

SEMIANNUAL RADIOACTIVE EFFLUENT
RELEASE REPORT

B - GASEOUS EFFLUENTS

3rd and 4th Quarters of 1992

All samples of gaseous effluents were analyzed and determined to be at or below minimum detectable activities (MDAs) for all radionuclides listed in Shoreham's ODCM. These MDAs were below the lower limits of detection required in ODCM Controls Table 4.11.2.1.2-1. In addition, no other radionuclides were identified. Therefore, no entries were made in Tables 1A, 1B or 1C that follow.

Composite sample results for the third and fourth quarters of this reporting period are all at or below MDAs.

TABLE 1A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1992

GASEOUS EFFLUENTS—SUMMATION OF ALL RELEASES

	Unit	Quarter	Quarter	Est. Total
	1	3	4	Error, %

A. Fission & activation gases

1. Total release	Ci	. E	. E	. E
2. Average release rate for period	$\mu\text{Ci/sec}$. E	. E	
3. Percent of Technical specification limit	%	. E	. E	

B. Iodines

1. Total iodine-131	Ci	. E	. E	. E
2. Average release rate for period	$\mu\text{Ci/sec}$. E	. E	
3. Percent of technical specification limit	%	. E	. E	

C. Particulates

1. Particulates with half-lives >8 days	Ci	. E	. E	. E
2. Average release rate for period	$\mu\text{Ci/sec}$. E	. E	
3. Percent of technical specification limit	%	. E	. E	
4. Gross alpha radioactivity	Ci	. E	. E	

D. Tritium

1. Total release	Ci	. E	. E	. E
2. Average release rate for period	$\mu\text{Ci/sec}$. E	. E	
3. Percent of technical specification limit	%	. E	. E	

TABLE 1B

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

1992

GASEOUS EFFLUENTS—ELEVATED RELEASE

Nuclides Released	Unit 1	CONTINUOUS MODE		BATCH MODE	
		Quarter 3	Quarter 4	Quarter 3	Quarter 4

1. Fission gases

krypton-85	Ci	. E	. E	. E	. E
krypton-85m	Ci	. E	. E	. E	. E
krypton-87	Ci	. E	. E	. E	. E
krypton-88	Ci	. E	. E	. E	. E
xenon-133	Ci	. E	. E	. E	. E
xenon-135	Ci	. E	. E	. E	. E
xenon-135m	Ci	. E	. E	. E	. E
xenon-138	Ci	. E	. E	. E	. E
Others (specify)	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
unidentified	Ci	. E	. E	. E	. E
Total for period	Ci	. E	. E	. E	. E

2. Iodines

iodine-131	Ci	. E	. E	. E	. E
iodine-133	Ci	. E	. E	. E	. E
iodine-135	Ci	. E	. E	. E	. E
Total for period	Ci	. E	. E	. E	. E

3. Particulates

strontium-89	Ci	. E	. E	. E	. E
strontium-90	Ci	. E	. E	. E	. E
cesium-134	Ci	. E	. E	. E	. E
cesium-137	Ci	. E	. E	. E	. E
barium-lanthanum-140	Ci	. E	. E	. E	. E
Others (specify)	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
unidentified	Ci	. E	. E	. E	. E

TABLE 1C

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1992

GASEOUS EFFLUENTS—GROUND-LEVEL RELEASES

Nuclides Released	Unit	CONTINUOUS MODE		BATCH MODE	
		Quarter 3	Quarter 4	Quarter 3	Quarter 4

1. Fission gases

krypton-85	Ci	. E	. E	. E	. E
krypton-85m	Ci	. E	. E	. E	. E
krypton-87	Ci	. E	. E	. E	. E
krypton-88	Ci	. E	. E	. E	. E
xenon-133	Ci	. E	. E	. E	. E
xenon-135	Ci	. E	. E	. E	. E
xenon-135m	Ci	. E	. E	. E	. E
xenon-138	Ci	. E	. E	. E	. E
Others (specify)	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
unidentified	Ci	. E	. E	. E	. E
Total for period	Ci	. E	. E	. E	. E

2. Iodines

iodine-131	Ci	. E	. E	. E	. E
iodine-133	Ci	. E	. E	. E	. E
iodine-135	Ci	. E	. E	. E	. E
Total for period	Ci	. E	. E	. E	. E

3. Particulates

strontium-89	Ci	. E	. E	. E	. E
strontium-90	Ci	. E	. E	. E	. E
cesium-134	Ci	. E	. E	. E	. E
cesium-137	Ci	. E	. E	. E	. E
barium-lanthanum-140	Ci	. E	. E	. E	. E
Others (specify)	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
unidentified	Ci	. E	. E	. E	. E

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C - LIQUID EFFLUENTS

3rd and 4th Quarters of 1992

All samples of liquid effluents were analyzed according to ODCM requirements and, except for three instances as noted below, determined to be at or below minimum detectable activities (MDAs) for all radionuclides listed in the ODCM. These MDAs were below the LLDs required in ODCM Controls Table 4.11.1.1.1-1. In addition, no other radionuclides that are not specified in the aforementioned ODCM Table were identified.

Composite sample results from batch and continuous discharges in this reporting period for tritium, gross alpha, noble gases, Sr-89, Sr-90, and all other nuclides, including those listed in the categories of principal gamma emitters and dissolved and entrained gases, are all at or below MDAs.

For Fe-55 however, trace levels at $6.22\text{E-}8 \mu\text{Ci/ml}$ and $2.88\text{E-}7 \mu\text{Ci/ml}$ were identified in the batch composite samples from the third and the fourth quarters' discharges, respectively. In the composite sample from continuous release path for the fourth quarter, Fe-55 was also found. This was detected at $9.04\text{E-}8 \mu\text{Ci/ml}$ from a minute amount of 45 gallon discharge.

The maximum whole body doses and organ dose commitments from Fe-55 identified in these three composite samples from the third and fourth quarter discharges, plus similar doses from the Fe-55 found in the first quarter discharges, were all below regulatory limits. Section E presents the analyses in details and shows the total results to be of insignificant impact to the public.

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C - LIQUID EFFLUENTS

3rd and 4th Quarters of 1992 (cont.)

The total error percentage entered into Table 2A for liquid measurements was estimated from the tank sampling error and from counting error at values close to minimum detectable activities. This overall error is estimated to be approximately 50%.

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1992

LIQUID EFFLUENTS—SUMMATION OF ALL RELEASES

Unit	Quarter	Quarter	Est. Total
1	3	4	Error, %

A. Fission and activation products

1. Total release (not including tritium, gases, alpha)	Ci	1.06 E-4	4.97 E-4	5.0 E+1
2. Average diluted concentration during period	μCi/ml	8.45 E-10	3.88 E-9	
3. Percent of applicable limit	%	1.06 E-6	4.85 E-6	

B. Tritium

1. Total release	Ci	. E	. E	. E
2. Average diluted concentration during period	μCi/ml	. E	. E	
3. Percent of applicable limit	%	. E	. E	

C. Dissolved and entrained gases

1. Total release	Ci	. E	. E	. E
2. Average diluted concentration during period	μCi/ml	. E	. E	
3. Percent of applicable limit	%	. E	. E	

D. Gross alpha radioactivity

1. Total release	Ci	. E	. E	. E
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E. Volume of waste released (prior to dilution)	liters	1.71E+6	1.73E+6	1.0E+1
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F. Volume of dilution water used during period	liters	1.24E+8	1.26E+8	2.0E+1
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TABLE 2B

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

1992

LIQUID EFFLUENTS

Nuclides Released	Unit	CONTINUOUS MODE		BATCH MODE	
		Quarter 3	Quarter 4	Quarter 3	Quarter 4
strontium-89	Ci	. E	. E	. E	. E
strontium-90	Ci	. E	. E	. E	. E
cesium-134	Ci	. E	. E	. E	. E
cesium-137	Ci	. E	. E	. E	. E
iodine-131	Ci	. E	. E	. E	. E
cobalt-58	Ci	. E	. E	. E	. E
cobalt-60	Ci	. E	. E	. E	. E
iron-59	Ci	. E	. E	. E	. E
zinc-65	Ci	. E	. E	. E	. E
manganese-54	Ci	. E	. E	. E	. E
chromium-51	Ci	. E	. E	. E	. E
zirconium-niobium-95	Ci	. E	. E	. E	. E
molybdenum-99	Ci	. E	. E	. E	. E
technetium-99m	Ci	. E	. E	. E	. E
barium-lanthanum-140	Ci	. E	. E	. E	. E
cerium-141	Ci	. E	. E	. E	. E
Other (specify)	Ci	. E	. E	. E	. E
iron-55	Ci	. E	1.54 E-8	1.06 E-4	4.97 E-4
	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
	Ci	. E	. E	. E	. E
unidentified	Ci	. E	. E	. E	. E
Total for period (above)	Ci	. E	1.54 E-8	1.06 E-4	4.97 E-4
xenon-133	Ci	. E	. E	. E	. E
xenon-135	Ci	. E	. E	. E	. E

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D - SOLID WASTE

3rd and 4th Quarters of 1992

There were 49 shipments of solid waste offsite to a burial site during the third and the fourth quarters of 1992. In addition, 80 shipments of solid waste were made to two volume reduction vendors' processing sites. The entries in Table 3 represent the volume and curie contents of solid waste shipped from Shoreham to both types of sites.

