REFERENCE:
10CFR50.36a(a)(2)

WNP-2 SEMIANNUAL EFFLUENT REPORT

JULY TO DECEMBER 1988

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

LICENSE NO. NPF-21

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES
(Continued)

1.0 INTRODUCTION

This report is submitted in compliance with Technical Specification 6.9.1.11. It includes a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from WNP-2 during the previous six months of operation with data summarized on a quarterly basis.

2.0 LIQUID EFFLUENTS

The radwaste liquid effluents were released in a batch mode only during the reporting period. Four batch releases occurred during the third calendar quarter and 2 batch releases during the fourth calendar quarter. The total time period for the batch releases was 10.8 hours, with the maximum time period being 2.3 hours for a release, the minimum time period being 1.1 hours for a release and the average time period was 1.8 hours. The volume of dilution water considered, is the total volume of recirculating cooling tower blowdown flow for the period. The average flow rate of the Columbia River during July through December 1988 was 96,743 cubic feet per second.

Periodic LADTAP II computer runs were performed to verify compliance with Technical Specification limits. The calculated dose to the adult individual due to liquid releases for the third quarter was 7.9E-05 mrem whole body and 1.2E-04 mrem for the maximum organ. The fourth quarter calculated dose was 1.5E-05 mrem whole body and 3.3E-05 mrem for the maximum organ.

The liquid batch releases were recirculated prior to sampling. A representative sample was obtained and analyzed for each batch release. A composite of batch samples for each quarter was analyzed for strontiums and irons. The method for measurement of total radioactivity was by gamma spectroscopy, liquid scintillation and proportional counters.

The percent of MPC limit is based on the total MPC fractions using those nuclides in Table 2-2 and concentrations listed in 10CFR20, Appendix B, Table 2, Column 2.

The estimated total errors are listed in Table 2-1. These estimated errors are propagated from individual error estimates of sample activity, sample volume, tank volume and tank homogeneity.

The estimated total errors were calculated by obtaining the square root of the sum of the squares of the errors of the individual contributors and multiplying by 1.96 for a 95% confidence level.

Table 2-1

WNP-2 LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

July - December 1988

	Unit	3rd Quarter	4th Quarter	Est. Total Error* %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	1.1E-04	1.6E-04	2.2 E+01
2. Average diluted concentration during period	uCi/ml	1.9E-10	4.3E-10	
3. Percent of MPC limit	%	1.5E-03	1.4E-03	
B. Tritium				
1. Total release	Ci	1.9E-01	9.2E-02	2.2 E+01
2. Average diluted concentration during period	uCi/ml	3.2E-07	2.4E-07	
3. Percent of MPC limit	%	1.1E-02	8.1E-03	
C. Dissolved and entrained gases				
1. Total release	Ci	5.6E-06	8.2E-05	2.2 E+01
2. Average diluted concentration during period	uCi/ml	9.5E-12	2.2E-10	
3. Percent of MPC limit	%	4.7E-06	1.1E-04	
D. Gross alpha radioactivity				
1. Total release	Ci	<5.3E-09	3.6E-10	2.3 E+01
E. Volume of waste (prior to dilution)	liters	2.4E+05	1.1E+05	1.5 E+01
F. Volume of dilution water used during period	liters	5.9E+08	3.8E+08	1.5 E+01

*At 95% confidence level

Table 2-2

WNP-2 LIQUID EFFLUENTS - SOURCE TERMS

July - December 1988 BATCH MODE

Nuclides Released	Unit	3rd Quarter	4th Quarter
Strontium-89	Ci	4.9E-06	2.9E-06
Strontium-90	Ci	1.2E-06	6.5E-07
Cesium-134	Ci	9.4 E-06	< 4.4 E-06
Cesium-137	Ci	1.7 E-05	< 4.4 E-06
Iodine-131	Ci	< 8.0 E-06	< 3.5 E-06
Cobalt-58	Ci	< 6.9 E-06	< 4.4 E-06
Cobalt-60	Ci	3.0 E-05	1.7 E-05
Iron-59	Ci	< 1.1 E-05	< 5.8 E-06
Zinc-65	Ci	4.0 E-05	1.4 E-04
Manganese-54	Ci	< 6.7 E-06	< 4.1 E-06
Chromium-51	Ci	< 5.9 E-05	< 3.1 E-05
Zirconium-Niobium-95	Ci	< 1.1 E-05	< 5.2 E-06
Molybdenum-99	Ci	< 3.7 E-05	< 2.1 E-05
Technetium-99m	Ci	< 5.9 E-06	< 2.9 E-06
Barium-Lanthanum-140	Ci	< 2.1 E-05	< 1.1 E-05
Cerium-141	Ci	< 1.2 E-05	< 6.4 E-06

TABLE 2-2 (Continued)

Others			
Cerium-144	Ci	< 4.5 E-05	< 2.3 E-05
Iron-55	Ci	5.3 E-06	2.1 E-06
Total for Period (Above)	Ci	1.1 E-04	1.6 E-04
Xenon-133	Ci	< 1.7 E-05	< 1.0 E-05
Xenon-135	Ci	5.6 E-06	8.2 E-05
Tritium	Ci	1.9 E-01	9.2 E-02

NOTE: Less than (<) values are not included in the Total For Period values.

3.0 GASEOUS EFFLUENTS

The gaseous radwaste effluents from WNP-2 were released from three (3) release points at WNP-2.

1. Main Plant Vent - mixed mode release
2. Turbine Building - ground level release
3. Radwaste Building - ground level release

The gaseous source terms from each release point are listed in Tables 3-1 to 3-3. Table 3-4 provides a summation of the total activity released, the average release rate, the percent of Technical Specification limit, gross alpha radioactivity and the estimated total error associated with the measurements of radioactivity in the gaseous effluents.

Radioactivity measurements for gaseous effluent releases are performed for fission and activation gases by collecting the samples on charcoal traps and analyzing them using gamma spectroscopy. Tritium is sampled by freeze trapping and analyzed by liquid scintillation counting. Particulates and iodines are sampled using particulate filters and charcoal cartridges and analyzed by gamma spectroscopy.

To verify compliance with Technical Specification limits, calculations were performed for each month's releases using the GASPAR II computer program and parameters as outlined in the ODCM. Doses were determined at two special locations.

1. The Site Boundary at 1.2 miles from the plant and for the sector with the maximum X/Q value.

2. Taylor Flats - at 4.2 miles ESE.

The "Percent of Technical Specification Limit" calculations were based on exposure at specified locations. Air dose due to noble gases was determined at the site boundary with the quarterly limit of 5 mrads for gamma being the more restrictive for each time period. The gamma air dose from noble gases for the third quarter was 3.5E-02 mrads and 4.5E-02 mrad for the fourth quarter. Iodines, particulates and tritium calculations were determined at Taylor Flats, located 4.2 miles east southeast. A limit of 7.5 mrems per quarter to any organ was used in these calculations. The maximum organ dose to a "Member of the Public" was 4.6E-03 mrem for the third quarter and 3.5E-03 mrem for the fourth quarter.

There were no abnormal releases of gaseous effluent during the third and fourth quarters of 1988.

Total error estimates are propagated from individual error estimates of sample volume, sample activity and effluent flow rate measurements. The overriding uncertainty is the measurement of the effluent and sample volumes. The estimated error was determined to be 36% at the 95% confidence level.

WNP-2 has a permanent laundry facility located approximately 0.75 miles from the site. Its ventilation system contains HEPA filters on the discharge and is continuously monitored for particulates. Also at this location is a backup chemistry lab within the EOF. The radiochemical hood containing HEPA filters is monitored for radioactive releases when in operation. Gamma spectrometry indicated no radioactive material present other than that attributable to natural background.

There were four NCRs during this reporting period, they are summarized below:

NCR 288-0365

The environmental monitoring program requires that liquid samples be taken in our discharge line to the Columbia River. The sampling compositor is experiencing intermittent failures. Sampling is being assured by the use of grab samples taken periodically and at times of liquid radwaste discharges. The compositor problem is currently being evaluated by plant engineering.

NCR 288-0413

Continuous sampling by the reactor building effluent monitor was interrupted by the shutting down of the HVAC system and turning on the Standby Gas Treatment System (SGTS). Two four-hour sampling periods were missed during the 10.62 hour time period; estimation of offsite dose consequences yielded no effect as the reactor was shut down and other in-plant monitoring showed no activities above normal.

NCR 288-0445

Engineering evaluation is currently in progress on the inability to adequately sample the reactor building effluents when stack flow is less than 4,000 cfm. Full evaluation of the stack sampling system capabilities for the low flow conditions is schedule for next outage. The current solutions are to operate both SGTS trains when the HVAC is secured and/or install a portable sampler.

NCR 288-0565

Standby service water sampling periods were missed because of a missunderstanding of the operability of the particular loop. The sampling was instituted 2.4 days after the LCO was instituted for a process monitor failure. Changes in procedures and specific training for the departments involved, especially emphasising Tech. Spec. actions, have been instituted.

Table 3-1

WNP-2 GASEOUS EFFLUENTS
SOURCE TERMS - MIXED MODE RELEASES
MAIN PLANT VENT

July - December 1988

CONTINUOUS MODE

Nuclides Released	Unit	3rd Quarter	4th Quarter
1. Fission gases			
Krypton-85	Ci	< 2.2 E-01	< 1.4 E+00
Krypton-85m	Ci	2.7 E-01	1.3 E+00
Krypton-87	Ci	4.1 E-01	5.7 E-01
Krypton-88	Ci	1.0 E+00	2.6 E+00
Xenon-133	Ci	1.4 E+00	2.1 E+01
Xenon-133m	Ci	5.8 E+00	1.8 E+00
Xenon-135	Ci	7.2 E-01	2.1 E+00
Xenon-135m	Ci	1.3 E-01	2.6 E-01
Xenon-138	Ci	7.5 E-01	5.4 E-01
Argon-41	Ci	< 2.3 E-01	5.2 E-01
Total for period	Ci	1.0 E+01	3.1 E+01
2. Iodines			
Iodine-131	Ci	2.6 E-04	1.5 E-04
Iodine-133	Ci	4.2 E-04	3.0 E-04
Iodine-135	Ci	< 5.8 E-04	< 3.8 E-04
Total for period	Ci	6.8 E-04	4.5 E-04

NOTE: Kr-85 value is a fission product ratio from other fission gas isotopes.

Table 3-1 (Continued)

3. Particulates

Strontium-89	Ci	1.6 E-05	4.1 E-06
Strontium-90	Ci	3.8 E-07	< 1.8 E-07
Cesium-134	Ci	< 1.2 E-04	< 8.5 E-05
Cesium-137	Ci	< 1.3 E-04	< 7.3 E-05
Barium-Lanthanum-140	Ci	< 3.9 E-04	< 2.8 E-04
Molybdenum-99	Ci	< 1.6 E-03	< 1.1 E-03
Cerium-141	Ci	< 1.3 E-04	< 9.9 E-05
Cerium-144	Ci	< 6.4 E-04	< 4.4 E-04
Cobalt-58	Ci	1.3 E-04	1.0 E-04
Cobalt-60	Ci	6.3 E-04	2.8 E-04
Iron-59	Ci	< 1.9 E-04	< 1.1 E-04
Manganese-54	Ci	< 1.3 E-04	< 7.9 E-05
Zinc-65	Ci	1.3 E-03	5.4 E-04
Others			
Chromium-51	Ci	2.4 E-03	1.0 E-03
Technetium-99m	Ci	9.3 E-05	1.3 E-04
Sodium-24	Ci	7.0 E-04	3.1 E-04
Total for period	Ci	5.3 E-03	2.4 E-03

Table 3-1 (Continued)

3. Particulates

4. Tritium	Ci	7.4 E-01	2.3 E-01
Total building release	Ci	1.1 E+01	3.1 E+01

NOTE: Less than (<) values are not included in the Total For Period values.

