SUPPLEMENTAL
EFFLUENT AND WASTE DISPOSAL
SEMIANNUAL REPORT
FOR
THIRD AND FOURTH QUARTERS, 1993
INCLUDING
ANNUAL RADIOLOGICAL IMPACT ON MAN
FOR 1993

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VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE NUCLEAR POWER STATION

VERNON, VERMONT

SUPPLEMENTAL
EFFLUENT AND WASTE DISPOSAL
SEMIANNUAL REPORT
FOR
THIRD AND FOURTH QUARTERS, 1993
INCLUDING
ANNUAL RADIOLOGICAL IMPACT ON MAN
FOR 1993

Vermont Yankee Nuclear Power Station

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ERRATA

In the Vermont Yankee Effluent and Waste Disposal Semiannual Report covering the third and fourth quarters of 1993, the following corrections should be made:

None.

Table 1A of the Semiannual Report covering the first and second quarters of 1993 was revised. The revised table is provided in the following page.

TABLE 1A

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

First and Second Quarters, 1993

Gaseous Effluents - Summation of All Releases

		Unit	Quarter 1	Quarter 2	Est. Total Error, %
.	Fission and Activation Gases				
1.	Total release	Ci	<1.29E+03	<8.16E+02	±1.00E+02
2.	Average release rate for period	uCi/sec	<1.64E+02	<1.04E+02	
3.	Percent of Tech. Spec. limit	%	1.10E+01(1)	2.88E+00(2)	
.	Iodines				
1.	Total Iodine-131	Ci	2.82E-03	2.63E-03	±5.00E+01
2.	Average release rate for period	uCi/sec	3.59E-04	3.34E-04	
3.	Percent of Tech. Spec. limit (3)	%	2.04E-01	1.40E+00	
.	Particulates				
1.	Particulates with T-1/2 > 8 days	Ci	3.38E-03	2.31E-03	±5.00E+01
2.	Average release rate for period	uCi/sec	4.30E-04	2.94E-04	
3.	Percent of Tech. Spec. limit	%	(4)	(4)	
4.	Gross alpha radioactivity	Ci	3.61E-06	1.44E-06	
.	Tritium				
1.	Total release	Ci	7.05E+00	6.96E+00	±5.00E+01
2.	Average release rate for period	uCi/sec	8.96E-01	8.85E-01	
3.	Percent of Tech. Spec. limit	%	(4)	(4)	

) Technical Specification 3.8.F.1.a for beta air dose.
) Technical Specification 3.8.F.1.a for gamma air dose.
) Technical Specification 3.8.G.1 for dose from I-131, I-133, Tritium, and radionuclides in particulate form.
) Per Technical Specification 3.8.G.1 dose contribution from Tritium and particulates are included with I-131 above in Part B.

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VERMONT YANKEE NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT RELEASE REPORT
JULY - DECEMBER 1993

1.0 INTRODUCTION

Tables 1 through 3 list the recorded radioactive liquid and gaseous effluents and solid waste for the second six months of the year, with data summarized on a quarterly basis for both liquids and gases. Table 4 summarizes the estimated radiological dose commitments from all radioactive liquid and gaseous effluents released during the year 1993, including direct dose from fixed station sources. Tables 5A through 6H report the cumulative joint frequency distributions of wind speed, wind direction, and atmospheric stability for the 12-month period, January to December 1993. Radioactive effluents reported in the Semiannual Effluent Report covering the first six months of the year were used to determine the resulting doses for the first half of 1993.

As required by Technical Specification 6.7.C.1 dose commitments resulting from the release of radioactive materials in liquids and gases were estimated in accordance with the "Vermont Yankee Nuclear Power Station Off-Site Dose Calculation Manual" (ODCM). These dose estimates were made using a "Method II" analysis as described in the ODCM. A "Method II" analysis incorporates the methodology of Regulatory Guide 1.109 (Reference 3) and actual measured meteorological data recorded during the reporting period.

As required by Technical Specification 6.7.C.1.b, this report shall also include an assessment of the radiation doses from radioactive effluents to member(s) of the public due to allowed recreational activities inside the site boundary during the year. However, for this reporting period no recreational activities inside the site boundary were permitted, and, as a result, no dose assessments are required.

Assessment of radiation doses (including direct radiation) to the likely most exposed real member(s) of the public for the calendar year for the purposes of demonstrating conformance with 40CFR190, "Environmental Radiation Protection Standards for Nuclear Power Operations," are also required to be included in this report if the conditions indicated in Technical Specification 3.8.M.1, "Total Dose," have been exceeded during the year. Since the conditions indicated in the action statement under Technical Specification 3.8.M.2 were not entered into during the year, no additional radiation dose assessments are required.

All calculated dose estimates for this reporting period are well below the dose criteria of 10CFR Part 50, Appendix I.

Appendices B through H indicate the status of reportable items per the requirements of Technical Specifications 6.7.C.1 and 6.14.A.

2.0 METEOROLOGICAL DATA

Meteorological data was collected during this reporting period from the site's 300-foot met tower located approximately 2,200 feet northwest of the reactor building, and about 1,400 feet from the plant stack. The 300-foot tower is approximately the same height as the primary plant stack (94 meters) and is designed to meet the requirements of Regulatory Guide 1.23 for meteorological monitoring.

X/Q and D/Q values were derived for all receptor points from the site meteorological record for each quarter using a straight-line airflow model. All dispersion factors have been calculated employing appropriate source configuration considerations, as described in Regulatory Guide 1.111 (Reference 1). A source depletion model as described in "Meteorology and Atomic Energy - 1968" (Reference 2) was used to generate deposition factors, assuming a constant deposition velocity of 0.01 m/sec for all stack (elevated) releases. Turbine hall roof vents are considered as ground level release points with relative deposition rates determined from Regulatory Guide 1.111. Changes in terrain elevations in the site environment were also factored into the meteorological models as appropriate.

3.0 DOSE ASSESSMENT

3.1 Doses From Liquid Effluents

Technical Specification 3.8.B.1 limits total body (1.5 mrem per quarter, and 3 mrem per year) and organ doses (5 mrem per quarter, and 10 mrem per year) from liquid effluents to a member of the public to those specified in 10CFR Part 50, Appendix I. By implementing the requirements of 10CFR Part 50, Appendix I, Technical Specification 3.8.B.1 assures that the release of radioactive material in liquid effluents will be kept "as low as is reasonably achievable."

Exposure pathways that could exist as a result of liquid effluents are fish, direct exposure from river shoreline sedimentation, milk and meat via animal ingestion of the Connecticut River water, and meat, milk and vegetable pathways via crop irrigation with water withdrawn from the Connecticut River. The drinking water and aquatic invertebrate pathways do not exist downriver of the Vermont plant at Vernon.

The dose analysis for the liquid pathways, given above, assumes a dilution based on a minimum regulated river flow of 1250 cfs at the Vernon Dam just below the plant discharge outfall. This results in conservative dose estimates from the liquid effluents.

The resultant whole body and organ doses from liquid effluents were determined by summing the contributions from all pathways at each location. The whole body and organ doses to a member of the public from liquid effluents are given in Table 4. The estimated quarterly and annual doses due to liquid effluents are well below the 10CFR Part 50, Appendix I dose criteria of Technical Specification 3.8.B.1.

3.2 Doses From Noble Gases

Technical Specification 3.8.F.1 limits the gamma air dose (5 mrad per quarter, and 10 mrad per year) and beta air (10 mrad per quarter, and 20 mrad per year) dose from noble gases released in gaseous effluents from the site to areas at and beyond the site boundary to those specified in 10CFR Part 50, Appendix I. By implementing the requirements of 10CFR Part 50, Appendix I, Technical Specification 3.8.F.1 assures that the releases of radioactive noble gases in gaseous effluents will be kept "as low as is reasonably achievable."

Dose estimates due to the release of noble gases to the atmosphere are typically calculated at the site boundary, and nearest resident in each of the sixteen principle compass directions, as well as the point of highest off-site ground level air concentration of radioactive materials, and for each of the milk animal locations located within five miles of the plant.

3.3 Doses From Iodine-131, Iodine-133, Tritium, and Radionuclides in Particulate Form With Half-Lives Greater Than 8 Days

Technical Specification 3.8.G.1 limits the organ dose to a member of the public from iodine-131, iodine-133, tritium and radionuclides in particulate form with half-lives greater than 8 days (hereafter called iodines and particulates) in gaseous effluents released from the site to areas at and beyond the site boundary to those specified in 10CFR Part 50, Appendix I (7.5 mrem per quarter, and 15 mrem per year). By implementing the requirements of 10CFR Part 50, Appendix I, Technical Specification 3.8.G.1 assures that the releases of iodines and particulates in gaseous effluents will be kept "as low as is reasonably achievable."

Exposure pathways that could exist as a result of the release of iodines and particulates to the atmosphere include external irradiation from activity deposited onto the ground surface, inhalation, and ingestion of vegetables, meat and milk. Dose estimates were made at the site boundary and nearest resident in each of the sixteen principle compass directions, as well as all milk animal locations within five miles of the plant. The nearest resident and milk animals in each sector were identified by the most recent Annual Land Use Census as required by Technical Specification 3.9.D.1. Conservatively, a vegetable garden was assumed to exist at each milk animal and nearest resident location. Furthermore, the meat pathway was assumed to exist at each milk animal location. Doses were also calculated at the point of maximum ground level air concentration of radioactive materials in gaseous effluents and included the assumption that the inhalation, vegetable garden, and ground plane exposure pathways exist for an individual with a 100 percent occupancy factor.

