

RETS MASTER FILE

EFF-81A

FLORIDA POWER & LIGHT COMPANY

ST. LUCIE PLANT UNIT #1

LICENSE #DPR-67

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

FOR THE PERIOD

JANUARY 1, 1981 THROUGH JUNE 30, 1981

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EFFLUENT + WASTE DISPOSAL SUPPLEMENTAL INFORMATION

1. Regulatory Limits

1.1 For liquid waste effluents

- a. The concentration of radioactive materials released in liquid waste effluents from all reactors at the site shall not exceed the value specified in 10 CFR Part 20, Appendix B, Table II, Column 2, for unrestricted areas.
- b. The cumulative release of radioactive materials in liquid waste effluents, excluding tritium and dissolved gases, shall not exceed 10 Ci/reactor/calendar quarter.
- c. The cumulative release of radioactive material in liquid waste effluents, excluding tritium and dissolved gases, shall not exceed 20 Ci/reactor in any 12 consecutive months.

1.2 For gaseous waste effluents

- a. (1) The release rate limit of noble gases from the site shall be such that

$$2.0 (Q_{TV} \bar{K}_V) \leq 1$$

and

$$0.33 (Q_{TV} (\bar{L}_V + 1.1 \bar{N}_V)) \leq 1$$

- (2) The release rate limit of all radioiodines and radioactive materials in particulate form with half-lives greater than eight days, released to the environs as part of the gaseous wastes from the site shall be such that

$$5.5 \times 10^3 Q_V \leq 1$$

- b. (1) The average release rate of noble gases from the site during any calendar quarter shall be such that

$$13 (Q_{TV} \bar{N}_V) \leq 1$$

and

$$6.3 (Q_{TV} \bar{M}_V) \leq 1$$

Effluent + Waste Disposal Supplemental Information, Continued

1. Regulatory Limits, Continued

1.2-b Continued

- (2) The average release rate of gases from the site during any 12 consecutive months shall be

$$25 (Q_{TV} \bar{N}_V) \leq 1$$

and

$$13 (Q_{TV} \bar{M}_V) \leq 1$$

- (3) The average release rate per site of all radioiodines and radioactive materials in particulate form with half-lives greater than eight days during any calendar quarter shall be such that

$$13 (5.5 \times 10^3 Q_V) \leq 1$$

- (4) The average release rate per site of all radioiodines and radioactive materials in particulate form with half-lives greater than eight days during any period of 12 consecutive months shall be such that

$$25 (5.5 \times 10^3 Q_V) \leq 1$$

- (5) The amount of iodine -131 released during any calendar quarter shall not exceed 2 Ci/reactor.

- (6) The amount of iodine -131 released during any period of the 12 consecutive months shall not exceed 4 Ci/reactor.

2. Maximum Permissible Concentrations

AIR - 10 CFR Part 20, Appendix B, Table II, Column 1

WATER - 10 CFR Part 20, Appendix B, Table II, Column 2

3. Average energy of fission and activation gases in gaseous effluents is not applicable.

4. Measurements and Approximations of Total Radioactivity

A summary of liquid effluent accounting methods is described in Table 4.1.

A summary of gaseous effluent accounting methods is described in Table 4.2.

Effluent + Waste Disposal Supplemental Information, Continued

4. Measurements and Approximations of Total Radioactivity, Continued

Estimate of Errors

(a) Sampling Error.

The error associated with volume measurement devices, flow measuring devices, etc. based on calibration data and design tolerances has been conservatively estimated collectively to be less than $\pm 10\%$.

(b) Analytical Error for Nuclides

Type	Average	Maximum
Liquid	$\pm 9\%$	$\pm 30\%$
Gaseous	$\pm 10\%$	$\pm 35\%$

Table 4.1
Radioactive Liquid Effluent Sampling and Analysis

LIQUID SOURCE	SAMPLING FREQUENCY	TYPE OF ANALYSIS	METHOD OF ANALYSIS
MONITOR TANK RELEASES ¹	EACH BATCH	PRINCIPAL GAMMA EMITTERS	p.h.a.
	MONTHLY COMPOSITE	Tritium	L.S.
		Gross Alpha	G.F.P.
	QUARTERLY COMPOSITE	Sr-89, Sr-90	C.S.& L.S.
STEAM GENERATOR BLOWDOWN RELEASES	WEEKLY	Principal Gamma Emitters and Dissolved Gases	p.h.a.
	MONTHLY COMPOSITE	Tritium	L.S.
		Gross Alpha	L.F.P.
	QUARTERLY COMPOSITE	Sr-89, Sr-90	C.S.&L.S.