TABLE 3

*** REGULATORY GUIDE 1.21 REPORT ***
 SOLID WASTE SHIPPED OFFSITE FOR VOLUME REDUCTION
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Resins, Filters, & Evaporator Bottoms

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	0	0.0	N/A

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Resins, Filters & Evaporator Bottoms with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	Ni-63	0%	0.0
	Zn-65	0%	0.0
	Fe-55	0%	0.0
	Co-60	0%	0.0
	Ce-144	0%	0.0
	Sr-90	0%	0.0
	C-14	0%	0.0
	Mn-54	0%	0.0
	Cs-137	0%	0.0
	Cm243/244	0%	0.0

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ***
 SOLID WASTE SHIPPED OFFSITE FOR VOLUME REDUCTION
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Dry Active Waste

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	2,919.01	4.643	± 25%

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Dry Active Waste with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	Ni-63	65.20%	3.028+00
	Co-60	18.60%	8.638E-01
	Fe-55	13.95%	6.479E-01
	Zn-65	2.23%	1.031E-01

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ***
 SOLID WASTE SHIPPED OFFSITE FOR VOLUME REDUCTION
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Irradiated Components

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	27.75	0.3015	± 25%

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Irradiated Components with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	Fe-55	92.89%	2.801E-01
	Mn-54	3.78%	1.140E-02
	Co-60	3.22%	9.708E-03
	Ni-63	0.11%	3.317E-04

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ****
 SOLID WASTE SHIPPED OFFSITE FOR VOLUME REDUCTION
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Other Waste

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	0	0.0	N/A

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Other Waste with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	FE-55	0%	0.0
	Co-60	0%	0.0
	Ni-63	0%	0.0
	Mn-54	0%	0.0
	Ni-59	0%	0.0
	C-14	0%	0.0
	Nb-94	0%	0.0
	Pu-241	0%	0.0
	Pu239/40	0%	0.0
	Pu-238	0%	0.0
	Tc-99	0%	0.0
	Np-237	0%	0.0
	Cm-242	0%	0.0
	Am-241	0%	0.0
	Cr-51	0%	0.0
	Cm243/44	0%	0.0
	Pu-242	0%	0.0
	Am-243	0%	0.0
	Cs-137	0%	0.0
	I-129	0%	0.0
	Sr-90	0%	0.0
	H-3	0%	0.0

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ***
 SOLID WASTE SHIPPED OFFSITE FOR VOLUME REDUCTION
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Sum of All Categories

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	2,946.76	4.944	± 25%

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Sum of All Categories with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	Ni-63	61.25%	3.028E+00
	Fe-55	18.77%	9.280E-01
	Co-60	17.67%	8.735E-01
	Zn-65	2.09%	1.031E-01
	Mn-54	0.23%	1.140E-02

** SOLID WASTE VOLUME REDUCTION SHIPMENT SUMMARY **

<u>NUMBER OF SHIPMENTS</u>	<u>MODE OF TRANSPORTATION</u>	<u>DESTINATION</u>
6	Truck	Quadrex (Oak Ridge, TN)
74	Truck	SEG (Oak Ridge, TN)

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ***
 SOLID WASTE SHIPPED OFFSITE FOR BURIAL
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Resins, Filters, & Evaporator Bottoms

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	0	0.0	N/A

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Resins, Filters & Evaporator Bottoms with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	Ni-63	0%	0.0
	Zn-65	0%	0.0
	Fe-55	0%	0.0
	Co-60	0%	0.0
	Ce-144	0%	0.0
	Sr-90	0%	0.0
	C-14	0%	0.0
	Mn-54	0%	0.0
	Cs-137	0%	0.0
	Cm243/244	0%	0.0

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ****
 SOLID WASTE SHIPPED OFFSITE FOR BURIAL
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Dry Active Waste

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	0	0.0	N/A

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Dry Active Waste with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	Ni-63	0%	0.0
	Co-60	0%	0.0
	Fe-55	0%	0.0
	Zn-65	0%	0.0

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ***
 SOLID WASTE SHIPPED OFFSITE FOR BURIAL
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Irradiated Components

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	77.09	675.9	± 25%

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Irradiated Components with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	Fe-55	50.104%	3.387E+02
	Co-60	46.615%	3.151E+02
	Ni-63	2.679%	1.811E+01
	Mn-54	0.575%	3.884E+00
	Ni-59	0.022%	1.483E-01
	C-14	0.004%	2.480E-02
	Zn-65	0.002%	1.396E-02
	Nb-94	0.000%	3.039E-04
	Tc-99	0.000%	2.536E-04
	H-3	0.000%	1.701E-08

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ***
 SOLID WASTE SHIPPED OFFSITE FOR BURIAL
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Other Waste

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	0	0.0	N/A

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Other Waste with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	FE-55	0%	0.0
	Co-60	0%	0.0
	Ni-63	0%	0.0
	Mn-54	0%	0.0
	Ni-59	0%	0.0
	C-14	0%	0.0
	Nb-94	0%	0.0
	Pu-241	0%	0.0
	Pu239/40	0%	0.0
	Pu-238	0%	0.0
	Tc-99	0%	0.0
	Np-237	0%	0.0
	Cm-242	0%	0.0
	Am-241	0%	0.0
	Cr-51	0%	0.0
	Cm243/44	0%	0.0
	Pu-242	0%	0.0
	Am-243	0%	0.0
	Cs-137	0%	0.0
	I-129	0%	0.0
	Sr-90	0%	0.0
	H-3	0%	0.0

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ***
 SOLID WASTE SHIPPED OFFSITE FOR BURIAL
 ** DURING PERIOD FROM 7/1/92 to 12/31/92 **

WASTE STREAM: Sum of All Categories

<u>WASTE CLASS</u>	<u>CUBIC METERS</u>	<u>CURIES</u>	<u>% ERROR (CI)</u>
A	77.09	675.9	± 25 %

** ESTIMATES OF MAJOR NUCLIDES BY WASTE CLASS & STREAM **
 WASTE STREAM: Sum of All Categories with .0% CUTOFF

<u>WASTE CLASS</u>	<u>NUCLIDE</u>	<u>ABUNDANCE</u>	<u>CURIES</u>
A	Fe-55	50.104%	3.387E+02
	Co-60	46.615%	3.151E+02
	Ni-63	2.679%	1.811E+01
	Mn-54	0.575%	3.884E+00
	Ni-59	0.022%	1.483E-01
	C-14	0.004%	2.480E-02
	Zn-65	0.002%	1.396E-02
	Nb-94	0.000%	3.039E-04
	Tc-99	0.000%	2.536E-04
	H-3	0.000%	1.701E-08

TABLE 3 (Cont'd)

*** REGULATORY GUIDE 1.21 REPORT ***
SOLID WASTE SHIPPED FOR OFFSITE BURIAL DISPOSAL
** DURING PERIOD FROM 7/1/92 to 12/31/92 **

** SOLID WASTE OFFSITE BURIAL DISPOSITION SUMMARY **

<u>NUMBER OF SHIPMENTS</u>	<u>MODE OF TRANSPORTATION</u>	<u>DESTINATION</u>
49	Truck	Barnwell
0	N/A	Richland
0	N/A	Beatty
0	N/A	Other

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

E - RADIOLOGICAL IMPACT ON MAN

1992

1. Direct radiation (as measured quarterly with TLDs) made no statistically significant contribution to offsite doses based on a comparison of 1992 dose rates with 1984 (pre-operational) dose rates. The highest dose measured in 1992 was 4.1 mrem/standard month (30.4 days) at indicator location 12A1 compared to the 1984 dose at location 6A1 of 5.1 mrem/standard month. Similarly, the 1992 average for all indicator locations was 3.5 mrem/standard month compared to a 1984 value of 3.9 mrem/standard month.

2. Doses from Liquid Effluent Discharges

- 1) It was reported in the Shoreham Semi-Annual Radioactive Effluent Release (SARE) Report for the first half of 1992, Section C, that a low trace level of Fe-55 activity at $3.82\text{E-}7$ uCi/ml was detected from the first quarter composite sample off the Reactor Building Salt Water Drain Tank (RBSWDT) in the continuous liquid effluent discharge path.

The amount of RBSWDT volume discharged during the first quarter of 1992 was 240 gallons. The details of the input and output for the offsite dose analyses whose results were also given in the above SARE Report, are presented below:

A). Input Data (from SNPS Continuous Liquid Radwaste Discharge Summary, 12/23/91 through 03/24/92):

a.	Discharge Flow Rate (gallons per minute):	50
b.	Release Duration (minutes):	4.8
c.	Volume of Dilution Water used:	none
d.	Effluent Volume Discharged (gallons):	240
e.	Effluent Isotopic Concentration, undiluted (uCi/ml):	Fe-55 $3.82\text{E-}7$
f.	Total Activity Released (Ci):	$3.47\text{E-}7$

SEMIANNUAL RADIOACTIVE EFFLUENT
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E - RADIOLOGICAL IMPACT ON MAN (Cont.)

1992

B). Assumptions and Methodology:

Dose commitments were calculated using the backup method described in ODCM for computing doses from liquid effluent discharges. A spreadsheet developed in-house from a LILCO calculation (#C-RPD-489, Rev. 0) was employed to aid the computations.

It is assumed that doses to the public are primarily due to the ingestion of fish and seafood removed from the Long Island Sound. Doses due to other liquid pathways (shoreline deposits and land based food chain) are assumed to be negligible from SNPS' Appendix I study and the fact that water from the Sound is not used for irrigation purposes.