It is assumed that milk and meat animals are free to graze on open pasture during the second and third quarters with no supplemental feeding. This assumption is conservative since most of the milk animals inventoried in the site vicinity are fed stored feed throughout the entire year with only limited grazing allowed during the growing season. It has also been assumed that only 50 percent of the iodine deposited from gaseous effluent is in elemental form (I_2) and is available for uptake (see p. 26, Reference 3).

During the first and fourth quarters, the milk animals are assumed to receive only stored feed.

The resultant organ doses were determined after adding the contributions from all pathways at each location. Doses were calculated for the whole body, GI-tract, bone, liver, kidney, thyroid, lung and skin for adults, teenagers, children and infants. The maximum estimated quarterly and annual organ doses to any age group due to iodines and particulates at any of the off-site receptor locations are reported in Table 4. These estimated organ doses are well below the 10CFR Part 50, Appendix I dose criteria of Technical Specification 3.8.G.1.

3.4 Whole-Body Doses in Unrestricted Areas From Direct Radiation

The major source of dose, consisting of direct radiation and skyshine, from the station is due to N-16 decay in the turbine building. Because of the orientation of the turbine building on the site, and the shielding effects of the adjacent reactor building, only the seven westerly sectors (SSW to NNW) see any significant direct radiation.

High Pressure Ionization Chamber (HPIC) measurements have been made in the plant area in order to estimate the direct radiation from the station. The chamber was located at a point along the west site boundary which has been determined to receive the maximum direct radiation from the plant. Using measurements of dose rate made while the plant operated at different power levels, from shutdown to 100 percent, the total integrated dose from direct radiation over each three month period was determined by considering the quarterly gross megawatts generated. Field measurements of exposure, in units of Roentgen, were modified by multiplying by 0.6 to obtain whole-body dose equivalents, in units of rem, in accordance with recommendations of HASL Report 305 (Reference 4) for radiation fields resulting from N-16 photons.

The other sources of dose, including direct radiation and skyshine, to the site boundary are from low level radioactive waste stored in the north warehouse and the low level waste storage pad facility. The annual dose is based on dose rate measurements in these two storage facilities and determined at the same most restrictive site boundary dose location as that for N-16 shine from the Turbine Building.

The estimated direct radiation dose from all major sources combined for the most limiting site boundary location is listed on Table 4 for each

quarter. These site boundary doses assume a 100 percent occupancy factor, and take no credit for the shielding effect of any structure.

3.5 Doses From On-Site Disposal of Septic Waste

Off-Site Dose Calculational Manual, Appendix B, requires that all applications of septage within the approved designated disposal areas be limited to ensure the dose to a maximally-exposed individual be maintained at less than 1 mrem/year to the whole body and any organ, and the dose to the inadvertent intruder be maintained at less than 5 mrem/year. The projected dose from on-site disposals of septic waste is given in Appendix J.

REFERENCES

1. Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors", U.S. Nuclear Regulatory Commission, Office of Standards Development, March 1976.

2. Meteorology and Atomic Energy, 1968, Section 5-3.2.2, "Cloud Depletion", pg. 204. U. S. Atomic Energy Commission, July 1968.

3. Regulatory Guide 1.109, "Calculation of Annual Doses to Man From Routine Release of Reactor Effluents for the Purpose of Evaluating Compliance with 10CFR Part 50, Appendix I", U. S. Nuclear Regulatory Commission, Office of Standards Development, Revision 1, October 1977.

4. W. M. Lowder, P. D. Raft, and G. dePlanque Burke, "Determination of N-16 Gamma Radiation Fields at BWR Nuclear Power Stations", Health and Safety Laboratory, Energy Research and Development Administration, Report No. 305, May 1976.

TABLE 1A

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

Third and Fourth Quarters, 1993

Gaseous Effluents - Summation of All Releases

	Unit	Quarter 3	Quarter 4	Est. Total Error, %
A. Fission and Activation Gases				
1. Total release	Ci	<8.85E+02	<8.00E+02	±1.00E+02
2. Average release rate for period	uCi/sec	<1.13E+02	<1.02E+02	
3. Percent of Tech. Spec. limit (1)	%	2.44E+00	1.88E+00	
B. Iodines				
1. Total Iodine-131	Ci	5.25E-03	7.48E-04	±5.00E+01
2. Average release rate for period	uCi/sec	6.68E-04	9.52E-05	
3. Percent of Tech. Spec. limit (2)	%	2.17E+00	1.02E-01	
C. Particulates				
1. Particulates with T-1/2 > 8 days	Ci	1.67E-03	1.19E-03	±5.00E+01
2. Average release rate for period	uCi/sec	2.12E-04	1.51E-04	
3. Percent of Tech. Spec. limit	%	(3)	(3)	
4. Gross alpha radioactivity	Ci	4.70E-06	5.18E-06	
D. Tritium				
1. Total release	Ci	6.05E+00	3.63E+00	±5.00E+01
2. Average release rate for period	uCi/sec	7.69E-01	4.61E-01	
3. Percent of Tech. Spec. limit	%	(3)	(3)	

(1) Technical Specification 3.8.F.1.a for gamma air dose.

(2) Technical Specification 3.8.G.1 for dose from I-131, I-133, Tritium, and radionuclides in particulate form.

(3) Per Technical Specification 3.8.G.1 dose contribution from Tritium and particulates are included with I-131 above in Part B.

TABLE 1B

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

Third and Fourth Quarters, 1993

Gaseous Effluents - Elevated Releases

Nuclides Released	Unit	Continuous Mode Quarter 3	Continuous Mode Quarter 4	Batch Mode[1] Quarter 3	Batch Mode[1] Quarter 4
1. Fission Gases					
Krypton-85	Ci	<1.16E+01	<8.56E+01		
Krypton-85m	Ci	<4.18E+00	<2.72E+00		
Krypton-87	Ci	<2.27E+01	<1.98E+01		
Krypton-88	Ci	<1.43E+01	<9.16E+00		
Xenon-133	Ci	<2.67E+02	<1.03E+02		
Xenon-135	Ci	<2.41E+01	<1.59E+01		
Xenon-135m	Ci	<1.13E+02	<1.17E+02		
Xenon-138	Ci	<4.12E+02	<4.43E+02		
Unidentified	Ci				
Total for period	Ci	<8.69E+02	<7.97E+02		
2. Iodines					
Iodine-131	Ci	2.89E-03	7.24E-04		
Iodine-133	Ci	7.38E-03	3.21E-03		
Iodine-135	Ci	ND	ND		
Total for period	Ci	1.03E-02	3.93E-03		
3. Particulates					
Strontium-89	Ci	3.95E-04	3.93E-04		
Strontium-90	Ci	<3.61E-06	8.09E-06		
Cesium-134	Ci	ND	ND		
Cesium-137	Ci	3.53E-05	3.19E-05		
Barium-Lanthanum-140	Ci	8.27E-04	4.37E-04		
Manganese-54	Ci	2.89E-05	7.55E-05		
Chromium-51	Ci	ND	ND		
Cobalt-58	Ci	ND	ND		
Cobalt-60	Ci	2.13E-04	2.15E-04		
Cerium-141	Ci	4.46E-06	ND		
Zinc-65	Ci	ND	ND		
Total for period	Ci	1.51E-03	1.16E-03		

(1) There were no batch mode gaseous releases for this reporting period.

ND - Not detected at the plant stack.

TABLE 1C

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

Third and Fourth Quarters 1993

Gaseous Effluents - Ground Level Releases[2]

		Continuous Mode		Batch Mode[1]	
Nuclides Released	Unit	Quarter 3	Quarter 4	Quarter 3	Quarter 4
1. Fission Gases					
Krypton-85	Ci	<8.24E-02	<9.10E-01		
Krypton-85m	Ci	<9.94E-02	<2.68E-03		
Krypton-87	Ci	<5.24E-01	<1.94E-02		
Krypton-88	Ci	<3.36E-01	<9.56E-03		
Xenon-133	Ci	<2.49E+00	<1.08E+00		
Xenon-135	Ci	<5.74E-01	<1.45E-02		
Xenon-135m	Ci	<2.58E+00	<1.14E-01		
Xenon-138	Ci	<9.36E+00	<4.83E-01		
Xenon-131m	Ci	<5.48E-02	<2.15E-01		
Total for period	Ci	<1.61E+01	<2.85E+00		
2. Iodines[2]					
Iodine-131	Ci	2.36E-03	2.49E-05		
Iodine-133	Ci	8.72E-04	ND		
Iodine-135	Ci	ND	ND		
Total for period	Ci	3.23E-03	2.49E-05		
3. Particulates[2]					
Strontium-89	Ci	5.11E-05	ND		
Strontium-90	Ci	<1.41E-06	ND		
Cesium-134	Ci	ND	ND		
Cesium-137	Ci	7.13E-07	ND		
Barium-Lanthanum-140	Ci	9.87E-05	ND		
Manganese-54	Ci	ND	1.18E-05		
Chromium-51	Ci	ND	ND		
Cobalt-58	Ci	ND	ND		
Cobalt-60	Ci	ND	8.26E-06		
Cerium-141	Ci	6.12E-06	ND		
Zinc-65	Ci	ND	5.77E-06		
Total for period	Ci	1.58E-04	2.58E-05		

(1) There were no batch mode gaseous releases for this reporting period.
(2) Effluent sampling of the turbine roof ventilators as a ground level release point was initiated at the beginning of the fourth quarter 1991.
ND - Not detected at the Turbine Building roof.

TABLE 1D

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

Third and Fourth Quarters 1993

Gaseous Effluents - Nonroutine Releases

There were no nonroutine or accidental gaseous releases during this reporting period.

