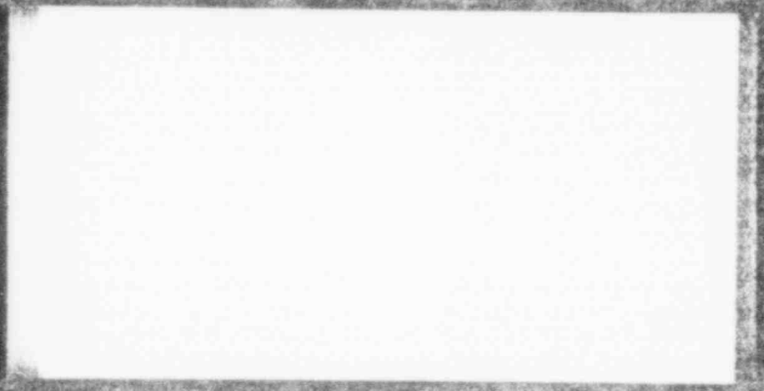

VERMONT YANKEE NUCLEAR POWER CORPORATION

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EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT

RADIOLOGICAL IMPACT ON MAN

FOR

JANUARY - JUNE, 1982

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VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT

RADIOLOGICAL IMPACT ON MAN

JANUARY - JUNE, 1982

1.0 INTRODUCTION

Using actual measured effluent and meteorological data for the first half of 1982, this report estimates potential doses from radioactive effluents that could affect individuals and the general population near the Vermont Yankee Nuclear Power Station. Tables 1 through 3 list the recorded radioactive effluents and solid waste for this semi-annual period. Tables 4 and 5 report the cumulative joint frequency distribution of wind speed, wind direction, and atmospheric stability observed during the first half of 1982. Figures 1A and 1B summarize wind speed and direction in a wind rose. Table 6 lists the calculated X/Q and D/Q values at different points of interest based on the meteorological record presented in Tables 4 and 5 for both quarters. Table 7 summarizes the potential radiological dose commitments to individuals and the general population surrounding the plant. Supplemental information concerning the plant's regulatory release limits and the methods used in measuring released radioactivity is given in Appendix A.

All estimates of potential dose for the first half of 1982 were within the dose objectives set forth in Appendix I to 10CFR50. This was accomplished while the plant realized net capacity factors (design MWe) of 95.3 percent and 92.7 percent for the first and second quarters, respectively.

2.0 METEOROLOGICAL DATA

Meteorological data was collected during this reporting period from the site's 300 foot met tower located approximately 2200 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. Combined data recoverability for the first and second quarters was 88.6 percent and 94.6 percent, respectively.

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 and air concentration factors have been calculated employing appropriate source configuration considerations, as described in Regulatory Guide 1.111[(1)], plus a source depletion model as described in Meteorology and Atomic Energy (1968),[(2)] and deposition velocities as given by Pelletier and Zimbrick[(3)]. Changes in terrain elevations in the site environment were also factored into meteorological models. A full description of the methods used to evaluate air dispersion phenomenon at the plant site is given in Vermont Yankee's 10CFR Part 50, Appendix I evaluation[(4)].

3.0 RADIOACTIVITY RELEASES

3.1 Liquid Releases

There were no liquid releases of radioactivity from the plant during this semi-annual period.

3.2 Gaseous Releases

All gaseous effluent recorded for the first half of the year are listed in Tables 1A through 1D. All gaseous effluents were recorded as c.ntinuous in nature, and were released to the environment via the 94 meter stack located approximately 875 feet north of the Reactor Building. As indicated in Table 1A, all gaseous effluents were well within the plants operating Technical Specification for gaseous releases of radioactivity.

In addition, there were no unplanned or non-routine releases of radioactivity in gaseous effluents during this reporting period.

4.0 DOSE ASSESSMENT

Following the guidance of NUREG-0473[7], nuclides in particulate form which were not detected above the lower limit of detection (LLD) have been reported as "less than" the LLD and have not been included in the dose calculations. However, the release rate of noble gases from the plant stack, after treatment of the gas stream from the air ejector through the augmented off-gas system, is so low that no noble gases are detectable above the LLD. Therefore, as a conservative approach for the noble gas releases, it has been assumed for dose calculational purposes that the principal noble gases measured in the off-gas mix at the air ejector are present at the LLD level determined for the plant stack.

4.1 Organ Doses to Individuals From Receiving-Water Exposure Pathways

There were no routine or accidental liquid releases from Vermont Yankee during the first half of 1982. As a result, no receiving water exposure pathways could contribute to any whole body or organ doses to individuals in unrestricted areas.

4.2 Individual Whole Body and Skin Doses From Noble Gaseous Effluents

Based on the method of sector averaging discussed in "Meteorology and Atomic Energy - 1968", and utilizing the site meteorological data recorded for this reporting period, the point of maximum off-site ground level air concentration of radioactive materials in gaseous effluents was determined for each quarter. Terrain height in the vicinity of the effluent stack was taken into account in calculating these effluent ground level concentrations. For the first and second quarters of 1982, the points of maximum ground level air concentration were determined to be approximately NW at 4025m and WNW at 2415m of the plant stack, respectively. The undepleted X/Q's at these locations were calculated to be 5.2×10^{-7} sec/m^3 and 5.48×10^{-7} sec/m^3 for the first and second quarters of the year, respectively.

Whole body and skin doses were calculated at these off-site points as a result of noble gas releases occurring in both quarters. The methodology applied to the dose calculations is consistent with that of Regulatory Guide

1.109[5] for an elevated release point. Dose conversion factors for noble gases and daughters were taken from Table B-1 of this Regulatory Guide. For the beta contribution to the skin dose, a semi-infinite cloud model was used. The whole body gamma dose was evaluated using a finite cloud sector average model with Gaussian activity distribution in the vertical plane. The gamma radiation received at a point of interest from a differential volume of the cloud is calculated. The radiation is then integrated over the entire cloud, taking into account the geometry of the cloud, variation in concentration, attenuation by the interaction of photons with matter in the path between source and the receptor point, and scattering of radiation from material outside the direct path to the point of interest. An attenuation factor of 0.7 is also applied to the dose calculations to account for the dose reduction due to shielding which would be provided by a residential structure. No additional credit is taken for decay of radionuclides in transit to the receptor point.

For the first quarter, the skin and whole body doses from exposure to noble gases at the point of maximum ground level air concentration were calculated to be 0.073 mrem and 0.03 mrem, respectively. For the noble gaseous effluent during the second quarter, the skin and whole body doses at the point of maximum ground level air concentration were calculated to be 0.076 mrem and 0.03 mrem, respectively.

In addition, the maximum nearest resident and site boundary whole body and skin doses have been calculated due to noble gaseous effluents from the plant stack during the reporting period. The maximum whole body and skin site boundary doses (both approximately 0.1 mrem) for the first quarter of 1982 occurred in the S sector, 0.24 miles from the stack. The second quarter maximum whole-body and skin site boundary doses (both approximately 0.1 mrem) occurred in the S sector 0.25 miles from the stack.

In the first quarter, the maximum skin and whole body dose to the nearest resident (both approximately 0.07 mrem) in any direction was determined to be in the S sector, 0.33 miles from the plant stack. As a result of the second quarter meteorology and noble gas effluents, the maximum whole body and skin dose to the nearest resident (both approximately 0.07 mrem) in any sector occurred to the resident 0.33 miles south of the plant stack.

The resultant doses due to noble gas effluents for the maximum site boundary location, maximum nearest resident, and point of maximum ground level air concentration are tabulated in Table 7. All doses are conservative in that they assume 100 percent occupancy at each point. Whole body doses consider the gamma radiation received from the effluent plume overhead. The skin doses consider both the beta and gamma contributions at the receptor point. All doses from noble gaseous effluents are well below the dose criteria of 10CFR50, Appendix I.

4.3 Organ Doses to Individuals From Radioactive Iodine and Particulates in Gaseous Effluents

The critical pathway of internal exposure to radioactive iodine and particulates, including tritium, resulting from gaseous effluents for the third quarter is through the grass-milk pathway. It is assumed that milk animals are free to graze on open pasture during the second quarter 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 effluents is in elemental form (I_2) and is available for uptake. This assumption is conservative for long-term doses (see p. 26, Reference 5). In the report for the first and second quarters of 1981, the dose from iodine in gaseous effluents was based on 100 percent elemental iodine. Doses from consumption of water, inhalation of air or direct exposure to ground plane activity or airborne activity are not affected by the change. Thyroid doses from ingestion of food will be one half those previously calculated given the same amount of iodine released.

During the winter months of the year, the dose commitment through the milk pathway and fresh vegetable ingestion is insignificant. The maximum length of annual growing season is approximately six months long in this part of New England. Therefore, the milk pathway and vegetable ingestion doses for the first quarter are the result of activity deposited on feed and vegetables grown during the growing season and allowed to decay while held in storage. As a result, the critical pathway of exposure for radioactive iodine and particulates during the first quarter is through inhalation.