Table 3-2

WNP-2 GASEOUS EFFLUENTS
SOURCE TERMS GROUND LEVEL RELEASES
TURBINE BUILDING

July - December 1988

CONTINUOUS MODE

Nuclides Released	Unit	3rd Quarter	4th Quarter
1. Fission gases			
Krypton-85	Ci	< 4.9 E-01	< 2.9 E-01
Krypton-85m	Ci	< 6.6 E-01	< 3.3 E-01
Krypton-87	Ci	1.2 E+00	5.7 E-01
Krypton-88	Ci	2.1 E+00	1.4 E+00
Xenon-133	Ci	2.1 E+00	8.0 E+00
Xenon-133m	Ci	5.7 E+00	2.9 E+00
Xenon-135	Ci	7.0 E-01	4.6 E-01
Xenon-135m	Ci	< 1.3 E-01	< 1.3 E-01
Xenon-138	Ci	1.6 E+00	1.3 E+00
Total for period	Ci	1.3 E+01	1.5 E+01
2. Iodines			
Iodine-131	Ci	4.4 E-05	< 4.9 E-05
Iodine-133	Ci	2.7 E-04	< 1.9 E-04
Iodine-135	Ci	< 2.9 E-04	< 1.5 E-04
Total for period	Ci	3.1 E-04	0.0 E-00

NOTE: Kr-85 value is a fission product ratio from other fission gas isotopes.

Table 3-2 (Continued)

3. Particulates

Strontium-89	Ci	1.9 E-05	1.7 E-05
Strontium-90	Ci	< 6.4 E-07	1.5 E-06
Cesium-134	Ci	< 1.3 E-04	< 1.1 E-04
Cesium-137	Ci	< 1.3 E-04	< 1.0 E-04
Barium-Lanthanum-140	Ci	< 5.0 E-04	< 4.5 E-04
Molybdenum-99	Ci	< 1.6 E-03	< 1.3 E-03
Cerium-141	Ci	< 1.8 E-04	< 1.6 E-04
Cerium-144	Ci	< 6.8 E-04	< 6.0 E-04
Cobalt-58	Ci	< 1.0 E-04	< 9.2 E-05
Cobalt-60	Ci	< 1.3 E-04	< 1.3 E-04
Iron-59	Ci	< 2.1 E-04	< 1.1 E-04
Manganese-54	Ci	< 1.0 E-04	< 8.8 E-05
Zinc-65	Ci	< 2.8 E-04	< 2.1 E-04
Total for period	Ci	1.9 E-05	1.9 E-05
4. Tritium	Ci	3.4 E+00	1.3 E+00
Total building release	Ci	1.6 E+01	1.6 E+01

NOTE: Less than (<) values are not included in the Total For Period values.

Table 3-3

WNP-2 GASEOUS EFFLUENTS
SOURCE TERMS GROUND LEVEL RELEASES
RADWASTE BUILDING

July - December 1988

CONTINUOUS MODE

Nuclides Released	Unit	3rd Quarter	4th Quarter
1. Fission gases			
Krypton-85	Ci	< 1.8 E-01	< 1.6 E-01
Krypton-85m	Ci	< 2.4 E-01	< 1.8 E-01
Krypton-87	Ci	3.6 E-01	3.0 E-01
Krypton-88	Ci	8.3 E-01	7.6 E-01
Xenon-133	Ci	7.9 E-01	2.4 E+01
Xenon-133m	Ci	1.6 E+00	1.8 E+00
Xenon-135	Ci	5.7 E-01	7.1 E-01
Xenon-135m	Ci	< 1.2 E-01	1.2 E+00
Xenon-138	Ci	5.2 E-01	4.5 E-01
Total for period	Ci	4.7 E+00	2.9 E+01
2. Iodines			
Iodine-131	Ci	2.8 E-05	3.3 E-05
Iodine-133	Ci	1.7 E-04	2.7 E-04
Iodine-135	Ci	< 1.2 E-04	< 1.7 E-04
Total for period	Ci	2.0 E-04	3.0 E-04

NOTE: Kr-85 value is a fission product ratio from other fission gas isotopes.

Table 3-3 (Continued)

3. Particulates

Strontium-89	Ci	< 6.5 E-07	6.5 E-07
Strontium-90	Ci	< 2.7 E-08	< 2.0 E-07
Cesium-134	Ci	< 1.8 E-05	< 1.4 E-05
Cesium-137	Ci	< 1.9 E-05	< 1.4 E-05
Barium-Lanthanum-140	Ci	< 7.3 E-05	< 5.0 E-05
Molybdenum-99	Ci	< 2.2 E-04	< 1.6 E-04
Cerium-141	Ci	< 3.3 E-05	< 2.2 E-05
Cerium-144	Ci	< 1.2 E-04	< 8.0 E-05
Cobalt-58	Ci	< 1.5 E-05	< 1.1 E-05
Cobalt-60	Ci	< 1.8 E-05	< 1.7 E-05
Iron-59	Ci	< 3.6 E-05	< 2.5 E-05
Manganese-54	Ci	< 1.6 E-05	< 1.2 E-05
Zinc-65	Ci	< 4.1 E-05	< 2.9 E-05
Others			
Total for period	Ci	0.0 E-00	6.5 E-07
4. Tritium	Ci	1.9 E-01	3.5 E-01
Total building release	Ci	4.9 E+00	2.9 E+01

NOTE: Less than (<) values are not included in the Total For Period values.

Table 3-4

WNP-2 GASEOUS EFFLUENTS
SUMMATION OF ALL RELEASES

July - December 1988

	Unit	3rd Quarter	4th Quarter	Est. Total Error %*
A. Fission & activation gases				
1. Total release	Ci	2.8 E+01	7.5 E+01	3.6 E+01
2. Average release rate for period	uCi/sec	3.5 E+00	9.4 E+00	
3. Percent of Tech. Spec. limit	%	7.1 E-01	9.0 E-01	
B. Iodines				
1. Total iodine (131, 133)	Ci	1.2 E-03	7.5 E-04	3.6 E+01
2. Average release rate for period	uCi/sec	1.5 E-04	9.4 E-05	
3. Percent of Tech. Spec. limit	%	6.1 E-02	4.7 E-02	
C. Particulates				
1. Particulates	Ci	5.3 E-03	2.4 E-03	3.6 E+01
2. Average release rate for period	uCi/sec	6.7 E-04	3.0 E-04	
3. Percent of Tech. Spec. limit	%	6.1 E-02	4.7 E-02	
4. Gross alpha radioactivity	Ci	1.5 E-06	1.5 E-06	
D. Tritium				
1. Total releases	Ci	4.3 E+00	1.9 E+00	3.6 E+01
2. Average release rate for period	uCi/sec	5.5 E-01	2.4 E-01	
3. Percent of Tech. Spec. limit	%	6.1 E-02	4.7 E-02	

* At 95% confidence level

Table 3-5

WNP-2 GASEOUS EFFLUENTS
BATCH RELEASES

July - December 1988

Type	Number	Total Time (hrs)	Maximum Time (hrs)	Minimum Time (hrs)	Mean Time (hrs)
Purge	13	255	127	0.2	19.6
Vent	153	233.4	6.2	0.3	1.5

4.0 SOLID WASTE

A total volume of 6786.3 ft^3 (192.2 m^3) of solid waste was transported in 23 shipments during the July through December 1988 reporting period. The total activity of the waste shipped was 816.1 Ci; 813 Ci contained in dewatered spent resins and 3.10 Ci in Dry Active Waste (DAW).

A. Dewatered Spent Resin

Dewatered resins accounted for 4196.3 ft^3 (118.8 m^3) of the radioactive wastes shipped during the reporting period. The burial containers were ES-190, ES-142, EA-142 and PL-142 liners provided by NUPAC Services, Inc. The total activity of the resins shipped during the reporting period was 813 Ci. The principle nuclides and their percent contribution to the total activity are listed in Table 4-3. The solid wastes were shipped to the U.S. Ecology, Hanford burial site using flat bed trailers, shielded van and LN-142, NUPAC 10-142, LN 14-170, or U.S.Ecology 14D-2.0 casks as appropriate.

The counting error associated with the total activity has been found to be less than 1.0% at one standard deviation in previous effluent reports and to decrease with increasing activity. The statistical counting error is assumed to be 1% for the purpose of this error evaluation.

Other parameters considered in estimating the total error of the activity shipped included the error in measuring the absolute volume, the weight of the waste in the liners, the representativeness of the sample taken, the homogeneity of the nuclide distribution within a batch or liner and the geometry error in the gamma spectroscopy analysis. The gamma spectroscopy calibration error was approximately 5%. The best estimate of the total error in the activity of spent resin shipped was assumed to be less than or equal to 20%.

B. Dry Active Waste (DAW)

A total of 2590 ft^3 (73.3 m^3) of DAW was shipped in 28 Container Products Corporation, B-25 steel boxes. The total activity of the DAW shipped was 3.10 Ci. The values for the activities shipped were determined by using dose rate-to-curie conversion factors. The conversion factors were based on a nuclide distribution taken from analysis of contamination found in each of the major DAW production areas. The nuclide distribution is updated monthly. Short lived nuclides were eliminated based on decay of the DAW prior to shipment. A meaningful counting error cannot be generated for the DAW, however, the total error may be assumed to be less than or equal to 20% since DAW would be subjected to similar error contributions as the spent resins.

4.1 Scaling Factor Methodology

Scaling factors are based on outside laboratory (SAIC) analysis of hard-to-measure nuclides. The process of updating scaling factors is being initiated. For those waste streams where the scaling or the scaled nuclide concentration is not sufficient to provide a viable scaling factor, the final EPRI Report "Updated Scaling Factors in Low Level Radwaste", NP-5077, March 1987 has been used as a basis for the determination of a scaling factor.

H-3

Sampling of individual waste streams was performed with analysis provided by an outside lab. The H-3 concentration was measured per gram of waste material. This value was compared to the Reactor Coolant System H-3 concentration. The scaling factor is derived from the ratio of the H-3 concentration in the waste stream to RCS H-3 concentration.

C-14, Tc-99, I-129

Sampling of the individual waste stream was performed with analysis by off-site lab to determine isotopic concentration. Ratios were developed between the scaled nuclide to the scaling nuclide concentration determined by analysis. In those cases where the scaling nuclide is not available in large enough quantities to develop reliable (viable) scaling factors, the recommendations made in section 7 of the referenced EPRI report for the plant in the initial stages of operation are used.

TRU, Sr-90, Ni-63

TRU nuclides were scaled to Ce-144, as recommended by the AIF report "Methodolgies for Classification of Low Level Radioactive Waste from Nuclear Power Plants". These nuclides are not considered to be present if the scaled values are less than: 1 nCi/g for TRU, 35 nCi/g for Pu-241 or 200 nCi/g for Cf-242. TRU nuclides will be reported if the scaling nuclide (Ce-144) is reliably detected and Cs-137 is also present.

Sampling of individual waste streams has been performed with analysis by an outside laboratory. Cs-137 and Sr-90 concentrations were measured in each waste stream except waste oil. The ratio of Cs-137 to Sr-90 has been determined and is used as the scaling factor for Sr-90 from Cs-137. For waste oil, the values from the referenced EPRI Report will be used for scaling factors. Co-60 and Ni-63 concentrations were measured in each of the sampled waste streams. The ratio of Co-60 to Ni-63 has been determined and is used as the scaling factor for Ni-63 from Co-60.

Table 4-1 lists those scaling factors by waste stream for those nuclides that are required to be reported. Table 4-2 lists those scaling factors for the conditional nuclides that are reported only when the scaling nuclide is found to be present.