TABLE 2A

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

Third and Fourth Quarters 1993

Liquid Effluents - Summation of All Releases

There were no liquid releases during the third or fourth quarters of 1993.

TABLE 2B

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

Third and Fourth Quarters 1993

Liquid Effluents - Nonroutine Releases

There were no liquid releases during the third or fourth quarters of 1993.

TABLE 3

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

Third and Fourth Quarters, 1993

Solid Waste and Irradiated Fuel Shipments

A. Solid Waste Shipped Off-Site for Burial or Disposal (Not Irradiated Fuel):

1. Type of Waste	Unit	6-Month Period	Est. Total Error, %
a. Spent resins, filter sludges, evaporator bottoms, etc.	m^3	2.42E+01	
	Ci	1.13E+02	±7.50E+01
b. Dry compressible waste, contaminated equipment, etc.	m^3	4.27E+01	
	Ci	3.26E-01	±7.50E+01
c. Irradiated components, control rods, etc.	m^3		
	Ci		±7.50E+01

2. Estimate of Major Nuclide Composition (By Type of Waste):

a.				b.			
	Zinc-65	%	3.34E+01		Iron-55	%	6.54E+01
	Cesium-137	%	2.42E+01		Zinc-65	%	1.09E+01
	Cobalt-60	%	2.06E+01		Cobalt-60	%	1.02E+01
	Cesium-134	%	8.44E+00		Manganese-54	%	5.67E+00
	Manganese-54	%	8.70E+00		Cesium-137	%	1.85E+00

3. Solid Waste Disposition:

Number of Shipments	Mode of Transportation	Destination
5 Resin Shipments	Truck	Barnwell, SC
59 Partial Shipments from Processor to Burial	Truck	Barnwell, SC

B. Irradiated Fuel Shipments (Disposition): None

C. Supplemental information

1) Class of solid waste containers shipped: B5 A (unstable), 5B
2) Types of containers used: B5 Strong-tight Containers, 5 Type A
3) Solidification agent or absorbent: None

TABLE 4

Vermont Yankee

Effluent and Waste Disposal Semiannual Report

Third and Fourth Quarters, 1993

Maximum* Off-Site Doses and Dose Commitments to Members of the Public

Source		Dose (mrem)*** 1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year**
Liquid Effluents (a)		-	-	-	-	
Airborne Effluents						
Iodines and Particulates		1.53E-02 (1)	1.05E-01 (2)	1.63E-01 (3)	7.68E-03 (4)	2.91E-01
Noble Gases	Beta Air (mrad)	1.10E+00 (5)	5.07E-02 (6)	5.06E-02 (8)	7.62E-02 (8)	1.28E+00
	Gamma Air (mrad)	4.24E-01 (5)	1.44E-01 (7)	1.22E-01 (7)	9.38E-02 (9)	7.84E-01
Whole Body Dose from Facility Direct Radiation (mrem)****		3.94E+00	3.50E+00	2.45E+00	2.49E+00	1.24E+01
Hypothetical Dose from On-Site Septic Waste Disposal						1.48E-02

**"Maximum" means the largest fraction of corresponding 10CFR50, Appendix I, dose design objective.

**"Maximum" dose for the year is the sum of the maximum doses for each quarter. This results in a conservative yearly dose estimate, but still well within the limits of 10CFR50.

***The numbered footnotes indicate the location of the dose receptor, age group, and organ, where appropriate.

****Maximum receptor point, west site boundary, no resident present.

(1) Child/Thyroid, SSW-300 meters.
(2) Infant/Thyroid, SSE-5100 meters.
(3) Child/Thyroid, S-500 meters.
(4) Child/Bone, NW-2900 meters.
(5) SSW-300 meters.
(6) W-2400 meters.
(7) S-385 meters.
(8) NW-2900 meters.
(9) NW-550 meters.
(a) There were no liquid releases during this reporting period.

TABLE 5A

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

297.0 FT WIND DATA STABILITY CLASS A CLASS FREQUENCY (PERCENT) = .52

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
C-3	1	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	4
(1)	2.27	.00	.00	2.27	.00	.00	.00	2.27	.00	.00	.00	.00	.00	2.27	.00	.00	.00	9.09
(2)	.01	.00	.00	.01	.00	.00	.00	.01	.00	.00	.00	.00	.00	.01	.00	.00	.00	.05
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.55	.00	4.55
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.02
8-12	2	0	0	0	0	1	0	4	0	1	1	0	0	0	0	7	0	16
(1)	4.55	.00	.00	.00	.00	2.27	.00	9.09	.00	2.27	2.27	.00	.00	.00	.00	15.91	.00	36.36
(2)	.02	.00	.00	.00	.00	.01	.00	.05	.00	.01	.01	.00	.00	.00	.00	.08	.00	.19
13-18	0	1	0	0	0	1	0	1	1	0	0	0	1	1	2	8	0	16
(1)	.00	2.27	.00	.00	.00	2.27	.00	2.27	2.27	.00	.00	.00	2.27	2.27	4.55	18.18	.00	36.36
(2)	.00	.01	.00	.00	.00	.01	.00	.01	.01	.00	.00	.00	.01	.01	.02	.09	.00	.19
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	6
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.27	.00	11.36	.00	13.64
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.06	.00	.07
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	3	1	0	1	0	2	0	6	1	1	1	0	1	3	2	22	0	44
(1)	6.82	2.27	.00	2.27	.00	4.55	.00	13.64	2.27	2.27	2.27	.00	2.27	6.82	4.55	50.00	.00	100.00
(2)	.04	.01	.00	.01	.00	.02	.00	.07	.01	.01	.01	.00	.01	.04	.02	.26	.00	.52

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 5B

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

297.0 FT WIND DATA STABILITY CLASS B CLASS FREQUENCY (PERCENT) = 1.42

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VREL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
C-3	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	3
(1)	.83	.00	.00	.00	.83	.00	.00	.00	.00	.00	.00	.00	.83	.00	.00	.00	.00	2.48
(2)	.01	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.04
4-7	4	0	0	0	1	0	2	2	1	1	0	0	0	0	0	9	0	20
(1)	3.31	.00	.00	.00	.83	.00	1.65	1.65	.83	.83	.00	.00	.00	.00	.00	7.44	.00	16.53
(2)	.09	.00	.00	.00	.01	.00	.02	.02	.01	.01	.00	.00	.00	.00	.00	.11	.00	.24
8-12	5	3	0	0	0	0	5	8	5	2	0	0	0	0	1	10	0	39
(1)	4.13	2.48	.00	.00	.00	.00	4.13	6.61	4.13	1.65	.00	.00	.00	.00	.83	8.26	.00	32.23
(2)	.06	.04	.00	.00	.00	.00	.06	.09	.06	.02	.00	.00	.00	.00	.01	.12	.00	.46
13-18	6	0	0	0	0	0	1	5	8	1	0	0	6	6	4	11	0	48
(1)	4.96	.00	.00	.00	.00	.00	.83	4.13	6.61	.83	.00	.00	4.96	4.96	3.31	9.09	.00	39.67
(2)	.07	.00	.00	.00	.00	.00	.01	.06	.09	.01	.00	.00	.07	.07	.05	.13	.00	.56
19-24	1	0	0	0	0	0	0	0	2	0	0	0	3	2	1	2	0	11
(1)	.83	.00	.00	.00	.00	.00	.00	.00	1.65	.00	.00	.00	2.48	1.65	.83	1.65	.00	9.09
(2)	.01	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.04	.02	.01	.02	.00	.13
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	17	3	0	0	2	0	8	15	16	4	0	0	10	8	6	32	0	121
(1)	14.05	2.48	.00	.00	1.65	.00	6.61	12.40	13.22	3.31	.00	.00	8.26	6.61	4.96	26.45	.00	100.00
(2)	.20	.04	.00	.00	.02	.00	.09	.18	.19	.05	.00	.00	.12	.09	.07	.38	.00	1.42

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 5C

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

297.0 FT WIND DATA STABILITY CLASS C CLASS FREQUENCY (PERCENT) = 3.43

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
C-3	3	0	1	0	1	1	2	1	1	0	0	0	0	0	0	0	0	10
(1)	1.03	.00	.34	.00	.34	.34	.68	.34	.34	.00	.00	.00	.00	.00	.00	.00	.00	3.42
(2)	.04	.00	.01	.00	.01	.01	.02	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.12
4-7	8	2	0	3	0	5	5	6	6	0	1	1	0	0	3	16	0	56
(1)	2.74	.68	.00	1.03	.00	1.71	1.71	2.05	2.05	.00	.34	.34	.00	.00	1.03	5.48	.00	19.18
(2)	.09	.02	.00	.04	.00	.06	.06	.07	.07	.00	.01	.01	.00	.00	.04	.19	.00	.66
8-12	8	2	0	0	0	3	7	22	15	2	3	4	3	4	5	15	0	93
(1)	2.74	.68	.00	.00	.00	1.03	2.40	7.53	5.14	.68	1.03	1.37	1.03	1.37	1.71	5.14	.00	31.85
(2)	.09	.02	.00	.00	.00	.04	.08	.26	.18	.02	.04	.05	.04	.05	.06	.18	.00	1.09
13-18	18	5	0	0	0	0	0	2	31	2	0	3	6	12	8	14	0	101
(1)	6.16	1.71	.00	.00	.00	.00	.00	.68	10.62	.68	.00	1.03	2.05	4.11	2.74	4.79	.00	34.59
(2)	.21	.06	.00	.00	.00	.00	.00	.02	.36	.02	.00	.04	.07	.14	.09	.16	.00	1.19
19-24	2	0	0	0	0	0	0	0	4	2	0	1	1	10	7	4	0	31
(1)	.68	.00	.00	.00	.00	.00	.00	.00	1.37	.68	.00	.34	.34	3.42	2.40	1.37	.00	10.62
(2)	.02	.00	.00	.00	.00	.00	.00	.00	.05	.02	.00	.01	.01	.12	.08	.05	.00	.36
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.34	.00	.34
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
ALL SPEEDS	39	9	1	3	1	9	14	31	57	6	4	9	10	26	23	50	0	292
(1)	13.36	3.08	.34	1.03	.34	3.08	4.79	10.62	19.52	2.05	1.37	3.08	3.42	8.90	7.88	17.12	.00	100.00
(2)	.46	.11	.01	.04	.01	.11	.16	.36	.67	.07	.05	.11	.12	.31	.27	.59	.00	3.43