Other assumptions and generic input data are taken consistently from SNPS Station procedures SP74X.020.12 (Rev. 0), SP74X.020.02 (Rev. 0), and SP74X.020.10 (Rev. 0), in addition to those specified in the ODCM (Rev. 18). They are described in details in calculation #C-RPD-489, Rev.0.

C). Summary of Results:

Because the primary pathway considered is through internal exposure, the doses calculated are dose commitments. Dose commitments to a member of the public for the surveillance period 12/31/91 through 03/24/92, encompassing the release period, are presented below:

Dose Commitments for the Surveillance Interval

Organ	mrem		
	Adult	Teen	Child
W-Body	2.6E-04	2.8E-04	3.7E-04
Bone	1.5E-03	1.6E-03	2.1E-03
Liver	1.1E-03	1.1E-03	1.1E-03
Thyroid	0.0E+00	0.0E+00	0.0E+00
Kidney	0.0E+00	0.0E+00	0.0E+00
Lung	5.9E-04	7.2E-04	6.4E-04
GI-LL	6.1E-04	4.9E-04	2.1E-04

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

E - RADIOLOGICAL IMPACT ON MAN (Cont.)

1992

C). Summary of Results (cont.):

The maximum whole body and organ dose commitments are:

	Dose (rem)	Critical Group	Organ
Whole Body Dose	3.7E-04	Child	-
Organ Dose	2.1E-03	Child	Bone

Comparing these to the ODCM limits:

	<u>Fraction of the ODCM Limits</u>	
	<u>Quarterly</u>	<u>Annual</u>
Whole Body Dose	2.45E-04	1.23E-04
Organ Dose	4.27E-04	2.14E-04

- 2) For the second half of 1992, low levels of Fe-55 were identified in the following liquid release composite samples:

Concentrations of Fe-55 in Composite Samples

<u>Quarter</u>	<u>Release Mode</u>	<u>Concentration</u>
Third	Batch Liquid	6.22E-8 uCi/ml
Fourth	Batch Liquid	2.88E-7 uCi/ml
Fourth	Continuous Liquid	9.04E-8 uCi/ml

The batch discharges were due to routine and wet cutting station operations. For the third quarter, there was no activity released through the continuous release path. The continuous release in the fourth quarter was a one time, 45 gallon discharge from a pump/valve testing run.

Following are the input data and results of the offsite dose commitment analyses performed for each of the above three Fe-55 releases:

SEMIANNUAL RADIOACTIVE EFFLUENT
RELEASE REPORT

E - RADIOLOGICAL IMPACT ON MAN (Cont.)

1992

A). Input Data:

(i) Third quarter liquid batch (from SNPS Batch Liquid Radwaste Discharge Summary, 6/30/92 through 9/24/92):

a.	Release Start Time ¹ (first batch):	06/30/92
b.	Release Stop Time (last batch):	09/24/92
c.	Release Duration (total run time, min):	3,812
d.	Effluent Volume Discharged (gallons):	451,618
e.	Effluent Isotopic Concentration, undiluted (uCi/ml):	Fe-55 6.22E-8
f.	Total Activity Released (Ci):	1.06E-4

(ii) Fourth quarter liquid batch (from SNPS Batch Liquid Radwaste Discharge Summary, 09/28/92 through 12/24/92):

a.	Release Start Time ¹ (first batch):	09/28/92
b.	Release Stop Time (last batch):	12/24/92
c.	Release Duration (total run time, min):	3,884
d.	Effluent Volume Discharged (gallons):	456,322
e.	Effluent Isotopic Concentration, undiluted (uCi/ml):	Fe-55 2.88E-7
f.	Total Activity Released (Ci):	4.97E-4

(iii) Fourth quarter liquid continuous (from SNPS Continuous Liquid Radwaste Discharge Summary, 09/28/92 through 12/27/92):

a.	Discharge Flow Rate (gallons per minute):	50
b.	Release Duration (minutes):	0.9
c.	Volume of Dilution Water used:	none
d.	Effluent Volume Discharged (gallons):	45
e.	Effluent Isotopic Concentration, undiluted (uCi/ml):	Fe-55 9.04E-8
f.	Total Activity Released (Ci):	1.54E-8

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¹ For conservatism, it was assumed that ALL the batches in the third and fourth quarters were released with the same Fe-55 level of activity as identified in the respective quarterly batch composite samples.

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

E - RADIOLOGICAL IMPACT ON MAN (Cont.)

1992

B). Assumptions and Methodology:

The assumptions and methodology used for analyzing the offsite dose commitments for the second half of 1992 are identical to those used for the Fe-55 dose commitment estimates for the first quarter release, as given on page 25.

C). Summary of Results:

(i) Dose commitments to a member of the public for the third quarterly period (06/30/92 through 09/24/92), are presented below:

Dose Commitments from 3rd Quarter Liquid Batch

Organ	mrem		
	Adult	Teen	Child
W-Body	4.6E-04	4.9E-04	6.5E-04
Bone	2.7E-03	2.8E-03	3.8E-03
Liver	1.9E-03	2.0E-03	2.0E-03
Thyroid	0.0E+00	0.0E+00	0.0E+00
Kidney	0.0E+00	0.0E+00	0.0E+00
Lung	1.0E-03	1.3E-03	1.1E-03
GI-LLI	1.1E-03	8.7E-04	3.7E-04

(ii) Dose commitments to a member of the public for the fourth quarterly period (09/28/92 through 12/27/92), are presented below:

Dose Commitments from 4th Quarter Liquid Batch and Continuous

Organ	mrem		
	Adult	Teen	Child
W-Body	2.7E-03	2.9E-03	3.9E-03
Bone	1.6E-02	1.7E-02	2.3E-02
Liver	1.1E-02	1.2E-02	1.2E-02
Thyroid	0.0E+00	0.0E+00	0.0E+00
Kidney	0.0E+00	0.0E+00	0.0E+00
Lung	6.2E-03	7.6E-03	6.8E-03
GI-LLI	6.4E-03	5.2E-03	2.2E-03

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

E - RADIOLOGICAL IMPACT ON MAN (Cont.)

1992

C). Summary of Results (cont.):

The maximum whole body and organ dose commitments calculated for both quarters are:

	<u>Dose (rem)</u>	<u>Critical Group</u>	<u>Organ</u>
Whole Body Dose	3.9E-03	Child	-
Organ Dose	2.3E-02	Child	Bone

Comparing these to the ODCM limits:

	<u>Fraction of the ODCM Limits</u>	
	<u>Quarterly</u>	<u>Annual</u>
Whole Body Dose	2.6E-03	1.3E-03
Organ Dose	4.6E-03	2.3E-03

3) Conclusion

The total calculated maximal whole body dose commitment due to the first, third, and fourth quarterly releases of Fe-55, conservatively added up, are:

	<u>Dose (rem)</u>	<u>Critical Group</u>	<u>Organ</u>
Whole Body Dose	4.9E-03	Child	-
Organ Dose	2.9E-02	Child	Bone

Comparing these to the ODCM limits:

	<u>Fraction of the ODCM Limits</u>	
	<u>Quarterly</u>	<u>Annual</u>
Whole Body Dose	3.3E-03	1.6E-03
Organ Dose	5.8E-03	2.9E-03

Both the maximal whole body and the organ dose commitments are below either the quarterly or the annual Technical Specification limits, and are approximately 0.6% or lower of the allowable limits. Since there had been no other releases above the MDAs during this reporting period in the liquid effluent discharges, all contributions from non-composited surveillance are zero. The total radiological impact to the general public is thus negligible.

SEMIANNUAL RADIOACTIVE EFFLUENT
RELEASE REPORT

E - RADIOLOGICAL IMPACT ON MAN (Cont.)

1992

3. Doses from Gaseous Effluent Discharges

During 1992, there were no radioactive isotopes identified above the limits of detection in any of the gaseous streams discharged. Therefore, no dose calculation was performed and the associated radiological impact from the gaseous effluents is none.

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F - METEOROLOGICAL DATA

1992

Tables of cumulative joint frequency distribution of wind speed, wind direction, and atmospheric stability are given by quarter for measuring heights of 33 feet and 150 feet. The joint frequency distributions, as presented in the tables that follow, reflect all parameters that were reviewed by a meteorologist and were determined to be valid.

Throughout 1992, data recovery rate was excellent such that no recovery was needed from the backup analog strip charts. The offsite tower is considered to be representative of the site and as such, was used for the collection of the original licensing meteorological database, which has been reviewed and accepted by the NRC. Although the calibration and maintenance of the strip chart recorders at the offsite tower is not included in the Plant's Surveillance Program, they are however, maintained by LILCO's Environmental Engineering Department (EED), in accordance with approved procedures. A quarterly calibration and maintenance program for the meteorological instruments, including the recorders, is performed.

The 1992 raw meteorological data as recorded and averaged by the RMS Computer, was sent to a project meteorologist for review at regular intervals throughout the year. The reviews consisted of examining each hourly parameter along with onsite data logs, records of events, and activities for the meteorological systems. Data of questionable quality were singled out and manually excluded from the database as though they were "missing". A set of mainframe programs were then called upon to generate the required joint frequency distributions.

