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1978

SEMIANNUAL RADIOACTIVE
EFFLUENT RELEASE REPORT
RERR-5

SALEM NUCLEAR GENERATING STATION
STATION-UNIT NO.1

DOCKET NO. 50-272
OPERATING LICENSE NO. DPR-70

MARCH 1979

7903270425

DPR 70

REPORT NO. RERR-5

UNIT NO. 1
RADIOACTIVE EFFLUENT RELEASE REPORT
JULY - DECEMBER 1978

SALEM NUCLEAR GENERATING STATION
Public Service Electric and Gas Company

SALEM NUCLEAR GENERATING STATION
50-272

UNIT NO. 1
RADIOACTIVE EFFLUENT RELEASE REPORT
July 1, 1978 to December 31, 1978

Introduction

This report, RERR-5, summarizes the release of radioactive materials in liquid, gaseous and solid form from Salem Unit 1 for the period July 1, 1978 to December 31, 1978. This report was prepared in the format specified 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 and calculated radiation exposures to off-site individuals were small fractions of the limits set forth in 10CFR20 and within Appendix I to 10CFR50 requirements.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT RERR 5

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.

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.

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

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

The release limit Q is therefore calculated to be 5.67E4 and 2.65E4 microcuries/sec. for the 3rd and 4th Quarters respectively.

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 release limit Q is therefore calculated to be 5.67E4 and 2.65E4 microcuries/sec for the 3rd and 4th 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.

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

$$23 Q_{tv} * M_v \leq 1$$

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.

Releases of iodine and particulates are restricted such that no member of the general public will receive a dose rate in excess of 1.5 rem 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.

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

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

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

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 10CFR20, 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. These tanks were then recirculated the equivalent of two tank volumes to produce uniform mixing and a sample was extracted and analyzed before any release was 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 isotope detected continued to be cobalt 58. Other isotopes detected included Co60, Mn54, and H3 (tritium). 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 Cesco 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 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

In order to maintain releases as low as practical as releases approached 1.25 Ci, liquid radwaste was processed through a licensed contractor's demineralizers prior to discharge. The resins from these demineralizers were transported to an offsite burial facility.

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

6.0 Unplanned Releases

There was one unplanned release to an unrestricted area during this reporting period. This occurred when a relief valve on a volume control tank failed to close. The resultant gaseous release included 2.36 Ci of noble gases, $1.58\text{E-}5$ Ci of I-131, $1.73\text{E-}5$ Ci of particulates as Cs-137 and $7.19\text{E-}3$ Ci of tritium.

Part B. Caseous Effluents

See Summary Tables 1A - 1C.

Part C. Liquid Effluents

See Summary Tables 2A and 2B.

Part D. Solid Waste

See Summary Table 3.

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 the projected 1980 population and 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.

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 $1.88\text{E-}3$ mrem. The calculated population total body dose was $2.70\text{E-}2$ person-rem. The highest organ dose from liquid releases was $1.82\text{E-}2$ mrem to the gastrointestinal tract.

Air Pathways

The resulting whole body and skin doses to an individual were calculated to be $4.50\text{E-}3$ mrem and $2.60\text{E-}3$ mrem respectively. The calculated population total body dose was $5.02\text{E-}1$ person-rem. The average total body dose to the population within fifty miles of the site was $9.38\text{E-}5$ mrem/person.

Direct Radiation

Direct radiation may be estimated by TLD measurements. One method for comparing TLD measurements is by comparison with preoperational data. Direct radiation measurements of on site locations averaged only 4.79 mrem/month. This value is within the statistical variation associated with the preoperational mean value of 4.42 ± 0.59 mrem/month.

Maximum Organ Doses

The maximum organ doses from radioactive iodines and particulates was $2.28\text{E-}2$ mrem to the gastro-intestinal tract.

Part F. Meteorological Data

Cumulative joint wind frequency distribution by atmospheric stability class are provided for the third and fourth quarters of 1978 as Table 5 and 6. Tables 7 and 8 provide joint wind frequencies during batch releases for these respective periods.