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 5D

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

297.0 FT WIND DATA STABILITY CLASS D CLASS FREQUENCY (PERCENT) = 49.92

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
C-3	48	33	30	31	35	32	67	52	30	25	12	11	17	13	27	43	0	506
(1)	1.13	.78	.71	.73	.82	.75	1.58	1.22	.71	.59	.28	.26	.40	.31	.64	1.01	.00	11.92
(2)	.56	.39	.35	.36	.41	.38	.79	.61	.35	.29	.14	.13	.20	.15	.32	.51	.00	5.95
4-7	110	35	19	19	39	69	175	121	92	31	20	12	10	22	40	186	0	1000
(1)	2.59	.82	.45	.45	.92	1.63	4.12	2.85	2.17	.73	.47	.28	.24	.52	.94	4.38	.00	23.56
(2)	1.29	.41	.22	.22	.46	.81	2.06	1.42	1.08	.36	.24	.14	.12	.26	.47	2.19	.00	11.76
8-12	139	32	13	7	5	19	56	131	246	64	14	16	47	80	55	227	0	1151
(1)	3.27	.75	.31	.16	.12	.45	1.32	3.09	5.80	1.51	.33	.38	1.11	1.88	1.30	5.35	.00	27.11
(2)	1.63	.38	.15	.08	.06	.22	.66	1.54	2.89	.75	.16	.19	.55	.94	.65	2.67	.00	13.53
13-18	213	45	6	4	3	4	13	16	138	40	14	17	56	154	99	219	0	1041
(1)	5.02	1.06	.14	.09	.07	.09	.31	.38	3.25	.94	.33	.40	1.32	3.63	2.33	5.16	.00	24.52
(2)	2.50	.53	.07	.05	.04	.05	.15	.19	1.62	.47	.16	.20	.66	1.81	1.16	2.58	.00	12.24
19-24	82	4	0	1	2	0	0	4	40	8	1	3	16	89	49	119	0	418
(1)	1.93	.09	.00	.02	.05	.00	.00	.09	.94	.19	.02	.07	.38	2.10	1.15	2.80	.00	9.85
(2)	.96	.05	.00	.01	.02	.00	.00	.05	.47	.09	.01	.04	.19	1.05	.58	1.40	.00	4.92
GT 24	4	0	0	0	0	0	0	1	11	5	0	0	6	26	8	68	0	129
(1)	.09	.00	.00	.00	.00	.00	.00	.02	.26	.12	.00	.00	.14	.61	.19	1.60	.00	3.04
(2)	.05	.00	.00	.00	.00	.00	.00	.01	.13	.06	.00	.00	.07	.31	.09	.80	.00	1.52
ALL SPEEDS	596	149	68	62	84	124	311	325	557	173	61	59	152	384	278	862	0	4245
(1)	14.04	3.51	1.60	1.46	1.98	2.92	7.33	7.66	13.12	4.08	1.44	1.39	3.58	9.05	6.55	20.31	.00	100.00
(2)	7.01	1.75	.80	.73	.99	1.46	3.66	3.82	6.55	2.03	.72	.69	1.79	4.52	3.27	10.14	.00	49.92

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 5E

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

297.0 FT WIND DATA STABILITY CLASS E CLASS FREQUENCY (PERCENT) = 31.20

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2
(1)	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.08
(2)	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.02
C-3	82	55	49	35	48	54	72	52	22	13	9	8	21	14	19	62	0	615
(1)	3.09	2.07	1.85	1.32	1.81	2.04	2.71	1.96	.83	.49	.34	.30	.79	.53	.72	2.34	.00	23.18
(2)	.96	.65	.58	.41	.56	.63	.85	.61	.26	.15	.11	.09	.25	.16	.22	.73	.00	7.23
4-7	134	20	5	8	12	36	127	147	83	32	12	11	19	27	52	236	0	961
(1)	5.05	.75	.19	.30	.45	1.36	4.79	5.54	3.13	1.21	.45	.41	.72	1.02	1.96	8.90	.00	36.22
(2)	1.58	.24	.06	.09	.14	.42	1.49	1.73	.98	.38	.14	.13	.22	.32	.61	2.78	.00	11.30
8-12	76	10	0	1	1	8	36	111	85	31	18	17	40	54	43	166	0	697
(1)	2.86	.38	.00	.04	.04	.30	1.36	4.18	3.20	1.17	.68	.64	1.51	2.04	1.62	6.26	.00	26.27
(2)	.89	.12	.00	.01	.01	.09	.42	1.31	1.00	.36	.21	.20	.47	.63	.51	1.95	.00	8.20
13-18	42	2	0	0	0	0	15	17	42	24	4	2	19	54	23	68	0	312
(1)	1.58	.08	.00	.00	.00	.00	.57	.64	1.58	.90	.15	.08	.72	2.04	.87	2.56	.00	11.76
(2)	.49	.02	.00	.00	.00	.00	.18	.20	.49	.28	.05	.02	.22	.63	.27	.80	.00	3.67
19-24	9	0	0	0	0	0	0	3	8	4	1	0	1	9	1	20	0	56
(1)	.34	.00	.00	.00	.00	.00	.00	.11	.30	.15	.04	.00	.04	.34	.04	.75	.00	2.11
(2)	.11	.00	.00	.00	.00	.00	.00	.04	.09	.05	.01	.00	.01	.11	.01	.24	.00	.66
GT 24	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	7	0	10
(1)	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.04	.26	.00	.38
(2)	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.08	.00	.12
ALL SPEEDS	344	87	54	44	61	98	251	330	240	104	44	38	101	159	139	559	0	2653
(1)	12.97	3.28	2.04	1.66	2.30	3.69	9.46	12.44	9.05	3.92	1.66	1.43	3.81	5.99	5.24	21.07	.00	100.00
(2)	4.05	1.02	.63	.52	.72	1.15	2.95	3.88	2.82	1.22	.52	.45	1.19	1.87	1.63	6.57	.00	31.20

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 5F

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

297.0 FT WIND DATA STABILITY CLASS F CLASS FREQUENCY (PERCENT) = 11.27

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
C-3	34	45	28	17	20	20	34	21	22	12	4	9	8	6	9	31	0	320
(1)	3.55	4.70	2.92	1.77	2.09	2.09	3.55	2.19	2.30	1.25	.42	.94	.84	.63	.94	3.24	.00	33.40
(2)	.40	.53	.33	.20	.24	.24	.40	.25	.26	.14	.05	.11	.09	.07	.11	.36	.00	3.76
4-7	44	25	2	5	14	20	61	62	30	9	8	15	6	12	19	73	0	405
(1)	4.59	2.61	.21	.52	1.46	2.09	6.37	6.47	3.13	.94	.84	1.57	.63	1.25	1.98	7.62	.00	42.28
(2)	.52	.29	.02	.06	.16	.24	.72	.73	.35	.11	.09	.18	.07	.14	.22	.86	.00	4.76
8-12	20	1	0	1	1	2	11	22	10	11	6	3	5	22	12	78	0	205
(1)	2.09	.10	.00	.10	.10	.21	1.15	2.30	1.04	1.15	.63	.31	.52	2.30	1.25	8.14	.00	21.40
(2)	.24	.01	.00	.01	.01	.02	.13	.26	.12	.13	.07	.04	.06	.26	.14	.92	.00	2.41
13-18	4	0	0	0	0	0	1	1	3	1	0	1	3	2	0	10	0	26
(1)	.42	.00	.00	.00	.00	.00	.10	.10	.31	.10	.00	.10	.31	.21	.00	1.04	.00	2.71
(2)	.05	.00	.00	.00	.00	.00	.01	.01	.04	.01	.00	.01	.04	.02	.00	.12	.00	.31
19-24	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
(1)	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10	.00	.21
(2)	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.02
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	103	71	30	23	35	42	107	106	65	33	18	28	22	42	40	193	0	958
(1)	10.75	7.41	3.13	2.40	3.65	4.38	11.17	11.06	6.78	3.44	1.88	2.92	2.30	4.38	4.18	20.15	.00	100.00
(2)	1.21	.83	.35	.27	.41	.49	1.26	1.25	.76	.39	.21	.33	.26	.49	.47	2.27	.00	11.27