4.2 Process Control Program

The Process Control Program (PCP) used to control solidification at WNP-2 will be provided by the vendor waste processor, Pacific Nuclear Inc. in accordance with Contract C-20452, and will be subjected to POC review prior to any solidification of radwaste. Two Pacific Nuclear generic solidification PCP's, TP-04, "Portable Solidification System", and TP-05, "Radwaste Solidification System", are currently under NRC review. As an alternative, approved High Integrity Containers (HIC's) could be used for the transport of wastes requiring stabilization. Other portions of the radwaste program are controlled by the WNP-2 procedures PPM 1.12.1, "Radwaste Management Program", PPM 1.12.2, "Radwaste Process Control Program", and 1.12.3, "Contract (Vendor) Waste Processing". There were no significant changes during the reporting period.

SCALING FACTORS

Table 4-1 - Required Nuclides

RATIO	DAW	RWCU POWDER RESIN	CFD POWDER RESIN	EDR/FDR POWDER RESIN	EDR/FDR BEAD RESIN	SLUDGE	OIL
H-3/Rx Coolant	3.5E-1	4.55E-1	4.55E-1	4.55E-1	3.56E-1	3.10E-1	4.0E-5+
C-14/Co-60	1.47E-4	1.69E-5	6.2E-4++++	1.18E-3	5.81E-2	8.81E-5	1.3E-2+
Tc-99/Cs-137	4.6E-4+	1.94E-6	9.3E-5+	9.3E-5+	9.3E-5+	9.3E-5+	4.2E-5+
I-129/Cs-137	4.6E-4+	2.23E-5	3.9E-5+	3.9E-5+	3.9E-5+	3.9E-5+	6.3E-5+

Table 4-2 - Conditional Nuclides

Ni-63/Co-60	1.86E-2	7.73E-3	1.3E-2	4.53E-2	6.36E-2	1.5E-2+++	1.2E0+
Fe-55/Co-60	2.62E-1	2.37E-1	5.16E-1	6.03E-1	1.9E-2	4.10E-1	1.5E0+
Sr-90/Cs-137	2.6E-3+	1.19E-4	3.88E-2	2.92E-3	1.11E-3	2.67E-5	3.3E-1+
Pu-239/Ce-144	4.5E-3+	9.1E-3+	9.7E-3+	9.7E-3+	9.7E-3+	8.7E-4+	1.1E-2+
Pu-238/Pu-239	1.5E0+	1.3E0+	1.7E0+	1.7E0+	1.7E0+	1.7E0+	1.6E0+
Pu-241/Pu-239	1.1E2+	8.8E1+	9.6E1+	9.6E1+	9.6E1+	9.6E1+	1.2E2+
Am-241/Pu-239	9.1E-1+	9.0E-1+	6.6E-1+	6.6E-1+	6.6E-1+	1.7E0+	4.7E-1+
Cm-242/Pu-239	9.5E-1+	1.0E0+	9.7E-1+	9.7E-1+	9.7E-1+	5.7E-1+	3.1E-1+
Cm-244/Pu-239	7.2E-1+	8.3E-1+	7.6E-1+	7.6E-1+	7.6E-1+	7.8E-1+	2.9E-1+

\+ Scaling or scaled nuclide not present in enough concentration to make determination of scaling factor. In these cases the scaling factor obtained from the "Updated Scaling Factors in Low-Level Radwaste" EPRI NP-5077 Final March 1987.

++ The report from SAIC, showed the H-3 concentration in RWCU equal to Reactor Coolant concentration. The resin mix used in RWCU and CFD are the same. The reactor coolant and condensate H-3 concentration are approximately the same. The Scaling Factor for CFD is a 4.55E-1 which is more representative of H-3 retention on the two resin streams.

+++ The report from SAIC showed the Ni-63 concentration of sludges at 4.03E-3 uCi/gm which compares to the Co-60 concentration of 3.52E-2 uCi/gm. This comparison would yield a Scaling Factor of 1.14E-1. The above mentioned EPRI Report recommends a Scaling Factor of 1.5E-2. Because of the long period of time between the generation of the waste and the counting of the sample (approximately 1 year) the EPRI Number is considered more accurate.

++++ The report from SAIC showed the C-14 concentration in CFD of 1.12E-2 uCi/gm which compares to the Co-60 concentration of 1.08E-2 uCi/gm. This comparison would yield a Scaling Factor of 1.02E0. The above mentioned EPRI report recommends a Scaling Factor of 6.2E-4. It is felt that there was cross contamination of the sample at the lab resulting in high concentration of C-14. The recommended EPRI number will be used.

Table 4-3
WNP-2 SOLID WASTE SHIPMENTS

July - December 1988

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

1. Type of Waste

Waste Stream	Unit	6-month Period	Est. Total Error, %
a. Spent resins, filter sludges, evaporator bottoms, etc.	m^3 Ci	118.8 813	20
b. Dry active waste, contaminated equip., etc.	m^3 Ci	73.34 3.10	20
c. Irradiated components, control rods, etc.	m^3 Ci	No Shipment	
d. Other, (absorbed aqueous liquid)	m^3 Ci	No Shipment	

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

a. Dewatered Spent Resins

Nuclide	%	Ci
1 Zn-65	50.1	4.07E2
2 Co-60	17.6	1.43E2
3 Cr-51	9.38	7.63E1
4 Fe-55*	5.45	4.43E1
5 Cs-137	4.53	3.68E1
6 Cs-134	3.70	3.01E1
7 Co-58	2.85	2.32E1
8 Nb-95	1.91	1.55E1
9 Mn-54	1.65	1.34E1
10 Zr-95	1.21	9.86

*Indicates scaled nuclide

b. Dry Active Wastes (DAW)

Nuclide	%	Ci
1 Zn-65	41.0	1.27
2 Co-60	40.6	1.26
3 Fe-55*	9.65	2.99E-1
4 Mn-54	2.47	7.67E-2
5 Co-58	1.08	3.34E-2
6 Nb-95	1.01	3.13E-2
7 Ni-63*	0.90	2.78E-2
8 Cs-134	0.60	1.86E-2
9 H-3*	0.53	1.63E-2
10 Sb-125	0.49	1.53E-2

c. Irradiated Components - None

d. Other - Absorbed Liquids - None

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
23	14D-2.0 Cask (11) Flat bed trailer (4) 10-142 Cask (2) 14-170 Cask (3) LN-142 Cask (2) Shielded Van (1)	US Ecology Richland, WA

B. IRRADIATED FUEL SHIPMENTS (Disposition)

None

*Indicates scaled nuclide

5.0 METEOROLOGY

The meteorological data contained in Tables 5-1 through 5-10 were obtained from the WNP-2 meteorological tower located 2500 ft. west of WNP-2. Data were recovered from 33 ft. and 245 ft. levels. The meteorological data is a composite file from both manual and automated data recovery systems.

All four quarters of 1988 were drier than normal with moderate precipitation arriving in the fourth quarter. The 1988 dispersion conditions compared well with historical dispersion conditions. The automated annual data recovery system continued to function at greater than 90% joint data recovery for the joint frequency parameters.

Tables 5-1 through 5-8 list the joint frequency distribution at the 33 ft. and 245 ft. levels for 1988 by quarters. Additionally, this report includes Tables 5-9 through 5-10 which list the joint frequency distribution for all of 1988. The tabulated stability classes, A-G, are denoted by numerals 1-7 respectively. Numerals 1-7 were used for the wind subfields as is noted at the top of each sensor level reported. The 16 compass sectors in Tables 5-1 through 5-8 pertain to the direction the wind is coming from. Tables 5-11 and 5-12 are representative Joint Frequency Tables for vents and purges during 1988.

Calibrations performed in 1988 produced no values exceeding WNP-2 FSAR meteorological equipment tolerances. Therefore, no correction has been made to the raw data. The NRC Delta Temperature Stability Classification scheme was utilized in the production of all joint frequency tables.

A new magnetic disk data recovery system was installed during Quarter 3 with significant data recovery to near 100% for Quarter 4.

TABLE 5-1 1ST QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
1	2	1.	0.	1.	0.	0.	1.	1.	0.	0.	0.	0.	1.	0.	1.	1.	1.
1	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
1	4	0.	0.	0.	0.	1.	0.	0.	0.	0.	3.	0.	0.	1.	1.	1.	0.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
2	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	0.	1.	0.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
3	3	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
3	4	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	3.	0.	1.	2.	0.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	2.	2.	0.	0.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	1.	2.	1.	0.	0.	0.	0.	2.	2.	2.	0.	2.	3.	3.	3.	4.
4	3	8.	7.	6.	1.	1.	2.	1.	8.	10.	7.	6.	5.	7.	3.	13.	18.
4	4	8.	7.	2.	0.	2.	1.	0.	2.	6.	37.	13.	14.	12.	7.	7.	20.
4	5	0.	0.	2.	0.	0.	0.	0.	0.	0.	7.	9.	8.	7.	2.	4.	9.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	1.	0.	0.	0.	1.	1.	1.	0.	0.	0.	2.	3.	3.	1.
5	2	27.	17.	9.	3.	3.	7.	7.	10.	16.	8.	12.	12.	13.	13.	40.	38.
5	3	27.	17.	18.	4.	1.	1.	8.	18.	40.	41.	18.	14.	25.	16.	33.	49.
5	4	2.	0.	2.	3.	2.	0.	1.	7.	13.	26.	18.	13.	14.	10.	12.	11.
5	5	0.	0.	0.	0.	0.	0.	0.	0.	1.	6.	5.	7.	3.	4.	1.	4.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	1.	0.	0.	1.	0.	1.	1.	1.	0.	0.	0.	0.	0.	2.	0.	1.
6	2	22.	9.	6.	4.	5.	4.	7.	8.	15.	19.	12.	10.	9.	25.	25.	23.
6	3	7.	5.	7.	3.	2.	0.	4.	34.	29.	20.	10.	7.	10.	7.	27.	11.
6	4	1.	0.	1.	0.	0.	0.	1.	10.	2.	2.	6.	2.	2.	5.	3.	0.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	1.	0.	2.	0.	1.	0.	1.	0.	0.	1.	1.	0.	3.
7	2	23.	12.	8.	2.	1.	6.	4.	3.	6.	3.	6.	7.	9.	14.	26.	36.
7	3	5.	4.	4.	0.	2.	1.	1.	24.	8.	8.	7.	6.	2.	1.	8.	17.
7	4	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	1.	0.	0.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1821 MISSING = 0 CALM = 6 VARIABLE = 65

TABLE 5-2 1ST QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	0.	1.	2.	2.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
1	3	0.	0.	0.	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.
1	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	1.	0.	1.	1.	0.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	1.	0.	0.	0.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	0.	1.	0.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
3	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	4	0.	0.	0.	0.	0.	0.	0.	0.	4.	1.	1.	0.	0.	3.	0.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	1.	2.	0.	0.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
4	2	3.	3.	2.	0.	0.	1.	0.	2.	1.	2.	0.	2.	0.	0.	3.	2.
4	3	7.	6.	9.	0.	0.	1.	1.	3.	6.	7.	4.	2.	2.	2.	7.	12.
4	4	15.	5.	4.	0.	4.	0.	1.	4.	8.	20.	16.	6.	9.	11.	11.	17.
4	5	2.	3.	1.	0.	0.	0.	0.	0.	1.	16.	13.	14.	11.	4.	3.	4.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	6.	5.	0.	4.	5.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
5	1	1.	1.	0.	0.	0.	1.	0.	0.	0.	1.	0.	1.	1.	1.	1.	1.
5	2	18.	21.	9.	3.	2.	6.	4.	7.	13.	12.	9.	13.	5.	5.	15.	23.
5	3	37.	18.	23.	4.	1.	2.	11.	15.	30.	29.	17.	6.	8.	16.	27.	39.
5	4	15.	5.	4.	5.	4.	0.	3.	2.	13.	25.	22.	9.	16.	9.	14.	18.
5	5	0.	0.	2.	0.	0.	0.	0.	0.	4.	9.	19.	13.	15.	9.	13.	5.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.	8.	4.	4.	3.	4.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	1.	0.	0.	0.	0.
6	1	0.	0.	0.	0.	0.	1.	1.	0.	0.	1.	0.	0.	2.	1.	2.	0.
6	2	10.	15.	8.	6.	3.	12.	8.	11.	11.	7.	8.	7.	5.	8.	8.	11.
6	3	20.	6.	9.	6.	3.	2.	2.	9.	19.	16.	9.	3.	8.	5.	12.	24.
6	4	2.	0.	5.	1.	1.	0.	0.	11.	14.	19.	3.	6.	4.	10.	10.	15.
6	5	0.	0.	0.	0.	0.	0.	0.	1.	8.	2.	3.	2.	2.	7.	8.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.
7	2	8.	4.	4.	2.	7.	6.	5.	6.	7.	10.	9.	2.	5.	6.	7.	8.
7	3	14.	7.	2.	6.	1.	0.	3.	11.	10.	15.	8.	3.	5.	8.	7.	17.
7	4	0.	2.	0.	0.	1.	0.	0.	2.	6.	7.	5.	1.	2.	5.	14.	18.
7	5	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.	4.	1.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1831 MISSING = 0 CALM = 20 VARIABLE = 41