TABLE 1A
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1978)
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	3rd Quarter	4th Quarter	Est. Total(1) Error %
A. Fission & activation gases				
1. Total release	Ci	1.36E-01	8.21E+00	2.50E+01
2. Average release rate for period	uCi/sec.	8.65E-03	5.22E-01	
3. Percent of technical specification limit (See ETS Spec. 2.3.3.b)	%	1.53E-05	9.21E-04	
B. Iodines				
1. Total iodine-131	Ci	2.13E-03	3.10E-03	2.50E+01
2. Average release rate for period	uCi/sec.	1.35E-04	1.97E-04	
3. Percent of technical specification limit	%	5.33E-02	7.75E-02	
C. Particulates				
1. Particulates with half-lives > 8 days	Ci	1.48E-02	2.00E-02	2.50E+01
2. Average release rate for period	uCi/sec.	9.41E-04	1.27E-03	
3. Percent of technical specification limit	%	-	-	
4. Gross alpha radioactivity	Ci	1.37E-05	-	2.50E+01
D. Tritium				
1. Total release	Ci	1.23E+00	1.22E+01	2.50E+01
2. Average release rate for period	uCi/sec.	7.82E-02	7.76E-01	
3. Percent of technical specification limit	%	N/A	N/A	

(1) For batch releases the estimated overall error is within 10%.

TABLE 1B
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1978)
GASEOUS EFFLUENTS-ELEVATED RELEASES

Nuclides Released	Unit	CONTINUOUS MODE		BATCH MODE	
		3rd Quarter	4th Quarter	3rd Quarter	4th Quarter
1. Fission gases (1)					
Krypton-85	Ci			4.38E-04	3.48E-02
Krypton-85m	Ci			-	6.81E-03
Krypton-87	Ci			-	2.97E-02
Krypton-88	Ci			-	4.79E+00
Xenon-133	Ci	3.71E-05	9.84E-05	1.21E-01	3.79E-01
Xenon-135	Ci	1.06E-04	2.93E+00	1.26E-02	
Xenon-135M	Ci				
Xenon-138	Ci				
Xel33m	Ci			7.52E-04	3.95E-02
Argon-41	Ci			7.50E-04	-
Fluorine-18	Ci				
Unidentified	Ci				
Total for period	Ci	1.43E-04	2.93E+00	1.36E-01	5.28E+00
2. Iodines					
Iodine-131	Ci	3.82E-04	2.56E-04	-	1.58E-05
Iodine-133	Ci	1.75E-03	2.82E-03	-	
Iodine-135	Ci				
Total for period	Ci	2.13E-03	3.08E-03	-	1.58E-05
3. Particles					
Strontium-89	Ci			-	2.43E-06
Strontium-90	Ci				-
Cesium-134	Ci	-	1.49E-07	1.48E-02	1.91E-02
Cesium-137	Ci	-	3.09E-05	-	1.73E-05
Barium-Lanthanum-140	Ci				
Cobalt-60	Ci	-	1.06E-04	5.46E-06	6.46E-04
Rubidium-88	Ci				-
Gross Alpha	Ci	1.37E-05	-		
Cobalt-58	Ci	7.32E-06	3.34E-05	-	2.50E-04
Total For period	Ci	2.10E-05	1.70E-04	1.48E-02	2.00E-02

● TABLE 1B ●
 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1978)
 GASEOUS EFFLUENTS-ELEVATED RELEASES
 (CONTINUED)

Nuclides Released	Unit	CONTINUOUS MODE		BATCH MODE	
		3rd Quarter	4th Quarter	3rd Quarter	4th Quarter
4. Tritium					
	Ci	8.61E-01	1.19E+01	3.71E-01	3.26E-01

- 1) Other fission gases were below the detectable level (LLD) (Approximately less than 6.67 E-7 uCi/ml).

TABLE 1C
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978
GASEOUS EFFLUENTS-GROUND-LEVEL RELEASES

Nuclides Releases	Unit	3rd Quarter	4th Quarter	3rd Quarter	4th Quarter
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There were no Ground Level Releases for the Period
of Record.