TABLE NOTATION:

¹Boric Acid Evaporator condensate is normally recovered to the Primary Water Storage Tank for recycling into the reactor coolant system and does not contribute to liquid waste effluent totals.

p.h.a. - gamma spectrum pulse height analysis using Lithium Germanium detectors. All peaks are identified and quantified.

L.S. - Liquid Scintillation counting

C.S. - Chemical Separation

G.F.P. - Gas Flow Proportional Counting

Effluent + Waste Disposal Supplemental Information, Continued

4. Measurements and Approximations of Total Radioactivity, Continued

(b) Continued

Table 4.2
Radioactive Gaseous Waste Sampling and Analysis

Gaseous Source	Sampling Frequency	Type of Analysis	Method of Analysis
Waste Gas Decay Tank Releases	Each Tank	Principal Gamma Emitters	(G, C, P) - p.h.a.
		H-3	L.S.
Containment Purge Releases	Each Purge	Principal Gamma Emitters	(G, C, P) - p.h.a.
		H-3	L.S.
Plant Vent	Weekly	Principal Gamma Emitters	(G, C, P) - p.h.a.
		H-3	L.S.
	Monthly Composite (Particulates)	Gross Alpha	P - G.F.P.
	Quarterly Composite (Particulates)	Sr-90, 89	C.S. & L.S.

G - Gaseous Grab Sample

C - Charcoal Filter Sample

P - Particulate Filter Sample

L.S. - Liquid Scintillation counting

C.S. - Chemical Separation

p.h.a. - gamma spectrum pulse height analysis using Lithium Germanium detectors. All peaks are identified and quantified.

G.F.P. - Gas Flow Proportional Counting

EFFLUENT + WASTE DISPOSAL SUPPLEMENTAL INFORMATION (CONT.):

5. BATCH RELEASES

A. LIQUID

1. NUMBER OF BATCH RELEASES:	17
2. TOTAL TIME PERIOD OF BATCH RELEASES:	9571 MINUTES
3. MAXIMUM TIME PERIOD FOR A BATCH RELEASE:	705 MINUTES
4. AVERAGE TIME PERIOD FOR A BATCH RELEASE:	563 MINUTES
5. MINIMUM TIME PERIOD FOR A BATCH RELEASE:	225 MINUTES
6. AVERAGE STREAM FLOW DURING PERIODS OF RELEASE OF EFFLUENT INTO A FLOWING STREAM:	509769 GPM

ALL LIQUID RELEASES ARE SUMMARIZED IN TABLES 5.1 & 5.2

B. GASEOUS

1. NUMBER OF BATCH RELEASES:	69
2. TOTAL TIME PERIOD FOR BATCH RELEASES:	23168 MINUTES
3. MAXIMUM TIME PERIOD FOR A BATCH RELEASE:	704 MINUTES
4. AVERAGE TIME PERIOD FOR BATCH RELEASES:	341 MINUTES
5. MINIMUM TIME PERIOD FOR A BATCH RELEASE:	160 MINUTES

ALL GASEOUS WASTE RELEASES ARE SUMMARIZED IN TABLES 5.3 & 5.4

6. ABNORMAL RELEASES

A. LIQUID

1. NUMBER OF RELEASES:	0
2. TOTAL ACTIVITY RELEASES:	.00000 CURIES

B. GASEOUS

1. NUMBER OF RELEASES:	0
2. TOTAL ACTIVITY RELEASED:	.00000 CURIES

7. SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

SEE TABLE OF CONTENTS

FLORIDA POWER & LIGHT COMPANY

ST. LUCIE UNIT #1

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TABLE S.1 : LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	UNIT	QUARTER# 1	QUARTER# 2
A. FISSION AND ACTIVATION PRODUCTS			
1. TOTAL RELEASE-NOT INCLUDING TRITIUM, GASES, ALPHA)	CI	1.334 E -1	3.461 E -1
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	UCI/ML	1.381 E -8	3.932 E -8
3. PERCENT OF APPLICABLE LIMIT	%	1.334 E 0	3.461 E 0
B. TRITIUM			
1. TOTAL RELEASE	CI	1.054 E 2	6.021 E 1
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	UCI/ML	1.091 E -5	6.840 E -6
C. DISSOLVED AND ENTRAINED GASES			
1. TOTAL RELEASE	CI	2.953 E -2	2.427 E -2
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	UCI/ML	3.056 E -9	2.756 E -9
D. GROSS ALPHA RADIOACTIVITY			
1. TOTAL RELEASE	CI	.000 E 0	.000 E 0
E. VOLUME OF WASTE RELEASED (PRIOR TO DILUTION)			
	LITERS	9.515 E 5	8.796 E 5
F. VOLUME OF DILUTION WATER USED DURING PERIOD			
	LITERS	9.662 E 9	8.803 E 9