For the four quarterly periods in 1992, the amount of flagged "missing" hours at the 33-foot level was 196, versus that of 105 hours for the 150-foot level. Out of the 105 hours, only 8 hours were unique to the 150-foot level (in the wind speed category for the first quarter); the remaining hours occurred during the same time periods when the 33-foot data were also declared as "missing".

As a result, the total number of "missing" hours are 204. This in turn, results in an annual joint data recovery rate at the Shoreham site of 97.7%.

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: A
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	0	0	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	1	0	0	0	0	1
ENE	0	1	1	0	0	0	2
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	4	0	0	0	4
SSW	0	0	5	0	0	0	5
SW	0	0	1	2	0	0	3
WSW	0	0	0	1	0	0	1
W	0	0	3	5	0	0	8
WNW	0	0	18	5	0	0	23
NW	0	0	28	15	0	0	43
NNW	0	3	9	0	0	0	12
VARIABLE							

TOTAL 105
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: B
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	19-24	>24	
N	0	2	1	0	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	3	0	0	0	0	3
ENE	0	6	1	0	0	0	7
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	1	0	0	0	1
SSW	0	0	1	0	0	0	1
SW	0	0	2	0	0	0	2
WSW	0	0	0	0	0	0	0
W	0	0	1	3	0	0	4
WNW	0	0	12	2	0	0	14
NW	0	2	2	6	0	0	10
NNW	0	1	2	0	0	0	3
VARIABLE							

TOTAL 48
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: C
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	1	0	0	0	2
NNE	0	3	0	0	0	0	3
NE	0	3	0	0	0	0	3
ENE	0	1	2	0	0	0	3
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	1	0	0	0	1
SW	0	0	0	1	0	0	1
WSW	0	0	1	3	0	0	4
W	0	0	2	2	0	0	4
WNW	0	1	9	4	0	0	14
NW	0	0	3	1	0	0	4
NNW	0	1	0	1	0	0	2
VARIABLE							

TOTAL 41
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: D
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	19-24	>24	
N	1	20	0	1	0	0	22
NNE	1	16	0	0	0	0	17
NE	1	16	1	0	0	0	18
ENE	0	14	25	0	0	0	39
E	0	2	8	0	0	0	10
ESE	2	4	6	0	0	0	12
SE	1	7	0	0	0	0	8
SSE	0	5	10	0	0	0	15
S	0	17	14	1	0	0	32
SSW	0	10	13	0	0	0	23
SW	1	10	14	4	0	0	29
WSW	1	10	11	5	0	0	27
W	1	7	26	22	1	0	57
WNW	1	23	43	25	0	0	92
NW	3	26	16	23	0	0	68
NNW	1	17	6	9	0	0	33
VARIABLE							

TOTAL 502
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: E
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	4	18	15	0	0	0	37
NNE	6	23	3	0	0	0	32
NE	7	25	11	0	0	0	43
ENE	5	46	46	4	0	0	101
E	3	14	6	0	0	0	23
ESE	5	19	5	5	1	0	35
SE	5	18	13	2	0	0	38
SSE	4	15	15	17	1	0	52
S	5	33	31	7	2	0	78
SSW	9	45	18	5	2	0	79
SW	4	33	19	1	0	0	57
WSW	4	29	20	1	0	0	54
W	7	22	43	21	2	0	95
WNW	4	48	83	84	12	0	231
NW	5	46	96	12	0	0	159
NNW	4	39	43	7	0	0	93
VARIABLE							

TOTAL 1207
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: F
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	2	4	0	0	0	0	6
NNE	3	1	1	0	0	0	5
NE	2	2	2	0	0	0	6
ENE	1	2	1	0	0	0	4
E	6	4	0	0	0	0	10
ESE	2	1	0	0	0	0	3
SE	1	2	0	1	1	0	5
SSE	5	1	0	0	0	0	6
S	9	3	0	0	0	0	12
SSW	6	13	1	0	0	0	20
SW	11	30	0	0	0	0	41
WSW	9	13	0	0	0	0	22
W	5	5	0	0	0	0	10
WNW	6	5	0	0	0	0	11
NW	1	9	0	0	0	0	10
NNW	3	1	1	0	0	0	5
VARIABLE							

TOTAL 176
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 5/31/92
 STABILITY CLASS: G
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	0	0	0	0	0	1
NNE	1	0	0	0	0	0	1
NE	0	0	2	0	0	0	2
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	1	0	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	1	0	0	0	0	1
S	0	4	0	0	0	0	4
SSW	8	10	0	0	0	0	18
SW	16	26	0	0	0	0	42
WSW	2	0	0	0	0	0	2
W	0	0	0	0	0	0	0
WNW	1	0	0	0	0	0	1
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE							

TOTAL 73
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: A
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	2	0	0	0	3
NNE	0	4	1	0	0	0	5
NE	0	16	8	0	0	0	24
ENE	0	6	19	0	0	0	25
E	0	3	7	1	0	0	11
ESE	0	1	1	0	0	0	2
SE	0	4	6	0	0	0	10
SSE	0	0	0	0	0	0	0
S	0	3	11	1	0	0	15
SSW	0	6	39	3	0	0	48
SW	0	0	3	0	0	0	3
WSW	0	2	0	0	0	0	2
W	0	3	5	3	0	0	11
WNW	0	5	24	6	0	0	35
NW	0	3	11	0	0	0	14
NNW	0	1	2	0	0	0	3
VARIABLE							

TOTAL 211
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: B
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	19-24	>24	
N	0	2	0	0	0	0	2
NNE	0	4	0	0	0	0	4
NE	0	6	3	0	0	0	9
ENE	0	1	3	0	0	0	4
E	0	0	0	0	0	0	0
ESE	0	1	1	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	1	5	0	0	0	6
SSW	0	1	6	0	0	0	7
SW	0	1	4	0	0	0	5
WSW	0	1	0	0	0	0	1
W	0	0	1	0	0	0	1
WNW	0	6	15	1	0	0	22
NW	0	2	5	0	0	0	7
NNW	1	2	1	0	0	0	4
VARIABLE							

TOTAL 75
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: C
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	1	0	0	0	4
NNE	0	5	1	0	0	0	6
NE	0	5	0	0	0	0	5
ENE	0	5	2	0	0	0	7
E	0	1	0	0	0	0	1
ESE	0	0	3	0	0	0	3
SE	0	1	0	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	2	5	0	0	0	7
SSW	0	0	7	0	0	0	7
SW	0	0	2	0	0	0	2
WSW	0	0	0	0	0	0	0
W	0	1	0	0	0	0	1
WNW	0	4	16	0	0	0	20
NW	0	9	0	0	0	0	9
NNW	0	5	0	0	0	0	5
VARIABLE							

TOTAL 78
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: D
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	19-24	>24	
N	9	33	3	0	0	0	45
NNE	5	35	9	0	0	0	49
NE	3	30	5	0	0	0	38
ENE	0	32	18	1	0	0	51
E	1	9	3	0	0	0	13
ESE	0	12	13	0	0	0	25
SE	2	13	5	0	0	0	20
SSE	1	10	3	0	0	0	14
S	4	35	27	0	0	0	66
SSW	1	25	37	1	0	0	64
SW	2	12	1	0	0	0	15
WSW	1	6	0	0	0	0	7
W	1	9	3	3	0	0	16
WNW	2	40	27	2	0	0	71
NW	5	49	5	0	0	0	59
NNW	5	32	2	0	0	0	39
VARIABLE							

TOTAL 592
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: E
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	6	8	1	0	0	0	15
NNE	9	20	3	0	0	0	32
NE	8	53	7	0	0	0	68
ENE	9	53	30	0	0	0	92
E	5	21	8	0	0	0	34
ESE	9	16	19	0	0	0	44
SE	9	27	12	0	0	0	48
SSE	4	25	6	0	0	0	35
S	15	67	36	1	0	0	119
SSW	12	64	82	2	0	0	160
SW	10	21	1	0	0	0	32
WSW	4	7	2	1	0	0	14
W	10	15	14	0	0	0	39
WNW	9	44	22	2	0	0	77
NW	4	33	18	0	0	0	55
NNW	4	15	7	4	0	0	30
VARIABLE							

TOTAL 894
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: F
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	4	4	0	0	0	0	8
NNE	2	3	0	0	0	0	5
NE	1	1	0	0	0	0	2
ENE	3	2	0	0	0	0	5
E	3	0	0	0	0	0	3
ESE	5	1	0	0	0	0	6
SE	4	1	0	0	0	0	5
SSE	2	2	0	0	0	0	7
S	2	8	0	0	0	0	10
SSW	8	24	2	0	0	0	34
SW	7	17	1	0	0	0	25
WSW	5	7	0	0	0	0	12
W	7	3	0	0	0	0	10
WNW	3	17	2	0	0	0	22
NW	7	9	0	0	0	0	16
NNW	4	0	0	0	0	0	4
VARIABLE							

TOTAL 174
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: G
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	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	1	0	0	0	0	0	1
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	1	0	0	0	0	0	1
SSE	6	2	0	0	0	0	8
S	2	4	0	0	0	0	6
SSW	13	22	1	0	0	0	37
SW	22	15	0	0	0	0	37
WSW	17	3	0	0	0	0	20
W	8	1	0	0	0	0	9
WNW	8	6	0	0	0	0	14
NW	3	1	0	0	0	0	4
NNW	2	2	0	0	0	0	4
VARIABLE							