TABLE 5-3 2ND QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	2.	6.	6.	5.	0.	2.	2.	8.	12.	4.	7.	12.	8.	14.	13.	7.
1	3	14.	18.	15.	13.	3.	1.	5.	8.	14.	12.	15.	18.	23.	15.	26.	18.
1	4	1.	2.	3.	0.	0.	0.	0.	1.	0.	7.	13.	10.	5.	3.	1.	4.
1	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.	5.	5.	5.	0.	1.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	2.	0.	2.
2	3	3.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	3.	2.	2.	2.
2	4	0.	2.	1.	0.	0.	0.	0.	0.	1.	1.	5.	3.	5.	1.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	1.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	0.	0.	0.	0.
3	3	4.	0.	0.	0.	0.	0.	0.	1.	0.	2.	3.	5.	5.	5.	2.	5.
3	4	1.	3.	0.	0.	0.	0.	0.	0.	1.	4.	6.	6.	5.	4.	2.	2.
3	5	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	1.	2.	0.	1.	0.	0.	1.	0.	4.	2.	3.	5.	6.	6.	7.	4.
4	3	11.	8.	8.	3.	2.	2.	0.	4.	14.	25.	32.	24.	13.	13.	13.	11.
4	4	5.	0.	0.	0.	0.	0.	0.	0.	5.	27.	32.	14.	4.	21.	18.	21.
4	5	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	7.	0.	11.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	2.	0.	0.	0.	0.	0.
5	2	14.	6.	5.	3.	2.	5.	7.	9.	13.	6.	11.	13.	13.	9.	9.	16.
5	3	21.	18.	12.	8.	6.	2.	2.	15.	37.	73.	50.	25.	26.	18.	22.	29.
5	4	1.	0.	0.	0.	0.	0.	0.	1.	4.	12.	17.	14.	7.	5.	11.	19.
5	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	2.	2.	2.	1.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	1.	0.	0.	0.
6	2	12.	17.	13.	4.	2.	3.	5.	4.	11.	10.	12.	9.	6.	5.	9.	12.
6	3	14.	7.	4.	6.	5.	2.	6.	7.	22.	19.	13.	12.	1.	7.	7.	13.
6	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	1.	0.	0.	1.	0.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
7	2	10.	5.	2.	2.	0.	0.	2.	1.	3.	2.	4.	3.	1.	1.	2.	3.
7	3	17.	3.	3.	5.	1.	0.	0.	0.	6.	11.	7.	1.	0.	1.	0.	6.
7	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1921 MISSING = 0 CALM = 0 VARIABLE = 40

TABLE 5-4 2ND QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	0.	0.	0.	0.	0.	2.	3.	3.	2.	7.	0.	5.	2.	0.	1.	0.
1	3	16.	16.	5.	5.	2.	1.	0.	6.	4.	5.	6.	1.	2.	1.	0.	0.
1	4	1.	2.	1.	4.	1.	0.	0.	0.	1.	5.	10.	7.	3.	1.	0.	0.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	9.	4.	2.	5.	0.	0.
1	6	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	0.	3.	6.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
2	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	1.	1.	2.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.	1.	0.	1.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.	3.	2.	1.	0.
3	4	0.	0.	0.	0.	0.	0.	0.	0.	1.	5.	6.	7.	3.	2.	1.	1.
3	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	4.	0.	2.	1.	1.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	2.	1.	0.	0.	0.	1.	0.	1.	1.	2.	4.	3.	2.	3.	3.	5.
4	3	8.	6.	6.	1.	4.	1.	0.	2.	7.	14.	23.	14.	9.	11.	4.	8.
4	4	6.	5.	4.	1.	0.	0.	0.	2.	10.	34.	33.	17.	4.	15.	19.	9.
4	5	0.	1.	1.	2.	1.	0.	0.	0.	1.	2.	8.	2.	4.	9.	8.	12.
4	6	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	3.	0.	0.	3.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
5	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
5	2	9.	7.	1.	1.	2.	4.	4.	7.	10.	5.	2.	8.	7.	3.	3.	7.
5	3	17.	14.	15.	6.	5.	4.	6.	8.	30.	54.	33.	13.	21.	22.	12.	21.
5	4	6.	10.	7.	2.	4.	1.	1.	4.	11.	27.	21.	6.	11.	14.	16.	26.
5	5	0.	0.	0.	1.	0.	1.	0.	1.	0.	5.	11.	9.	7.	5.	16.	12.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	4.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
6	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	2	12.	12.	6.	3.	2.	2.	5.	2.	5.	9.	6.	5.	4.	4.	2.	5.
6	3	22.	14.	13.	15.	11.	3.	6.	5.	15.	12.	12.	10.	4.	4.	7.	6.
6	4	2.	6.	1.	2.	1.	0.	0.	2.	1.	3.	3.	2.	1.	2.	6.	5.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	0.	0.	2.	1.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	2	3.	3.	0.	0.	0.	0.	1.	0.	2.	1.	1.	2.	4.	4.	1.	1.
7	3	10.	7.	6.	6.	1.	0.	1.	0.	3.	2.	2.	4.	3.	1.	5.	4.
7	4	6.	2.	0.	0.	0.	0.	0.	3.	0.	1.	4.	2.	1.	0.	1.	5.
7	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1594 MISSING = 0 CALM = 341 VARIABLE = 26

TABLE 5-5 3RD QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	2.	3.	1.	1.	1.	0.	0.	0.	0.	2.	0.	1.	0.	0.	0.	1.
1	3	1.	1.	1.	2.	0.	0.	1.	0.	2.	1.	0.	3.	2.	4.	3.	2.
1	4	0.	0.	1.	0.	0.	0.	0.	0.	5.	7.	19.	11.	4.	7.	10.	3.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	4.	4.	5.	2.	4.	1.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	2.	0.	4.	2.	1.	1.	1.	2.	0.
2	4	0.	0.	1.	0.	0.	0.	0.	0.	2.	1.	4.	6.	2.	7.	2.	1.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	1.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.
3	3	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	0.	2.	2.	0.	2.	0.
3	4	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	6.	4.	4.	3.	4.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	2.	3.	3.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
4	2	0.	4.	2.	2.	1.	1.	2.	3.	2.	4.	7.	3.	3.	6.	2.	7.
4	3	11.	12.	5.	2.	2.	2.	3.	6.	11.	30.	22.	9.	7.	8.	12.	9.
4	4	3.	3.	5.	1.	0.	0.	0.	0.	5.	13.	14.	3.	12.	17.	14.	13.
4	5	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	12.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	1.
5	2	10.	15.	10.	1.	0.	5.	4.	5.	10.	21.	20.	19.	7.	15.	20.	15.
5	3	31.	28.	25.	9.	5.	22.	17.	18.	39.	62.	37.	15.	17.	21.	29.	45.
5	4	3.	4.	1.	5.	1.	0.	0.	1.	9.	8.	6.	1.	0.	0.	8.	32.
5	5	4.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	1.	1.	1.	2.	0.	2.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
6	2	23.	15.	10.	10.	4.	0.	5.	14.	13.	12.	13.	20.	15.	14.	8.	20.
6	3	12.	15.	15.	6.	4.	2.	3.	19.	36.	25.	16.	8.	6.	8.	8.	16.
6	4	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.	1.	1.	0.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.	3.	
7	1	1.	0.	1.	1.	1.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	1.
7	2	11.	8.	13.	14.	2.	4.	2.	10.	16.	12.	6.	6.	6.	7.	7.	4.
7	3	5.	4.	2.	11.	5.	0.	0.	8.	12.	13.	7.	1.	1.	2.	0.	2.
7	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	14.	14.	14.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.

TOTAL NUMBER OF HOURS
USED = 1916 MISSING = 0 CALM = 10 VARIABLE = 55

TABLE 5-6 3RD QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
1	2	0.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	1.	0.
1	3	0.	3.	2.	1.	0.	0.	1.	0.	0.	1.	0.	2.	2.	2.	1.	1.
1	4	0.	0.	1.	1.	0.	0.	0.	0.	8.	4.	15.	7.	8.	7.	4.	4.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	8.	8.	3.	6.	3.	1.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	2.	1.	1.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	2.	1.	4.	1.	0.	1.	1.	2.	0.
2	4	0.	0.	1.	0.	0.	0.	0.	0.	2.	1.	4.	3.	2.	2.	1.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	2.	6.	2.	1.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.
3	3	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	1.	1.	1.	1.	1.	0.
3	4	1.	0.	0.	0.	0.	0.	0.	0.	1.	3.	6.	5.	3.	3.	2.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	4.	3.	1.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	2.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	1.	3.	2.	0.	1.	3.	2.	2.	2.	2.	3.	4.	2.	5.	5.	3.
4	3	8.	9.	2.	3.	3.	1.	1.	6.	10.	22.	12.	10.	8.	4.	7.	9.
4	4	3.	4.	6.	1.	0.	0.	0.	0.	6.	20.	24.	4.	10.	9.	8.	9.
4	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	5.	1.	2.	8.	13.	5.	20.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	1.	7.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
5	2	8.	7.	5.	5.	3.	5.	1.	6.	11.	18.	13.	11.	7.	7.	9.	9.
5	3	25.	27.	21.	2.	7.	13.	22.	14.	37.	42.	33.	16.	16.	10.	29.	23.
5	4	6.	9.	5.	7.	5.	7.	2.	9.	12.	24.	14.	2.	6.	9.	21.	34.
5	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	1.	0.	0.	14.	34.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	7.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	2	11.	7.	7.	2.	1.	3.	10.	13.	17.	12.	13.	16.	8.	7.	9.	9.
6	3	19.	14.	14.	6.	6.	5.	6.	21.	22.	22.	14.	10.	8.	5.	12.	18.
6	4	6.	0.	1.	0.	0.	0.	2.	6.	11.	10.	2.	2.	2.	6.	10.	15.
6	5	0.	0.	0.	0.	0.	0.	7.	0.	0.	0.	1.	1.	0.	3.	0.	3.
6	6	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	2	6.	3.	4.	2.	0.	3.	2.	4.	3.	6.	5.	4.	5.	5.	0.	3.
7	3	12.	11.	15.	3.	6.	8.	6.	6.	15.	13.	20.	6.	2.	3.	4.	4.
7	4	1.	0.	0.	1.	0.	0.	10.	0.	5.	5.	2.	2.	1.	0.	6.	8.
7	5	0.	0.	0.	0.	4.	0.	8.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	1.	31.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1959 MISSING = 0 CALM = 0 VARIABLE = 22