As a result of the milk and fresh vegetable pathways, the maximum dose for the second quarter from gaseous releases of radioactive iodine and particulates was determined to occur at a farm 1.9 miles west-northwest of the plant. The critical organ was an infant thyroid with a calculated dose of 1.0×10^{-3} mrem. For the first quarter, with inhalation being the principal pathway of exposure, the maximum organ dose was projected to be at a farm 3.5 miles south-southeast of the plant. The critical organ was a child's bone with a calculated dose of 3.0×10^{-4} mrem. The pathways of exposure which were assumed to exist during the second quarter at this farm include ground plane exposure, inhalation, fresh home grown vegetables and cow's milk. The pathways of exposure considered at the farm during the first quarter include continuous ground plane exposure, inhalation and contributions from stored vegetables and milk.

Table 7 shows the maximum calculated quarterly organ dose due to the combination of exposures from all pathways which have been identified at the farm. Table 7 also shows the calculated organ doses to the highest exposed nearby resident, and potential organ doses to individuals if assumed standing at the highest ground level air concentration point on the site boundary for the entire six-month reporting period. The site boundary doses include only exposure from inhalation, and direct radiation from the ground plane. The nearest resident is assumed to have a vegetable garden during the growing season which contributes to his or her ingestion dose. For all ground plane exposures, the activity is assumed to accumulate on the ground for 15 years at the rate equivalent to that observed during each quarter. This is a simplified method of approximating the average deposition over the life of the plant. The calculated dose from direct exposure to activity on the ground thus represents the dose an individual would see in each quarter if the plant had been operating 15 years. This approach is very conservative, but shows the relative impact the plant would have on the dose commitment over its operating life if the releases were to continue at the levels recorded during this reporting period.

The critical organs for the first and second quarters for the nearest resident with the most exposure were a child's bone and thyroid respectively, and for the maximum site boundary location, was calculated in both cases to be a child's thyroid. The respective doses at these locations for the first

quarter were 1.2×10^{-4} mrem (SSE 1.3 miles) and 3.4×10^{-6} mrem (ESE 0.44 miles). For the second quarter the doses were 1.9×10^{-4} mrem (SSE 1.3 miles) and 5.4×10^{-5} (SSE 0.53 miles), respectively.

4.4 Whole Body Doses in Unrestricted Areas From Direct Radiation

The major source of direct radiation (including sky shine) 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 NNW) see any signific nt 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, where modified by multiplying by 0.6 to obtain whole body dose equivalents, in units of rem, in accordance with recommendations of HASL report 305[6] for radiation fields resulting from N-16 photons.

Estimates of the population exposure from direct radiation during the first and second quarters have been made out to two miles. Beyond two miles, the dose from the turbine building is negligible. As a result, the estimated population dose for each of the two quarters was approximately 1.9×10^{-2} person-rem, for a total population of about 351 persons. The estimated direct radiation dose at the maximum site boundary location was 3.5 mrem for the first quarter of 1982, and 3.5 mrem for the second. These hypothetical individual doses assume a 100 percent occupancy factor, taking no credit for the shielding effect of any residential structure. Table 7 summarizes these results.

4.5 Whole Body Doses to the General Population From all Receiving Water Related Pathways

There were no routine or accidental liquid releases from Vermont Yankee during the first half of 1982.

4.6 Doses to the General Population and Average Individual Within Fifty Miles From Gaseous Effluents

Using site meteorological data in Tables 4 and 5, quarterly average X/Q values were determined for each sector formed by placing radial rings from the plant at distances of one, two, three, four, five, ten, twenty, thirty, forty and fifty miles, and their intersection with radial lines drawn to form each of the sixteen principal compass directions. For noble gases, whole-body and skin doses were calculated for each sector and multiplied by the estimated population within each sector to determine the sector person-rem. No credit for decay in transit of activity was assumed.

For the approximately 1.1×10^{6} people within fifty miles of the plant, the first and second quarter whole-body doses from noble gas cloud exposure were estimated to be 0.73 person-rem and 0.6 person-rem, respectively. For the same two quarters, the average individual whole-body doses were 6.4×10^{-4} mrem and 5.2×10^{-4} mrem, respectively. The skin doses for the two quarters were 1.7 person-rem and 1.3 person-rem, respectively, and the average individual skin dose was 1.4×10^{-3} and 1.1×10^{-3} mrem, respectively.

Table 7 also indicates the population whole-body and thyroid dose commitments from radioactive iodine and particulates (including tritium) released from the plant in gaseous waste. The pathways of exposure which have been considered for the 50 mile population include inhalation, ingestion of vegetables, milk and meat produced within 50 miles, and the direct exposure to activity deposited on the ground plane. The dose due to iodines in ingested food is based on the assumption that only 50 percent of the iodine is elemental and available for uptake. This is conservative but represents a change over the assumptions in the report for the first and second quarters of

1981. The total whole-body and thyroid dose commitments for the first quarter were calculated to be 2.9×10^{-3} person-rem and 3.0×10^{-3} person-rem, respectively. For the second quarter, these doses were 5.2×10^{-3} person-rem and 7.2×10^{-3} person-rem, respectively.

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. C. A. Pelletier, and J. D. Zimbrick, "Kinetics of Environmental Radioiodine Transport Through the Milk-Food Chain", Environmental Surveillance in the Vicinity of Nuclear Facilities, Charles D. Thomas Publishers, Springfield, Illinois, 1970.

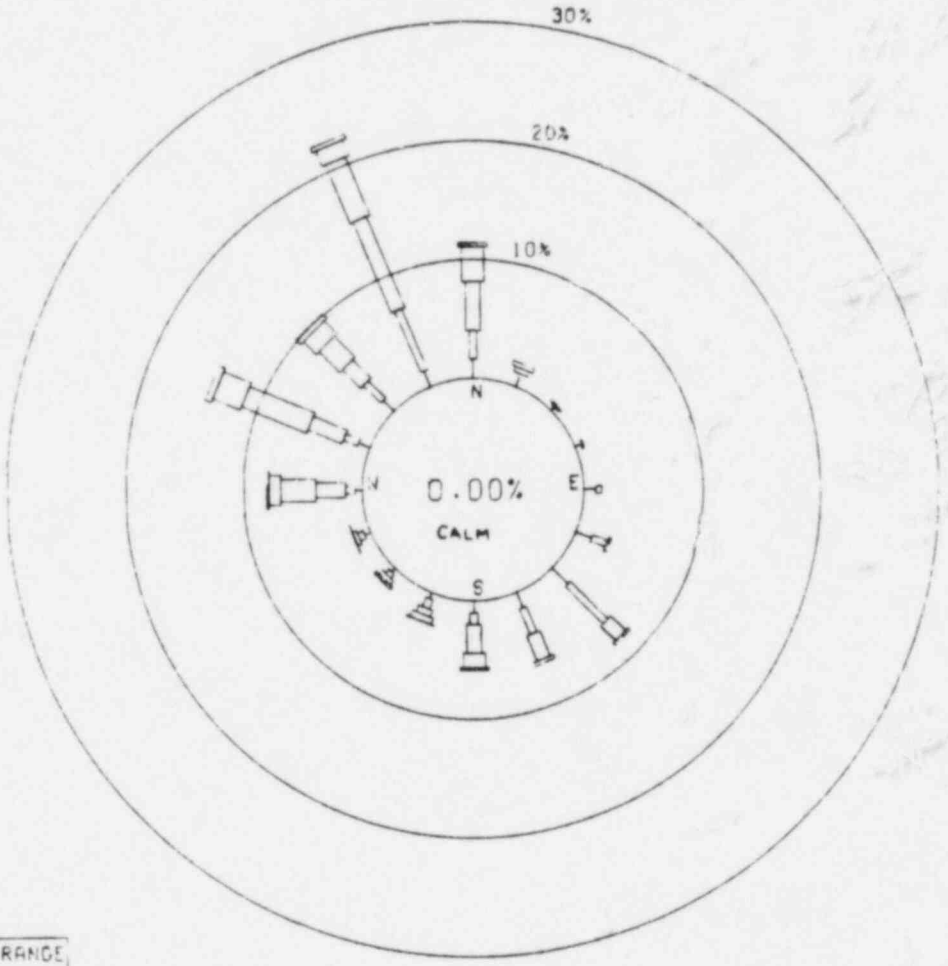
4. "Supplemental Information for the Purposes of Evaluation of 10CFR Part 50, Appendix I", Vermont Yankee Nuclear Power Corporation, June 2, 1976.

5. 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.

6. 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 & Development Administration, Report No. 305, May 1976.

7. NUREG-0473, "Radiological Effluent Technical Specifications for BWR's", Revision 2, July 1979; Table 4.11-1, notation f.