TOTAL 141
 PERIODS OF CALM (HOURS): 1

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: A
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	19-24	>24	
N	0	3	2	0	0	0	5
NNE	0	2	0	0	0	0	2
NE	0	18	3	0	0	0	21
ENE	0	6	2	0	0	0	8
E	0	1	1	0	0	0	2
ESE	0	1	0	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	0	1	0	0	0	1
SSW	0	1	3	0	0	0	4
SW	0	1	2	0	0	0	3
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	4	0	0	0	4
NW	0	2	0	0	0	0	2
NNW	0	3	0	0	0	0	3
VARIABLE							

TOTAL 57
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: B
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	1	0	0	0	4
NNE	0	3	0	0	0	0	3
NE	0	6	0	0	0	0	6
ENE	0	5	1	0	0	0	6
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	1	0	0	0	2
S	0	0	1	0	0	0	1
SSW	0	1	6	0	0	0	9
SW	0	1	0	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	2	6	0	0	0	10
NW	0	0	0	0	0	0	0
NNW	0	1	0	0	0	0	1
VARIABLE							

TOTAL 43
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: C
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	1	0	0	0	2
NNE	0	3	0	0	0	0	3
NE	0	6	1	0	0	0	7
ENE	0	2	1	0	0	0	3
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	6	1	0	0	0	7
S	0	1	1	0	0	0	2
SSW	0	3	5	0	0	0	8
SW	0	5	1	0	0	0	6
WSW	0	1	0	0	0	0	1
W	0	0	0	0	0	0	0
WNW	0	3	5	1	0	0	9
NW	0	8	1	0	0	0	9
NNW	1	1	0	0	0	0	2
VARIABLE							

TOTAL 59
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: D
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	11	25	2	0	0	0	38
NNE	5	16	0	0	0	0	21
NE	3	19	2	0	0	0	24
ENE	4	18	7	0	0	0	29
E	3	11	0	0	0	0	14
ESE	1	18	1	0	0	0	20
SE	1	27	4	0	0	0	32
SSE	6	16	12	0	0	0	34
S	4	30	15	0	0	0	49
SSW	1	35	40	0	0	0	76
SW	2	11	3	0	0	0	16
WSW	2	14	0	0	0	0	16
W	2	7	25	2	0	0	36
WNW	0	57	32	3	0	0	92
NW	6	65	6	0	0	0	77
NNW	5	21	2	0	0	0	28
VARIABLE							

TOTAL 602
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: E
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	6	30	1	0	0	0	37
NNE	3	16	2	0	0	0	21
NE	6	26	22	0	0	0	54
ENE	4	34	37	0	0	0	75
E	5	30	15	0	0	0	50
ESE	12	22	2	0	0	0	36
SE	25	28	0	0	0	0	53
SSE	10	55	11	1	0	0	77
S	9	77	16	3	0	0	105
SSW	13	122	52	0	0	0	187
SW	6	43	11	0	0	0	60
WSW	10	16	5	0	0	0	31
W	8	33	13	0	0	0	54
WNW	11	34	11	0	0	0	56
NW	7	34	17	0	0	0	58
NNW	7	39	15	0	0	0	61
VARIABLE							

TOTAL 1015
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: F
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	1	0	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	2	0	1	0	0	0	3
ENE	3	3	0	0	0	0	6
E	0	0	0	0	0	0	0
ESE	2	1	0	0	0	0	3
SE	4	2	0	0	0	0	6
SSE	9	6	0	0	0	0	15
S	4	20	1	0	0	0	25
SSW	5	44	0	0	0	0	49
SW	12	25	0	0	0	0	37
WSW	11	10	0	0	0	0	21
W	7	17	0	0	0	0	24
WNW	4	8	0	0	0	0	12
NW	6	4	0	0	0	0	12
NNW	3	5	0	0	0	0	8
VARIABLE							

TOTAL 223
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: G
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	1	0	0	0	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	4	11	1	0	0	0	16
S	5	22	0	0	0	0	27
SSW	13	10	0	0	0	0	23
SW	35	23	0	0	0	0	58
WSW	40	7	0	0	0	0	48
W	10	1	0	0	0	0	12
WNW	7	1	0	0	0	0	8
NW	5	0	0	0	0	0	5
NNW	0	0	0	0	0	0	0
VARIABLE							

TOTAL 199
 PERIODS OF CALM (HOURS): 2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: A
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	6	3	0	0	0	9
NNE	0	2	2	0	0	0	4
NE	0	1	0	0	0	0	1
ENE	0	1	0	0	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	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	2	0	0	0	2
SW	0	0	3	0	0	0	3
WSW	0	0	0	0	0	0	0
W	0	1	0	0	0	0	1
WNW	0	0	5	0	0	0	5
NW	0	3	6	0	0	0	9
NNW	0	2	1	0	0	0	3
VARIABLE							

TOTAL 38
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: B
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	2	0	0	0	0	2
NNE	0	3	0	0	0	0	3
NE	0	4	2	0	0	0	6
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	2	2	0	0	0	4
SW	0	1	2	0	0	0	3
WSW	0	0	0	0	0	0	0
W	0	0	2	0	0	0	2
WNW	0	1	7	1	0	0	9
NW	0	2	3	0	0	0	5
NNW	0	1	0	0	0	0	1
VARIABLE							

TOTAL 33
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: C
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	0	0	0	0
NNE	0	2	1	0	0	0	3
NE	0	8	0	0	0	0	8
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	1	2	0	0	0	3
SW	0	1	1	0	0	0	2
WSW	0	0	0	0	0	0	0
W	0	1	0	0	0	0	1
WNW	0	1	8	0	0	0	9
NW	0	6	0	0	0	0	6
NNW	0	1	0	0	0	0	1
VARIABLE							

TOTAL 33
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: D
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	3	18	2	0	0	0	23
NNE	3	19	4	3	0	0	29
NE	3	18	4	3	0	0	28
ENE	1	12	3	0	0	0	16
E	0	3	4	0	0	0	7
ESE	0	3	1	0	0	0	4
SE	0	2	0	0	0	0	2
SSE	0	6	2	0	0	0	8
S	1	2	5	0	0	0	8
SSW	0	15	16	5	0	0	36
SW	1	16	11	2	0	0	30
WSW	0	5	2	0	0	0	7
W	0	6	16	10	0	0	32
WNW	3	20	29	21	4	0	77
NW	1	36	9	5	2	0	53
NNW	0	22	4	0	0	0	26
VARIABLE							

TOTAL 386
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: E
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	9	50	3	0	0	0	62
NNE	4	57	12	11	0	0	84
NE	5	54	29	19	3	0	110
ENE	1	0	2	1	13	0	25
E	0	21	0	9	3	0	41
ESE	0	24	15	0	0	0	47
SE	7	15	4	0	0	0	26
SSE	6	19	9	3	0	0	37
S	10	16	21	4	3	0	54
SSW	13	36	46	10	1	0	106
SW	13	50	28	4	0	0	95
WSW	5	37	21	0	0	0	63
W	0	17	36	5	0	0	66
WNW	5	20	78	34	0	0	137
NW	3	35	59	19	0	0	116
NNW	9	67	30	1	0	0	107
VARIABLE							

TOTAL 1176
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: F
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	3	1	0	0	0	0	4
NNE	6	1	0	0	0	0	7
NE	1	0	0	0	0	0	1
ENE	4	1	0	0	0	0	5
E	0	0	0	0	0	0	0
ESE	3	1	0	0	0	0	4
SE	8	8	0	0	0	0	16
SSE	12	11	0	0	0	0	23
S	13	12	0	0	0	0	25
SSW	12	21	0	0	0	0	33
SW	12	34	0	0	0	0	46
WSW	8	13	0	0	0	0	21
W	7	8	0	0	0	0	15
WNW	6	3	1	0	0	0	10
NW	4	3	0	0	0	0	7
NNW	0	1	0	0	0	0	1
VARIABLE							

TOTAL 218
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: G
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	1	0	0	0	0	0	1
ESE	3	0	0	0	0	0	3
SE	8	0	0	0	0	0	8
SSE	20	9	0	0	0	0	29
S	10	10	0	0	0	0	20
SSW	9	8	0	0	0	0	17
SW	43	30	0	0	0	0	73
WSW	15	6	0	0	0	0	21
W	4	1	0	0	0	0	5
WNW	1	2	0	0	0	0	3
NW	2	0	0	0	0	0	2
NNW	3	0	0	0	0	0	3
VARIABLE							

TOTAL 187
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: ALL
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	8	48	17	1	0	0	74
NNE	11	43	4	0	0	0	58
NE	10	50	16	0	0	0	76
ENE	6	70	76	4	0	0	156
E	9	20	14	0	0	0	43
ESE	9	25	11	5	1	0	51
SE	7	27	13	3	1	0	51
SSE	9	22	25	17	1	0	74
S	14	57	50	8	2	0	131
SSW	23	78	39	5	2	0	147
SW	32	99	36	8	0	0	175
WSW	16	52	32	10	0	0	110
W	13	34	75	53	3	0	178
WNW	12	77	165	120	12	0	386
NW	9	83	145	57	0	0	294
NNW	8	62	61	17	0	0	148
VARIABLE							