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 5G

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

297.0 FT WIND DATA STABILITY CLASS G CLASS FREQUENCY (PERCENT) = 2.25

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.52	.00	.00	.00	.00	.00	.00	.52
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.01
C-3	2	2	2	4	5	0	5	3	7	6	3	2	2	1	1	3	0	48
(1)	1.05	1.05	1.05	2.09	2.62	.00	2.62	1.57	3.66	3.14	1.57	1.05	1.05	.52	.52	1.57	.00	25.13
(2)	.02	.02	.02	.05	.06	.00	.06	.04	.08	.07	.04	.02	.02	.01	.01	.04	.00	.56
4-7	6	1	2	1	4	1	8	12	4	5	8	6	2	3	2	11	0	76
(1)	3.14	.52	1.05	.52	2.09	.52	4.19	6.28	2.09	2.62	4.19	3.14	1.05	1.57	1.05	5.76	.00	39.79
(2)	.07	.01	.02	.01	.05	.01	.09	.14	.05	.06	.09	.07	.02	.04	.02	.13	.00	.89
8-12	12	0	0	0	0	1	0	7	2	1	2	0	1	6	1	17	0	50
(1)	6.28	.00	.00	.00	.00	.52	.00	3.66	1.05	.52	1.05	.00	.52	3.14	.52	8.90	.00	26.18
(2)	.14	.00	.00	.00	.00	.01	.00	.08	.02	.01	.02	.00	.01	.07	.01	.20	.00	.59
13-18	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	10	0	15
(1)	1.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.57	.00	5.24	.00	7.85
(2)	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.12	.00	.18
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.52	.00	.52
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	22	3	4	5	9	2	13	22	13	12	14	8	5	13	4	42	0	191
(1)	11.52	1.57	2.09	2.62	4.71	1.05	6.81	11.52	6.81	6.28	7.33	4.19	2.62	6.81	2.09	21.99	.00	100.00
(2)	.26	.04	.05	.06	.11	.02	.15	.26	.15	.14	.16	.09	.06	.15	.05	.49	.00	2.25

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 5H

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

297.0 FT WIND DATA STABILITY CLASS ALL CLASS FREQUENCY (PERCENT) = 100.00

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	3
(1)	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01	.00	.01	.00	.00	.00	.00	.04
(2)	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01	.00	.01	.00	.00	.00	.00	.04
C-3	171	135	110	88	110	107	180	130	82	56	28	30	49	35	56	139	0	1506
(1)	2.01	1.59	1.29	1.03	1.29	1.26	2.12	1.53	.96	.66	.33	.35	.58	.41	.66	1.63	.00	17.71
(2)	2.01	1.59	1.29	1.03	1.29	1.26	2.12	1.53	.96	.66	.33	.35	.58	.41	.66	1.63	.00	17.71
4-7	306	83	28	36	70	131	378	350	216	78	49	45	37	64	116	533	0	2520
(1)	3.60	.98	.33	.42	.82	1.54	4.44	4.12	2.54	.92	.58	.53	.44	.75	1.36	6.27	.00	29.63
(2)	3.60	.98	.33	.42	.82	1.54	4.44	4.12	2.54	.92	.58	.53	.44	.75	1.36	6.27	.00	29.63
8-12	262	48	13	9	7	34	115	305	363	112	44	40	96	166	117	520	0	2251
(1)	3.08	.56	.15	.11	.08	.40	1.35	3.59	4.27	1.32	.52	.47	1.13	1.95	1.38	6.11	.00	26.47
(2)	3.08	.56	.15	.11	.08	.40	1.35	3.59	4.27	1.32	.52	.47	1.13	1.95	1.38	6.11	.00	26.47
13-18	285	53	6	4	3	5	30	42	223	68	18	23	91	232	136	340	0	1559
(1)	3.35	.62	.07	.05	.04	.06	.35	.49	2.62	.80	.21	.27	1.07	2.73	1.60	4.00	.00	18.33
(2)	3.35	.62	.07	.05	.04	.06	.35	.49	2.62	.80	.21	.27	1.07	2.73	1.60	4.00	.00	18.33
19-24	95	4	0	1	2	0	0	7	54	14	2	4	21	111	58	152	0	525
(1)	1.12	.05	.00	.01	.02	.00	.00	.08	.63	.16	.02	.05	.25	1.31	.68	1.79	.00	6.17
(2)	1.12	.05	.00	.01	.02	.00	.00	.08	.63	.16	.02	.05	.25	1.31	.68	1.79	.00	6.17
GT 24	5	0	0	0	0	0	0	1	11	5	0	0	6	27	9	76	0	140
(1)	.06	.00	.00	.00	.00	.00	.00	.01	.13	.06	.00	.00	.07	.32	.11	.89	.00	1.65
(2)	.06	.00	.00	.00	.00	.00	.00	.01	.13	.06	.00	.00	.07	.32	.11	.89	.00	1.65
ALL SPEEDS	1124	323	157	138	192	277	704	835	949	333	142	142	301	635	492	1760	0	8504
(1)	13.22	3.80	1.85	1.62	2.26	3.26	8.28	9.82	11.16	3.92	1.67	1.67	3.54	7.47	5.79	20.70	.00	100.00
(2)	13.22	3.80	1.85	1.62	2.26	3.26	8.28	9.82	11.16	3.92	1.67	1.67	3.54	7.47	5.79	20.70	.00	100.00

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 6A

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

35.0 FT WIND DATA STABILITY CLASS A CLASS FREQUENCY (PERCENT) = 1.26

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
C-3	0	1	1	1	2	0	0	2	0	0	0	0	0	0	0	1	0	8
(1)	.00	.99	.99	.99	1.98	.00	.00	1.98	.00	.00	.00	.00	.00	.00	.00	.99	.00	7.92
(2)	.00	.01	.01	.01	.02	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.01	.00	.10
4-7	8	3	1	0	0	0	5	3	2	0	0	0	2	0	1	14	0	39
(1)	7.92	2.97	.99	.00	.00	.00	4.95	2.97	1.98	.00	.00	.00	1.98	.00	.99	13.86	.00	38.61
(2)	.10	.04	.01	.00	.00	.00	.06	.04	.02	.00	.00	.00	.02	.00	.01	.17	.00	.49
8-12	6	1	0	0	0	1	0	7	4	1	1	0	4	7	4	18	0	54
(1)	5.94	.99	.00	.00	.00	.99	.00	6.93	3.96	.99	.99	.00	3.96	6.93	3.96	17.82	.00	53.47
(2)	.07	.01	.00	.00	.00	.01	.00	.09	.05	.01	.01	.00	.05	.09	.05	.22	.00	.67
13-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	14	5	2	1	2	1	5	12	6	1	1	0	6	7	5	33	0	101
(1)	13.86	4.95	1.98	.99	1.98	.99	4.95	11.88	5.94	.99	.99	.00	5.94	6.93	4.95	32.67	.00	100.00
(2)	.17	.06	.02	.01	.02	.01	.06	.15	.07	.01	.01	.00	.07	.09	.06	.41	.00	1.26

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 6B

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

35.0 FT WIND DATA STABILITY CLASS B CLASS FREQUENCY (PERCENT) = 1.68

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
C-3	0	0	0	0	3	0	0	1	0	1	0	0	0	0	0	0	0	5
(1)	.00	.00	.00	.00	2.22	.00	.00	.74	.00	.74	.00	.00	.00	.00	.00	.00	.00	3.70
(2)	.00	.00	.00	.00	.04	.00	.00	.01	.00	.01	.00	.00	.00	.00	.00	.00	.00	.06
4-7	12	3	0	1	3	1	6	6	2	1	1	1	0	0	4	16	0	57
(1)	8.89	2.22	.00	.74	2.22	.74	4.44	4.44	1.48	.74	.74	.74	.00	.00	2.96	11.85	.00	42.22
(2)	.15	.04	.00	.01	.04	.01	.07	.07	.02	.01	.01	.01	.00	.00	.05	.20	.00	.71
8-12	13	8	0	0	0	0	1	6	8	1	0	1	5	4	5	6	0	58
(1)	9.63	5.93	.00	.00	.00	.00	.74	4.44	5.93	.74	.00	.74	3.70	2.96	3.70	4.44	.00	42.96
(2)	.16	.10	.00	.00	.00	.00	.01	.07	.10	.01	.00	.01	.06	.05	.06	.07	.00	.72
13-18	0	0	0	0	0	0	0	0	5	0	1	2	0	3	2	2	0	15
(1)	.00	.00	.00	.00	.00	.00	.00	.00	3.70	.00	.74	1.48	.00	2.22	1.48	1.48	.00	11.11
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.01	.02	.00	.04	.02	.02	.00	.19
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	25	11	0	1	6	1	7	13	15	3	2	4	5	7	11	24	0	135
(1)	18.52	8.15	.00	.74	4.44	.74	5.19	9.63	11.11	2.22	1.48	2.96	3.70	5.19	8.15	17.78	.00	100.00
(2)	.31	.14	.00	.01	.07	.01	.09	.16	.19	.04	.02	.05	.06	.09	.14	.30	.00	1.68