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1978)

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Units	3rd Quarter	4th Quarter	Est. Total Error, %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	1.20E+00	1.16E+00	2.50E+01
2. Average diluted concentration during period	uCi/ml	2.05E-12	3.55E-12	
3. Percent of applicable limit Tech Spec App. B 2.3.1.b	%	1.20+01	1.12E+01	
B. Tritium				
1. Total release	Ci	1.78E+02	8.59E+01	2.50E+01
2. Average diluted concentration during period	uCi/ml	3.04E-10	2.63E-10	
3. Percent of applicable limit	%	N/A	N/A	
C. Dissolved and entrained gases				
1. Total release	Ci	3.78E-03	1.30E-01	2.50E+01
2. Average diluted concentration during period	uCi/ml	6.45E-15	3.98E-13	
3. Percent of applicable limit	%	N/A	N/A	
D. Gross alpha radioactivity				
1. Total release	Ci	0.00E+00	0.00E+00	2.5E+01
E. Volume of waste release (prior to dilution - Batch Release)				
	liters	5.10E+06	6.37E+06	1.00E+00
F. Volume of dilution water used during period - Batch Release				
	liters	5.86E+14	3.27E+14	2.50E+01

N/A - Not Applicable

TABLE 2B
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1978)
LIQUID EFFLUENTS (1)

Nuclides Released	Unit	CONTINUOUS MODE		BATCH MODE	
		3rd Quarter	4th Quarter	3rd Quarter	4th Quarter
Strontium-89	Ci	. E	. E	-	8.04E-04
Strontium-90	Ci	. E	. E	2.48E-03	-
Cesium-134	Ci	. E	. E	9.96E-05	1.40E-03
Cesium-137	Ci	. E	. E	2.08E-03	4.68E-04
Iodine-131	Ci	. E	. E	9.86E-03	3.12E-03
Iodine-133	Ci	. E	. E	2.43E-02	1.74E-03
Cobalt-58	Ci	. E	. E	2.82E-01	7.70E-01
Cobalt-60	Ci	. E	. E	9.61E-02	1.65E-01
Cobalt-57	Ci	. E	. E	5.63E-04	-
Manganese-54	Ci	. E	. E	1.87E-01	9.15E-02
Chromium-51	Ci	. E	. E	2.61E-02	3.78E-02
Cesium-136	Ci			9.34E-04	-
Zirconium-95	Ci	. E	. E	3.13E-03	1.97E-03
Tin-113	Ci	. E	. E	4.37E-04	-
Barium-140	Ci	. E	. E	6.30E-04	4.05E-04
Lanthanum-140	Ci	. E	. E	1.37E-02	4.27E-03
Cerium-141	Ci	. E	. E		
Tungsten-187	Ci	. E	. E	4.82E-03	2.29E-04
Pb 214	Ci	. E	. E	7.44E-04	-
Na 24	Ci	. E	. E	5.40E-01	1.35E-02
Tritium	Ci		4.47E-02	1.78E+02	8.59E+01
Niobium-95	Ci	. E	. E	6.48E-03	2.16E-04
Rb-88	Ci	. E	. E	1.69E-04	. E
Sb-124	Ci	. E	. E		1.78E-03
Fe-59	Ci			6.52E-03	2.96E-02
Unidentified (Gross Alpha)	Ci	. E	. E		
Total for period (above)					
excluding H3	Ci	. E	4.47E-02	1.20E+00	1.12E+00
Xenon-133m					
Xenon-133	Ci	.	. E	2.05E-02	1.26E-01
Xenon-135	Ci	.	. E	7.73E-03	4.60E-03
Krypton-88	Ci	. E	. E	3.78E-03	-

(1) The Lower Limit of Detection (LLD) is approximately 1.00 E-8 uCi/ml (Co 60).

