
E	0	1	6	3	7	1	18
ESE	1	3	4	1	0	4	13
SE	1	5	4	8	5	18	41
SSE	1	5	14	8	7	5	40
S	2	9	6	16	6	3	42
SSW	1	4	10	14	14	10	53
SW	0	3	6	17	17	1	46
WSW	0	0	7	10	9	2	28
W	1	11	13	41	19	6	91
WNW	1	4	10	60	32	7	114
NW	1	3	14	50	46	10	124
NNW	4	5	18	36	33	12	108
TOTAL	15	69	145	300	212	79	820

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 14

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: MODERATELY STABLE DELTA T 1.5 TO 4.0 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIREC-TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	1	8	8	4	0	0	21
NNE	3	2	2	1	0	0	8
NE	1	5	1	2	0	0	9
ENE	0	1	2	0	0	0	3
E	0	3	1	0	0	0	4
ESE	2	1	0	3	0	0	6
SE	1	2	1	3	3	11	21
SSE	1	0	9	10	3	8	31
S	0	0	9	15	0	1	25
SSW	0	2	6	17	13	2	40
SW	0	3	10	11	7	3	34
WSW	1	3	6	4	12	1	27
W	1	2	10	4	9	1	27
WNW	0	0	1	1	2	0	4
NW	0	2	4	12	6	1	25
NNW	0	1	5	13	5	0	24
TOTAL	11	35	75	100	60	28	309

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 1

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: EXTREMELY STABLE DELTA T >4.0 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	1	0	0	2	0	0	3
NNE	0	0	3	2	0	0	5
NE	0	0	1	3	0	0	4
ENE	0	0	3	1	0	0	4
E	0	1	2	1	0	0	4
ESE	0	0	1	0	0	0	1
SE	0	0	1	1	3	11	16
SSE	0	0	0	4	1	10	15
S	0	1	5	12	11	12	41
SSW	0	1	7	8	0	1	17
SW	0	2	1	3	1	0	7
WSW	0	0	0	2	1	0	3
W	0	1	1	6	3	1	12
WNW	0	0.	1	1	6	0	8
NW	0	0	1	3	0	0	4
NNW	0	1	0	5	0	0	6
TOTAL	1	7	27	54	26	35	150

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 1

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: ALL STABILITIES EXCLUDING MISS SPEED/DIR DATA
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	2	14	26	22	11	2	77
NNE	3	13	18	18	8	0	60
NE	3	14	14	16	13	0	60
ENE	2	3	12	23	5	0	45
E	0	6	9	4	8	1	28
ESE	3	5	5	4	0	5	22
SE	4	18	9	14	11	41	97
SSE	3	11	25	34	12	25	110
S	4	16	25	55	28	16	144
SSW	1	8	30	41	30	13	123
SW	0	15	22	37	33	4	111
WSW	2	9	26	31	35	7	110
W	2	22	43	100	63	31	261
WNW	2	8	28	110	91	36	275
NW	1	8	30	102	110	87	338
NNW	4	13	37	96	59	37	246
TOTAL	36	183	359	707	517	305	2107

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 52

ARTIFICIAL ISLAND
SALEH UNIT 1

PERIOD OF RECORD: 4 181 TO 63081

STABILITY CLASS: EXTREMELY UNSTABLE DELTA T <-1.9 C
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 0

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 4 181 TO 63081

STABILITY CLASS: MODERATELY UNSTABLE DELTA T -1.9 TO -1.7 C
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	1	1	5	0	7
S	0	0	1	0	0	0	1
SSW	0	0	0	0	0	0	0
SW	0	0	0	2	0	0	2
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	2	0	0	2
NNW	0	0	0	0	0	0	0
TOTAL	0	0	2	5	5	0	12

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 3

ARTIFICIAL ISLAND
SALEB UNIT 1

PERIOD OF RECORD: 4 181 TO 63081

STABILITY CLASS: SLIGHTLY UNSTABLE DELTA T -1.7 TO -1.5 C
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIREC-TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	2	0	1	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	1	3	0	0	4
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	2	0	2	0	0	4
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	3	1	0	4
NNW	0	0	1	8	3	3	15
TOTAL	0	2	2	18	4	4	30