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 6C

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

35.0 FT WIND DATA STABILITY CLASS C CLASS FREQUENCY (PERCENT) = 3.81

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
C-3	2	0	1	5	0	1	0	2	1	0	0	0	0	0	0	3	0	15
(1)	.65	.00	.33	1.63	.00	.33	.00	.65	.33	.00	.00	.00	.00	.00	.00	.98	.00	4.90
(2)	.02	.00	.01	.06	.00	.01	.00	.02	.01	.00	.00	.00	.00	.00	.00	.04	.00	.19
4-7	15	5	2	4	12	11	18	10	15	3	1	3	4	4	6	20	0	133
(1)	4.90	1.63	.65	1.31	3.92	3.59	5.88	3.27	4.90	.98	.33	.98	1.31	1.31	1.96	6.54	.00	43.46
(2)	.19	.06	.02	.05	.15	.14	.22	.12	.19	.04	.01	.04	.05	.05	.07	.25	.00	1.66
8-12	21	8	0	0	4	1	2	11	27	2	5	3	12	13	8	16	0	133
(1)	6.86	2.61	.00	.00	1.31	.33	.65	3.59	8.82	.65	1.63	.98	3.92	4.25	2.61	5.23	.00	43.46
(2)	.26	.10	.00	.00	.05	.01	.02	.14	.34	.02	.06	.04	.15	.16	.10	.20	.00	1.66
13-18	2	1	0	0	0	0	0	0	5	0	1	0	1	5	7	3	0	25
(1)	.65	.33	.00	.00	.00	.00	.00	.00	1.63	.00	.33	.00	.33	1.63	2.29	.98	.00	8.17
(2)	.02	.01	.00	.00	.00	.00	.00	.00	.06	.00	.01	.00	.01	.06	.09	.04	.00	.31
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	40	14	3	9	16	13	20	23	48	5	7	6	17	22	21	42	0	306
(1)	13.07	4.58	.98	2.94	5.23	4.25	6.54	7.52	15.69	1.63	2.29	1.96	5.56	7.19	6.86	13.73	.00	100.00
(2)	.50	.17	.04	.11	.20	.16	.25	.29	.60	.06	.09	.07	.21	.27	.26	.52	.00	3.81

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 6D

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

35.0 FT WIND DATA STABILITY CLASS D CLASS FREQUENCY (PERCENT) = 43.21

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	1	0	0	0	1	0	0	0	2	0	1	0	1	0	1	1	0	8
(1)	.03	.00	.00	.00	.03	.00	.00	.00	.06	.00	.03	.00	.03	.00	.03	.03	.00	.23
(2)	.01	.00	.00	.00	.01	.00	.00	.00	.02	.00	.01	.00	.01	.00	.01	.01	.00	.10
C-3	84	57	59	47	58	36	40	66	63	41	25	25	27	43	59	81	0	811
(1)	2.42	1.64	1.70	1.36	1.67	1.04	1.15	1.90	1.82	1.18	.72	.72	.78	1.24	1.70	2.34	.00	23.39
(2)	1.05	.71	.74	.59	.72	.45	.50	.82	.79	.51	.31	.31	.34	.54	.74	1.01	.00	10.11
4-7	198	69	25	31	61	71	77	139	153	42	18	17	46	52	114	290	0	1403
(1)	5.71	1.99	.72	.89	1.76	2.05	2.22	4.01	4.41	1.21	.52	.49	1.33	1.50	3.29	8.36	.00	40.46
(2)	2.47	.86	.31	.39	.76	.88	.96	1.73	1.91	.52	.22	.21	.57	.65	1.42	3.61	.00	17.48
8-12	207	65	15	3	4	9	5	20	136	24	19	16	52	122	87	168	0	952
(1)	5.97	1.87	.43	.09	.12	.26	.14	.58	3.92	.69	.55	.46	1.50	3.52	2.51	4.84	.00	27.45
(2)	2.58	.81	.19	.04	.05	.11	.06	.25	1.69	.30	.24	.20	.65	1.52	1.08	2.09	.00	11.86
13-18	39	9	0	1	2	0	0	1	32	7	2	1	9	80	50	32	0	265
(1)	1.12	.26	.00	.03	.06	.00	.00	.03	.92	.20	.06	.03	.26	2.31	1.44	.92	.00	7.64
(2)	.49	.11	.00	.01	.02	.00	.00	.01	.40	.09	.02	.01	.11	1.00	.62	.40	.00	3.30
19-24	0	0	0	0	0	0	0	0	9	0	0	0	4	9	5	2	0	29
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.26	.00	.00	.00	.12	.26	.14	.06	.00	.84
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00	.00	.00	.05	.11	.06	.02	.00	.36
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	529	200	99	82	126	116	122	226	395	114	65	59	139	306	316	574	0	3468
(1)	15.25	5.77	2.85	2.36	3.63	3.34	3.52	6.52	11.39	3.29	1.87	1.70	4.01	8.82	9.11	16.55	.00	100.00
(2)	6.59	2.49	1.23	1.02	1.57	1.45	1.52	2.82	4.92	1.42	.81	.74	1.73	3.81	3.94	7.15	.00	43.21

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 6E

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

35.0 FT WIND DATA STABILITY CLASS E CLASS FREQUENCY (PERCENT) = 32.45

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	2	1	2	1	0	0	0	1	1	4	3	4	8	2	2	3	0	34
(1)	.08	.04	.08	.04	.00	.00	.00	.04	.04	.15	.12	.15	.31	.08	.08	.12	.00	1.31
(2)	.02	.01	.02	.01	.00	.00	.00	.01	.01	.05	.04	.05	.10	.02	.02	.04	.00	.42
C-3	85	45	26	25	29	34	57	67	76	115	164	121	130	120	147	142	0	1383
(1)	3.26	1.73	1.00	.96	1.11	1.31	2.19	2.57	2.92	4.42	6.30	4.65	4.99	4.61	5.65	5.45	.00	53.11
(2)	1.06	.56	.32	.31	.36	.42	.71	.83	.95	1.43	2.04	1.51	1.62	1.50	1.83	1.77	.00	17.23
4-7	56	12	4	1	15	32	53	118	93	36	17	26	62	64	99	193	0	881
(1)	2.15	.46	.15	.04	.58	1.23	2.04	4.53	3.57	1.38	.65	1.00	2.38	2.46	3.80	7.41	.00	33.83
(2)	.70	.15	.05	.01	.19	.40	.66	1.47	1.16	.45	.21	.32	.77	.80	1.23	2.40	.00	10.98
8-12	21	2	0	0	1	0	5	20	47	11	4	5	17	43	39	48	0	263
(1)	.81	.08	.00	.00	.04	.00	.19	.77	1.80	.42	.15	.19	.65	1.65	1.50	1.84	.00	10.10
(2)	.26	.02	.00	.00	.01	.00	.06	.25	.59	.14	.05	.06	.21	.54	.49	.60	.00	3.28
13-18	1	0	0	0	0	0	0	0	14	0	0	0	5	12	5	4	0	41
(1)	.04	.00	.00	.00	.00	.00	.00	.00	.54	.00	.00	.00	.19	.46	.19	.15	.00	1.57
(2)	.01	.00	.00	.00	.00	.00	.00	.00	.17	.00	.00	.00	.06	.15	.06	.05	.00	.51
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.04	.00	.00	.08
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00	.02
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	165	60	32	27	45	66	115	206	231	166	188	156	222	242	293	390	0	2604
(1)	6.34	2.30	1.23	1.04	1.73	2.53	4.42	7.91	8.87	6.37	7.22	5.99	8.53	9.29	11.25	14.98	.00	100.00
(2)	2.06	.75	.40	.34	.56	.82	1.43	2.57	2.88	2.07	2.34	1.94	2.77	3.02	3.65	4.86	.00	32.45

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
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C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 6F

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

35.0 FT WIND DATA STABILITY CLASS F CLASS FREQUENCY (PERCENT) = 13.52

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	1	0	0	0	3	0	1	2	1	0	1	0	0	9
(1)	.00	.00	.00	.00	.09	.00	.00	.00	.28	.00	.09	.18	.09	.00	.09	.00	.00	.83
(2)	.00	.00	.00	.00	.01	.00	.00	.00	.04	.00	.01	.02	.01	.00	.01	.00	.00	.11
C-3	30	14	12	14	11	22	17	41	51	107	174	143	88	68	75	45	0	912
(1)	2.76	1.29	1.11	1.29	1.01	2.03	1.57	3.78	4.70	9.86	16.04	13.18	8.11	6.27	6.91	4.15	.00	84.06
(2)	.37	.17	.15	.17	.14	.27	.21	.51	.64	1.33	2.17	1.78	1.10	.85	.93	.56	.00	11.36
4-7	12	1	1	0	0	0	2	9	8	18	23	11	11	13	23	31	0	163
(1)	1.11	.09	.09	.00	.00	.00	.18	.83	.74	1.66	2.12	1.01	1.01	1.20	2.12	2.86	.00	15.02
(2)	.15	.01	.01	.00	.00	.00	.02	.11	.10	.22	.29	.14	.14	.16	.29	.39	.00	2.03
8-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.09
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
13-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	42	15	13	14	12	22	19	50	62	125	198	156	100	81	99	77	0	1085
(1)	3.87	1.38	1.20	1.29	1.11	2.03	1.75	4.61	5.71	11.52	18.25	14.38	9.22	7.47	9.12	7.10	.00	100.00
(2)	.52	.19	.16	.17	.15	.27	.24	.62	.77	1.56	2.47	1.94	1.25	1.01	1.23	.96	.00	13.52

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
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C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 6G

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

35.0 FT WIND DATA STABILITY CLASS G CLASS FREQUENCY (PERCENT) = 4.06

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2
(1)	.00	.00	.00	.00	.31	.00	.00	.00	.00	.00	.00	.00	.00	.31	.00	.00	.00	.61
(2)	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.02
C-3	9	6	4	2	5	3	2	10	14	26	52	21	26	23	24	24	0	251
(1)	2.76	1.84	1.23	.61	1.53	.92	.61	3.07	4.29	7.98	15.95	6.44	7.98	7.06	7.36	7.36	.00	76.99
(2)	.11	.07	.05	.02	.06	.04	.02	.12	.17	.32	.65	.26	.32	.29	.30	.30	.00	3.13
4-7	4	0	0	0	0	0	0	1	2	2	14	6	5	2	8	29	0	73
(1)	1.23	.00	.00	.00	.00	.00	.00	.31	.61	.61	4.29	1.84	1.53	.61	2.45	8.90	.00	22.39
(2)	.05	.00	.00	.00	.00	.00	.00	.01	.02	.02	.17	.07	.06	.02	.10	.36	.00	.91
8-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	13	6	4	2	6	3	2	11	16	28	66	27	31	26	32	53	0	326
(1)	3.99	1.84	1.23	.61	1.84	.92	.61	3.37	4.91	8.59	20.25	8.28	9.51	7.98	9.82	16.26	.00	100.00
(2)	.16	.07	.05	.02	.07	.04	.02	.14	.20	.35	.82	.34	.39	.32	.40	.66	.00	4.06