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TABLE 5.2: LIQUID EFFLUENTS

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER# 1	QUARTER# 2	QUARTER# 1	QUARTER# 2
I-131	CI	.000 E 0	1.251 E -3	1.400 E -2	2.017 E -
I-132	CI	.000 E 0	1.580 E -6	.000 E 0	.000 E -
I-133	CI	.000 E 0	6.606 E -4	6.873 E -4	1.279 E -
I-134	CI	.000 E 0	.000 E 0	.000 E 0	5.720 E -
I-135	CI	.000 E 0	6.961 E -4	1.575 E -3	3.633 E -
NA-24	CI	.000 E 0	1.090 E -6	1.275 E -4	1.088 E -
CR-51	CI	.000 E 0	.000 E 0	4.850 E -4	6.161 E -
MN-54	CI	.000 E 0	.000 E 0	2.352 E -3	3.026 E -
MN-56	CI	.000 E 0	.000 E 0	.000 E 0	6.720 E -
CO-57	CI	.000 E 0	.000 E 0	3.521 E -5	1.710 E -
CO-58	CI	.000 E 0	.000 E 0	4.562 E -3	5.935 E -
FE-59	CI	.000 E 0	.000 E 0	2.058 E -5	1.471 E -
CO-60	CI	.000 E 0	1.541 E -4	8.017 E -2	1.014 E -
ZN-65	CI	.000 E 0	.000 E 0	1.056 E -5	1.285 E -
NI-65	CI	.000 E 0	.000 E 0	.000 E 0	5.362 E -
AG-110M	CI	.000 E 0	.000 E 0	1.004 E -3	1.733 E -
SN-113	CI	.000 E 0	.000 E 0	.000 E 0	3.131 E -
SB-122	CI	.000 E 0	.000 E 0	7.669 E -4	4.013 E -
SB-124	CI	.000 E 0	.000 E 0	3.052 E -3	1.811 E -
W-187	CI	.000 E 0	.000 E 0	9.941 E -5	1.671 E -
NP-239	CI	.000 E 0	.000 E 0	3.900 E -6	7.430 E -
ZR-95	CI	.000 E 0	.000 E 0	1.736 E -3	8.678 E -
MO-99	CI	.000 E 0	.000 E 0	1.700 E -7	1.541 E -
CS-134	CI	.000 E 0	8.187 E -5	5.244 E -3	1.332 E -
CS-136	CI	.000 E 0	6.074 E -6	1.249 E -5	6.829 E -
CS-137	CI	.000 E 0	1.503 E -4	1.499 E -2	3.442 E -
BA-140	CI	.000 E 0	.000 E 0	2.140 E -5	3.075 E -
CE-141	CI	.000 E 0	.000 E 0	.000 E 0	2.280 E -
BR-82	CI	.000 E 0	.000 E 0	.000 E 0	9.390 E -
ZR-97	CI	.000 E 0	.000 E 0	9.069 E -5	1.521 E -
SB-125	CI	.000 E 0	.000 E 0	2.464 E -3	2.729 E -
CE-144	CI	.000 E 0	.000 E 0	8.770 E -5	1.335 E -
SR-89	CI	.000 E 0	.000 E 0	.000 E 0	.000 E 0
SR-90	CI	.000 E 0	.000 E 0	.000 E 0	.000 E 0
UNIDENTIFIED	CI	.000 E 0	.000 E 0	.000 E 0	.000 E 0
TOTAL FOR PERIOD (ABOVE)	CI	.000 E 0	3.002 E -3	1.336 E -1	3.430 E -1
AR-41	CI	.000 E 0	.000 E 0	.000 E 0	5.901 E -4
KR-85	CI	.000 E 0	.000 E 0	7.432 E -3	1.394 E -4
KR-87	CI	.000 E 0	.000 E 0	2.529 E -3	.000 E 0
XE-131M	CI	.000 E 0	.000 E 0	1.260 E -4	1.004 E -3
XE-133	CI	.000 E 0	1.051 E -4	2.099 E -2	2.144 E -2
XE-135	CI	.000 E 0	7.151 E -6	9.209 E -4	9.735 E -4
XE-135M	CI	.000 E 0	.000 E 0	3.040 E -5	.000 E 0

FLORIDA POWER & LIGHT CO. INC.