TABLE 5-7 4TH QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STABILITY CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	1.
1	2	10.	14.	5.	0.	3.	0.	4.	6.	4.	2.	2.	2.	5.	3.	6.	10.
1	3	21.	10.	0.	0.	1.	1.	1.	6.	6.	3.	1.	1.	2.	0.	2.	14.
1	4	6.	1.	0.	0.	0.	0.	0.	1.	4.	7.	1.	5.	0.	1.	5.	2.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	9.	1.	0.	0.	3.	0.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	5.	3.	1.	2.	0.	1.	0.	2.	0.	2.	0.	0.	1.	5.	3.	4.
2	3	4.	0.	0.	0.	1.	0.	2.	3.	0.	0.	0.	2.	1.	4.	5.	6.
2	4	1.	0.	0.	0.	0.	0.	0.	2.	4.	1.	1.	1.	0.	0.	0.	1.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
3	2	6.	8.	0.	1.	0.	1.	3.	4.	0.	0.	4.	3.	0.	3.	5.	7.
3	3	2.	1.	2.	0.	1.	0.	3.	7.	0.	0.	0.	1.	0.	0.	4.	5.
3	4	2.	0.	0.	0.	0.	0.	0.	2.	5.	2.	1.	2.	1.	0.	1.	2.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.	0.	0.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	2.
4	2	13.	14.	7.	1.	4.	4.	3.	12.	12.	7.	10.	10.	7.	11.	20.	19.
4	3	12.	5.	3.	5.	1.	0.	5.	10.	24.	16.	7.	2.	3.	11.	40.	26.
4	4	2.	1.	0.	0.	0.	0.	0.	4.	10.	26.	9.	10.	1.	5.	7.	12.
4	5	0.	0.	0.	0.	0.	0.	0.	0.	1.	12.	20.	6.	0.	1.	1.	0.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	1.	2.	2.	0.
5	2	46.	19.	6.	3.	2.	4.	8.	6.	15.	17.	13.	21.	17.	29.	25.	29.
5	3	18.	10.	10.	9.	0.	1.	5.	36.	46.	18.	14.	12.	14.	17.	39.	27.
5	4	4.	0.	0.	0.	0.	0.	0.	6.	17.	25.	11.	10.	2.	3.	12.	10.
5	5	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	6.	2.	0.	0.	0.	0.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.	0.
6	2	42.	31.	6.	2.	0.	4.	3.	10.	11.	12.	15.	12.	18.	22.	27.	39.
6	3	10.	2.	10.	3.	1.	0.	1.	22.	38.	17.	9.	5.	10.	17.	20.	11.
6	4	0.	0.	0.	0.	0.	0.	0.	1.	7.	9.	1.	0.	1.	2.	2.	1.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	0.
7	2	21.	18.	2.	0.	0.	0.	0.	4.	7.	10.	6.	4.	14.	5.	21.	33.
7	3	10.	2.	6.	0.	0.	0.	1.	13.	13.	6.	4.	0.	1.	5.	4.	9.
7	4	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 2155 MISSING = 0 CALM = 4 VARIABLE = 34

TABLE 5-8 4TH QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.
1	2	5.	8.	1.	6.	1.	1.	3.	6.	3.	1.	4.	0.	3.	1.	6.	8.
1	3	16.	5.	0.	1.	2.	1.	3.	6.	8.	1.	1.	1.	2.	1.	6.	15.
1	4	8.	0.	0.	0.	0.	0.	0.	1.	5.	4.	3.	1.	0.	3.	4.	11.
1	5	1.	0.	0.	0.	0.	0.	0.	0.	2.	5.	3.	2.	0.	3.	1.	2.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	7.	0.	0.	0.	1.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
2	2	4.	2.	2.	1.	0.	2.	1.	0.	1.	0.	0.	1.	0.	3.	5.	2.
2	3	2.	0.	1.	0.	0.	0.	0.	2.	0.	0.	0.	2.	1.	4.	6.	6.
2	4	1.	0.	0.	0.	0.	0.	2.	2.	1.	1.	2.	0.	0.	2.	0.	1.
2	5	0.	0.	0.	0.	0.	0.	0.	2.	1.	1.	1.	1.	0.	0.	1.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	1.	1.
3	2	4.	4.	2.	1.	0.	1.	3.	5.	0.	2.	0.	1.	1.	3.	4.	3.
3	3	2.	3.	2.	0.	0.	1.	2.	4.	0.	0.	0.	1.	1.	0.	3.	8.
3	4	2.	0.	0.	0.	0.	0.	2.	5.	2.	2.	0.	0.	1.	0.	2.	0.
3	5	1.	0.	0.	0.	0.	0.	0.	0.	3.	0.	4.	1.	0.	0.	2.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
4	2	11.	9.	3.	5.	3.	3.	3.	14.	9.	5.	7.	3.	4.	7.	16.	15.
4	3	14.	6.	6.	3.	1.	2.	1.	23.	15.	6.	2.	1.	5.	10.	30.	26.
4	4	2.	0.	0.	0.	0.	0.	0.	7.	11.	24.	8.	6.	1.	8.	24.	8.
4	5	1.	0.	0.	0.	0.	0.	0.	3.	4.	15.	12.	5.	2.	4.	8.	1.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	17.	12.	0.	0.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	1.	0.	0.	1.	1.	1.	0.	0.	0.	0.	1.	1.	1.
5	2	29.	13.	10.	5.	6.	6.	3.	14.	11.	6.	11.	6.	8.	9.	13.	23.
5	3	19.	10.	18.	6.	3.	1.	5.	20.	30.	13.	9.	7.	8.	18.	23.	36.
5	4	2.	1.	0.	1.	0.	0.	7.	22.	30.	17.	10.	11.	11.	19.	22.	13.
5	5	1.	0.	0.	0.	0.	0.	0.	2.	5.	26.	12.	6.	1.	9.	10.	8.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	6.	1.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
6	1	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	2	17.	13.	7.	10.	3.	6.	5.	11.	8.	9.	4.	5.	11.	11.	10.	16.
6	3	12.	12.	13.	2.	0.	2.	19.	18.	19.	10.	9.	5.	5.	8.	25.	31.
6	4	4.	1.	1.	0.	0.	0.	6.	13.	16.	13.	5.	4.	4.	16.	15.	5.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	2.	7.	1.	0.	1.	6.	2.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	2	9.	3.	1.	3.	2.	4.	2.	4.	2.	5.	2.	5.	4.	6.	4.	8.
7	3	7.	5.	4.	3.	1.	0.	4.	12.	19.	12.	7.	5.	3.	4.	20.	9.
7	4	0.	0.	0.	2.	0.	0.	2.	3.	5.	3.	2.	1.	2.	10.	16.	6.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 2172 MISSING = 0 CALM = 5 VARIABLE = 16

TABLE 5-9 1988 ANNUAL JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	1.	1.	0.	1.	0.	0.	1.	1.	1.	1.	0.	0.	0.	0.	1.
1	2	15.	23.	13.	6.	4.	3.	7.	14.	16.	8.	9.	16.	13.	18.	20.	19.
1	3	36.	29.	16.	15.	4.	2.	7.	14.	22.	17.	16.	22.	27.	19.	31.	34.
1	4	7.	3.	4.	0.	1.	0.	0.	2.	9.	24.	33.	26.	10.	12.	17.	9.
1	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	5.	18.	10.	10.	7.	7.	2.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	5.	3.	1.	3.	0.	1.	0.	2.	3.	2.	0.	0.	1.	8.	3.	6.
2	3	7.	0.	0.	0.	1.	0.	3.	6.	0.	4.	3.	3.	5.	7.	9.	8.
2	4	1.	2.	2.	0.	0.	0.	0.	2.	7.	5.	12.	10.	8.	8.	2.	2.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	4.	2.	3.	2.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
3	2	7.	8.	0.	1.	0.	2.	4.	4.	0.	0.	5.	4.	1.	4.	6.	8.
3	3	6.	1.	2.	0.	1.	1.	3.	8.	1.	5.	3.	8.	7.	6.	8.	10.
3	4	4.	3.	0.	0.	1.	0.	0.	2.	7.	9.	16.	12.	11.	9.	7.	4.
3	5	0.	1.	0.	0.	0.	0.	0.	0.	1.	1.	3.	6.	3.	3.	3.	4.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	2.
4	2	15.	22.	11.	4.	5.	5.	6.	17.	21.	15.	20.	21.	19.	26.	32.	34.
4	3	42.	32.	22.	11.	6.	6.	9.	28.	59.	78.	67.	40.	30.	35.	78.	64.
4	4	18.	11.	7.	1.	2.	1.	0.	6.	26.	103.	68.	41.	29.	50.	46.	66.
4	5	5.	0.	2.	0.	0.	0.	0.	0.	1.	19.	29.	17.	10.	10.	5.	32.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	1.	1.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	2.	2.	0.	0.	1.	2.	2.	1.	2.	0.	3.	6.	6.	2.
5	2	98.	59.	31.	10.	8.	21.	26.	30.	54.	52.	56.	65.	50.	66.	95.	98.
5	3	97.	73.	65.	30.	12.	26.	32.	87.	162.	194.	119.	66.	82.	72.	123.	150.
5	4	10.	4.	3.	8.	3.	0.	1.	15.	43.	71.	52.	38.	23.	18.	43.	72.
5	5	5.	0.	0.	0.	0.	0.	0.	1.	1.	7.	12.	12.	5.	6.	3.	8.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	2.	2.	1.	3.	0.	3.	1.	1.	0.	0.	2.	0.	2.	3.	2.	1.
6	2	100.	72.	35.	20.	11.	11.	20.	36.	51.	53.	52.	51.	48.	66.	69.	95.
6	3	43.	29.	36.	18.	12.	4.	14.	82.	125.	81.	48.	32.	27.	39.	62.	51.
6	4	2.	1.	1.	0.	0.	0.	1.	11.	9.	14.	12.	3.	3.	8.	7.	1.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.	3.
7	1	1.	1.	1.	2.	1.	2.	0.	1.	0.	2.	2.	1.	2.	3.	1.	4.
7	2	65.	43.	25.	18.	3.	10.	8.	18.	32.	27.	22.	20.	30.	27.	56.	76.
7	3	37.	13.	15.	16.	8.	1.	2.	45.	39.	38.	25.	8.	4.	9.	12.	34.
7	4	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.	1.	1.	1.	1.	1.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	14.	14.	14.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.