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
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C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

TABLE 6H

VERMONT YANKEE JAN 93 - DEC 93 METEOROLOGICAL DATA JOINT FREQUENCY DISTRIBUTION

35.0 FT WIND DATA STABILITY CLASS ALL CLASS FREQUENCY (PERCENT) = 100.00

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	3	1	2	1	3	0	0	1	6	4	5	6	10	3	4	4	0	53
(1)	.04	.01	.02	.01	.04	.00	.00	.01	.07	.05	.06	.07	.12	.04	.05	.05	.00	.66
(2)	.04	.01	.02	.01	.04	.00	.00	.01	.07	.05	.06	.07	.12	.04	.05	.05	.00	.66
C-3	210	123	103	94	108	96	116	189	205	290	415	310	271	254	305	296	0	3385
(1)	2.62	1.53	1.28	1.17	1.35	1.20	1.45	2.36	2.55	3.61	5.17	3.86	3.38	3.17	3.80	3.69	.00	42.18
(2)	2.62	1.53	1.28	1.17	1.35	1.20	1.45	2.36	2.55	3.61	5.17	3.86	3.38	3.17	3.80	3.69	.00	42.18
4-7	305	93	33	37	91	115	161	286	275	102	74	64	130	135	255	593	0	2749
(1)	3.80	1.16	.41	.46	1.13	1.43	2.01	3.56	3.43	1.27	.92	.80	1.62	1.68	3.18	7.39	.00	34.26
(2)	3.80	1.16	.41	.46	1.13	1.43	2.01	3.56	3.43	1.27	.92	.80	1.62	1.68	3.18	7.39	.00	34.26
8-12	268	84	15	3	9	11	13	64	222	39	29	25	90	189	143	257	0	1461
(1)	3.34	1.05	.19	.04	.11	.14	.16	.80	2.77	.49	.36	.31	1.12	2.36	1.78	3.20	.00	18.21
(2)	3.34	1.05	.19	.04	.11	.14	.16	.80	2.77	.49	.36	.31	1.12	2.36	1.78	3.20	.00	18.21
13-18	42	10	0	1	2	0	0	1	56	7	4	3	15	100	64	41	0	346
(1)	.52	.12	.00	.01	.02	.00	.00	.01	.70	.09	.05	.04	.19	1.25	.80	.51	.00	4.31
(2)	.52	.12	.00	.01	.02	.00	.00	.01	.70	.09	.05	.04	.19	1.25	.80	.51	.00	4.31
19-24	0	0	0	0	0	0	0	0	9	0	0	0	4	10	6	2	0	31
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00	.00	.00	.05	.12	.07	.02	.00	.39
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00	.00	.00	.05	.12	.07	.02	.00	.39
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(2)	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
ALL SPEEDS	828	311	153	136	213	222	290	541	773	442	527	408	520	691	777	1193	0	8025
(1)	10.32	3.88	1.91	1.69	2.65	2.77	3.61	6.74	9.63	5.51	6.57	5.08	6.48	8.61	9.68	14.87	.00	100.00
(2)	10.32	3.88	1.91	1.69	2.65	2.77	3.61	6.74	9.63	5.51	6.57	5.08	6.48	8.61	9.68	14.87	.00	100.00

(1)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PAGE
(2)=PERCENT OF ALL GOOD OBSERVATIONS FOR THIS PERIOD
C= CALM (WIND SPEED LESS THAN OR EQUAL TO .95 MPH)

APPENDIX A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
Supplemental Information
Third and Fourth Quarters, 1993

Facility: Vermont Yankee Nuclear Power Station

Licensee: Vermont Yankee Nuclear Power Corporation

1A. TECHNICAL SPECIFICATION LIMITS - DOSE AND DOSE RATE

Technical Specification and Category		Limit
a. Noble Gases		
3.8.E.1	Total body dose rate	500 mrem/yr
3.8.E.1	Skin dose rate	3000 mrem/yr
3.8.F.1	Gamma air dose	5 mrad in a quarter
3.8.F.1	Gamma air dose	10 mrad in a year
3.8.F.1	Beta air dose	10 mrad in a quarter
3.8.F.1	Beta air dose	20 mrad in a year
b. Iodine-131, Iodine-133, Tritium and Radionuclides in Particulate Form With Half-Lives Greater Than 8 Days		
3.8.E.1	Organ dose rate	1500 mrem/yr
3.8.G.1	Organ dose	7.5 mrem in a quarter
3.8.G.1	Organ dose	15 mrem in a year
c. Liquids		
3.8.B.1	Total body dose	1.5 mrem in a quarter
3.8.B.1	Total body dose	3 mrem in a year
3.8.B.1	Organ dose	5 mrem in a quarter
3.8.B.1	Organ dose	10 mrem in a year

APPENDIX A
(Continued)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

2A. TECHNICAL SPECIFICATION LIMITS - CONCENTRATION

Technical Specification and Category	Limit
a. Noble Gases	No MPC Limits (No ECL Limits)
b. Iodine-131, Iodine-133, Tritium and Radionuclides in Particulate Form With Half-Lives	
Greater Than 8 Days	No MPC Limits (No ECL Limits)
c. Liquids	
3.8.A.1 Total fraction of MPC (ECL) excluding noble gases (10CFR20, Appendix B, Table II, Column 2):	$\leq$1.0
3.8.A.1 Total noble gas concentration:	$\leq$2E-04 uCi/cc

3. AVERAGE ENERGY

Provided below are the average energy ($\bar{E}$) of the radionuclide mixture in releases of fission and activation gases, if applicable.

a. Average gamma energy: 3rd Quarter 8.10E-01 MeV/dis
4th Quarter 8.30E-01 MeV/dis

b. Average beta energy: Not Applicable

4. MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY

Provided below are the methods used to measure or approximate the total radioactivity in effluents and the methods used to determine radionuclide composition.

a. Fission and Activation Gases

Continuous stack monitors monitor gross Noble Gas radioactivity released from the plant stack. Total Noble Gas release rates are calculated using this monitor. To determine the isotopic breakdown of the release, samples are taken of the Steam Jet Air Ejector, which is the source gas for the releases. These samples are analyzed by gamma spectroscopy to determine the isotopic composition. The isotopic composition is then proportioned to the gross releases determined from the stack monitor to quantify the individual isotopic releases. These are indicated in Table 1B and the totals of Table 1A.

Beginning in the fourth quarter of 1991, grab samples were obtained from the Turbine Building roof vents. Fission and activation gases, and their daughters, were not detected in grab samples during the reporting period. In July and August, the activity of Xe-138 released from the Turbine Building roof vents was assumed to be the same as the LLD value of Xe-138. The remainder of the gases indicated was calculated by ratioing the indicated Xe-138 to the other gases using the Steam Jet Air Ejector samples as mentioned above. In September and and October, the activity of Xe-133 released from the Turbine Building roof vents was assumed to be the same as the LLD value of Xe-133. The remainder of the gases indicated was calculated by ratioing the indicated Xe-133 to the other gases using the Steam Jet Air Ejector samples mentioned above. On October 20, 1993, the Turbine Building roof vents were permanently sealed. No further releases from this release path can be made. These results are indicated in Table 1C and the totals of Table 1A.

The error involved in these steps may be approximately $\pm$100 percent.

b. Iodines

Continuous isokinetic samples are drawn from the plant stack through a particulate filter and charcoal cartridge. Beginning in the fourth quarter of 1991, continuous particulate and charcoal samples were also taken at the Turbine Building roof vents. The filters and

cartridges are normally removed weekly and are analyzed for Iodine-131, 132, 133, 134, and 135. The error involved in these steps may be approximately ±50 percent.

c. Particulates

The particulate filters described in b. above are also counted for particulate radioactivity. The error involved in this sample is also approximately ±50 percent.

d. Liquid Effluents

Radioactive liquid effluents released from the facility are continuously monitored. Measurements are also made on a representative sample of each batch of radioactive liquid effluents released. For each batch, station records are retained of the total activity (mCi) released, concentration (uCi/ml) of gross radioactivity, volume (liters), and approximate total quantity of water (liters) used to dilute the liquid effluent prior to release to the Connecticut River.

Each batch of radioactive liquid effluent releases is analyzed for gross gamma and gamma isotopic radioactivity. A monthly proportional composite sample, comprising an aliquot of each batch released during a month, is analyzed for tritium and gross alpha radioactivity. A quarterly proportional composite sample, comprising an aliquot of each batch released during a quarter, is analyzed for Sr-89, Sr-90, and Fe-55.

5. BATCH RELEASES

a. Liquid

There were no routine liquid batch releases during the reporting period.

b. Gaseous

There were no routine gaseous batch releases during the reporting period.

6. ABNORMAL RELEASES

a. Liquid

There were no nonroutine liquid releases during the reporting period.

b. Gaseous

There were no nonroutine gaseous releases during the reporting period.