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TABLE 5.3 : GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	UNIT	QUARTER# 1	QUARTER# 2
A. FISSION AND ACTIVATION GASES			
1. TOTAL RELEASE	CI	5.437 E 3	8.741 E 3
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	6.896 E 2	1.109 E 3
3. PERCENT OF TECH. SPEC. LIMIT	%	1.159 E 0	1.869 E 0
B. IODINES			
1. TOTAL IODINE-131	CI	7.958 E -3	1.019 E -2
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	1.010 E -3	1.292 E -3
3. PERCENT OF TECH. SPEC. LIMIT	%	3.979 E -1	5.092 E -1
C. PARTICULATES			
1. PARTICULATES T-1/2 > 8. DAYS	CI	7.960 E -3	1.019 E -2
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	1.010 E -3	1.292 E -3
3. PERCENT OF TECH. SPEC. LIMIT	%	6.934 E -2	4.745 E -2
4. GROSS ALPHA RADIOACTIVITY	CI	.000 E 0	.000 E 0
D. TRITIUM			
1. TOTAL RELEASE	CI	3.447 E 1	1.211 E 2
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	4.371 E 0	1.536 E 1

FLORIDA POWER & LIGHT COMPANY

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TABLE 5. 4: GASEOUS EFFLUENTS

		CONTINUOUS MODE				BATCH MODE			
NUCLIDES RELEASED	UNIT	QUARTER# 1		QUARTER# 2		QUARTER# 1		QUARTER# 2	
1. FISSION GASES									
AR- 41	CI	.000	E 0	.000	E 0	.000	E 0	1.881	E 0
KR- 85	CI	.000	E 0	.000	E 0	2.290	E 1	3.585	E 1
KR- 85M	CI	3.866	E 0	4.517	E 1	7.826	E 1	1.226	E 2
KR- 87	CI	.000	E 0	1.009	E 1	3.176	E 1	4.945	E 1
KR- 88	CI	.000	E 0	7.658	E 0	1.285	E 2	1.792	E 2
XE-131M	CI	.000	E 0	.000	E 0	3.053	E 2	4.453	E 2
XE-133	CI	7.535	E 2	1.492	E 3	3.764	E 3	5.773	E 3
XE-133M	CI	.000	E 0	8.472	E 0	5.935	E 1	8.974	E 1
XE-135	CI	2.047	E 2	3.146	E 2	2.857	E 1	1.014	E 2
XE-135M	CI	.000	E 0	.000	E 0	1.601	E 0	4.270	E 0
XE-138	CI	.000	E 0	.000	E 0	5.294	E 1	5.898	E 1
UNIDENTIFIED	CI	.000	E 0	.000	E 0	.000	E 0	.000	E 0
TOTAL FOR PERIOD (ABOVE)	CI	9.622	E 2	1.879	E 3	4.474	E 3	6.863	E 3
2. IODINES									
I-131	CI	7.920	E -3	9.156	E -3	3.689	E -5	1.026	E -3
I-133	CI	6.848	E -2	4.211	E -2	8.410	E -7	1.600	E -5
TOTAL FOR PERIOD (ABOVE)	CI	7.641	E -2	5.126	E -2	3.774	E -5	1.042	E -3
3. PARTICULATES									
CO- 58	CI	.000	E 0	.000	E 0	.000	E 0	2.200	E -7
CO- 60	CI	2.120	E -6	.000	E 0	.000	E 0	3.079	E -7
RB- 88	CI	.000	E 0	7.550	E -6	1.413	E -3	4.238	E -2
ZR- 95	CI	.000	E 0	8.399	E -7	.000	E 0	.000	E 0

THE FOLLOWING INFORMATION PERTAINS TO QUARTER 1-1981
OF THIS SEMIANNUAL REPORTING PERIOD

Page 10.