TOTAL NUMBER OF HOURS
USED = 7825 MISSING = 0 CALM = 20 VARIABLE = 196

TABLE 5-10 1988 ANNUAL JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	1.	0.	1.	1.	1.	0.	0.	0.	0.	2.	0.	0.	0.
1	2	5.	11.	4.	8.	1.	3.	6.	9.	6.	9.	5.	5.	6.	1.	8.	8.
1	3	32.	24.	7.	7.	5.	2.	4.	13.	12.	7.	7.	4.	6.	4.	7.	17.
1	4	9.	2.	2.	5.	1.	0.	0.	1.	14.	15.	28.	16.	11.	12.	9.	15.
1	5	1.	0.	0.	0.	0.	0.	0.	0.	2.	13.	20.	14.	6.	14.	4.	3.
1	6	0.	0.	0.	0.	0.	1.	1.	0.	1.	2.	9.	3.	8.	1.	2.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
2	2	5.	2.	2.	2.	0.	2.	1.	0.	2.	1.	0.	1.	0.	4.	6.	2.
2	3	2.	0.	1.	0.	0.	0.	0.	4.	1.	4.	1.	2.	3.	5.	8.	6.
2	4	1.	0.	1.	0.	0.	0.	2.	2.	3.	5.	11.	4.	4.	6.	1.	1.
2	5	0.	0.	0.	0.	0.	0.	0.	2.	1.	2.	4.	3.	2.	7.	3.	2.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	4.	1.	1.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	1.	1.
3	2	4.	4.	2.	1.	0.	1.	3.	5.	0.	2.	0.	1.	1.	3.	7.	3.
3	3	2.	3.	2.	0.	0.	1.	2.	4.	2.	1.	2.	4.	5.	3.	5.	8.
3	4	3.	0.	0.	0.	0.	0.	2.	5.	8.	11.	13.	12.	7.	8.	5.	1.
3	5	2.	0.	0.	0.	0.	0.	0.	0.	3.	1.	8.	8.	3.	6.	6.	2.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	2.	0.	2.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	1.	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.
4	2	17.	16.	8.	5.	4.	8.	5.	20.	13.	12.	14.	12.	8.	15.	27.	25.
4	3	37.	27.	23.	7.	8.	5.	3.	34.	38.	49.	41.	27.	24.	27.	48.	55.
4	4	26.	14.	14.	2.	4.	0.	1.	13.	35.	98.	81.	33.	24.	43.	62.	43.
4	5	4.	4.	2.	2.	1.	0.	0.	3.	6.	38.	34.	23.	25.	30.	24.	37.
4	6	0.	0.	0.	0.	0.	1.	0.	0.	0.	17.	14.	6.	10.	0.	5.	15.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	0.	1.	1.	0.	0.
5	1	1.	2.	0.	1.	0.	1.	1.	1.	1.	1.	0.	2.	1.	3.	3.	2.
5	2	65.	51.	26.	14.	13.	21.	12.	34.	45.	41.	35.	39.	27.	24.	40.	63.
5	3	98.	69.	77.	18.	16.	20.	44.	57.	127.	138.	92.	42.	53.	66.	91.	119.
5	4	29.	25.	16.	15.	13.	8.	13.	37.	66.	93.	67.	28.	44.	51.	73.	91.
5	5	2.	0.	2.	1.	0.	1.	0.	3.	9.	42.	45.	29.	23.	23.	53.	59.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	16.	11.	6.	8.	4.	11.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	1.	0.	0.	1.	0.
6	1	0.	1.	0.	1.	0.	1.	1.	0.	0.	1.	0.	0.	2.	1.	2.	0.
6	2	50.	47.	28.	21.	9.	23.	28.	37.	41.	37.	31.	33.	28.	30.	29.	42.
6	3	74.	46.	49.	29.	20.	12.	33.	53.	75.	60.	44.	28.	25.	22.	56.	79.
6	4	14.	7.	8.	3.	2.	0.	8.	32.	42.	45.	13.	14.	11.	34.	41.	40.
6	5	0.	0.	0.	0.	0.	0.	7.	1.	10.	9.	8.	5.	3.	16.	12.	4.
6	6	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	2.	0.	0.	1.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.
7	2	26.	13.	9.	7.	9.	13.	10.	14.	14.	22.	17.	13.	18.	21.	12.	20.
7	3	43.	30.	27.	18.	9.	8.	14.	29.	47.	42.	37.	18.	13.	16.	36.	34.
7	4	7.	4.	0.	3.	1.	0.	12.	8.	16.	16.	13.	6.	6.	15.	37.	37.
7	5	1.	0.	0.	0.	5.	0.	8.	0.	0.	0.	0.	1.	0.	4.	1.	1.
7	6	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.	0.	0.	1.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	1.	31.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 7569 MISSING = 0 CALM = 366 VARIABLE = 106

TABLE 5-11 VENT AND PURGES 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	1.	1.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
1	2	2.	6.	5.	2.	1.	3.	1.	6.	7.	2.	2.	3.	2.	1.	4.	5.
1	3	9.	7.	2.	6.	1.	1.	1.	4.	6.	6.	3.	6.	1.	1.	1.	2.
1	4	1.	0.	1.	0.	1.	0.	0.	1.	2.	9.	14.	8.	0.	1.	3.	3.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	5.	2.	1.	2.	0.	0.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	2.	1.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
2	3	1.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	0.	1.	1.
2	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	4.	1.	2.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	1.	1.	0.	1.	0.	1.	0.	3.	0.	0.	0.	0.	0.	1.	1.	1.
3	3	0.	0.	0.	0.	1.	0.	0.	1.	0.	1.	0.	1.	1.	1.	3.	0.
3	4	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	5.	6.	1.	2.	0.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
[illegible]	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
[illegible]	2	6.	3.	4.	3.	0.	2.	1.	3.	5.	2.	2.	4.	3.	2.	4.	4.
[illegible]	3	11.	4.	3.	2.	1.	1.	0.	6.	5.	14.	9.	6.	5.	8.	15.	8.
4	4	2.	1.	1.	1.	0.	0.	0.	1.	8.	16.	12.	3.	7.	8.	10.	14.
4	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.	10.	1.	0.	1.	1.	3.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	1.	0.	0.	0.	0.	1.	1.	1.	0.	1.	2.	2.	0.
5	2	21.	20.	7.	2.	0.	3.	4.	2.	11.	8.	14.	11.	12.	20.	17.	25.
5	3	17.	16.	11.	3.	0.	8.	10.	17.	29.	25.	21.	8.	12.	13.	23.	31.
5	4	2.	0.	1.	5.	0.	0.	0.	2.	7.	19.	13.	6.	2.	1.	2.	15.
5	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	7.	1.	0.	0.	0.	0.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	1.	1.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.
6	2	23.	23.	7.	9.	7.	4.	3.	12.	10.	14.	17.	11.	9.	11.	17.	22.
6	3	11.	5.	7.	3.	4.	1.	3.	10.	33.	15.	12.	6.	9.	7.	15.	7.
6	4	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	4.	0.	1.	0.	0.	0.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
7	1	1.	1.	1.	1.	1.	0.	0.	0.	0.	1.	0.	0.	0.	1.	0.	1.
7	2	13.	10.	9.	9.	2.	3.	3.	7.	12.	5.	4.	5.	4.	8.	11.	11.
7	3	13.	4.	3.	4.	2.	0.	0.	4.	6.	13.	7.	2.	0.	3.	4.	12.
7	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
[illegible]	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
[illegible]	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
[illegible]	7	2.	5.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1582 MISSING = 0 CALM = 4 VARIABLE = 43

TABLE 5-12 VENTS AND PURGES 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUN WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	0.	1.	0.	3.	0.	1.	2.	4.	3.	8.	1.	4.	3.	0.	6.	1.
1	3	9.	9.	6.	3.	3.	2.	1.	7.	4.	4.	4.	1.	3.	2.	1.	3.
1	4	3.	1.	2.	4.	0.	0.	0.	0.	2.	5.	14.	5.	0.	2.	1.	4.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	2.	4.	6.	6.	1.	3.	0.	1.
1	6	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	2.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.
2	3	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	3.
2	4	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	2.	1.	0.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	2.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	1.	0.	1.	0.	0.	1.	0.	3.	0.	0.	0.	0.	1.	0.	1.	1.
3	3	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.	1.	1.
3	4	1.	0.	0.	0.	0.	0.	0.	1.	1.	1.	5.	4.	1.	4.	1.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.	0.	1.	1.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
[illegible]	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
[illegible]	2	5.	5.	2.	2.	0.	2.	0.	2.	1.	4.	4.	2.	0.	1.	5.	5.
	3	8.	3.	2.	3.	0.	1.	0.	5.	4.	13.	2.	6.	3.	8.	6.	11.
4	4	1.	0.	2.	1.	1.	0.	0.	3.	6.	10.	23.	4.	7.	10.	10.	8.
4	5	2.	0.	0.	0.	0.	0.	0.	1.	2.	2.	7.	2.	4.	6.	7.	7.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.	5.	2.	0.	0.	0.	1.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.
5	1	0.	1.	0.	1.	0.	0.	1.	0.	0.	1.	0.	0.	1.	1.	1.	1.
5	2	12.	10.	4.	5.	3.	5.	1.	3.	6.	9.	9.	11.	9.	4.	10.	17.
5	3	20.	19.	12.	2.	1.	7.	11.	12.	25.	20.	17.	4.	13.	10.	33.	26.
5	4	3.	3.	1.	4.	1.	0.	3.	5.	11.	15.	18.	2.	4.	4.	12.	17.
5	5	2.	0.	0.	1.	0.	0.	0.	0.	1.	8.	14.	2.	5.	0.	5.	14.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	9.	2.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
6	1	0.	0.	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.	0.
6	2	16.	13.	3.	6.	1.	4.	9.	11.	10.	7.	7.	10.	3.	2.	7.	3.
6	3	21.	14.	16.	7.	5.	2.	8.	12.	16.	16.	9.	3.	5.	6.	19.	16.
6	4	0.	0.	0.	1.	0.	0.	0.	7.	3.	12.	2.	3.	3.	14.	13.	11.
6	5	0.	0.	0.	0.	0.	0.	1.	0.	1.	2.	3.	1.	1.	2.	0.	1.
6	6	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
7	2	4.	3.	4.	2.	0.	5.	3.	2.	2.	5.	3.	4.	2.	5.	3.	2.
7	3	12.	13.	5.	5.	3.	5.	5.	8.	9.	8.	12.	2.	0.	3.	7.	10.
7	4	6.	2.	0.	0.	0.	0.	1.	1.	3.	3.	4.	3.	5.	2.	9.	10.
[illegible]	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
[illegible]	6	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
[illegible]	7	0.	0.	0.	0.	0.	1.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1604 MISSING = 0 CALM = 3 VARIABLE = 22

TABLE 5-1 1ST QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
1	2	1.	0.	1.	0.	0.	1.	1.	0.	0.	0.	0.	1.	0.	1.	1.	1.
1	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
1	4	0.	0.	0.	0.	1.	0.	0.	0.	0.	3.	0.	0.	1.	1.	1.	0.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
2	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	0.	1.	0.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
3	3	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
3	4	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	3.	0.	1.	2.	0.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	2.	2.	0.	0.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	1.	2.	1.	0.	0.	0.	0.	2.	2.	2.	0.	2.	3.	3.	3.	4.
4	3	8.	7.	6.	1.	1.	2.	1.	8.	10.	7.	6.	5.	7.	3.	13.	18.
4	4	8.	7.	2.	0.	2.	1.	0.	2.	6.	37.	13.	14.	12.	7.	7.	20.
4	5	0.	0.	2.	0.	0.	0.	0.	0.	0.	7.	9.	8.	7.	2.	4.	9.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	1.	0.	0.	0.	1.	1.	1.	0.	0.	0.	2.	3.	3.	1.
5	2	27.	17.	9.	3.	3.	7.	7.	10.	16.	8.	12.	12.	13.	13.	40.	38.
5	3	27.	17.	18.	4.	1.	1.	8.	18.	40.	41.	18.	14.	25.	16.	33.	49.
5	4	2.	0.	2.	3.	2.	0.	1.	7.	13.	26.	18.	13.	14.	10.	12.	11.
5	5	0.	0.	0.	0.	0.	0.	0.	0.	1.	6.	5.	7.	3.	4.	1.	4.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	1.	0.	0.	1.	0.	1.	1.	1.	0.	0.	0.	0.	0.	2.	0.	1.
6	2	22.	9.	6.	4.	5.	4.	7.	8.	15.	19.	12.	10.	9.	25.	25.	23.
6	3	7.	5.	7.	3.	2.	0.	4.	34.	29.	20.	10.	7.	10.	7.	27.	11.
6	4	1.	0.	1.	0.	0.	0.	1.	10.	2.	2.	6.	2.	2.	5.	3.	0.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	1.	0.	2.	0.	1.	0.	1.	0.	0.	1.	1.	0.	3.
7	2	23.	12.	8.	2.	1.	6.	4.	3.	6.	3.	6.	7.	9.	14.	26.	36.
7	3	5.	4.	4.	0.	2.	1.	1.	24.	8.	8.	7.	6.	2.	1.	8.	17.
7	4	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	1.	0.	0.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1821 MISSING = 0 CALM = 6 VARIABLE = 65