7. OTHER SUPPLEMENTAL INFORMATION

a. On August 16, 1993, PRO (Potential Reportable Occurrence) No. 93-86 was written to evaluate a potential unmonitored release pathway through the Turbine Building wall. This potential pathway was created when wind blew the plastic coverings off of three holes that had been cut in the walls as part of the Turbine Building roof vent reroute. A subsequent evaluation determined that this did not constitute an unmonitored release pathway, since the release was accounted for through the Turbine Building roof vent monitoring system.

b. On September 29, 1993, PRO No. 93-103 was written to evaluate the detection of Co-60 and Cs-137 in silt that had been removed from the west cooling tower deep basin during the refueling outage. The measured concentrations were: 9.1E-08 uCi/cc Co-60, and 1.77E-07 uCi/cc Cs-137. Although these samples were taken from on-site, the Co-60 concentration was found to be well below the reporting level (Technical Specification Table 3.9.4) for environmental sediment samples. Since there is no reporting level for Cs-137 in sediment, the concentration was compared to the vegetation reporting level, and was found to be well below it. (The Cs-137 is believed to be

due to residual nuclear weapons testing fallout.) An evaluation concluded that there was no LER required for this event, and there were no other reporting requirements.

APPENDIX B

LIQUID HOLDUP TANKS

Requirement: Technical Specification 3.8.D.1 limits the quantity of radioactive material contained in any outside tank. With the quantity of radioactive material in any outside tank exceeding the limits of Technical Specification 3.8.D.1, a description of the events leading to this condition is required in the next Semiannual Effluent Release Report per Technical Specification 6.7.C.1.

Response: The limits of Technical Specification 3.8.D.1 were not exceeded during this reporting period.

APPENDIX C

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

Requirement: Radioactive liquid effluent monitoring instrumentation channels are required to be operable in accordance with Technical Specification Table 3.9.1. If an inoperable radioactive liquid effluent monitoring instrument is not returned to operable status prior to a release pursuant to Note 4 of Table 3.9.1, an explanation in the next Semiannu Effluent Release Report of the reason(s) for delay in correctin the inoperability are required per Technical Specification 6.7.i 1.

Response: Since the requirements of Technical Specification Table 3.9.1 governing the operability of radioactive liquid effluent monitoring instrumentation were met for this reporting period, no response is required.

APPENDIX D

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

Requirement: Radioactive gaseous effluent monitoring instrumentation channels are required to be operable in accordance with Technical Specification Table 3.9.2. If inoperable gaseous effluent monitoring instrumentation is not returned to operable status within 30 days pursuant to Note 5 of Table 3.9.2, an explanation in the next Semiannual Effluent Release Report of the reason(s) for the delay in correcting the inoperability is required per Technical Specification 6.7.C.1.

Response: Since the requirements of Technical Specification Table 3.9.2 governing the operability of radioactive gaseous effluent monitoring instrumentation were met for this reporting period, no response is required.

APPENDIX E

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

Requirement: The radiological environmental monitoring program is conducted in accordance with Technical Specification 3.9.C. With milk samples no longer available from one or more of the sample locations required by Technical Specification Table 3.9.3, Technical Specification 6.7.C.1 requires the following to be included in the next Semiannual Effluent Release Report: (1) identify the cause(s) of the sample(s) no longer being available, (2) identify the new location(s) for obtaining available replacement samples and (3) include revised ODCM figure(s) and table(s) reflecting the new location(s).

Response: No changes were needed in the milk sampling locations specified in Technical Specification Table 3.9.3 due to sample unavailability during the third and fourth quarters of 1993.

APPENDIX F

LAND USE CENSUS

Requirement: A land use census is conducted in accordance with Technical Specification 3.9.D. With a land use census identifying a location(s) which yields at least a 20 percent greater dose or dose commitment than the values currently being calculated in Technical Specification 4.8.G.1, Technical Specification 6.7.C.1 requires the identification of the new location(s) in the next Semiannual Effluent Release Report.

Response: The Land Use Census was completed in the third quarter of 1993. No locations yielded a 20 percent greater dose or dose commitment than the values currently being calculated in Technical Specification 4.8.G.1.

APPENDIX G

PROCESS CONTROL PROGRAM

Requirement: Technical Specification 6.12.A.1 requires that licensee initiated changes to the Process Control Program (PCP) be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made.

Response: There were no licensee initiated changes to the Process Control Program during this reporting period.

APPENDIX H

OFF-SITE DOSE CALCULATION MANUAL

Requirement: Technical Specification 6.13.A.1 requires that licensee initiated changes to the Off-Site Dose Calculation Manual (ODCM) be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made effective.

Response: There were two revisions to the Off-Site Dose Calculation Manual during this reporting period.

Amendment No. 15 updates the ODCM to reflect changes in the Effluent Controls Program to meet the revised 10CFR20, Standards for Protection Against Radiation, which was implemented at Vermont Yankee in July 1993. The changes are primarily editorial in nature in that they change terminology used in the old Part 20 to that in the new regulation. In addition, the original basis for limits on effluent releases to off-site areas was on dose rates equal to 500 mrem/yr. This basis has not changed. The NRC is currently allowing plants to stay with the same basis for instantaneous release rate limits since it is not in direct conflict with the annual average requirements of the new 10CFR20 to limit doses to members of the public to 100 mrem in a year. The existing ALARA requirements of Appendix I to 10CFR Part 50 provide sufficient indication of potential off-site dose accumulation before the new dose limits of 10CFR Part 20 are reached.

Since the methodology for determining off-site doses is not affected by the changes required for the new Part 20, this change does not reduce the accuracy or reliability of any of the dose calculations or setpoint determinations previously controlled by the ODCM.

Amendment No. 16 addresses four areas of interest in the ODCM. First, the ODCM was modified to provide the dose methodology necessary to account for the burning on-site of radioactively contaminated waste oil in the North Warehouse. This amendment designated the North Warehouse as a ground level radioactivity release point and developed the dose conversion factors applicable for use with the burning of waste oil at this location using the same exposure pathways, uptake assumptions, and model

approaches that have been previously applied to ODCM dose calculations. These dose factors also reflect an assessment of the meteorological dispersion characteristics associated with the North Warehouse using the same model approaches that are applied to other ODCM meteorological evaluations. Appendix D to the ODCM has also been updated to reflect that the North Warehouse is now designated as the location of contaminated waste oil incineration in place of the Containment Access Building (CAB). All other criteria concerning sampling, analysis, and dose projections are the same as originally stated in Appendix D.

Secondly, Amendment No. 16 also removed reference to the Turbine Building roof ventilators as a designated effluent release point to the atmosphere. A recent design change to the plant has rerouted ventilation flow from the Turbine Hall to the plant stack and capped off the roof ventilators, thereby eliminating this ground level release point. Figure 6-2 has been updated to reflect this change. In addition, this amendment notes that due to differences in building cross sectional areas and resulting wake effects, the North Warehouse atmospheric dispersion factors are conservative in comparison to those previously associated with the main plant buildings (ground level dose factors approximately 50% higher). As a consequence, any potential or unexpected ground level release from the Turbine Building or adjoining structures can utilize the new Method I ground level dose equations as a first step in impact assessment.

Since the methodology for determining off-site doses from oil burning is the same as that originally applied to ground level release points covered by the ODCM, this proposed change will not reduce the accuracy or reliability of any dose calculations or setpoint determinations presently controlled by the Off-Site Dose Calculation Manual.

Third, Amendment No. 16 updated Figure 6-1, "Liquid Effluent Streams, Radiation Monitors, and Radwaste Treatment Systems." The flow diagram in this figure indicated that solid waste included spent resins dewatered by a centrifuge. Since the centrifuge has been taken out of service in favor of in-liner

dewatering, the figure has been revised. This is considered an administrative change which does not effect the methods or parameters involved in performing dose calculations.

Lastly, an update to Table 4.1 and Figure 4-2 have been made to reflect changes in the Radiological Environmental Monitoring Program (REMP) resulting from the 1993 Land Use Census which noted changes in the location of land use receptors from that found in previous census. This is considered an administrative change which does not effect the methods or parameters involved in performing dose calculations.

The revised ODCM pages for the above revisions were submitted with the Semiannual Effluent and Waste Disposal Report which was filed with the NRC on February 28, 1994 for the reporting period covering the third and fourth quarters of 1993.

APPENDIX I

RADIOACTIVE LIQUID, GASEOUS, AND SOLID WASTE TREATMENT SYSTEMS

Requirement: Technical Specification 6.14.A requires that licensee initiated major changes to the radioactive waste systems (liquid, gaseous, and solid) be reported to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the evaluation was reviewed by the Plant Operation Review Committee.

Response: There were no licensee initiated major changes to the radioactive waste systems (liquid, gaseous, and solid) during this reporting period.

APPENDIX J

ON-SITE DISPOSAL OF SEPTIC WASTE

Requirement: Off-Site Dose Calculational Manual, Appendix B requires that the dose impact due to on-site disposal of septic waste during the reporting year and from previous years be reported to the Commission in the Semiannual Radioactive Effluent Report filed after January 1, if disposals occur during the reporting year.

Response: There was one on-site disposal of septic waste during the reporting year. The total volume of septage spread was approximately 12,000 gallons. The total activity spread on the 1.9 acres (southern) on-site disposal field during 1993 and from previous years was:

Nuclide	Activity (Ci)
Mn-54	2.11E-07
Co-60	1.32E-05
Zn-65	7.77E-07
Cs-134	7.03E-08
Cs-137	2.16E-06

The projected hypothetical dose from on-site disposals of septic waste is 1.48E-02 mrem/year. This dose was calculated according to the model and the assumptions of Off-Site Dose Calculational Manual, Appendix B.