TOTAL 2152
 PERIODS OF CALM (HOURS): 0
 HOURS OF MISSING DATA: 32

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: ALL
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	19	51	7	0	0	0	77
NNE	16	71	14	0	0	0	101
NE	13	111	23	0	0	0	147
ENE	12	99	72	1	0	0	184
E	9	34	18	1	0	0	62
ESE	14	31	37	0	0	0	82
SE	16	46	23	0	0	0	85
SSE	16	39	10	0	0	0	65
S	23	120	84	2	0	0	229
SSW	34	142	174	6	0	0	357
SW	41	66	12	0	0	0	119
WSW	27	26	2	1	0	0	56
W	26	32	23	6	0	0	87
WNW	22	122	106	11	0	0	261
NW	19	106	39	0	0	0	164
NNW	16	57	12	4	0	0	89
VARIABLE							

TOTAL 2165
 PERIODS OF CALM (HOURS): 1
 HOURS OF MISSING DATA: 19

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: ALL
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	19	63	7	0	0	0	89
NNE	8	40	2	0	0	0	50
NE	11	75	29	0	0	0	115
ENE	12	68	48	0	0	0	128
E	8	42	16	0	0	0	66
ESE	15	42	3	0	0	0	60
SE	30	57	4	0	0	0	91
SSE	29	95	27	1	0	0	152
S	22	150	35	3	0	0	210
SSW	32	216	108	0	0	0	356
SW	55	109	17	0	0	0	181
WSW	63	48	5	0	0	0	117
W	27	58	38	2	0	0	126
WNW	22	105	60	4	0	0	191
NW	26	113	24	0	0	0	163
NNW	16	70	17	0	0	0	103
VARIABLE							

TOTAL 2198
 PERIODS OF CALM (HOURS): 2
 HOURS OF MISSING DATA: 10

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: ALL
 ELEVATION: 33

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	16	77	8	0	0	0	101
NNE	13	84	19	14	0	0	130
NE	10	85	35	22	3	0	155
ENE	6	22	5	1	13	0	47
E	9	24	4	9	3	0	49
ESE	14	28	16	0	0	0	58
SE	23	25	4	0	0	0	52
SSE	38	45	11	3	0	0	97
S	34	40	26	4	3	0	107
SSW	34	83	68	15	1	0	201
SW	69	132	45	6	0	0	252
WSW	28	61	23	0	0	0	112
W	19	34	54	15	0	0	122
WNW	15	47	128	56	4	0	250
NW	10	85	77	24	2	0	198
NNW	12	94	35	1	0	0	142
VARIABLE							

TOTAL 2073
 PERIODS OF CALM (HOURS): 0
 HOURS OF MISSING DATA: 135

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: A
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	5	0	1	0	6
NNE	0	0	1	0	0	0	1
NE	0	0	1	0	0	0	1
ENE	0	0	1	1	0	0	2
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	2	0	0
SSE	0	0	0	0	0	0	0
S	0	0	1	3	0	0	4
SSW	0	0	2	3	0	0	5
SW	0	0	0	1	2	0	3
WSW	0	0	0	0	0	0	0
W	0	0	0	3	5	0	8
WNW	0	0	2	15	0	0	17
NW	0	0	7	17	4	1	29
NNW	0	0	4	9	8	8	29
VARIABLE							

TOTAL 105
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: B
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	1	1	0	0	2
NNE	0	0	1	0	0	0	1
NE	0	0	1	0	0	0	1
ENE	0	2	6	1	0	0	9
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	1	0	0	1
SSW	0	0	0	0	0	0	0
SW	0	0	1	1	0	0	2
WSW	0	0	0	1	0	0	1
W	0	0	0	2	2	0	4
WNW	0	0	1	5	1	0	7
NW	0	1	2	6	2	2	13
NNW	0	0	2	2	1	2	7
VARIABLE							

TOTAL 48
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: C
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	1	0	0	1
NNE	0	1	2	0	0	0	3
NE	0	1	2	0	0	0	3
ENE	0	1	1	2	0	0	4
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	1	1	0	2
WSW	0	0	0	0	3	0	3
W	0	0	0	2	1	0	3
WNW	0	0	2	8	3	0	13
NW	0	1	1	0	1	0	3
NNW	0	1	0	2	2	1	6
VARIABLE							

TOTAL 41
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: D
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	16	7	4	0	2	30
NNE	0	16	2	2	0	0	20
NE	0	9	4	0	0	0	13
ENE	0	8	10	18	0	0	36
E	0	6	2	17	0	0	25
ESE	0	3	4	3	0	0	10
SE	0	0	4	0	0	0	4
SSE	0	2	8	7	0	0	17
S	0	5	11	7	0	0	23
SSW	0	6	16	3	0	0	25
SW	0	5	11	11	7	0	34
WSW	0	4	10	10	5	0	29
W	0	3	9	18	12	1	43
WNW	1	4	28	23	22	1	79
NW	0	18	7	18	4	5	52
NNW	0	8	7	10	9	25	59
VARIABLE							

TOTAL 499
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 5/31/92
 STABILITY CLASS: E
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	4	21	22	6	0	53
NNE	0	7	11	16	2	0	36
NE	1	5	22	11	3	0	42
ENE	1	10	30	37	16	3	97
E	0	11	20	11	1	0	43
ESE	0	7	20	5	2	2	36
SE	2	9	14	5	1	0	31
SSE	0	3	11	17	8	0	39
S	2	7	21	17	11	7	65
SSW	1	11	33	29	10	2	86
SW	0	6	31	17	3	2	59
WSW	2	4	22	20	1	0	49
W	0	2	25	34	7	3	71
WNW	1	8	25	61	50	33	178
NW	1	9	37	64	21	22	154
NNW	0	6	28	73	51	7	165
VARIABLE							

TOTAL 1204
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: F
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	2	1	1	0	0	4
NNE	0	2	6	1	0	0	9
NE	0	2	2	2	0	0	6
ENE	0	3	2	2	0	0	7
E	0	4	11	0	0	0	15
ESE	0	4	2	0	0	0	6
SE	1	1	0	0	1	1	4
SSE	0	1	0	0	0	0	1
S	0	8	0	1	0	0	9
SSW	1	5	3	6	0	0	13
SW	0	4	15	10	0	0	29
WSW	0	5	14	2	0	0	21
W	0	2	14	1	0	0	17
WNW	0	6	7	0	0	0	13
NW	0	1	11	1	0	0	13
NNW	0	2	3	3	1	0	9
VARIABLE							

TOTAL 176
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: G
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	0	0	0	0	1
NNE	1	1	0	0	0	0	2
NE	0	0	0	2	0	0	2
ENE	1	0	0	0	0	0	1
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	2	0	0	0	2
S	0	1	1	1	0	0	3
SSW	0	3	2	1	0	0	6
SW	0	5	14	8	0	0	27
WSW	0	3	12	1	0	0	16
W	0	1	3	0	0	0	4
WNW	0	3	2	0	0	0	5
NW	0	1	0	0	0	0	1
NNW	0	0	0	0	0	0	0
VARIABLE							

TOTAL 71
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: A
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	2	3	0	0	5
NNE	0	1	4	0	0	0	5
NE	0	1	11	1	0	0	13
ENE	0	4	20	11	0	0	35
E	0	1	2	7	2	0	12
ESE	0	0	3	0	0	0	3
SE	0	1	7	0	0	0	8
SSE	0	0	2	0	0	0	2
S	0	0	3	1	0	0	4
SSW	0	1	16	27	4	0	48
SW	0	0	6	8	0	0	14
WSW	0	0	1	0	0	0	1
W	0	1	1	1	0	0	3
WNW	0	1	10	15	5	0	31
NW	0	2	14	4	0	0	20
NNW	0	0	1	4	2	0	7
VARIABLE							

TOTAL 211
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: B
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	0	0	0	0	3
NNE	0	1	3	0	0	0	4
NE	0	2	5	0	0	0	7
ENE	0	0	5	2	0	0	7
E	0	0	1	0	0	0	1
ESE	0	0	2	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	1	2	1	0	0	4
SSW	0	0	2	6	0	0	8
SW	0	1	2	3	0	0	6
WSW	0	0	1	0	0	0	1
W	0	0	0	0	0	0	0
WNW	0	1	6	7	0	0	14
NW	0	5	8	0	0	0	13
NNW	0	1	1	1	1	0	4
VARIABLE							

TOTAL 75
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: C
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	1	1	0	0	5
NNE	0	3	1	0	0	0	4
NE	0	6	1	0	0	0	7
ENE	0	2	4	2	0	0	8
E	0	0	1	0	0	0	1
ESE	0	0	1	1	0	0	2
SE	0	1	1	0	0	0	2
SSE	0	0	0	0	0	0	0
S	0	1	2	1	0	0	4
SSW	0	0	3	7	0	0	10
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	1	10	3	0	0	14
NW	0	7	2	2	0	0	11
NNW	0	8	0	0	0	0	8
VARIABLE							

TOTAL 78
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: D
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	4	35	0	4	2	0	45
NNE	2	31	7	10	6	0	56
NE	5	21	11	3	0	0	40
ENE	0	7	27	17	4	0	55
E	1	6	9	4	0	0	20
ESE	0	4	16	7	1	0	28
SE	0	6	8	0	0	0	14
SSE	1	7	5	3	0	0	16
S	2	7	15	8	0	0	32
SSW	0	14	36	40	2	0	92
SW	0	7	8	5	0	0	20
WSW	0	5	6	0	0	0	11
W	1	4	3	0	0	0	8
WNW	0	16	28	14	3	0	61
NW	1	40	10	1	1	0	53
NNW	1	31	5	3	1	0	41
VARIABLE							