TABLE 5-2 1ST QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	0.	1.	2.	2.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
1	3	0.	0.	0.	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.
1	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	1.	0.	1.	1.	0.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	1.	0.	0.	0.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	0.	1.	0.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
3	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	4	0.	0.	0.	0.	0.	0.	0.	0.	4.	1.	1.	0.	0.	3.	0.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	1.	2.	0.	0.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
4	2	3.	3.	2.	0.	0.	1.	0.	2.	1.	2.	0.	2.	0.	0.	3.	2.
4	3	7.	6.	9.	0.	0.	1.	1.	3.	6.	7.	4.	2.	2.	2.	7.	12.
4	4	15.	5.	4.	0.	4.	0.	1.	4.	8.	20.	16.	6.	9.	11.	11.	17.
4	5	2.	3.	1.	0.	0.	0.	0.	0.	1.	16.	13.	14.	11.	4.	3.	4.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	6.	5.	0.	4.	5.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
5	1	1.	1.	0.	0.	0.	1.	0.	0.	0.	1.	0.	1.	1.	1.	1.	1.
5	2	18.	21.	9.	3.	2.	6.	4.	7.	13.	12.	9.	13.	5.	5.	15.	23.
5	3	37.	18.	23.	4.	1.	2.	11.	15.	30.	29.	17.	6.	8.	16.	27.	39.
5	4	15.	5.	4.	5.	4.	0.	3.	2.	13.	25.	22.	9.	16.	9.	14.	18.
5	5	0.	0.	2.	0.	0.	0.	0.	0.	4.	9.	19.	13.	15.	9.	13.	5.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.	8.	4.	4.	3.	4.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	1.	0.	0.	0.	0.
6	1	0.	0.	0.	0.	0.	1.	1.	0.	0.	1.	0.	0.	2.	1.	2.	0.
6	2	10.	15.	8.	6.	3.	12.	8.	11.	11.	7.	8.	7.	5.	8.	8.	11.
6	3	20.	6.	9.	6.	3.	2.	2.	9.	19.	16.	9.	3.	8.	5.	12.	24.
6	4	2.	0.	5.	1.	1.	0.	0.	11.	14.	19.	3.	6.	4.	10.	10.	15.
6	5	0.	0.	0.	0.	0.	0.	0.	1.	8.	2.	3.	2.	2.	7.	8.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.
7	2	8.	4.	4.	2.	7.	6.	5.	6.	7.	10.	9.	2.	5.	6.	7.	8.
7	3	14.	7.	2.	6.	1.	0.	3.	11.	10.	15.	8.	3.	5.	8.	7.	17.
7	4	0.	2.	0.	0.	1.	0.	0.	2.	6.	7.	5.	1.	2.	5.	14.	18.
7	5	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.	4.	1.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1831 MISSING = 0 CALM = 20 VARIABLE = 41

TABLE 5-3 2ND QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	2.	6.	6.	5.	0.	2.	2.	8.	12.	4.	7.	12.	8.	14.	13.	7.
1	3	14.	18.	15.	13.	3.	1.	5.	8.	14.	12.	15.	18.	23.	15.	26.	18.
1	4	1.	2.	3.	0.	0.	0.	0.	1.	0.	7.	13.	10.	5.	3.	1.	4.
1	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.	5.	5.	5.	0.	1.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	2.	0.	2.
2	3	3.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	3.	2.	2.	2.
2	4	0.	2.	1.	0.	0.	0.	0.	0.	1.	1.	5.	3.	5.	1.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	1.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	0.	0.	0.	0.
3	3	4.	0.	0.	0.	0.	0.	0.	1.	0.	2.	3.	5.	5.	5.	2.	5.
3	4	1.	3.	0.	0.	0.	0.	0.	0.	1.	4.	6.	6.	5.	4.	2.	2.
3	5	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	1.	2.	0.	1.	0.	0.	1.	0.	4.	2.	3.	5.	6.	6.	7.	4.
4	3	11.	8.	8.	3.	2.	2.	0.	4.	14.	25.	32.	24.	13.	13.	13.	11.
4	4	5.	0.	0.	0.	0.	0.	0.	0.	5.	27.	32.	14.	4.	21.	18.	21.
4	5	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	7.	0.	11.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	2.	0.	0.	0.	0.	0.
5	2	14.	6.	5.	3.	2.	5.	7.	9.	13.	6.	11.	13.	13.	9.	9.	16.
5	3	21.	18.	12.	8.	6.	2.	2.	15.	37.	73.	50.	25.	26.	18.	22.	29.
5	4	1.	0.	0.	0.	0.	0.	0.	1.	4.	12.	17.	14.	7.	5.	11.	19.
5	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	2.	2.	2.	1.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	1.	0.	0.	0.
6	2	12.	17.	13.	4.	2.	3.	5.	4.	11.	10.	12.	9.	6.	5.	9.	12.
6	3	14.	7.	4.	6.	5.	2.	6.	7.	22.	19.	13.	12.	1.	7.	7.	13.
6	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	1.	0.	0.	1.	0.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
7	2	10.	5.	2.	2.	0.	0.	2.	1.	3.	2.	4.	3.	1.	1.	2.	3.
7	3	17.	3.	3.	5.	1.	0.	0.	0.	6.	11.	7.	1.	0.	1.	0.	6.
7	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1921 MISSING = 0 CALM = 0 VARIABLE = 40

TABLE S-4 2ND QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	0.	0.	0.	0.	0.	2.	3.	3.	2.	7.	0.	5.	2.	0.	1.	0.
1	3	16.	16.	5.	5.	2.	1.	0.	6.	4.	5.	6.	1.	2.	1.	0.	0.
1	4	1.	2.	1.	4.	1.	0.	0.	0.	1.	5.	10.	7.	3.	1.	0.	0.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	9.	4.	2.	5.	0.	0.
1	6	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	0.	3.	6.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
2	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	1.	1.	2.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.	1.	0.	1.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.	3.	2.	1.	0.
3	4	0.	0.	0.	0.	0.	0.	0.	0.	1.	5.	6.	7.	3.	2.	1.	1.
3	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	4.	0.	2.	1.	1.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	2.	1.	0.	0.	0.	1.	0.	1.	1.	2.	4.	3.	2.	3.	3.	5.
4	3	8.	6.	6.	1.	4.	1.	0.	2.	7.	14.	23.	14.	9.	11.	4.	8.
4	4	6.	5.	4.	1.	0.	0.	0.	2.	10.	34.	33.	17.	4.	15.	19.	9.
4	5	0.	1.	1.	2.	1.	0.	0.	0.	1.	2.	8.	2.	4.	9.	8.	12.
4	6	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	3.	0.	0.	3.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
5	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
5	2	9.	7.	1.	1.	2.	4.	4.	7.	10.	5.	2.	8.	7.	3.	3.	7.
5	3	17.	14.	15.	6.	5.	4.	6.	8.	30.	54.	33.	13.	21.	22.	12.	21.
5	4	6.	10.	7.	2.	4.	1.	1.	4.	11.	27.	21.	6.	11.	14.	16.	26.
5	5	0.	0.	0.	1.	0.	1.	0.	1.	0.	5.	11.	9.	7.	5.	16.	12.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	4.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
6	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	2	12.	12.	6.	3.	2.	2.	5.	2.	5.	9.	6.	5.	4.	4.	2.	5.
6	3	22.	14.	13.	15.	11.	3.	6.	5.	15.	12.	12.	10.	4.	4.	7.	6.
6	4	2.	6.	1.	2.	1.	0.	0.	2.	1.	3.	3.	2.	1.	2.	6.	5.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	0.	0.	2.	1.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	2	3.	3.	0.	0.	0.	0.	1.	0.	2.	1.	1.	2.	4.	4.	1.	1.
7	3	10.	7.	6.	6.	1.	0.	1.	0.	3.	2.	2.	4.	3.	1.	5.	4.
7	4	6.	2.	0.	0.	0.	0.	0.	3.	0.	1.	4.	2.	1.	0.	1.	5.
7	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1594 MISSING = 0 CALM = 341 VARIABLE = 26

TABLE 5-5 3RD QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	2.	3.	1.	1.	1.	0.	0.	0.	0.	2.	0.	1.	0.	0.	0.	1.
1	3	1.	1.	1.	2.	0.	0.	1.	0.	2.	1.	0.	3.	2.	4.	3.	2.
1	4	0.	0.	1.	0.	0.	0.	0.	0.	5.	7.	19.	11.	4.	7.	10.	3.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	4.	4.	5.	2.	4.	1.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	2.	0.	4.	2.	1.	1.	1.	2.	0.
2	4	0.	0.	1.	0.	0.	0.	0.	0.	2.	1.	4.	6.	2.	7.	2.	1.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	1.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.
3	3	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	0.	2.	2.	0.	2.	0.
3	4	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	6.	4.	4.	3.	4.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	2.	3.	3.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
4	2	0.	4.	2.	2.	1.	1.	2.	3.	2.	4.	7.	3.	3.	6.	2.	7.
4	3	11.	12.	5.	2.	2.	2.	3.	6.	11.	30.	22.	9.	7.	8.	12.	9.
4	4	3.	3.	5.	1.	0.	0.	0.	0.	5.	13.	14.	3.	12.	17.	14.	13.
4	5	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	12.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	1.
5	2	10.	15.	10.	1.	0.	5.	4.	5.	10.	21.	20.	19.	7.	15.	20.	15.
5	3	31.	28.	25.	9.	5.	22.	17.	18.	39.	62.	37.	15.	17.	21.	29.	45.
5	4	3.	4.	1.	5.	1.	0.	0.	1.	9.	8.	6.	1.	0.	0.	8.	32.
5	5	4.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	1.	1.	1.	2.	0.	2.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
6	2	23.	15.	10.	10.	4.	0.	5.	14.	13.	12.	13.	20.	15.	14.	8.	20.
6	3	12.	15.	15.	6.	4.	2.	3.	19.	36.	25.	16.	8.	6.	8.	8.	16.
6	4	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.	1.	1.	0.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.	3.
7	1	1.	0.	1.	1.	1.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	1.
7	2	11.	8.	13.	14.	2.	4.	2.	10.	16.	12.	6.	6.	6.	7.	7.	4.
7	3	5.	4.	2.	11.	5.	0.	0.	8.	12.	13.	7.	1.	1.	2.	0.	2.
7	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	14.	14.	14.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.

TOTAL NUMBER OF HOURS
USED = 1916 MISSING = 0 CALM = 10 VARIABLE = 55

TABLE 5-6 3RD QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
1	2	0.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	1.	0.
1	3	0.	3.	2.	1.	0.	0.	1.	0.	0.	1.	0.	2.	2.	2.	1.	1.
1	4	0.	0.	1.	1.	0.	0.	0.	0.	8.	4.	15.	7.	8.	7.	4.	4.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	8.	8.	3.	6.	3.	1.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	2.	1.	1.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
2	3	0.	0.	0.	0.	0.	0.	0.	2.	1.	4.	1.	0.	1.	1.	2.	0.
2	4	0.	0.	1.	0.	0.	0.	0.	0.	2.	1.	4.	3.	2.	2.	1.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	2.	6.	2.	1.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.
3	3	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	1.	1.	1.	1.	1.	0.
3	4	1.	0.	0.	0.	0.	0.	0.	0.	1.	3.	6.	5.	3.	3.	2.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	4.	3.	1.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	2.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	1.	3.	2.	0.	1.	3.	2.	2.	2.	2.	3.	4.	2.	5.	5.	3.
4	3	8.	9.	2.	3.	3.	1.	1.	6.	10.	22.	12.	10.	8.	4.	7.	9.
4	4	3.	4.	6.	1.	0.	0.	0.	0.	6.	20.	24.	4.	10.	9.	8.	9.
4	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	5.	1.	2.	8.	13.	5.	20.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	1.	7.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
5	2	8.	7.	5.	5.	3.	5.	1.	6.	11.	18.	13.	11.	7.	7.	9.	9.
5	3	25.	27.	21.	2.	7.	13.	22.	14.	37.	42.	33.	16.	16.	10.	29.	23.
5	4	6.	9.	5.	7.	5.	7.	2.	9.	12.	24.	14.	2.	6.	9.	21.	34.
5	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	1.	0.	0.	14.	34.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	7.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	2	11.	7.	7.	2.	1.	3.	10.	13.	17.	12.	13.	16.	8.	7.	9.	9.
6	3	19.	14.	14.	6.	6.	5.	6.	21.	22.	22.	14.	10.	8.	5.	12.	18.
6	4	6.	0.	1.	0.	0.	0.	2.	6.	11.	10.	2.	2.	2.	6.	10.	15.
6	5	0.	0.	0.	0.	0.	0.	7.	0.	0.	0.	1.	1.	0.	3.	0.	3.
6	6	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	2	6.	3.	4.	2.	0.	3.	2.	4.	3.	6.	5.	4.	5.	5.	0.	3.
7	3	12.	11.	15.	3.	6.	8.	6.	6.	15.	13.	20.	6.	2.	3.	4.	4.
7	4	1.	0.	0.	1.	0.	0.	10.	0.	5.	5.	2.	2.	1.	0.	6.	8.
7	5	0.	0.	0.	0.	4.	0.	8.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	1.	31.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1959 MISSING = 0 CALM = 0 VARIABLE = 22