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 1

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 4 181 TO 63081

STABILITY CLASS: NEUTRAL DELTA T -1.5 TO -0.5
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIREC-TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	4	12	13	5	5	39
NNE	1	3	12	5	0	0	21
NE	0	2	18	11	1	0	32
ENE	0	12	20	7	5	0	44
E	0	7	14	10	0	0	31
ESE	0	0	5	5	0	0	10
SE	0	3	9	4	14	11	41
SSE	0	5	9	16	15	13	58
S	1	10	14	6	0	0	31
SSW	3	10	11	9	2	0	35
SW	3	6	12	22	3	5	51
WSW	3	17	17	22	2	1	62
W	0	4	14	13	8	4	43
WNW	0	4	14	21	20	28	87
NW	2	2	21	42	27	20	114
NNW	0	6	22	39	13	4	84
TOTAL	13	95	224	245	115	91	783

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 15

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 4 181 TO 63081

STABILITY CLASS: SLIGHTLY STABLE DELTA T -0.5 TO 1.5 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIREC-TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	1	4	4	3	19	7	38
NNE	1	0	2	5	0	0	8
NE	1	6	8	12	5	0	32
ENE	0	3	9	11	1	0	24
E	1	8	8	5	0	0	22
ESE	3	2	7	5	3	0	20
SE	0	4	11	16	5	10	46
SSE	1	4	20	23	9	15	72
S	0	10	15	23	20	1	69
SSW	2	8	18	42	26	23	119
SW	0	9	23	41	39	11	123
WSW	3	6	16	27	21	4	77
W	3	8	18	24	13	5	71
WNW	1	3	10	24	19	4	61
NW	1	5	18	47	21	11	103
NNW	1	5	12	16	13	0	47
TOTAL	19	85	199	324	214	91	932

PERIODS OF CALM (HOURS): 1
HOURS OF MISSING DATA: 29

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 1 181 TO 33181

STABILITY CLASS: MODERATELY STABLE DELTA T 1.5 TO 4.0 ^
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

****

WINDSPEED (MPH) AT 300 FEET

WIND DIREC-TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	1	8	8	4	0	0	21
NNE	3	2	2	1	0	0	8
NE	1	5	1	2	0	0	9
ENE	0	1	2	0	0	0	3
E	0	3	1	0	0	0	4
ESE	2	1	0	3	0	0	6
SE	1	2	1	3	3	11	21
SSE	1	0	9	10	3	8	31
S	0	0	9	15	0	1	25
SSW	0	2	6	17	13	2	40
SW	0	3	10	11	7	3	34
WSW	1	3	6	4	12	1	27
W	1	2	10	4	9	1	27
WNW	0	0	1	1	2	0	4
NW	0	2	4	12	6	1	25
NNW	0	1	5	13	5	0	24
TOTAL	11	35	75	100	60	28	309

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 1

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 4 181 TO 63081

STABILITY CLASS: EXTREMELY STABLE DELTA T >4.0 ^
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

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WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	1	1	0	1	1	0	4
NNE	0	0	5	2	0	0	7
NE	0	1	3	1	0	0	5
ENE	0	3	5	0	0	0	8
E	0	6	5	0	0	0	11
ESE	0	0	1	0	0	0	1
SE	0	0	1	2	7	0	10
SSE	0	0	1	9	8	6	24
S	0	0	1	8	2	4	15
SSW	0	3	1	6	5	0	15
SW	0	1	0	3	1	0	5
WSW	0	0	0	1	0	0	1
W	0	3	2	0	0	0	5
WNW	1	0	3	0	0	1	5
NW	0	0	0	6	4	5	15
NNW	0	2	0	1	1	3	7
TOTAL	2	20	28	40	29	19	138

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 3

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 4 181 TO 63081

STABILITY CLASS: ALL STABILITIES EXCLUDING MISS SPEED/DIR DATA
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 300-33 FT

ELEVATION: 300 FEET

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WINDSPEED (MPH) AT 300 FEET

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	2	9	17	26	25	13	92
NNE	2	5	20	20	3	0	50
NE	1	11	30	28	8	0	78
ENE	0	18	34	20	7	0	79
E	1	22	29	17	0	0	69
ESE	3	3	13	13	3	0	35
SE	1	9	24	24	26	21	105
SSE	1	10	38	61	45	39	194
S	1	27	33	41	29	8	132
SSW	5	24	31	64	47	25	196
SW	3	18	38	83	50	16	208
WSW	6	25	37	57	27	5	157
W	3	19	40	42	23	9	136
WNW	3	9	32	48	39	33	164
NW	3	10	43	106	54	37	253
NNW	1	15	35	70	33	10	164
TOTAL	36	234	494	720	419	216	2119

PERIODS OF CALM (HOURS): 1
HOURS OF MISSING DATA: 63