QTV EQUALS $6.895 \text{ E } -4$ CURIES/SEC

K-BAR EQUALS $5.705 \text{ E } -1$ REM/YR/CI/SEC

L-BAR EQUALS $1.157 \text{ E } 0$ REM/YR/CI/SEC

M-BAR EQUALS $2.667 \text{ E } 0$ RAD/YR/CI/SEC

N-BAR EQUALS $6.657 \text{ E } -1$ RAD/YR/CI/SEC

QV EQUALS $9.696 \text{ E } -9$ CURIES/SEC

AS PER APPENDIX B ENVIRONMENTAL TECHNICAL SPECS

SECTION 2.4.3.B. (1) THE AVERAGE RELEASE RATE OF NOBLE GASES FROM THE SITE DURING ANY CALENDAR QUARTER SHALL BE SUCH THAT

$$13(QTV*N\text{-}BAR) < OR = 1$$

$$5.968 E -3 < 1.0$$

AND $6.3(QTV*M\text{-}BAR) < OR = 1.$

$$1.159 E -2 < 1.0$$

SECTION 2.4.3.B. (3) THE AVERAGE RELEASE RATE PER SITE OF ALL RADIOIODINES AND RADIOACTIVE MATERIALS IN PARTICULATE FORM WITH HALF-LIVES > 8 DAYS DURING ANY CALENDAR QUARTER SHALL BE SUCH THAT

$$13(5.5E+3*QV) < OR = 1$$

$$6.934 E -4 < 1.0$$

SECTION 2.4.3. (5) THE AMOUNT OF IODINE-131 RELEASED DURING ANY CALENDAR QUARTER SHALL NOT EXCEED 2 CI/REACTOR

$$7.958 E -3 < 2.0$$

INVESTIGATION AND REPORT TO NRC IN 30 DAYS IF :

SECTION 2.4.3.C. (1) IF THE AVERAGE RELEASE RATE OF NOBLE GASES FROM THE SITE DURING ANY CALENDAR QUARTER IS SUCH THAT

$$50(QTV*N\text{-}BAR) > 1$$

$$2.296 E -2 < 1.0$$

OR $25(QTV*M\text{-}BAR) > 1$

$$4.598 E -2 < 1.0$$

SECTION 2.4.3.C. (2). IF THE AVERAGE RELEASE RATE PER SITE OF ALL RADIOIODINES AND RADIOACTIVE MATERIALS IN PARTICULATE FORM WITH HALF-LIVES > 8 DAYS DURING ANY CALENDAR QUARTER IS SUCH THAT

$$50(5.5E+3*QV) > 1$$

$$2.667 E -3 < 1.0$$

SECTION 2.4.3.C. (3) IF THE AMOUNT OF I-131 RELEASED DURING ANY CALENDAR QUARTER IS > 0.5 CURIES/REACTOR

$$7.958 E -3 < .5$$

THE FOLLOWING INFORMATION PERTAINS TO QUARTER 2-1981
OF THIS SEMIANNUAL REPORTING PERIOD

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QTV EQUALS 1.108 E -3 CURIES/SEC

K-BAR EQUALS 5.631 E -1 REM/YR/CI/SEC

L-BAR EQUALS 1.166 E 0 REM/YR/CI/SEC

M-BAR EQUALS 2.675 E 0 RAD/YR/CI/SEC

N-BAR EQUALS 6.576 E -1 RAD/YR/CI/SEC

QV EQUALS 6.635 E -9 CURIES/SEC

AS PER APPENDIX B ENVIRONMENTAL TECHNICAL SPECS

SECTION 2.4.3.B. (1) THE AVERAGE RELEASE RATE OF NOBLE GASES FROM THE SITE DURING ANY CALENDAR QUARTER SHALL BE SUCH THAT

$$13(QTV*N\text{-}BAR) < OR = 1$$

$$9.479 E -3 < 1.0$$

AND $6.3(QTV*M\text{-}BAR) < OR = 1$

$$1.869 E -2 < 1.0$$

SECTION 2.4.3.B. (3) THE AVERAGE RELEASE RATE PER SITE OF ALL RADIOIODINES AND RADIOACTIVE MATERIALS IN PARTICULATE FORM WITH HALF-LIVES > 8 DAYS DURING ANY CALENDAR QUARTER SHALL BE SUCH THAT

$$13(5.5E+3*QV) < OR = 1$$

$$4.745 E -4 < 1.0$$

SECTION 2.4.3. (5) THE AMOUNT OF IODINE-131 RELEASED DURING ANY CALENDAR QUARTER SHALL NOT EXCEED 2 CI/REACTOR

$$1.019 E -2 < 2.0$$

INVESTIGATION AND REPORT TO NRC IN 30 DAYS IF :