TABLE 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978
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, filter sludges, evaporator bottoms, etc.	m ³ Ci	1.08E+02 3.12E+01	1.00E+01
b. Dry compressible waste, contaminated equip., etc.	m ³ Ci	1.09E+01 1.62E+02	1.50E+01
c. Irradiated components, control rods, etc.	m ³ Ci	. E . E	. E
d. Other (describe)	m ³ Ci	. E . E	. E

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

a. Cobalt - 58	%	5.80E+01
Cobalt - 60	%	2.80E+01
Manganese - 54	%	9.00E+00
Others	%	5.00E+00
b. CO - 58	%	7.80E+01
CO - 60	%	1.30E+01
Manganese - 54	%	9.00E+00
c. _____	%	. E
_____	%	. E
d. _____	%	. E
_____	%	. E
_____	%	. E
_____	%	. E

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
17	Truck	Barnwell, South Carolina

B. IRRADIATED FUEL SHIPMENTS (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
None	N/A	N/A

TABLE 4A

SALEM NUCLEAR GENERATING STATION (1978)

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates July 1 - September 30, 1978
2. Type of release (Gas)
3. Number of releases during the 3rd Quarter 7.00E +00
4. Total time duration for all releases of type listed above
2.80E + 03
minutes
5. Maximum duration for releases of type listed above 1.55E + 03
minutes
6. Average duration for all releases of type listed above
4.00E + 02
minutes
7. Minimum duration for release of type listed above 1.01E + 02
minutes
8. For liquid batch releases only, provide the average stream
flow (dilution flow) during the period of release. N/A

TABLE 4A (Cont'd)

SALEM NUCLEAR GENERATING STATION (1978)

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates Oct. 1 - December 31, 1978
2. Type of release (Gas)
3. Number of releases during the 4th Quarter 8.00E + 00
4. Total time duration for all releases of type listed above
3.39E + 03
minutes
5. Maximum duration for releases of type listed above 2.10E + 03
minutes
6. Average duration for all releases of type listed above
4.23E + 02
minutes
7. Minimum duration for release of type listed above 7.20E + 01
minutes
8. For liquid batch releases only, provide the average stream
flow (dilution flow) during the period of release. N/A

TABLE 4B

SALEM NUCLEAR GENERATING STATION (1978)

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates July 1 - September 30, 1978
2. Type of release (Liquid)
3. Number of releases during the 3rd Quarter 8.20E +01
4. Total time duration for all releases of type listed above
4.54E + 04
minutes
5. Maximum duration for releases of type listed above 1.50E + 03
minutes
6. Average duration for all releases of type listed above
5.54E + 02
minutes
7. Minimum duration for release of type listed above 2.30E + 01
minutes
8. For liquid batch releases only, provide the average stream
flow (dilution flow) during the period of release. 3.38E + 05
gpm

TABLE 4B (Cont'd)

SALEM NUCLEAR GENERATING STATION (1978)

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates October 1 - December 31, 1978
2. Type of release (Liquid)
3. Number of releases during the 4th Quarter 9.50E + 01
4. Total time duration for all releases of type listed above
4.27E + 04
minutes
5. Maximum duration for releases of type listed above 1.72E + 03
minutes
6. Average duration for all releases of type listed above
4.49E + 02
minutes
7. Minimum duration for release of type listed above 2.30E + 01
minutes
8. For liquid batch releases only, provide the average stream
flow (dilution flow) during the period of release. 1.95E + 05
gpm

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD-OF RECORD: 7 178 TO 93078

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

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
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	3	5	0	0	8
SSE	0	0	1	0	0	0	1
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	4	4	5	0	0	9

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

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: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
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	1	0	0	0	1
SE	0	0	4	5	3	2	14
SSE	0	4	1	1	0	0	6
S	0	5	1	0	0	0	6
SSW	0	3	0	1	0	0	4
SW	0	3	4	1	1	0	9
WSW	0	2	0	5	0	0	7
W	0	0	1	0	0	0	1
WNW	0	0	1	0	0	0	1
NW	0	0	0	1	0	0	1
NNW	0	0	0	0	0	0	0
TOTAL	0	17	13	14	4	2	50