STABILITY CLASS ALL



SPEED RANGE
IN MPH

0.6 -3.0
4.0 -7.0
8.0 -12.0
13.0-18.0
19.0-24.0
GT 24.0

SENSOR LEVELS

WIND SPEED = UPPER
DIRECTION = UPPER
DELTA TEMP = UPPER

MISSING HOURS = 246

FIGURE 1A: VERMONT YANKEE JANUARY-MARCH, 1982 UPPER LEVEL WIND ROSE

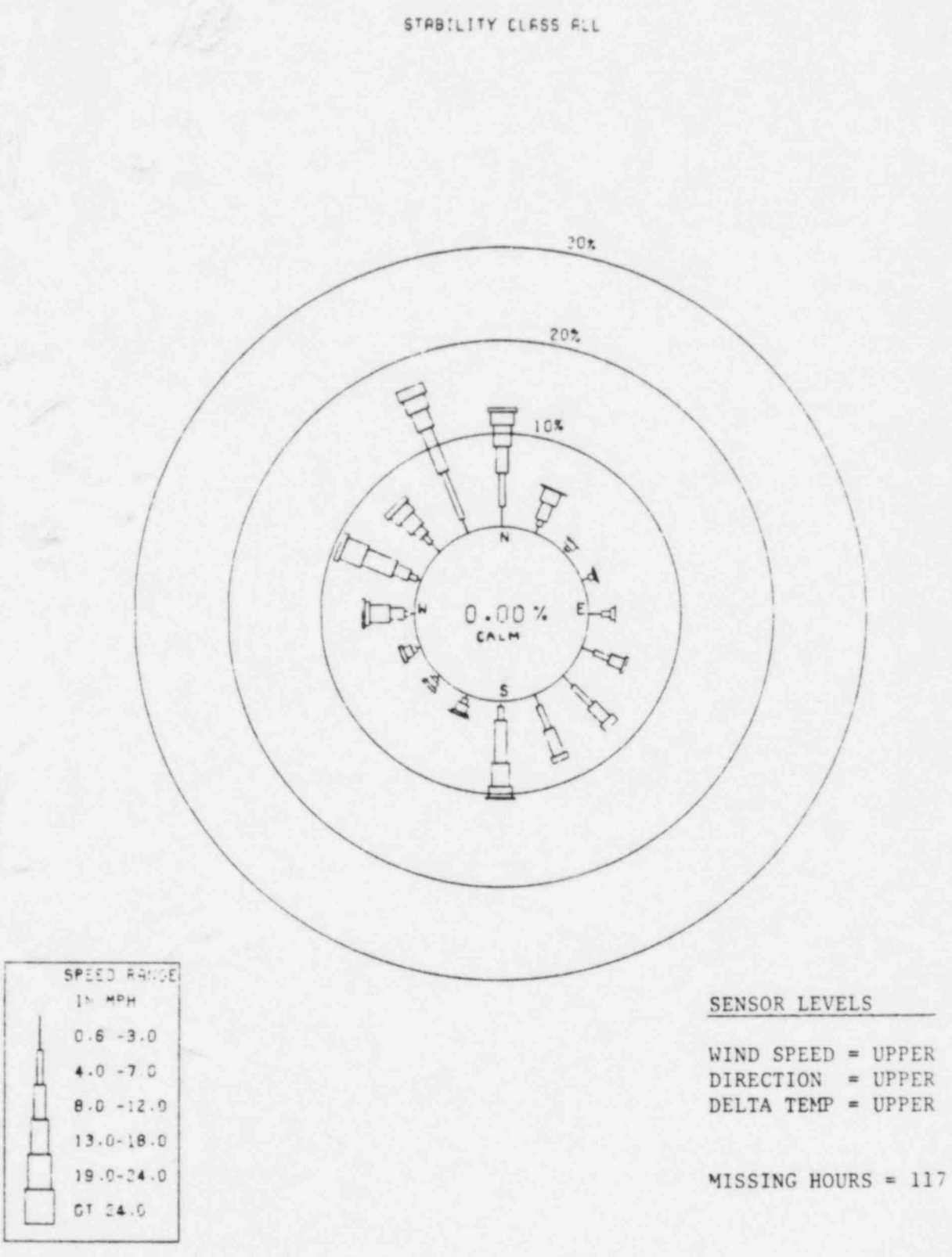


FIGURE 1B: VERMONT YANKEE APRIL-JUNE, 1982 UPPER LEVEL WIND ROSE

TABLE 1A

VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL SEMI ANNUAL REPORT

JANUARY - JUNE 1982

GASEOUS EFFULENTS - SUMMATION OF ALL RELEASES

	Unit	Quarter 1	Quarter 2	Est. Total Error, %
A. Fission & activation gases				
1. Total release	Ci	7.78E+2	7.52E+2	± 100
2. Average release rate for period	uCi/sec	9.89E+1	9.56E+1	
3. Percent of technical specification limit	%	1.31E-1	1.30E-1	
B. Iodines				
1. Total iodine - 131	Ci	2.31E-5	9.25E-5	± 50
2. Average release rate for period	uCi/sec	2.94E-6	1.18E-5	
3. Percent of technical specification limit	%	6.12E-4	2.45E-3	
C. Particulates				
1. Particulates with half-lives > 8 days	Ci	2.97E-4	5.25E-4	± 50
2. Average release rate for period	uCi/sec	3.78E-5	6.68E-5	
3. Percent of technical specification limit	%	6.47E-3	4.78E-3	
4. Gross alpha radioactivity	Ci	9.99E-8	6.45E-8	
D. Tritium				
1. Total release	Ci	1.32E+0	3.89E+0	± 50
2. Average release rate for period	uCi/sec	1.68E-1	3.94E-1	
3. Percent of technical specification limit	%	N.A.	N.A.	

TABLE 1B
VERMONT YANKEE
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
JANUARY - JUNE 1982
GASEOUS EFFLUENTS - ELEVATED RELEASE

		CONTINUOUS MODE		BATCH MODE*1	
Nuclides Released	Unit	Quarter 1	Quarter 2	Quarter 1	Quarter 2
1. Fission gases					
krypton-85	Ci	4.54E-2	*2		
krypton-85m	Ci	4.03E+0	4.75E+0		
krypton-87	Ci	1.31E+1	1.56E+1		
krypton-88	Ci	1.03E+1	1.01E+1		
xenon-133	Ci	3.02E+1	4.31E+0		
xenon-135	Ci	1.89E+1	1.97E+1		
xenon-135m	Ci	1.32E+2	1.38E+2		
xenon-138	Ci	5.69E+2	5.59E+2		
Others (specify)	Ci				
	Ci				
	Ci				
unidentified	Ci				
Total for period	Ci	7.78E+2	7.52E+2		
2. Iodines					
iodine-131	Ci	2.31E-5	9.25E-5		
iodine-133	Ci	3.35E-5	4.29E-4		
iodine-135	Ci	6.94E-4	6.43E-3		
Total for period	Ci	7.51E-4	6.95E-3		
3. Particulates					
strontium-89	Ci	1.48E-6	1.00E-6		
strontium-90	Ci	1.75E-7	3.23E-7		
cesium-134	Ci	< 8.11E-5	1.33E-5		
cesium-137	Ci	6.19E-5	5.16E-5		
barium-lanthanum-140	Ci	< 2.96E-4	<2.96E-4		
cobalt-58	Ci	3.63E-5	<9.94E-5		
cobalt-60	Ci	1.99E-4	4.46E-4		
manganese-54	Ci	< 1.11E-4	1.42E-5		
	Ci				

*1 No batch mode gaseous elevated releases for this period.

*2 Not detected in the offgas mix - limit of detectability=6.79E-7 µCi/cc.

TABLE 1C

VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT

JANUARY - JUNE 1982

GASEOUS EFFLUENTS - GROUND-LEVEL RELEASES

There were no routine measured ground level continuous or batch mode gaseous releases during the reporting period.

TABLE 1D

VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT

JANUARY - JUNE 1982

GASEOUS EFFLUENTS - NON-ROUTINE RELEASES

There were no non-routine or accidental gaseous effluent releases during the reporting period.

TABLE 2A

VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT

JANUARY - JUNE 1982

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

There were no liquid effluent releases during the reporting period.

TABLE 3

VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
JANUARY - JUNE 1982
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE 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 Ci	7.5E+1 1.6E+2	± 75
b. Dry compressible waste, contaminated equip, etc.	m^3 Ci	2.4E+2 2.2E+0	± 75
c. Irradiated components, control rods, etc.	m^3 Ci	0 0	
d. Other (describe)	m^3 Ci	0 0	

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

a. Cs-134	%	2.0E+1	Mn-54	%	2.0E+0
Cs-137	%	5.3E+1	Zn-65	%	7.0E+0
Co-58	%	2.0E+0	Co-60	%	1.6E+1
				%	
				%	
b. Cs-134	%	2.3E+1	Mn-54	%	2.5E+0
Cs-137	%	4.1E+1	Zn-65	%	8.4E+0
Co-58	%	9.8E-1	Co-60	%	2.4E+1
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
10	Truck	Barnwell, S.C.
6	Truck	Beatty, Nev.
5	Truck	Richland, Wash.