SECTION 2.4.3.C. (1) IF THE AVERAGE RELEASE RATE OF NOBLE GASES FROM THE SITE DURING ANY CALENDAR QUARTER IS SUCH THAT

$$50(QTV*N\text{-}BAR) > 1$$

$$3.646 E -2 < 1.0$$

OR $25(QTV*M\text{-}BAR) > 1$

$$7.415 E -2 < 1.0$$

SECTION 2.4.3.C. (2) IF THE AVERAGE RELEASE RATE PER SITE OF ALL RADIOIODINES AND RADIOACTIVE MATERIALS IN PARTICULATE FORM WITH HALF-LIVES > 8 DAYS DURING ANY CALENDAR QUARTER IS SUCH THAT

$$50(5.5E+3*QV) > 1$$

$$1.825 E -3 < 1.0$$

SECTION 2.4.3.C. (3) IF THE AMOUNT OF I-131 RELEASED DURING ANY CALENDAR QUARTER IS > 0.5 CURIES/REACTOR

$$1.019 E -2 < .5$$

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: JANUARY 1 THROUGH MARCH 31, 1981

STABILITY CLASS: A

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED (MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	1.00	.00	.00	.00	.00	1.00
NE	.00	.00	.00	.00	.00	.00	.00
ENE	.00	.00	.00	.00	.00	.00	.00
E	.00	.00	.00	.00	.00	.00	.00
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	.00	.00	.00	.00	.00
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	2.00	.00	.00	.00	2.00
SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	.00	1.00	2.00	.00	.00	.00	2.99
PERIODS OF CALM (HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: JANUARY 1 THROUGH MARCH 31, 1981

STABILITY CLASS: B

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	1.00	.00	.00	.00	1.00
NNE	.00	.00	.00	.00	.00	.00	.00
NE	.00	.00	.00	.00	.00	.00	.00
ENE	.00	.00	.00	.00	.00	.00	.00
E	.00	.00	.00	.00	.00	.00	.00
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	.00	.00	.00	.00	.00
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	.00	.00	.00	.00
SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	.00	.00	1.00	.00	.00	.00	1.00
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: JANUARY 1 THROUGH MARCH 31, 1981

STABILITY CLASS: C

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	.00	.00	.13	.00	.00	.13
NE	.00	.00	.00	.00	.00	.00	.00
ENE	.00	.00	.00	.00	.00	.00	.00
E	.00	.00	.00	.00	.00	.00	.00
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	2.00	.00	.00	.00	2.00
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	1.00	.00	.00	.00	1.00
SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	.00	.00	3.00	.13	.00	.00	3.13
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

JANUARY 1 THROUGH MARCH 31, 1981

		WIND SPEED (MPH) AT 10M LEVEL					TOTAL
		4-7	8-12	13-18	19-24	> 24	
		1.00	3.08	.00	.00	.00	4.08
080	100	1.00	1.00	1.58	2.00	.00	6.58
090	110	1.00	1.00	.00	.00	.00	2.00
100	120	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00	.00
130	140	2.00	2.03	1.00	.00	.00	4.03
140	150	.00	3.00	.00	.00	.00	4.00
150	160	4.00	4.00	2.00	.00	.00	10.00
		.00	2.75	.00	.00	.00	2.75
180	190	1.66	1.00	1.00	.00	.00	3.66
190	200	.00	1.91	2.00	.00	.00	3.91
200	210	2.00	1.00	.00	.00	.00	3.00
		.14	.00	1.00	.00	.00	1.14
		.00	3.68	.00	.00	.00	4.68
		1.00	2.66	.00	.00	.00	3.66
		1.91	2.00	.00	.00	.00	3.91
		15.75	29.13	8.58	2.00	.00	57.46
		RS):	.00				
		TA :	.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: JANUARY 1 THROUGH MARCH 31, 1981