TOTAL 592
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: E
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	5	9	4	6	0	24
NNE	3	8	11	6	1	0	29
NE	2	11	29	18	0	0	60
ENE	4	13	39	37	2	0	95
E	3	12	28	12	2	0	57
ESE	2	19	9	12	4	0	46
SE	2	22	12	5	0	0	41
SSE	1	8	24	6	0	0	39
S	1	16	31	15	0	0	63
SSW	1	19	55	112	7	0	194
SW	1	9	22	14	0	0	46
WSW	0	4	9	1	1	0	15
W	0	12	3	5	0	0	20
WNW	1	11	25	24	2	0	63
NW	2	10	27	11	1	0	51
NNW	1	3	17	18	11	1	51
VARIABLE							

TOTAL 894
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: F
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	6	1	1	0	0	9
NNE	0	4	6	2	0	0	12
NE	2	5	4	0	0	0	11
ENE	3	6	2	0	0	0	11
E	0	3	2	0	0	0	5
ESE	0	2	1	0	0	0	3
SE	2	3	1	0	0	0	6
SSE	0	2	3	0	0	0	5
S	0	1	4	1	0	0	6
SSW	0	2	8	11	0	0	21
SW	1	1	13	12	0	0	27
WSW	0	1	8	5	0	0	14
W	0	1	2	0	0	0	3
WNW	0	4	5	0	0	0	9
NW	0	3	11	1	0	0	15
NNW	0	4	8	5	0	0	17
VARIABLE							

TOTAL 174
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: G
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	4	3	0	0	0	8
NNE	1	1	1	0	0	0	3
NE	0	5	0	0	0	0	5
ENE	0	1	1	0	0	0	2
E	2	0	0	0	0	0	2
ESE	2	3	0	0	0	0	5
SE	1	2	0	0	0	0	3
SSE	0	1	4	2	0	0	7
S	0	1	2	0	0	0	3
SSW	1	4	4	6	0	0	15
SW	1	2	7	23	0	0	33
WSW	3	4	9	4	0	0	20
W	0	3	4	1	0	0	8
WNW	1	3	9	0	0	0	13
NW	0	6	4	1	0	0	11
NNW	1	2	0	0	0	0	3
VARIABLE							

TOTAL 141
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92

STABILITY CLASS: A

ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	3	2	0	0	6
NNE	0	1	1	0	0	0	2
NE	0	1	14	2	0	0	17
ENE	0	0	12	3	0	0	15
E	0	0	1	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	1	0	0	1
S	0	0	0	1	0	0	1
SSW	0	0	2	2	0	0	4
SW	0	0	0	2	0	0	2
WSW	0	0	1	0	0	0	1
W	0	0	0	0	0	0	0
WNW	0	0	2	0	0	0	2
NW	0	0	2	1	0	0	3
NNW	0	0	2	0	0	0	2
VARIABLE							

TOTAL 57

PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92

STABILITY CLASS: B

ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	2	0	0	2
NNE	0	5	0	0	0	0	5
NE	0	4	3	0	0	0	7
ENE	0	0	4	1	1	0	6
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	2	0	0	0	2
S	0	0	0	1	0	0	1
SSW	0	0	2	4	1	0	7
SW	0	0	1	2	0	0	3
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	1	2	3	0	0	6
NW	0	0	1	2	1	0	4
NNW	0	0	0	0	0	0	0
VARIABLE							

TOTAL 43

PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: C
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	2	0	0	0	0	2
NNE	0	1	1	0	1	0	3
NE	0	3	2	0	2	0	7
ENE	0	1	3	0	0	0	4
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	5	0	0	0	6
S	0	0	1	0	0	0	1
SSW	0	0	4	5	0	0	9
SW	0	1	5	2	0	0	8
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	4	3	1	0	8
NW	0	2	4	1	0	0	7
NNW	0	3	1	0	0	0	4
VARIABLE							

TOTAL 59
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: D
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	17-24	>24	
N	1	19	5	2	0	0	27
NNE	1	20	2	3	0	0	26
NE	0	22	6	2	1	0	31
ENE	1	16	13	1	5	0	36
E	0	7	11	0	1	0	19
ESE	3	8	11	1	0	0	23
SE	0	15	4	0	0	0	19
SSE	1	12	16	6	3	0	38
S	0	10	21	7	0	0	38
SSW	0	2	35	30	2	0	77
SW	0	4	13	8	0	0	25
WSW	0	10	9	0	0	0	19
W	1	4	12	16	1	0	34
WNW	2	18	41	19	3	0	83
NW	2	50	9	3	3	0	67
NNW	2	20	10	7	1	0	40
VARIABLE							

TOTAL 602
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: E
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	7	22	28	5	0	62
NNE	1	4	14	15	3	0	37
NE	0	3	13	26	12	0	54
ENE	0	12	18	33	16	0	79
E	2	22	27	7	7	0	65
ESE	3	26	19	0	0	0	48
SE	1	26	7	0	0	0	34
SSE	0	9	36	12	3	0	60
S	0	11	53	10	5	1	80
SSW	0	16	75	90	0	0	181
SW	2	6	38	44	0	0	90
WSW	0	7	23	6	1	0	37
W	1	9	22	0	0	0	40
WNW	3	12	27	13	0	0	55
NW	0	10	16	3	2	0	31
NNW	0	8	22	22	10	0	62
VARIABLE							

TOTAL 1015
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: F
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	3	7	2	0	0	13
NNE	0	2	1	0	0	0	3
NE	0	2	2	0	0	0	4
ENE	0	2	3	0	0	0	5
E	0	1	1	0	0	0	2
ESE	0	3	4	0	0	0	7
SE	0	7	4	0	0	0	11
SSE	0	1	9	0	0	0	10
S	0	3	8	0	1	0	12
SSW	0	1	20	16	0	0	37
SW	0	0	27	17	0	0	44
WSW	0	0	16	3	0	0	19
W	1	3	17	0	0	0	21
WNW	0	3	12	1	0	0	16
NW	0	2	7	0	0	0	9
NNW	0	3	6	1	0	0	10
VARIABLE							

TOTAL 223
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: G
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	3	1	0	0	0	5
NNE	2	1	0	0	0	0	3
NE	1	4	0	0	0	0	5
ENE	1	4	0	0	0	0	5
E	0	2	0	0	0	0	2
ESE	0	3	0	0	0	0	3
SE	0	3	0	0	0	0	3
SSE	2	2	12	4	0	0	20
S	1	7	24	2	0	0	34
SSW	0	4	8	2	0	0	14
SW	1	7	18	7	0	0	33
WSW	0	6	11	5	0	0	22
W	0	8	11	0	0	0	19
WNW	1	13	5	0	0	0	19
NW	0	7	0	0	0	0	7
NNW	0	5	0	0	0	0	5
VARIABLE							

TOTAL 199
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: A
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	4	2	0	0	6
NNE	0	0	2	8	1	0	11
NE	0	0	1	0	0	0	1
ENE	0	0	1	0	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	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	1	0	0	1
SW	0	0	0	4	0	0	4
WSW	0	0	0	0	0	0	0
W	0	1	0	0	0	0	1
WNW	0	0	0	0	0	0	0
NW	0	1	3	8	0	0	12
NNW	0	0	1	2	0	0	3
VARIABLE							

TOTAL 40
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92

STABILITY CLASS: B

ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	2	0	0	0	3
NNE	0	1	3	1	0	0	5
NE	0	0	3	1	0	0	4
ENE	0	1	1	0	0	0	2
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	1	2	0	0	3
SW	0	1	2	1	0	0	4
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	4	4	1	0	9
NW	0	1	1	2	0	0	4
NNW	0	0	1	2	0	0	3
VARIABLE							

TOTAL 37

PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: C
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	1	0	0	0	1
NNE	0	2	0	2	0	0	4
NE	0	3	5	0	0	0	8
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	1	2	0	0	3
SW	0	0	0	1	0	0	1
WSW	0	0	1	0	0	0	1
W	0	0	1	0	0	0	1
WNW	0	0	4	2	0	0	6
NW	0	2	3	1	0	0	6
NNW	0	0	3	0	0	0	3
VARIABLE							

TOTAL 34
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: D
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	11	15	2	0	0	29
NNE	2	14	15	11	1	3	46
NE	0	13	7	5	2	2	29
ENE	0	5	11	4	0	0	20
E	0	2	9	4	0	0	15
ESE	0	1	0	1	0	0	2
SE	0	4	0	0	0	0	4
SSE	0	2	2	0	0	0	4
S	0	1	3	5	0	0	9
SSW	0	6	11	7	6	0	30
SW	1	4	11	14	3	0	33
WSW	0	2	7	2	0	0	11
W	0	3	5	13	0	0	21
WNW	1	8	19	16	16	3	63
NW	1	20	14	6	4	7	52
NNW	0	12	16	10	3	2	43
VARIABLE							

TOTAL 411
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: E
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	17-24	>24	
N	1	15	60	34	6	0	116
NNE	1	9	62	32	12	17	135
NE	1	5	46	29	16	15	112
ENE	1	3	12	4	0	13	33
E	1	14	22	1	4	10	52
ESE	3	13	22	10	2	0	50
SE	0	10	11	3	0	0	24
SSE	1	12	9	1	0	0	23
S	1	5	11	16	10	4	47
SSW	1	14	20	26	10	2	89
SW	1	11	37	50	7	2	108
WSW	0	6	39	26	1	0	72
W	1	8	22	19	5	0	55
WNW	1	0	20	43	25	1	90
NW	0	7	11	39	20	15	100
NNW	0	6	42	54	20	5	127
VARIABLE							