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
0	NA	NA

VERMONT YANKEE JAN-MAR 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS A CLASS FREQUENCY (PERCENT) = 0.00

NO OBSERVATIONS FOR THIS GROUP

TABLE 4A

VERMONT YANKEE JAN-MAR 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS B CLASS FREQUENCY (PERCENT) = .05

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13-18	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	100.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALL SPEEDS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	100.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05

(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 .60 MPH)

TABLE 4B

VERMONT YANKEE JAN-MAR 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS C CLASS FREQUENCY (PERCENT) = .42

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4-7	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	25.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.10
8-12	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
13-18	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	25.00	0.00	0.00	0.00	50.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.10	0.00	0.00	0.00	.21
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	12.50
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALL SPEEDS	0	0	0	0	0	0	0	2	0	0	0	0	2	3	1	0	0	8
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	25.00	37.50	12.50	0.00	0.00	100.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	.10	.16	.05	0.00	0.00	.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 .60 MPH)

TABLE 4C

VERMONT YANKEE JAN-MAR 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS D CLASS FREQUENCY (PERCENT) = 45.77

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	3	3	3	3	2	4	6	4	6	3	1	2	4	7	4	4	0	59
(1)	.34	.34	.34	.34	.23	.46	.68	.46	.68	.34	.11	.23	.46	.80	.46	.46	0.00	6.74
(2)	.16	.16	.16	.16	.10	.21	.31	.21	.31	.16	.05	.10	.21	.37	.21	.21	0.00	3.08
4-7	13	4	0	0	2	4	14	6	2	1	1	3	8	13	12	34	0	117
(1)	1.48	.46	0.00	0.00	.23	.46	1.60	.68	.23	.11	.11	.34	.91	1.48	1.37	3.88	0.00	13.36
(2)	.68	.21	0.00	0.00	.10	.21	.73	.31	.10	.05	.05	.16	.42	.68	.63	1.78	0.00	6.11
8-12	42	5	0	0	0	3	6	10	21	7	5	2	31	34	18	55	0	239
(1)	4.79	.57	0.00	0.00	0.00	.34	.68	1.14	2.40	.80	.57	.23	3.54	3.88	2.05	6.28	0.00	27.28
(2)	2.19	.26	0.00	0.00	0.00	.16	.31	.52	1.10	.37	.26	.10	1.62	1.78	.94	2.87	0.00	12.49
13-18	35	7	0	0	0	0	2	1	6	5	5	0	42	101	40	66	0	310
(1)	4.00	.80	0.00	0.00	0.00	0.00	.23	.11	.68	.57	.57	0.00	4.79	11.53	4.57	7.53	0.00	35.39
(2)	1.83	.37	0.00	0.00	0.00	0.00	.10	.05	.31	.26	.26	0.00	2.19	5.28	2.09	3.45	0.00	16.20
19-24	5	0	0	0	0	0	0	0	1	0	0	0	18	46	27	25	0	122
(1)	.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	0.00	2.05	5.25	3.08	2.85	0.00	13.93
(2)	.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.94	2.40	1.41	1.31	0.00	6.37
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	3	10	10	6	0	29
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.34	1.14	1.14	.68	0.00	3.31
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.16	.52	.52	.31	0.00	1.52
ALL SPEEDS	98	19	3	3	4	11	28	21	36	16	12	7	106	211	111	190	0	876
(1)	11.19	2.17	.34	.34	.46	1.26	3.20	2.40	4.11	1.83	1.37	.80	12.10	24.09	12.67	21.69	0.00	100.00
(2)	5.12	.99	.16	.16	.21	.57	1.46	1.10	1.88	.84	.63	.37	5.54	11.02	5.80	9.93	0.00	45.77

(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 .60 MPH)

TABLE 4D

VERMONT YANKEE JAN-MAR 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS E CLASS FREQUENCY (PERCENT) = 32.50

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	16	4	1	3	9	17	18	8	5	1	0	4	4	5	9	11	0	115
(1)	2.57	.64	.16	.48	1.45	2.73	2.89	1.29	.80	.16	0.00	.64	.64	.80	1.45	1.77	0.00	18.49
(2)	.84	.21	.05	.16	.47	.89	.94	.42	.26	.05	0.00	.21	.21	.26	.47	.57	0.00	6.01
4-7	19	3	1	3	5	14	37	18	6	2	2	1	1	10	19	51	0	192
(1)	3.05	.48	.16	.48	.80	2.25	5.95	2.89	.96	.32	.32	.16	.16	1.61	3.05	8.20	0.00	30.87
(2)	.99	.16	.05	.16	.26	.73	1.93	.94	.31	.10	.10	.05	.05	.52	.99	2.66	0.00	10.03
8-12	27	3	1	0	0	1	12	24	17	2	1	2	13	20	17	63	0	203
(1)	4.34	.48	.16	0.00	0.00	.16	1.93	3.86	2.73	.32	.16	.32	2.09	3.22	2.73	10.13	0.00	32.64
(2)	1.41	.16	.05	0.00	0.00	.05	.63	1.25	.89	.10	.05	.10	.68	1.04	.89	3.29	0.00	10.61
13-18	17	0	0	0	0	0	1	3	15	6	0	0	10	8	7	32	0	99
(1)	2.73	0.00	0.00	0.00	0.00	0.00	.16	.48	2.41	.96	0.00	0.00	1.61	1.29	1.13	5.14	0.00	15.92
(2)	.89	0.00	0.00	0.00	0.00	0.00	.05	.16	.78	.31	0.00	0.00	.52	.42	.37	1.67	0.00	5.17
19-24	1	0	0	0	0	0	0	0	3	1	0	1	1	1	2	2	0	12
(1)	.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.48	.16	0.00	.16	.16	.16	.32	.32	0.00	1.93
(2)	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.16	.05	0.00	.05	.05	.05	.10	.10	0.00	.63
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.16	0.00	.16
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05
ALL SPEEDS	80	10	3	6	14	32	68	53	46	12	3	8	29	44	54	160	0	622
(1)	12.86	1.61	.48	.96	2.25	5.14	10.93	8.52	7.40	1.93	.48	1.29	4.66	7.07	8.68	25.72	0.00	100.00
(2)	4.18	.52	.16	.31	.73	1.67	3.55	2.77	2.40	.63	.16	.42	1.52	2.30	2.82	8.36	0.00	32.50

(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 .60 MPH)

TABLE 4E

VERMONT YANKEE JAN-MAR 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS F CLASS FREQUENCY (PERCENT) = 15.99

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	12	8	3	3	6	7	9	11	7	2	2	4	3	7	10	12	0	106
(1)	3.92	2.61	.98	.98	1.96	2.29	2.94	3.59	2.29	.65	.65	1.31	.98	2.29	3.27	3.92	0.00	34.64
(2)	.63	.42	.16	.16	.31	.37	.47	.57	.37	.10	.10	.21	.16	.37	.52	.63	0.00	5.54
4-7	12	0	1	0	1	6	18	13	3	8	5	5	3	2	6	18	0	101
(1)	3.92	0.00	.33	0.00	.33	1.96	5.88	4.25	.98	2.61	1.63	1.63	.98	.65	1.96	5.88	0.00	33.01
(2)	.63	0.00	.05	0.00	.05	.31	.94	.68	.16	.42	.26	.26	.16	.10	.31	.94	0.00	5.28
8-12	9	0	0	0	0	0	11	6	6	2	0	2	3	3	7	34	0	83
(1)	2.94	0.00	0.00	0.00	0.00	0.00	3.59	1.96	1.96	.65	0.00	.65	.98	.98	2.29	11.11	0.00	27.12
(2)	.47	0.00	0.00	0.00	0.00	0.00	.57	.31	.31	.10	0.00	.10	.16	.16	.37	1.78	0.00	4.34
13-18	4	1	0	0	0	0	0	2	3	0	0	0	2	1	1	2	0	16
(1)	1.31	.33	0.00	0.00	0.00	0.00	0.00	.65	.98	0.00	0.00	0.00	.65	.33	.33	.65	0.00	5.23
(2)	.21	.05	0.00	0.00	0.00	0.00	0.00	.10	.16	0.00	0.00	0.00	.10	.05	.05	.10	0.00	.84
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALL SPEEDS	37	9	4	3	7	13	38	32	19	12	7	11	11	13	24	66	0	306
(1)	12.09	2.94	1.31	.98	2.29	4.25	12.42	10.46	6.21	3.92	2.29	3.59	3.59	4.25	7.84	21.57	0.00	100.00
(2)	1.93	.47	.21	.16	.37	.68	1.99	1.67	.99	.63	.37	.57	.57	.68	1.25	3.45	0.00	15.99

(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 .60 MPH)