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

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

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET							TOTAL
	1-3	4-7	8-12	13-18	19-24	>24		
N	0	0	0	0	0	0		0
NNE	0	0	0	0	0	0		0
NE	0	0	1	1	0	0		2
ENE	0	0	0	0	0	0		0
E	0	0	0	1	0	0		1
ESE	0	0	0	0	0	0		0
SE	0	0	1	3	0	0		4
SSE	0	2	3	1	1	0		7
S	0	3	1	0	0	0		4
SSW	0	1	2	2	0	0		5
SW	0	4	6	3	0	0		13
WSW	0	0	5	0	0	0		5
W	0	2	1	0	0	0		3
WNW	0	1	1	0	0	0		2
NW	0	0	0	4	0	0		4
NNW	0	0	3	2	0	0		5
TOTAL	0	13	24	17	1	0		55

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

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: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	3	12	34	35	3	0	87
NNE	3	12	34	10	0	0	59
NE	5	15	21	6	1	0	48
ENE	4	4	12	1	0	0	21
E	7	15	16	2	0	0	33
ESE	1	7	13	7	3	1	32
SE	1	17	18	13	5	1	55
SSE	1	11	18	13	4	0	47
S	5	15	40	34	5	0	99
SSW	1	19	38	29	2	0	89
SW	3	23	48	20	1	0	95
WSW	3	14	38	13	0	0	68
W	3	18	20	4	0	0	45
WNW	0	11	14	3	0	0	28
NW	2	5	16	5	0	0	28
NNW	6	10	6	12	1	0	35
TOTAL	41	208	386	207	25	2	869

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 36

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

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: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	3	7	22	18	1	0	51
NNE	2	12	17	20	0	0	51
NE	1	18	27	14	0	0	60
ENE	2	13	20	0	0	0	35
E	0	9	9	1	0	0	19
ESE	0	5	3	0	1	0	9
SE	2	7	10	18	10	3	50
SSE	1	24	21	22	10	2	80
S	3	29	45	46	4	0	127
SSW	3	14	13	28	6	0	64
SW	2	16	15	18	4	0	55
WSW	2	8	28	12	2	0	52
W	0	9	17	18	1	0	45
WNW	0	9	9	4	0	0	22
NW	4	6	12	6	0	0	28
NNW	1	8	12	19	1	0	41
TOTAL	26	194	280	244	40	5	789

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 10

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

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: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	3	15	21	0	0	39
NNE	2	3	4	7	0	0	16
NE	1	6	5	6	0	0	18
ENE	0	3	3	0	0	0	6
E	1	1	7	1	0	0	10
ESE	0	7	6	3	0	0	16
SE	0	1	7	3	0	0	11
SSE	0	1	7	1	0	0	9
S	0	1	4	0	0	0	5
SSW	0	2	5	1	0	0	8
SW	0	1	10	3	0	0	14
WSW	1	2	10	1	0	0	14
W	0	7	3	0	0	0	10
WNW	1	3	2	0	0	0	6
NW	0	2	2	1	0	0	5
NNW	0	2	5	2	0	0	9
TOTAL	6	45	95	50	0	0	196

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 19

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

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

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	1	0	0	0	1
NNE	0	0	0	1	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
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	1	1	1	0	0	3

PERIODS OF CALM (HOURS): 0

HOURS OF MISSING DATA: 2

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

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

ELEVATION: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	6	22	72	74	4	0	178
NNE	7	27	55	38	0	0	127
NE	7	39	54	27	1	0	128
ENE	6	20	35	1	0	0	62
E	1	2	32	5	0	0	64
ESE	1	19	23	10	4	1	58
SE	3	25	43	47	18	6	142
	2	42	51	38	15	2	150
	8	53	91	80	9	0	241
SSW	4	39	58	61	8	0	170
SW	5	47	83	45	6	0	186
WSW	6	26	81	31	2	0	146
W	3	36	42	22	1	0	104
WNW	1	24	27	7	0	0	59
NW	6	13	30	17	0	0	66
NNW	7	20	26	35	2	0	90
TOTAL	73	478	803	538	70	9	1971