STABILITY CLASS: E

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	4.41	.00	.00	.00	.00	4.41
NNE	6.00	3.50	1.00	.00	.00	.00	10.50
NE	3.50	.83	.00	.00	.00	.00	4.33
ENE	.00	.00	.00	.00	.00	.00	.00
E	.00	.00	3.58	.00	.00	.00	3.58
ESE	1.00	1.00	.00	.00	.00	.00	2.00
SE	.95	4.00	.00	.00	.00	.00	4.95
SSE	2.00	4.00	.00	.00	.00	.00	6.00
S	.00	4.00	1.00	.00	.00	.00	5.00
SSW	.00	3.00	.91	.00	.00	.00	3.91
SW	.00	1.00	.00	.00	.00	.00	1.00
WSW	2.00	1.00	.00	.00	.00	.00	3.00
W	7.88	5.00	1.91	.00	.00	.00	14.80
WNW	4.40	5.05	.00	.00	.00	.00	9.45
NW	2.00	12.25	.00	.00	.00	.00	14.25
NNW	1.00	9.00	.00	.00	.00	.00	10.00
SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	30.73	58.05	8.41	.00	.00	.00	97.19
PERIODS OF CALM(HOURS):	.00						
HOURS OF MISSING DATA :	.00						

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: JANUARY 1 THROUGH MARCH 31, 1981

STABILITY CLASS: F

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	.00	.00	.00	.00	.00	.00
NE	.00	.00	.00	.00	.00	.00	.00
ENE	.00	.00	.00	.00	.00	.00	.00
E	.00	.00	.00	.00	.00	.00	.00
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	.00	.00	.00	.00	.00
SSE	1.00	.41	.00	.00	.00	.00	1.41
S	1.00	.00	.00	.00	.00	.00	1.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	1.00	2.00	.00	.00	.00	.00	3.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	.00	.00	.00	.00
SUB TOTAL							
HOURS	3.00	2.41	.00	.00	.00	.00	5.41
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: JANUARY 1 THROUGH MARCH 31, 1981

STABILITY CLASS: G

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	.00	.00	.00	.00	.00	.00
NE	.00	.00	.00	.00	.00	.00	.00
ENE	.00	.00	.00	.00	.00	.00	.00
E	.00	.00	.00	.00	.00	.00	.00
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	.00	.00	.00	.00	.00
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	1.00	.00	.00	.00	.00	1.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	.00	.00	.00	.00
SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	.00	1.00	.00	.00	.00	.00	1.00
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: APRIL 1 THROUGH JUNE 30, 1981

STABILITY CLASS: A

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	.00	.86	.00	.00	.00	.86
NE	.00	7.41	5.96	2.00	1.00	.00	16.38
ENE	.00	1.50	2.00	1.00	.00	.00	4.50
E	.00	2.00	2.66	.00	.00	.00	4.66
ESE	.00	.00	2.00	.00	.00	.00	2.00
SE	.00	.00	1.00	1.00	.00	.00	2.00
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	.00	.00	.00	.00
SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	.00	10.91	14.50	4.00	1.00	.00	30.41
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: APRIL 1 THROUGH JUNE 30, 1981

STABILITY CLASS: B

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	.00	.00	.00	.00	.00	.00
NE	.00	1.00	1.00	.00	.00	.00	2.00
ENE	.00	.00	.00	.00	.00	.00	.00
E	.00	1.00	.00	.00	.00	.00	1.00
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	.00	.00	.00	.00	.00
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	.00	.00	.00	.00

SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	.00	2.00	1.00	.00	.00	.00	2.99

PERIODS OF CALM(HOURS): .00

HOURS OF MISSING DATA : .00

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: APRIL 1 THROUGH JUNE 30, 1981

STABILITY CLASS: C

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	.00	1.08	.00	.00	.00	1.08
NE	.00	.00	1.00	1.00	.00	.00	2.00
ENE	.00	.36	1.00	.00	.00	.00	1.36
E	.00	.00	2.00	1.25	.00	.00	3.25
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	3.83	.00	.00	.00	3.83
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	1.66	.00	.00	.00	.00	1.66
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	.00	.00	.00	.00
SUB TOTAL							
HOURS :	.00	2.03	8.91	2.25	.00	.00	13.19
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: APRIL 1 THROUGH JUNE 30, 1981

STABILITY CLASS: D

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	1.41	.00	4.00	.00	.00	5.41
NNE	.00	2.00	2.00	1.41	.00	.00	5.41
NE	1.00	2.00	3.80	4.10	.00	.00	10.90
ENE	.00	7.00	5.50	9.50	.00	.00	22.00
E	1.00	9.50	8.75	1.00	.00	.00	20.25
ESE	.00	8.16	2.91	.00	.00	.00	11.08
SE	.00	.00	20.36	.00	.00	.00	20.36
SSE	.00	2.43	3.13	.00	.00	.00	5.56
S	1.00	1.90	.00	.00	.00	.00	2.90
SSW	2.00	2.00	2.00	.00	.00	.00	6.00
SW	1.00	1.00	.00	.00	.00	.00	2.00
WSW	.00	.00	2.00	.00	.00	.00	2.00
W	.00	.00	1.53	.00	.00	.00	1.53
WNW	1.66	.00	.00	.00	.00	.00	1.66
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	4.00	.00	.00	4.00
SUB TOTAL	7.66	37.41	52.00	24.01	.00	.00	121.09
HOURS	7.66	37.41	52.00	24.01	.00	.00	121.09
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: APRIL 1 THROUGH JUNE 30, 1981