TABLE 4F

VERMONT YANKEE JAN-MAR 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS G CLASS FREQUENCY (PERCENT) = 5.28

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	0	0	0	0	1	0	4	4	1	4	4	0	0	1	2	1	0	22
(1)	0.00	0.00	0.00	0.00	.99	0.00	3.96	3.96	.99	3.96	3.96	0.00	0.00	.99	1.98	.99	0.00	21.78
(2)	0.00	0.00	0.00	0.00	.05	0.00	.21	.21	.05	.21	.21	0.00	0.00	.05	.10	.05	0.00	1.15
4-7	2	0	1	1	2	1	16	7	8	5	1	1	4	0	1	4	0	54
(1)	1.98	0.00	.99	.99	1.98	.99	15.84	6.93	7.92	4.95	.99	.99	3.96	0.00	.99	3.96	0.00	53.47
(2)	.10	0.00	.05	.05	.10	.05	.84	.37	.42	.26	.05	.05	.21	0.00	.05	.21	0.00	2.82
8-12	1	0	0	0	0	0	4	3	2	0	2	1	1	2	0	6	0	22
(1)	.99	0.00	0.00	0.00	0.00	0.00	3.96	2.97	1.98	0.00	1.98	.99	.99	1.98	0.00	5.94	0.00	21.78
(2)	.05	0.00	0.00	0.00	0.00	0.00	.21	.16	.10	0.00	.10	.05	.05	.10	0.00	.31	0.00	1.15
13-18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	3
(1)	0.00	0.00	0.00	0.00	0.00	0.00	.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98	0.00	2.97
(2)	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.16
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALL SPEEDS	3	0	1	1	3	1	25	14	11	9	7	2	5	3	3	13	0	101
(1)	2.97	0.00	.99	.99	2.97	.99	24.75	13.86	10.89	8.91	6.93	1.98	4.95	2.97	2.97	12.87	0.00	100.00
(2)	.16	0.00	.05	.05	.16	.05	1.31	.73	.57	.47	.37	.10	.26	.16	.16	.68	0.00	5.28

(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 .60 MPH)

TABLE 4G

VERMONT YANKEE JAN-MAR 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

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	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	31	15	7	9	18	28	37	27	19	10	7	10	11	20	25	28	0	302
(1)	1.62	.78	.37	.47	.94	1.46	1.93	1.41	.99	.52	.37	.52	.57	1.04	1.31	1.46	0.00	15.78
(2)	1.62	.78	.37	.47	.94	1.46	1.93	1.41	.99	.52	.37	.52	.57	1.04	1.31	1.46	0.00	15.78
4-7	46	7	3	4	10	25	85	45	19	16	9	10	16	25	39	107	0	466
(1)	2.40	.37	.16	.21	.52	1.31	4.44	2.35	.99	.84	.47	.52	.84	1.31	2.04	5.59	0.00	24.35
(2)	2.40	.37	.16	.21	.52	1.31	4.44	2.35	.99	.84	.47	.52	.84	1.31	2.04	5.59	0.00	24.35
8-12	79	8	1	0	0	4	33	44	46	11	8	7	48	59	42	158	0	548
(1)	4.13	.42	.05	0.00	0.00	.21	1.72	2.30	2.40	.57	.42	.37	2.51	3.08	2.19	8.25	0.00	28.63
(2)	4.13	.42	.05	0.00	0.00	.21	1.72	2.30	2.40	.57	.42	.37	2.51	3.08	2.19	8.25	0.00	28.63
13-18	56	8	0	0	0	0	4	6	24	11	5	0	56	113	48	102	0	433
(1)	2.93	.42	0.00	0.00	0.00	0.00	.21	.31	1.25	.57	.26	0.00	2.93	5.90	2.51	5.33	0.00	22.62
(2)	2.93	.42	0.00	0.00	0.00	0.00	.21	.31	1.25	.57	.26	0.00	2.93	5.90	2.51	5.33	0.00	22.62
19-24	6	0	0	0	0	0	0	0	4	1	0	1	19	48	29	27	0	135
(1)	.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.21	.05	0.00	.05	.99	2.51	1.52	1.41	0.00	7.05
(2)	.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.21	.05	0.00	.05	.99	2.51	1.52	1.41	0.00	7.05
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	3	10	10	7	0	30
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.16	.52	.52	.37	0.00	1.57
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.16	.52	.52	.37	0.00	1.57
ALL SPEEDS	218	38	11	13	28	57	159	122	112	49	29	28	153	275	193	429	0	1914
(1)	11.39	1.99	.57	.68	1.46	2.98	8.31	6.37	5.85	2.56	1.52	1.46	7.99	14.37	10.08	22.41	0.00	100.00
(2)	11.39	1.99	.57	.68	1.46	2.98	8.31	6.37	5.85	2.56	1.52	1.46	7.99	14.37	10.08	22.41	0.00	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 .60 MPH)

TABLE 4H

VERMONT YANKEE APR-JUN 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS A CLASS FREQUENCY (PERCENT) = 1.21

WIND DIRECTION FROM

SPEED(MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRBL	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	3
(1)	0.00	0.00	0.00	0.00	4.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	12.00
(2)	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.15
4-7	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
(1)	0.00	0.00	0.00	0.00	0.00	4.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00
(2)	0.00	0.00	0.00	0.00	0.00	.05	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
8-12	1	0	0	0	0	1	0	4	1	0	0	1	0	0	0	0	0	8
(1)	4.00	0.00	0.00	0.00	0.00	4.00	0.00	16.00	4.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	32.00
(2)	.05	0.00	0.00	0.00	0.00	.05	0.00	.19	.05	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.39
13-18	1	3	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	7
(1)	4.00	12.00	0.00	0.00	0.00	0.00	4.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.00
(2)	.05	.15	0.00	0.00	0.00	0.00	.05	0.00	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.34
19-24	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	0	0	4
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	4.00	0.00	4.00	0.00	0.00	16.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	.19
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALL SPEEDS	2	3	0	0	1	2	4	4	5	0	0	1	1	0	1	1	0	25
(1)	8.00	12.00	0.00	0.00	4.00	8.00	16.00	16.00	20.00	0.00	0.00	4.00	4.00	0.00	4.00	4.00	0.00	100.00
(2)	.10	.15	0.00	0.00	.05	.10	.19	.19	.24	0.00	0.00	.05	.05	0.00	.05	.05	0.00	1.21

(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 .60 MPH)

TABLE 5A

VERMONT YANKEE APR-JUN 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS B CLASS FREQUENCY (PERCENT) = 3.73

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	0	0	0	0	3	0	0	0	0	2	0	0	0	0	0	1	0	6
(1)	0.00	0.00	0.00	0.00	3.90	0.00	0.00	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	1.30	0.00	7.79
(2)	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	0.00	.05	0.00	.29
4-7	2	2	0	1	0	2	4	3	0	1	0	0	0	0	0	1	0	16
(1)	2.60	2.60	0.00	1.30	0.00	2.60	5.19	3.90	0.00	1.30	0.00	0.00	0.00	0.00	0.00	1.30	0.00	20.78
(2)	.10	.10	0.00	.05	0.00	.10	.19	.15	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	.77
8-12	1	5	2	0	0	2	0	5	2	0	1	1	1	0	1	2	0	23
(1)	1.30	6.49	2.60	0.00	0.00	2.60	0.00	6.49	2.60	0.00	1.30	1.30	1.30	0.00	1.30	2.60	0.00	29.87
(2)	.05	.24	.10	0.00	0.00	.10	0.00	.24	.10	0.00	.05	.05	.05	0.00	.05	.10	0.00	1.11
13-18	3	5	0	0	0	1	1	0	3	0	0	0	4	2	0	2	0	21
(1)	3.90	6.49	0.00	0.00	0.00	1.30	1.30	0.00	3.90	0.00	0.00	0.00	5.19	2.60	0.00	2.60	0.00	27.27
(2)	.15	.24	0.00	0.00	0.00	.05	.05	0.00	.15	0.00	0.00	0.00	.19	.10	0.00	.10	0.00	1.02
19-24	4	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	9
(1)	5.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.60	0.00	3.90	0.00	11.69
(2)	.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.15	0.00	.44
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	1.30	0.00	2.60
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	0.00	.10
ALL SPEEDS	10	12	2	1	3	5	5	8	5	3	1	1	6	4	1	10	0	77
(1)	12.99	15.58	2.60	1.30	3.90	6.49	6.49	10.39	6.49	3.90	1.30	1.30	7.79	5.19	1.30	12.99	0.00	100.00
(2)	.48	.58	.10	.05	.15	.24	.24	.39	.24	.15	.05	.05	.29	.19	.05	.48	0.00	3.73

(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 .60 MPH)