TOTAL 1239
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: F
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	1	1	0	0	3
NNE	1	5	0	0	0	0	6
NE	0	6	0	0	0	0	6
ENE	1	7	1	0	0	0	9
E	0	4	3	0	0	0	7
ESE	0	4	4	0	0	0	8
SE	2	10	5	0	0	0	17
SSE	0	6	8	0	0	0	14
S	0	8	4	3	0	0	15
SSW	0	4	11	7	0	0	22
SW	1	8	12	20	0	0	41
WSW	0	4	16	15	0	0	35
W	0	4	8	1	0	0	13
WNW	2	5	5	2	0	0	14
NW	0	8	1	0	0	0	9
NNW	0	2	1	0	0	0	3
VARIABLE							

TOTAL 222
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: C
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	19-24	>24	
N	0	2	0	0	0	0	2
NNE	2	0	0	0	0	0	2
NE	0	3	0	0	0	0	3
ENE	0	2	0	0	0	0	2
E	4	5	1	0	0	0	10
ESE	0	7	2	0	0	0	9
SE	0	9	1	0	0	0	10
SSE	0	9	9	1	0	0	19
S	1	0	0	4	0	0	21
SSW	0	7	0	1	0	0	16
SW	1	0	16	12	0	0	37
WSW	0	1	14	7	0	0	22
W	1	3	0	1	0	0	13
WNW	0	6	3	0	0	0	9
NW	0	6	2	0	0	0	8
N:W	0	4	2	0	0	0	6
VARIABLE							

TOTAL 180
 PERIODS OF CALM (HOURS): 0

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1/ 1/92 TO 3/31/92
 STABILITY CLASS: ALL
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	19-24	>24	
N	1	23	35	29	7	2	97
NNE	1	27	23	19	2	0	72
NE	1	17	32	15	3	0	68
ENE	2	24	50	61	16	3	156
E	0	22	33	28	1	0	84
ESE	0	14	26	8	2	2	52
SE	3	10	18	5	2	1	39
SSE	0	6	21	24	8	0	59
S	2	21	34	30	11	7	105
SSW	2	23	56	42	10	2	135
SW	0	20	72	49	13	2	156
WSW	2	16	58	34	9	0	119
W	0	8	51	60	27	4	150
WNW	2	21	67	112	76	34	312
NW	1	31	65	106	32	30	265
NNW	0	17	44	99	72	43	275
VARIABLE							

TOTAL 2144
 PERIODS OF CALM (HOURS): 0
 HOURS OF MISSING DATA: 40

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4/ 1/92 TO 6/30/92
 STABILITY CLASS: ALL
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	6	56	16	13	8	0	99
NNE	6	49	33	18	7	0	113
NE	9	51	61	22	0	0	143
ENE	7	33	98	69	6	0	213
E	6	22	43	23	4	0	98
ESE	4	28	32	20	5	0	89
SE	5	35	29	5	0	0	74
SSE	2	18	39	11	0	0	70
S	3	27	59	27	0	0	116
SSW	2	40	124	209	13	0	388
SW	3	20	58	67	0	0	148
WSW	3	14	34	10	1	0	62
W	1	21	13	7	0	0	42
WNW	2	37	93	63	10	0	205
NW	3	73	76	20	2	0	174
NNW	3	49	32	31	15	1	131
VARIABLE							

TOTAL 2165
 PERIODS OF CALM (HOURS): 0
 HOURS OF MISSING DATA: 19

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 7/ 1/92 TO 9/30/92
 STABILITY CLASS: ALL
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-18	19-24	>24	
N	3	35	38	36	5	0	117
NNE	4	34	19	18	4	0	79
NE	1	39	40	30	15	0	125
ENE	2	35	33	38	22	0	150
E	2	32	40	7	8	0	89
ESE	6	40	34	1	0	0	81
SE	1	51	15	0	0	0	67
SSE	3	25	80	23	6	0	137
S	1	31	107	21	6	1	167
SSW	0	23	146	157	3	0	329
SW	3	18	102	82	0	0	205
WSW	0	23	60	14	1	0	98
W	3	24	62	24	1	0	114
MNW	6	47	93	39	4	0	189
NW	2	71	39	10	6	0	128
NNW	2	39	41	30	11	0	123
VARIABLE							

TOTAL 2198
 PERIODS OF CALM (HOURS): 0
 HOURS OF MISSING DATA: 10

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 10/ 1/92 TO 12/31/92
 STABILITY CLASS: ALL
 ELEVATION: 150

WIND DIRECTION	WIND SPEED (MPH)						TOTALS
	1-3	4-7	8-12	13-16	17-24	>24	
N	2	30	83	39	6	0	160
NNE	6	31	82	54	14	20	207
NE	1	30	62	35	18	17	163
ENE	2	18	26	8	0	13	67
E	5	25	35	5	4	10	84
ESE	3	25	28	11	2	0	69
SE	2	33	17	3	0	0	55
SSE	1	29	28	2	0	0	60
S	2	22	26	28	10	4	92
SSW	1	31	60	46	24	2	164
SW	4	32	78	102	10	2	228
WSW	0	13	77	50	1	0	141
W	2	19	44	34	5	0	104
WNW	4	27	55	67	42	4	199
NW	1	45	55	56	32	22	191
NNW	0	24	66	58	23	7	168
VARIABLE							

TOTAL 2172
 PERIODS OF CALM (HOURS): 0
 HOURS OF MISSING DATA: 36

SEMIANNUAL RADIOACTIVE EFFLUENT
RELEASE REPORT

G - ODCM REVISIONS, REMP LOCATION CHANGES AND
MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS

1992

A. Changes to the ODCM:

According to Technical Specification 6.13.c and ODCM Control 6.8.1.4, changes to the Offsite Dose Calculation Manual (ODCM) made during the reporting period shall be submitted with the Semiannual Radioactive Effluent Release Report in the form of a complete copy of the entire ODCM, with changes identified by markings in the margin of the pages that contain them.

There was no change made to the ODCM, during this reporting period.

B. REMP Location Changes:

Action Statements c of ODCM Control 3.12.1 and a and b of ODCM Control 3.12.2 require REMP location changes to be reported in the Semiannual Radioactive Effluent Release Report.

Direct Radiation Monitoring Station DR1 at location 1S1 was destroyed during the winter storm that passed the Shoreham area on 12/11/92. Because the sand turf, on which the foundation of the station was built, was swept away by the shoring waves during the storm, the station collapsed. This station has been relocated 50 yards west and anchored to a telephone pole.

The proximity of this relocation does not affect the representativeness of its samples for the sector coverage as stated in the ODCM, and should have minimal impact on the consistency of the 1992 yearly average TLD dose results.

C. Major Changes to Radioactive Waste Treatment Systems:

Solid Waste Process Control Program (PCP) 9.3.1 and 9.4.4 state that the Semiannual Radioactive Effluent Release Report shall include major changes to radioactive waste treatment systems.

There were no major changes to radioactive waste treatment systems during this reporting period.

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

H - MISCELLANEOUS SPECIAL REPORT

3rd and 4th Quarters of 1992

Action Statement a. in Table 3.12.1-1 of the Offsite Dose Calculation Manual recognizes that at times, it may not be possible or practicable to continue to obtain samples of the media of choice at the most desired location or time. In these instances suitable alternative media and locations may be chosen for the particular pathway in question and appropriate substitutions made within 30 days in the radiological environmental monitoring program.

The cause of the unavailability of samples for that pathway and the new location(s) for obtaining replacement samples are then required to be identified and included in the next Semiannual Radioactive Effluent Release Report, together with the revised figures and tables for the new location(s) in the ODCM.

On December 11, 1992, an unnamed winter storm hit Long Island and passed through the Shoreham area. As a result of the shoring waves and the gale force wind, the foundation of TLD station 1S1 - which was sitting on a sandy turf overlooking the mouth of the Wading River - was swept away, and the station collapsed.

Station 1S1 is one of the 16 direct radiation monitoring stations around the Shoreham site. The TLD was promptly relocated to a nearby site without significant delay. Result of the fourth quarter reading from 1S1 for 1992 was 3.1 ± 0.1 mrem per standard month (30.4 days). This compares well with a 3.3 ± 0.4 mrem per standard month reading registered a year ago at the same location, for the same quarter; and is not beyond reasonable seasonal and/or statistical variations of other 1992 quarterly results at the same location, namely, 3.4 ± 0.2 , 3.5 ± 0.8 , 3.2 ± 0.2 mrem/standard month, respectively, of the first, second, and third quarters.

Since the relocation is relatively minor - about 50 yards west and 10 yards to the north of the previous location - and does not move the station out of the north sector, a change of description of its location in the ODCM is not deemed necessary. And because of the scale used in the Onsite REMP Sampling Locations map, presented in the ODCM as Fig. 5-1, this relocation would not be shown noticeably different from the current version. Therefore, no attempt is made to revise Fig. 5-1.

The 1S1 location covers the north sector which is an uninhabited area facing the Long Island Sound, and is 5 sectors away (over 110° clockwise) from the highest TLD reading location (12A1 in sector WSW). The impact of this involuntary relocation because of force of nature, therefore, is expected to be insignificant.