STABILITY CLASS: E

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2.00	1.58	.00	.00	.00	.00	3.58
NNE	1.00	.00	.00	.00	.00	.00	1.00
NE	2.00	4.50	.00	.00	.00	.00	6.50
ENE	1.00	2.00	.50	.00	.00	.00	3.50
E	2.13	5.91	2.00	.00	.00	.00	10.05
ESE	1.00	2.73	.00	.00	.00	.00	3.73
SE	2.00	13.98	.00	.00	.00	.00	15.98
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	1.00	.00	.00	.00	.00	.00	1.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	2.00	.00	.00	.00	.00	2.00
SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	12.13	32.71	2.50	.00	.00	.00	47.34
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: . APRIL 1 THROUGH JUNE 30, 1981

STABILITY CLASS: F

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	.00	.00	.00	.00	.00	.00
NE	.00	1.00	.00	.00	.00	.00	1.00
ENE	.00	.83	.00	.00	.00	.00	.83
E	1.00	.00	.00	.00	.00	.00	1.00
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	.00	.00	.00	.00	.00
SSE	.00	.00	.00	.00	.00	.00	.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	.00	.00	.00	.00
SUB TOTAL							
HOURS	1.00	1.83	.00	.00	.00	.00	2.83
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: APRIL 1 THROUGH JUNE 30, 1981

STABILITY CLASS: G

ELEVATION: 190 FEET

WIND DIRECTION	WIND SPEED(MPH) AT 10M LEVEL						TOTAL
	1-3	4-7	8-12	13-18	19-24	> 24	
N	.00	.00	.00	.00	.00	.00	.00
NNE	.00	.00	.00	.00	.00	.00	.00
NE	.00	.00	.00	.00	.00	.00	.00
ENE	.00	.00	.00	.00	.00	.00	.00
E	.00	.00	.00	.00	.00	.00	.00
ESE	.00	.00	.00	.00	.00	.00	.00
SE	.00	.00	.00	.00	.00	.00	.00
SSE	.00	1.00	.00	.00	.00	.00	1.00
S	.00	.00	.00	.00	.00	.00	.00
SSW	.00	.00	.00	.00	.00	.00	.00
SW	.00	.00	.00	.00	.00	.00	.00
WSW	.00	.00	.00	.00	.00	.00	.00
W	.00	.00	.00	.00	.00	.00	.00
WNW	.00	.00	.00	.00	.00	.00	.00
NW	.00	.00	.00	.00	.00	.00	.00
NNW	.00	.00	.00	.00	.00	.00	.00
SUB TOTAL	-----	-----	-----	-----	-----	-----	-----
HOURS	.00	1.00	.00	.00	.00	.00	1.00
PERIODS OF CALM(HOURS):			.00				
HOURS OF MISSING DATA :			.00				

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT (YEAR)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

JANUARY 1, 1981 to JUNE 30, 1981

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

I. Type of waste	Unit	6-month Period	Est. Total Error, %
a. Spent resins, filter sludges, evaporator bottoms, etc.	m ³ Ci	8.44 E0 2.33 E1	2.0 E1
b. Dry compressible waste; contaminated equip, etc.	m ³ Ci	1.19 E2 1.75 E0	2.0 E1
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. Co ⁶⁰	67 %	2.0 E1
Cs ¹³⁷	12 %	2.0 E1
Cs ¹³⁴	8 %	2.0 E1
Co ⁵⁸	7 %	2.0 E1
Mn ⁵⁴	6 %	2.0 E1
	%	. E
b. Co ⁶⁰	62 %	2.0 E1
Co ⁵⁸	10 %	2.0 E1
Cs ¹³⁷	18 %	2.0 E1
Cs ¹³⁴	7 %	2.0 E1
Mn ⁵⁴	3 %	2.0 E1
	%	. E

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
7	Sole Use Truck	Barnwell, S. C.

B. IRRADIATED FUEL SHIPMENTS (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
0	N/A	N/A