TABLE 5B

VERMONT YANKEE APR-JUN 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS C CLASS FREQUENCY (PERCENT) = 5.81

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	0	1	0	0	2	0	3	1	0	0	1	0	0	0	1	0	0	9
(1)	0.00	.83	0.00	0.00	1.67	0.00	2.50	.83	0.00	0.00	.83	0.00	0.00	0.00	.83	0.00	0.00	7.50
(2)	0.00	.05	0.00	0.00	.10	0.00	.15	.05	0.00	0.00	.05	0.00	0.00	0.00	.05	0.00	0.00	.44
4-7	3	1	0	0	1	1	3	0	0	0	1	0	0	0	2	4	0	16
(1)	2.50	.83	0.00	0.00	.83	.83	2.50	0.00	0.00	0.00	.83	0.00	0.00	0.00	1.67	3.33	0.00	13.33
(2)	.15	.05	0.00	0.00	.05	.05	.15	0.00	0.00	0.00	.05	0.00	0.00	0.00	.10	.19	0.00	.77
8-12	4	2	1	0	0	3	2	8	5	3	1	0	0	0	1	5	0	35
(1)	3.33	1.67	.83	0.00	0.00	2.50	1.67	6.67	4.17	2.50	.83	0.00	0.00	0.00	.83	4.17	0.00	29.17
(2)	.19	.10	.05	0.00	0.00	.15	.10	.39	.24	.15	.05	0.00	0.00	0.00	.05	.24	0.00	1.69
13-18	5	0	1	0	0	0	0	0	5	0	2	3	4	6	3	4	0	33
(1)	4.17	0.00	.83	0.00	0.00	0.00	0.00	0.00	4.17	0.00	1.67	2.50	3.33	5.00	2.50	3.33	0.00	27.50
(2)	.24	0.00	.05	0.00	0.00	0.00	0.00	0.00	.24	0.00	.10	.15	.19	.29	.15	.19	0.00	1.60
19-24	2	1	0	0	0	0	0	0	1	0	0	0	3	3	5	4	0	19
(1)	1.67	.83	0.00	0.00	0.00	0.00	0.00	0.00	.83	0.00	0.00	0.00	2.50	2.50	4.17	3.33	0.00	15.83
(2)	.10	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.15	.15	.24	.19	0.00	.92
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	2	3	1	2	0	8
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	2.50	.83	1.67	0.00	6.67
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.15	.05	.10	0.00	.39
ALL SPEEDS	14	5	2	0	3	4	8	9	11	3	5	3	9	12	13	19	0	120
(1)	11.67	4.17	1.67	0.00	2.50	3.33	6.67	7.50	9.17	2.50	4.17	2.50	7.50	10.00	10.83	15.83	0.00	100.00
(2)	.68	.24	.10	0.00	.15	.19	.39	.44	.53	.15	.24	.15	.44	.58	.63	.92	0.00	5.81

(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 .60 MPH)

TABLE 5C

VERMONT YANKEE APR-JUN 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS D CLASS FREQUENCY (PERCENT) = 47.68

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	17	5	5	4	8	13	12	6	5	3	0	2	2	4	14	10	0	110
(1)	1.73	.51	.51	.41	.81	1.32	1.22	.61	.51	.30	0.00	.20	.20	.41	1.42	1.02	0.00	11.17
(2)	.92	.24	.24	.19	.39	.63	.58	.29	.24	.15	0.00	.10	.10	.19	.68	.48	0.00	5.32
4-7	30	9	5	5	11	16	21	18	14	4	2	1	3	5	7	45	0	196
(1)	3.05	.91	.51	.51	1.12	1.62	2.13	1.83	1.42	.41	.20	.10	.30	.51	.71	4.57	0.00	19.90
(2)	1.45	.44	.24	.24	.53	.77	1.02	.87	.68	.19	.10	.05	.15	.24	.34	2.18	0.00	9.49
8-12	39	26	10	4	6	23	24	13	45	12	5	8	16	13	11	32	0	287
(1)	3.96	2.64	1.02	.41	.61	2.34	2.44	1.32	4.57	1.22	.51	.81	1.62	1.32	1.12	3.25	0.00	29.14
(2)	1.89	1.26	.48	.19	.29	1.11	1.16	.63	2.18	.58	.24	.39	.77	.63	.53	1.55	0.00	13.89
13-18	24	23	1	2	0	5	10	8	32	2	5	5	20	47	20	26	0	230
(1)	2.44	2.34	.10	.20	0.00	.51	1.02	.81	3.25	.20	.51	.51	2.03	4.77	2.03	2.64	0.00	23.35
(2)	1.16	1.11	.05	.10	0.00	.24	.48	.39	1.55	.10	.24	.24	.97	2.27	.97	1.26	0.00	11.13
19-24	24	0	0	0	0	0	0	0	18	1	0	0	7	37	8	24	0	119
(1)	2.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83	.10	0.00	0.00	.71	3.76	.81	2.44	0.00	12.08
(2)	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.87	.05	0.00	0.00	.34	1.79	.39	1.16	0.00	5.76
GT 24	8	1	0	0	0	0	0	0	3	0	0	0	2	7	5	17	0	43
(1)	.81	.10	0.00	0.00	0.00	0.00	0.00	0.00	.30	0.00	0.00	0.00	.20	.71	.51	1.73	0.00	4.37
(2)	.39	.05	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	.10	.34	.24	.82	0.00	2.08
ALL SPEEDS	142	64	21	15	25	57	67	45	117	22	12	16	50	113	65	154	0	985
(1)	14.42	6.50	2.13	1.52	2.54	5.79	6.80	4.57	11.88	2.23	1.22	1.62	5.08	11.47	6.60	15.63	0.00	100.00
(2)	6.87	3.10	1.02	.73	1.21	2.76	3.24	2.18	5.66	1.06	.58	.77	2.42	5.47	3.15	7.45	0.00	47.68

(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 .60 MPH)

TABLE 5D

VERMONT YANKEE APR-JUN 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS E CLASS FREQUENCY (PERCENT) = 29.53

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	17	4	3	8	12	7	10	11	2	3	4	4	2	3	7	16	0	113
(1)	2.79	.66	.49	1.31	1.97	1.15	1.64	1.80	.33	.49	.66	.66	.33	.49	1.15	2.62	0.00	18.52
(2)	.82	.19	.15	.39	.58	.34	.48	.53	.10	.15	.19	.19	.10	.15	.34	.77	0.00	5.47
4-7	24	2	2	3	4	10	21	20	13	5	1	3	5	7	10	40	0	170
(1)	3.93	.33	.33	.49	.66	1.64	3.44	3.28	2.13	.82	.16	.49	.82	1.15	1.64	6.56	0.00	27.87
(2)	1.16	.10	.10	.15	.19	.48	1.02	.97	.63	.24	.05	.15	.24	.34	.48	1.94	0.00	8.23
8-12	10	4	0	0	2	4	18	26	38	4	3	5	13	14	6	48	0	195
(1)	1.64	.66	0.00	0.00	.33	.66	2.95	4.26	6.23	.66	.49	.82	2.13	2.30	.98	7.87	0.00	31.97
(2)	.48	.19	0.00	0.00	.10	.19	.87	1.26	1.84	.19	.15	.24	.63	.68	.29	2.32	0.00	9.44
13-18	13	1	0	0	1	0	6	5	9	4	0	2	16	17	11	11	0	96
(1)	2.13	.16	0.00	0.00	.16	0.00	.98	.82	1.48	.66	0.00	.33	2.62	2.79	1.80	1.80	0.00	15.74
(2)	.63	.05	0.00	0.00	.05	0.00	.29	.24	.44	.19	0.00	.10	.77	.82	.53	.53	0.00	4.65
19-24	0	0	0	0	0	0	0	0	3	0	0	0	0	8	12	2	0	25
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.49	0.00	0.00	0.00	0.00	1.31	1.97	.33	0.00	4.10
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	.39	.58	.10	0.00	1.21
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	4	0	11
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	.66	0.00	1.80
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.34	.19	0.00	.53
ALL SPEEDS	64	11	5	11	19	21	55	62	65	16	8	14	36	49	53	121	0	610
(1)	10.49	1.80	.82	1.80	3.11	3.44	9.02	10.16	10.66	2.62	1.31	2.30	5.90	8.03	8.69	19.84	0.00	100.00
(2)	3.10	.53	.24	.53	.92	1.02	2.66	3.00	3.15	.77	.39	.68	1.74	2.37	2.57	5.86	0.00	29.53

(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 .60 MPH)

TABLE 5E

VERMONT YANKEE APR-JUN 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS F CLASS FREQUENCY (PERCENT) = 9.15

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	11	7	1	3	2	7	6	7	4	1	2	4	2	1	4	4	0	66
(1)	5.82	3.70	.53	1.59	1.06	3.70	3.17	3.70	2.12	.53	1.06	2.12	1.06	.53	2.12	2.12	0.00	34.92
(2)	.53	.34	.05	.15	.10	.34	.29	.34	.19	.05	.10	.19	.10	.05	.19	.19	0.00	3.19
4-7	12	0	0	1	3	5	7	11	1	3	3	5	2	4	3	22	0	82
(1)	6.35	0.00	0.00	.53	1.59	2.65	3.70	5.82	.53	1.59	1.59	2.65	1.06	2.12	1.59	11.64	0.00	43.39
(2)	.58	0.00	0.00	.05	.15	.24	.34	.53	.05	.15	.15	.24	.10	.19	.15	1.06	0.00	3.97
8-12	3	3	0	0	2	0	2	4	3	1	2	1	1	3	2	11	0	38
(1)	1.59	1.59	0.00	0.00	1.06	0.00	1.06	2.12	1.59	.53	1.06	.53	.53	1.59	1.06	5.82	0.00	20.11
(2)	.15	.15	0.00	0.00	.10	0.00	.10	.19	.15	.05	.10	.05	.05	.15	.10	.53	0.00	1.84
13-18	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3
(1)	.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.53	0.00	0.00	0.00	.53	0.00	0.00	0.00	0.00	1.59
(2)	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.15
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALL SPEEDS	27	10	1	4	7	12	15	22	9	5	7	10	6	8	9	37	0	189
(1)	14.29	5.29	.53	2.12	3.70	6.35	7.94	11.64	4.76	2.65	3.70	5.29	3.17	4.23	4.76	19.58	0.00	100.00
(2)	1.31	.48	.05	.19	.34	.58	.73	1.06	.44	.24	.34	.48	.29	.39	.44	1.79	0.00	9.15