PERIODS OF CALM (HOURS): 0

HOURS OF MISSING DATA: 67

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET					TOTAL
	1-3	4-7	8-12	13-18	19-24	>24
N	0	0	0	0	0	0
NNE	0	0	0	0	0	0
NE	0	0	0	0	0	0
ENE	0	0	0	0	0	0
E	0	0	0	0	0	0
ESE	0	0	0	0	0	0
SE	0	0	1	0	0	1
SSE	0	0	0	0	0	0
S	0	0	0	0	0	0
SSW	0	0	0	0	0	0
SW	0	0	0	0	0	0
WSW	0	0	0	0	0	0
W	0	0	0	0	0	0
WNW	0	0	0	0	0	0
NW	0	0	0	0	0	0
NNW	0	0	0	0	0	0
TOTAL	0	0	1	0	0	1

PERIODS OF CALM (HOURS): 0

HOURS OF MISSING DATA: 1

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	1	0	0	1
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	1	2	0	0	0	3
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	1	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	0	1	0	1
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	3	0	0	3
TOTAL	0	1	3	5	1	0	10

PERIODS OF CALM (HOURS): 0

HOURS OF MISSING DATA: 1

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	3	0	0	3
NNE	0	0	0	1	0	0	1
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	2	0	0	2
SSW	0	0	0	0	0	0	0
SW	0	0	1	1	0	0	2
WSW	0	0	1	0	0	0	1
W	0	0	1	1	0	0	2
WNW	0	0	1	1	1	0	3
NW	0	0	0	1	1	0	2
NNW	0	0	2	1	0	0	3
TOTAL	0	0	7	12	2	0	21

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	2	20	12	2	0	36
NNE	0	1	29	19	0	0	49
NE	2	8	39	14	0	0	63
ENE	0	3	13	2	0	0	18
E	0	7	8	1	0	0	16
ESE	0	1	9	3	1	0	14
SE	0	5	8	9	2	0	24
SSE	0	5	4	3	0	0	12
S	2	7	4	5	0	0	18
SSW	1	5	11	8	3	0	28
SW	3	13	13	8	5	0	42
WSW	1	14	22	4	0	0	41
W	0	4	33	11	9	6	63
WNW	2	5	15	22	18	27	89
NW	0	1	11	30	25	12	79
NNW	1	7	17	15	4	2	46
TOTAL	12	88	256	166	69	47	638

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 26

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	4	10	29	40	3	2	88
NNE	1	13	19	10	0	0	43
NE	1	11	50	14	0	0	76
ENE	1	5	12	7	4	0	29
E	3	7	12	2	0	4	28
ESE	2	5	12	8	0	0	27
SE	3	8	16	23	6	1	57
SSE	2	7	22	13	1	0	45
S	2	13	30	29	2	0	76
SSW	4	7	21	39	2	5	78
SW	2	13	52	29	9	4	109
WSW	2	11	14	4	4	2	37
W	2	8	33	20	13	5	81
WNW	0	16	19	43	20	13	111
NW	5	11	26	39	15	5	101
NNW	0	9	20	34	9	1	73
TOTAL	34	154	387	354	88	42	1059

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 76

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	1	4	5	7	0	0	17
NNE	0	6	10	3	0	0	19
NE	0	2	8	9	0	0	19
ENE	0	0	1	2	0	0	3
E	0	0	6	0	0	0	6
ESE	1	0	1	2	0	0	4
SE	0	2	7	4	3	1	17
SSE	1	4	7	4	2	0	18
S	1	1	4	4	4	0	14
SSW	1	2	4	7	4	1	19
SW	2	12	14	4	3	2	37
WSW	0	7	10	6	0	0	23
W	1	4	9	2	0	0	16
WNW	1	1	7	3	0	0	12
NW	1	4	4	1	0	0	10
NNW	2	1	5	5	0	0	13
TOTAL	12	50	102	63	16	4	247

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 16

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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

ELEVATION: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	2	0	0	0	2
NNE	0	0	1	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	0	0	1	0	0	1
E	0	0	2	0	0	0	2
ESE	0	3	1	0	0	0	4
SE	1	0	1	0	0	0	2
SSE	0	0	1	1	0	0	2
S	0	0	0	0	0	0	0
SSW	0	0	0	1	0	0	1
SW	0	0	1	0	0	0	1
WSW	0	0	1	0	0	0	1
W	0	0	1	0	0	0	1
WNW	0	1	2	0	0	0	3
NW	0	1	1	0	0	0	2
NNW	0	2	0	0	0	0	2
TOTAL	1	7	14	3	0	0	25

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 5

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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

ELEVATION: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	5	16	56	63	5	2	147
NNE	1	20	59	33	0	0	113
NE	3	21	97	37	0	0	158
ENE	1	8	26	14	4	0	53
E	3	14	28	3	0	4	52
ESE	3	9	23	13	1	0	49
SE	4	15	33	36	11	2	101
SSE	3	17	37	21	3	0	81
S	5	21	38	40	6	0	119
SSW	6	14	36	55	9	6	126
SW	7	38	82	42	17	6	192
WSW	3	32	48	14	4	2	103
W	3	16	77	34	23	11	164
WNW	3	23	44	69	39	40	218
NW	6	17	42	71	41	17	194
NNW	3	19	44	58	13	3	140
TOTAL	59	300	770	603	176	93	2001

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 126

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

STABILITY CLASS: EXTREMELY UNSTABLE DELTA T <-1.9 ~
LAPSE RATE IN DEG, 100 METERS
EVALUATED USING DELTA T 150-33 FT

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	1	0	0	0	1
NNE	0	0	0	0	0	0	0
NNE	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	1	0	0	0	0	0	1
SSW	0	0	0	1	0	0	1
SW	0	0	2	0	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	0	0	0	0
NNW	0	0	0	0	0	0	0
TOTAL	1	0	3	1	0	0	5

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

STABILITY CLASS: MODERATELY UNSTABLE DELTA T -1.9 TO -1.7 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 150-33 FT

ELEVATION: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	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
NVE	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
WR	0	0	0	0	0	0	0
WNW	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

TABLE 7
3 of 8

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

STABILITY CLASS: NEUTRAL DELTA T -1.5 TO -0.5 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 150-33 FT

ELEVATION: 150 FEET

		WINDSPEED (MPH) AT 150 FEET							
		1-3	4-7	8-12	13-18	19-24	>24	TOTAL	
N	0	1	1	0	0	0	0	2	
NNE	0	1	0	0	0	0	0	1	
NE	0	0	0	0	0	0	0	0	
ENE	0	0	0	0	0	0	0	0	
E	0	0	0	0	0	0	0	0	
ESE	0	0	0	0	0	0	0	0	
SE	0	0	0	0	0	0	0	0	
SSE	0	0	3	0	0	0	0	3	
S	0	0	0	0	0	0	0	0	
SSW	0	0	0	0	1	0	0	1	
SW	0	1	2	2	0	0	0	5	
WSW	0	0	1	0	0	0	0	1	
W	0	0	0	0	0	0	0	0	
WNW	0	0	0	0	0	0	0	0	
W	0	0	0	0	0	0	0	0	
NNW	0	0	0	0	0	0	0	0	
TOTAL	0	3	7	3	0	0	0	13	

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

STABILITY CLASS: SLIGHTLY STABLE DELTA T -0.5 TO 1.5 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 150-33 FT

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NRE	0	0	0	0	0	0	0
NENE	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	1	0	1
SSW	0	0	1	1	1	0	3
SU	0	0	0	0	0	0	0
WSW	0	0	0	1	0	0	1
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	1	2	2	0	5

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

STABILITY CLASS: MODERATELY STABLE DELTA T 1.5 TO 4.0 °
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 1.00-33 FT

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NENE	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	2	0	0	2
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	1	0	0	1
W	0	0	0	1	0	0	1
WNW	0	0	0	0	0	0	0
NW	0	0	0	1	0	0	1
NNW	0	0	0	0	0	0	0
TOTAL	0	0	0	5	0	0	5

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 7 178 TO 93078

STABILITY CLASS: EXTREMELY STABLE DELTA T >4.0 ~
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 150-33 FT

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NNE	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
W	0	0	0	0	0	0	0
WNW	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: 7 178 TO 93078

STABILITY CLASS: ALL STABILITIES EXCLUDING MISS SPEED/DIR DATA
LAPSE RATE IN DEG C/100 METERS
EVALUATED USING DELTA T 150-33 FT