(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 .60 MPH)

TABLE 5F

VERMONT YANKEE APR-JUN 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

297.0 FT WIND DATA STABILITY CLASS G CLASS FREQUENCY (PERCENT) = 2.90

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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	0	0	0	1	1	3	1	2	1	0	1	0	2	1	2	2	0	17
(1)	0.00	0.00	0.00	1.67	1.67	5.00	1.67	3.33	1.67	0.00	1.67	0.00	3.33	1.67	3.33	3.33	0.00	28.33
(2)	0.00	0.00	0.00	.05	.05	.15	.05	.10	.05	0.00	.05	0.00	.10	.05	.10	.10	0.00	.82
4-7	3	0	0	2	1	2	1	4	3	0	0	1	4	3	0	1	0	25
(1)	5.00	0.00	0.00	3.33	1.67	3.33	1.67	6.67	5.00	0.00	0.00	1.67	6.67	5.00	0.00	1.67	0.00	41.67
(2)	.15	0.00	0.00	.10	.05	.10	.05	.19	.15	0.00	0.00	.05	.19	.15	0.00	.05	0.00	1.21
8-12	1	0	0	0	0	0	0	2	1	0	1	1	1	6	1	4	0	18
(1)	1.67	0.00	0.00	0.00	0.00	0.00	0.00	3.33	1.67	0.00	1.67	1.67	1.67	10.00	1.67	6.67	0.00	30.00
(2)	.05	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	0.00	.05	.05	.05	.29	.05	.19	0.00	.87
13-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GT 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALL SPEEDS	4	0	0	3	2	5	2	8	5	0	2	2	7	10	3	7	0	60
(1)	6.67	0.00	0.00	5.00	3.33	8.33	3.33	13.33	8.33	0.00	3.33	3.33	11.67	16.67	5.00	11.67	0.00	100.00
(2)	.19	0.00	0.00	.15	.10	.24	.10	.39	.24	0.00	.10	.10	.34	.48	.15	.34	0.00	2.90

(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 .60 MPH)

TABLE 5G

VERMONT YANKEE APR-JUN 1982 JOINT FREQUENCY DISTRIBUTION (UPPER LEVEL)

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	0	0	0	0	0	0	0	0	0	0	0	0
(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-3	45	17	9	16	29	30	33	27	12	9	8	10	8	9	28	34	0	324
(1)	2.18	.82	.44	.77	1.40	1.45	1.60	1.31	.58	.44	.39	.48	.39	.44	1.36	1.65	0.00	15.68
(2)	2.18	.82	.44	.77	1.40	1.45	1.60	1.31	.58	.44	.39	.48	.39	.44	1.36	1.65	0.00	15.68
4-7	74	14	7	12	20	37	59	56	31	13	7	10	14	19	22	113	0	508
(1)	3.58	.68	.34	.58	.97	1.79	2.86	2.71	1.50	.63	.34	.48	.68	.92	1.06	5.47	0.00	24.59
(2)	3.58	.68	.34	.58	.97	1.79	2.86	2.71	1.50	.63	.34	.48	.68	.92	1.06	5.47	0.00	24.59
8-12	59	40	13	4	10	33	46	62	95	20	13	17	32	36	22	102	0	604
(1)	2.86	1.94	.63	.19	.48	1.60	2.23	3.00	4.60	.97	.63	.82	1.55	1.74	1.06	4.94	0.00	29.24
(2)	2.86	1.94	.63	.19	.48	1.60	2.23	3.00	4.60	.97	.63	.82	1.55	1.74	1.06	4.94	0.00	29.24
13-18	47	32	2	2	1	6	18	13	52	6	7	10	45	72	34	43	0	390
(1)	2.27	1.55	.10	.10	.05	.29	.87	.63	2.52	.29	.34	.48	2.18	3.48	1.65	2.08	0.00	18.88
(2)	2.27	1.55	.10	.10	.05	.29	.87	.63	2.52	.29	.34	.48	2.18	3.48	1.65	2.08	0.00	18.88
19-24	30	1	0	0	0	0	0	0	24	1	0	0	11	50	26	33	0	176
(1)	1.45	.05	0.00	0.00	0.00	0.00	0.00	0.00	1.16	.05	0.00	0.00	.53	2.42	1.26	1.60	0.00	8.52
(2)	1.45	.05	0.00	0.00	0.00	0.00	0.00	0.00	1.16	.05	0.00	0.00	.53	2.42	1.26	1.60	0.00	8.52
GT 24	8	1	0	0	0	0	0	0	3	0	0	0	5	10	13	24	0	64
(1)	.39	.05	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	.24	.48	.63	1.16	0.00	3.10
(2)	.39	.05	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	.24	.48	.63	1.16	0.00	3.10
ALL SPEEDS	263	105	31	34	60	106	156	158	217	49	35	47	115	196	145	349	0	2066
(1)	12.73	5.08	1.50	1.65	2.90	5.13	7.55	7.65	10.50	2.37	1.69	2.27	5.57	9.49	7.02	16.89	0.00	100.00
(2)	12.73	5.08	1.50	1.65	2.90	5.13	7.55	7.65	10.50	2.37	1.69	2.27	5.57	9.49	7.02	16.89	0.00	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 .60 MPH)

TABLE 5H

TABLE 6

VERMONT YANKEE
QUARTERLY AVERAGE X/Q, D/Q AND GAMMA X/Q
VALUES FOR SELECTED RECEPTORS
January - June 1982

POINT OF INTEREST		FIRST QUARTER		SECOND QUARTER	
A. Maximum offsite ground level air concentration location	Location:	NW 2.5 miles		Location:	WNW 1.5 miles
	X/Q (undepleted)*:	5.20×10^{-7}		X/Q (undepleted):	5.48×10^{-7}
	X/Q (depleted)*:	4.97×10^{-7}		X/Q (depleted):	5.46×10^{-7}
	D/Q**:	1.33×10^{-9}		D/Q:	1.22×10^{-9}
	Gamma X/Q:*	2.11×10^{-7}		Gamma X/Q:	2.15×10^{-7}
B. For whole body and skin doses from noble gases					
1) Maximum site boundary location	Location:	S 0.24 miles		Location:	S 0.25 miles
	X/Q (undepleted):	9.46×10^{-17}		X/Q (undepleted):	5.22×10^{-9}
	X/Q (depleted):	9.46×10^{-17}		X/Q (depleted):	5.22×10^{-9}
	D/Q:	9.81×10^{-19}		D/Q:	4.48×10^{-11}
	Gamma X/Q:	6.58×10^{-7}		Gamma X/Q:	6.74×10^{-7}
2) Maximum nearest residence	Location:	S 0.33 miles		Location:	S 0.33 miles
	X/Q (undepleted):	3.31×10^{-13}		X/Q (undepleted):	1.06×10^{-8}
	X/Q (depleted):	3.31×10^{-13}		X/Q (depleted):	1.06×10^{-8}
	D/Q:	3.21×10^{-15}		D/Q:	9.07×10^{-11}
	Gamma X/Q:	4.80×10^{-7}		Gamma X/Q:	4.94×10^{-7}
C. For organ doses from iodine and particulates in gaseous effluents					
1) Maximum farm location	Location:	SSE 3.5 miles		Location:	WNW 1.9 miles
	X/Q (undepleted):	2.82×10^{-7}		X/Q (undepleted):	4.09×10^{-7}
	X/Q (depleted):	2.76×10^{-7}		X/Q (depleted):	4.05×10^{-7}
	D/Q:	1.29×10^{-9}		D/Q:	8.79×10^{-10}
	Gamma X/Q:	1.74×10^{-7}		Gamma X/Q:	1.68×10^{-7}

TABLE 6 (Continued)

POINT OF INTEREST		FIRST QUARTER	SECOND QUARTER	
2) Maximum nearest residence	Location:	SSE 1.3 miles	Location:	SSE 1.3 miles
	X/Q (undepleted):	7.61×10^{-8}	X/Q (undepleted):	6.41×10^{-8}
	X/Q (depleted):	7.60×10^{-8}	X/Q (depleted):	6.40×10^{-8}
	D/Q:	5.52×10^{-10}	D/Q:	4.62×10^{-10}
	Gamma X/Q:	2.63×10^{-7}	Gamma X/Q:	2.00×10^{-7}
3) Maximum site boundary location	Location:	ESE .44 miles	Location:	SSE 0.53 miles
	X/Q (undepleted):	2.10×10^{-9}	X/Q (undepleted):	2.00×10^{-8}
	X/Q (depleted):	2.10×10^{-9}	X/Q (depleted):	2.00×10^{-8}
	D/Q:	2.10×10^{-11}	D/Q:	1.51×10^{-10}
	Gamma X/Q:	3.12×10^{-7}	Gamma X/Q:	3.83×10^{-7}