LEVATION: 150 FEET

IND PREC- ION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
NE	0	1	4	0	0	0	5
E	0	1	0	0	0	0	1
NE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SW	1	0	3	0	0	0	3
W	0	0	0	2	1	0	4
SW	0	0	1	4	1	0	6
NW	0	1	4	2	0	0	7
W	0	0	1	2	0	0	3
NW	0	0	0	1	0	0	1
W	0	0	0	0	0	0	0
NW	0	0	0	1	0	0	1
W	0	0	0	0	0	0	0
TOTAL	1	3	13	12	2	0	31

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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

ELEVATION: 150 FEET

WINDSPEED (MPH) AT 150 FEET

IND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
NE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

PERIODS OF CALM (HOURS): 0

HOURS OF MISSING DATA: 1

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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: 150 FEET

		WINDSPEED (MPH) AT 150 FEET						
		1-3	4-7	8-12	13-18	19-24	>24	TOTAL
IND								
PREC- ION								
NE		0	0	0	0	0	0	0
E		0	0	0	0	0	0	0
NE		0	0	0	0	0	0	0
SE		0	0	0	0	0	0	0
E		0	0	0	0	0	0	0
SE		0	0	0	0	0	0	0
SW		0	0	0	0	0	0	0
ER		0	0	0	0	0	0	0
SW		0	0	0	0	0	0	0
W		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: 10 178 TO 123178

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: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	1	0	0	1
NNE	0	0	5	4	0	0	9
NE	0	0	1	1	0	0	2
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	1	0	0	1
SE	0	0	0	3	0	0	3
SSE	0	3	0	0	0	0	3
S	0	3	0	0	0	0	3
SSW	0	0	1	0	0	0	1
SW	0	1	5	4	0	0	10
WSW	0	1	1	1	0	0	3
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	1	0	0	1
TOTAL	0	8	13	16	0	0	37

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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: 150 FEET

		WINDSPEED (MPH) AT 150 FEET							
		1-3	4-7	8-12	13-18	19-24	>24	TOTAL	
WIND	DIREC-								
	TION								
N		0	0	2	0	2	2	6	
NNE		0	2	2	5	0	0	9	
NE		0	0	0	6	0	0	6	
ENE		0	0	0	0	0	0	0	
E		1	0	0	1	0	0	2	
ESE		0	0	0	0	0	0	0	
SE		0	0	0	0	0	0	0	
SSE		0	0	2	0	0	0	2	
S		0	0	0	2	0	0	2	
SSW		0	0	4	4	0	0	8	
SW		0	0	6	3	0	0	9	
WSW		0	0	1	1	0	0	2	
W		1	2	1	0	0	0	4	
WNW		0	3	2	2	0	0	7	
NW		0	2	1	1	0	0	4	
NNW		0	0	0	0	2	1	3	
TOTAL		2	9	21	25	4	3	64	

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 9

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	3	2	0	0	0	5
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	3	0	0	3
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	3	2	3	0	0	8

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

ARTIFICIAL ISLAND
SALEM UNIT 1

PERIOD OF RECORD: 10 178 TO 123178

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

ELEVATION: 150 FEET

WIND DIREC- TION	WINDSPEED (MPH) AT 150 FEET						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
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: 10 178 TO 123178

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

ELEVATION: 150 FEET

WINDSPEED (MPH) AT 150 FEET

WIND DIREC- TION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	2	1	2	2	7
NNE	0	5	9	10	0	0	24
NE	0	0	1	7	0	0	8
ENE	0	0	0	0	0	0	0
E	1	0	0	1	0	0	2
ESE	0	0	0	1	0	0	1
SE	0	0	0	3	0	0	3
SSE	0	3	3	0	0	0	6
S	0	3	0	2	0	0	5
SSW	0	0	5	4	0	0	9
SW	0	1	11	7	0	0	19
WSW	0	1	2	5	0	0	8
W	1	2	1	0	0	0	4
WNW	0	3	2	2	0	0	7
NW	0	2	1	1	0	0	4
NNW	0	0	0	1	2	1	4
TOTAL	2	20	37	45	4	3	111

PERIODS OF CALM (HOURS): 0
HOURS OF MISSING DATA: 13