Depleted and undepleted X/Qs and Gamma X/Q are in units of $sec./m^3$

Delta (D/Q) in units of $1/m^2$

TABLE 7
SUMMARY OF RADIOLOGICAL IMPACT ON MAN
Vermont Yankee Nuclear Power Station
January - June, 1982

POTENTIAL PATHWAY OR TYPE OF EXPOSURE	ESTIMATED FIRST QUARTER DOSE COMMITMENT	ESTIMATED SECOND QUARTER DOSE COMMITMENT
I. Maximum individual whole body and critical organ doses from receiving-water exposure pathways from liquid releases (mrem).	No liquid releases	No liquid releases
II.		
A. Whole body and skin doses to individuals exposed at point of maximum offsite ground level air concentration of radioactive noble gaseous effluents	(at NW, 4025m)	(at WNW, 2415m)
i. Skin (mrem)	7.3×10^{-2}	7.6×10^{-2}
ii. Whole body (mrem)	3.0×10^{-2}	3.0×10^{-2}
B. Whole body and skin doses at maximum site boundary location from radioactive noble gaseous effluents	(at S, 0.24 miles)	(at S, .25 miles)
i. Skin (mrem)	9.3×10^{-2}	9.4×10^{-2}
ii. Whole body (mrem)	9.3×10^{-2}	9.4×10^{-2}
C. Whole body and skin doses at maximum nearest residence from radioactive noble gaseous effluents	(at S, 0.33 miles)	(at S, 0.33 miles)
i. Skin (mrem)	6.8×10^{-2}	7.0×10^{-2}
ii. Whole body (mrem)	6.8×10^{-2}	6.9×10^{-2}

TABLE 7 (Continued)

POTENTIAL PATHWAY OR TYPE OF EXPOSURE	ESTIMATED FIRST QUARTER DOSE COMMITMENT	ESTIMATED SECOND QUARTER DOSE COMMITMENT
III. Organ doses to individuals from radioactive iodine and particulates in gaseous effluents (including tritium).		
A. Maximum farm location		
Maximum individual whole body and organ doses from all pathways	(at SSE, 3.5 miles)	(at WNW, 1.9 miles)
i. Bone (mrem)	3.0×10^{-4} (child)	3.7×10^{-4} (child)
ii. Thyroid (mrem)	2.1×10^{-4} (all)	1.0×10^{-3} (infant)
iii. GI(LLI) (mrem)	2.3×10^{-4} (adult, teen)	3.3×10^{-4} (adult, teen)
iv. Whole body (mrem)	2.3×10^{-4} (adult, teen, child)	3.2×10^{-4} (child)
B. Critical organ doses to maximum nearest resident from the inhalation, ingestion and ground plane exposure of iodine and particulates	(at SSE, 1.3 miles)	(at SSE, 1.3 miles)
i. Bone (mrem)	1.2×10^{-4} (child)	1.8×10^{-4} (child)
ii. Thyroid (mrem)	9.0×10^{-5} (child)	1.9×10^{-4} (child)
iii. GI(LLI) (mrem)	9.7×10^{-5} (teen)	1.7×10^{-4} (adult, teen)
iv. Whole body as critical organ (mrem)	9.5×10^{-5} (child)	1.6×10^{-4} (adult, teen, child)

TABLE 7 (Continued)

POTENTIAL PATHWAY OR TYPE OF EXPOSURE	ESTIMATED FIRST QUARTER DOSE COMMITMENT	ESTIMATED SECOND QUARTER DOSE COMMITMENT
C. Organ doses to individuals at point of maximum ground level air concentration of gaseous effluents from inhalation and ground exposure of iodine and particulates	(at NW, 4025m)	(at WNW, 2415m)
i. Bone (mrem)	2.1×10^{-4} (all)	4.0×10^{-4} (all)
ii. Thyroid (mrem)	2.2×10^{-4} (all)	5.4×10^{-4} (child)
iii. GI(LLI) (mrem)	2.1×10^{-4} (all)	4.0×10^{-4} (all)
iv. Whole body as critical organ (mrem)	2.1×10^{-4} (all)	4.0×10^{-4} (all)
D. Organ doses to individuals at point of maximum site boundary air concentration of gaseous effluents from inhalation and ground exposure of iodine and particulates	(at ESE, 0.44 miles)	(at SSE, 0.53 miles)
i. Bone (mrem)	3.3×10^{-6} (all)	4.9×10^{-5} (all)
ii. Thyroid (mrem)	3.4×10^{-6} (all)	5.4×10^{-5} (child, infant)
iii. GI(LLI) (mrem)	3.3×10^{-6} (all)	4.9×10^{-5} (all)
iv. Whole body as critical organ (mrem)	3.3×10^{-6} (all)	4.9×10^{-5} (all)

TABLE 7 (Continued)

POTENTIAL PATHWAY OR TYPE OF EXPOSURE	ESTIMATED FIRST QUARTER DOSE COMMITMENT	ESTIMATED SECOND QUARTER DOSE COMMITMENT
IV. Whole body doses to individuals and populations in unrestricted areas from direct radiation from the facility.		
A. Maximum site boundary (mrem) (west of turbine building)	3.5	3.5
B. Population dose (person-rem)	1.9×10^{-2}	1.9×10^{-2}
V. Whole body dose to the population from all receiving-water related pathways from liquid releases (person-rem)	No liquid releases	No liquid releases

TABLE 7 (Continued)

POTENTIAL PATHWAY OR TYPE OF EXPOSURE	ESTIMATED FIRST QUARTER DOSE COMMITMENT	ESTIMATED SECOND QUARTER DOSE COMMITMENT
VI.		
A. Whole body doses to the population and average individual out to 50 miles from noble gaseous effluents		
i. Whole body dose to population (person-rem)	7.3×10^{-1}	6.0×10^{-1}
ii. Average individual whole body dose (mrem)	6.4×10^{-4}	5.2×10^{-4}
iii. Skin dose to population (person-rem)	1.7	1.3
iv. Average individual skin dose (mrem)	1.4×10^{-3}	1.1×10^{-3}
B. Organ doses to 50 mile population, and average individual, from inhalation, ingestion of milk, meat, and vegetables, and ground exposure to iodine and particulates in gaseous effluents		
i. Thyroid population dose (person-rem)	3.0×10^{-3}	7.2×10^{-3}
ii. Average individual thyroid dose (mrem)	2.6×10^{-6}	6.2×10^{-6}
iii. Whole body population dose (person-rem)	2.9×10^{-3}	5.2×10^{-3}
iv. Average individual whole body dose (mrem)	2.5×10^{-6}	4.5×10^{-6}

APPENDIX A

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT

Supplemental Information

January - June 1982

Facility: Vermont Yankee Nuclear Power Station

Licensee: Vermont Yankee Nuclear Power Corporation

1. Regulatory Limits

   a. Fission and activation gases: $0.08/\overline{E}$ Ci/sec.
   b. Iodines: 0.48 uC/sec.
   c. Particulates, half-lives >8 days: 1.6E+3 MPC_a uCi/sec.
   d. Liquid effluents: 1.03E-7 uC/ml
      (HTO: 3.0E-3 uC/ml, dissolved noble gases:
      4.0E-5 uC/ml). Isotopic limits are found in
      10CFR20 App. B, Table II, Column 2.

2. Maximum Permissible Concentrations

   Provided below are the MPC's used in determining allowable release rates or concentrations:

   a. Fission and activation gases: No MPC limits
   b. Iodines: No MPC limits
   c. Particulates, half-lives >8 days: See 10CFR20, App. B, Table II, Column 1.
   d. Liquid effluents: See 10CFR20, App. B, Table II, Column 2.

3. Average Energy

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

a.	Average gamma energy:	1st Quarter	1.06 MeV/Dis.
		2nd Quarter	1.09 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

Daily samples are drawn at the discharge of the Air Ejector. Isotopic breakdown of the releases are determined from these samples. A logarithmic chart of the stack gas monitor is read daily to determine the gross release rate. At the very low release rates normally encountered during operation with the Augmented Off Gas system the error of release rates may be approximately $\pm$ 100%.

b. Iodines

Continuous isokinetic samples are drawn from the plant stack through a particulate filter and charcoal cartridge. The filters and cartridge are removed weekly (if releases are less than 4% of the Tech Spec limit), or daily (if they are greater than 4% of the limit), and are analyzed for radioiodine 131, 132, 133, 134,

and 135. The iodines found on the filter are added to those on the charcoal cartridge. The error involved in these steps may be approximately ±50%.

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%.

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 released 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 also analyzed for tritium, SR-89, SR-90, gross beta and gross alpha radioactivity, in addition to gamma spectroscopy.

There were no liquid releases during the reporting period.

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 non-routine liquid releases during the reporting period.

b. Gaseous

There were no non-routine gaseous releases during the reporting period.