TABLE 5-7 4TH QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	1.
1	2	10.	14.	5.	0.	3.	0.	4.	6.	4.	2.	2.	2.	5.	3.	6.	10.
1	3	21.	10.	0.	0.	1.	1.	1.	6.	6.	3.	1.	1.	2.	0.	2.	14.
1	4	6.	1.	0.	0.	0.	0.	0.	1.	4.	7.	1.	5.	0.	1.	5.	2.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	9.	1.	0.	0.	3.	0.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	5.	3.	1.	2.	0.	1.	0.	2.	0.	2.	0.	0.	1.	5.	3.	4.
2	3	4.	0.	0.	0.	1.	0.	2.	3.	0.	0.	0.	2.	1.	4.	5.	6.
2	4	1.	0.	0.	0.	0.	0.	0.	2.	4.	1.	1.	1.	0.	0.	0.	1.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
3	2	6.	8.	0.	1.	0.	1.	3.	4.	0.	0.	4.	3.	0.	3.	5.	7.
3	3	2.	1.	2.	0.	1.	0.	3.	7.	0.	0.	0.	1.	0.	0.	4.	5.
3	4	2.	0.	0.	0.	0.	0.	0.	2.	5.	2.	1.	2.	1.	0.	1.	2.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.	0.	0.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	2.
4	2	13.	14.	7.	1.	4.	4.	3.	12.	12.	7.	10.	10.	7.	11.	20.	19.
4	3	12.	5.	3.	5.	1.	0.	5.	10.	24.	16.	7.	2.	3.	11.	40.	26.
4	4	2.	1.	0.	0.	0.	0.	0.	4.	10.	26.	9.	10.	1.	5.	7.	12.
4	5	0.	0.	0.	0.	0.	0.	0.	0.	1.	12.	20.	6.	0.	1.	1.	0.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	1.	2.	2.	0.
5	2	46.	19.	6.	3.	2.	4.	8.	6.	15.	17.	13.	21.	17.	29.	25.	29.
5	3	18.	10.	10.	9.	0.	1.	5.	36.	46.	18.	14.	12.	14.	17.	39.	27.
5	4	4.	0.	0.	0.	0.	0.	0.	6.	17.	25.	11.	10.	2.	3.	12.	10.
5	5	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	6.	2.	0.	0.	0.	0.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.	0.
6	2	42.	31.	6.	2.	0.	4.	3.	10.	11.	12.	15.	12.	18.	22.	27.	39.
6	3	10.	2.	10.	3.	1.	0.	1.	22.	38.	17.	9.	5.	10.	17.	20.	11.
6	4	0.	0.	0.	0.	0.	0.	0.	1.	7.	9.	1.	0.	1.	2.	2.	1.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	0.
7	2	21.	18.	2.	0.	0.	0.	0.	4.	7.	10.	6.	4.	14.	5.	21.	33.
7	3	10.	2.	6.	0.	0.	0.	1.	13.	13.	6.	4.	0.	1.	5.	4.	9.
7	4	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 2155 MISSING = 0 CALM = 4 VARIABLE = 34

TABLE 5-8 4TH QUARTER 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.
1	2	5.	8.	1.	6.	1.	1.	3.	6.	3.	1.	4.	0.	3.	1.	6.	8.
1	3	16.	5.	0.	1.	2.	1.	3.	6.	8.	1.	1.	1.	2.	1.	6.	15.
1	4	8.	0.	0.	0.	0.	0.	0.	1.	5.	4.	3.	1.	0.	3.	4.	11.
1	5	1.	0.	0.	0.	0.	0.	0.	0.	2.	5.	3.	2.	0.	3.	1.	2.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	7.	0.	0.	0.	1.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
2	2	4.	2.	2.	1.	0.	2.	1.	0.	1.	0.	0.	1.	0.	3.	5.	2.
2	3	2.	0.	1.	0.	0.	0.	0.	2.	0.	0.	0.	2.	1.	4.	6.	6.
2	4	1.	0.	0.	0.	0.	0.	2.	2.	1.	1.	2.	0.	0.	2.	0.	1.
2	5	0.	0.	0.	0.	0.	0.	0.	2.	1.	1.	1.	1.	0.	0.	1.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	1.	1.
3	2	4.	4.	2.	1.	0.	1.	3.	5.	0.	2.	0.	1.	1.	3.	4.	3.
3	3	2.	3.	2.	0.	0.	1.	2.	4.	0.	0.	0.	1.	1.	0.	3.	8.
3	4	2.	0.	0.	0.	0.	0.	2.	5.	2.	2.	0.	0.	1.	0.	2.	0.
3	5	1.	0.	0.	0.	0.	0.	0.	0.	3.	0.	4.	1.	0.	0.	2.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
4	2	11.	9.	3.	5.	3.	3.	3.	14.	9.	5.	7.	3.	4.	7.	16.	15.
4	3	14.	6.	6.	3.	1.	2.	1.	23.	15.	6.	2.	1.	5.	10.	30.	26.
4	4	2.	0.	0.	0.	0.	0.	0.	7.	11.	24.	8.	6.	1.	8.	24.	8.
4	5	1.	0.	0.	0.	0.	0.	0.	3.	4.	15.	12.	5.	2.	4.	8.	1.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	17.	12.	0.	0.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	1.	0.	0.	1.	1.	1.	0.	0.	0.	0.	1.	1.	1.
5	2	29.	13.	10.	5.	6.	6.	3.	14.	11.	6.	11.	6.	8.	9.	13.	23.
5	3	19.	10.	18.	6.	3.	1.	5.	20.	30.	13.	9.	7.	8.	18.	23.	36.
5	4	2.	1.	0.	1.	0.	0.	7.	22.	30.	17.	10.	11.	11.	19.	22.	13.
5	5	1.	0.	0.	0.	0.	0.	0.	2.	5.	26.	12.	6.	1.	9.	10.	8.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	6.	1.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
6	1	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	2	17.	13.	7.	10.	3.	6.	5.	11.	8.	9.	4.	5.	11.	11.	10.	16.
6	3	12.	12.	13.	2.	0.	2.	19.	18.	19.	10.	9.	5.	5.	8.	25.	31.
6	4	4.	1.	1.	0.	0.	0.	6.	13.	16.	13.	5.	4.	4.	16.	15.	5.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	2.	7.	1.	0.	1.	6.	2.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	2	9.	3.	1.	3.	2.	4.	2.	4.	2.	5.	2.	5.	4.	6.	4.	8.
7	3	7.	5.	4.	3.	1.	0.	4.	12.	19.	12.	7.	5.	3.	4.	20.	9.
7	4	0.	0.	0.	2.	0.	0.	2.	3.	5.	3.	2.	1.	2.	10.	16.	6.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 2172 MISSING = 0 CALM = 5 VARIABLE = 16

TABLE 5-9 1988 ANNUAL JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	1.	1.	0.	1.	0.	0.	1.	1.	1.	1.	0.	0.	0.	0.	1.
1	2	15.	23.	13.	6.	4.	3.	7.	14.	16.	8.	9.	16.	13.	18.	20.	19.
1	3	36.	29.	16.	15.	4.	2.	7.	14.	22.	17.	16.	22.	27.	19.	31.	34.
1	4	7.	3.	4.	0.	1.	0.	0.	2.	9.	24.	33.	26.	10.	12.	17.	9.
1	5	1.	0.	0.	0.	0.	0.	0.	0.	0.	5.	18.	10.	10.	7.	7.	2.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	5.	3.	1.	3.	0.	1.	0.	2.	3.	2.	0.	0.	1.	8.	3.	6.
2	3	7.	0.	0.	0.	1.	0.	3.	6.	0.	4.	3.	3.	5.	7.	9.	8.
2	4	1.	2.	2.	0.	0.	0.	0.	2.	7.	5.	12.	10.	8.	8.	2.	2.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	4.	2.	3.	2.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
3	2	7.	8.	0.	1.	0.	2.	4.	4.	0.	0.	5.	4.	1.	4.	6.	8.
3	3	6.	1.	2.	0.	1.	1.	3.	8.	1.	5.	3.	8.	7.	6.	8.	10.
3	4	4.	3.	0.	0.	1.	0.	0.	2.	7.	9.	16.	12.	11.	9.	7.	4.
3	5	0.	1.	0.	0.	0.	0.	0.	0.	1.	1.	3.	6.	3.	3.	3.	4.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	2.
4	2	15.	22.	11.	4.	5.	5.	6.	17.	21.	15.	20.	21.	19.	26.	32.	34.
4	3	42.	32.	22.	11.	6.	6.	9.	28.	59.	78.	67.	40.	30.	35.	78.	64.
4	4	18.	11.	7.	1.	2.	1.	0.	6.	26.	103.	68.	41.	29.	50.	46.	66.
4	5	5.	0.	2.	0.	0.	0.	0.	0.	1.	19.	29.	17.	10.	10.	5.	32.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	1.	1.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	2.	2.	0.	0.	1.	2.	2.	1.	2.	0.	3.	6.	6.	2.
5	2	98.	59.	31.	10.	8.	21.	26.	30.	54.	52.	56.	65.	50.	66.	95.	98.
5	3	97.	73.	65.	30.	12.	26.	32.	87.	162.	194.	119.	66.	82.	72.	123.	150.
5	4	10.	4.	3.	8.	3.	0.	1.	15.	43.	71.	52.	38.	23.	18.	43.	72.
5	5	5.	0.	0.	0.	0.	0.	0.	1.	1.	7.	12.	12.	5.	6.	3.	8.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	2.	2.	1.	3.	0.	3.	1.	1.	0.	0.	2.	0.	2.	3.	2.	1.
6	2	100.	72.	35.	20.	11.	11.	20.	36.	51.	53.	52.	51.	48.	66.	69.	95.
6	3	43.	29.	36.	18.	12.	4.	14.	82.	125.	81.	48.	32.	27.	39.	62.	51.
6	4	2.	1.	1.	0.	0.	0.	1.	11.	9.	14.	12.	3.	3.	8.	7.	1.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.	3.
7	1	1.	1.	1.	2.	1.	2.	0.	1.	0.	2.	2.	1.	2.	3.	1.	4.
7	2	65.	43.	25.	18.	3.	10.	8.	18.	32.	27.	22.	20.	30.	27.	56.	76.
7	3	37.	13.	15.	16.	8.	1.	2.	45.	39.	38.	25.	8.	4.	9.	12.	34.
7	4	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.	1.	1.	1.	1.	1.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	14.	14.	14.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.

TOTAL NUMBER OF HOURS
USED = 7825 MISSING = 0 CALM = 20 VARIABLE = 196

TABLE 5-10 1988 ANNUAL JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	1.	0.	1.	1.	1.	0.	0.	0.	0.	2.	0.	0.	0.
1	2	5.	11.	4.	8.	1.	3.	6.	9.	6.	9.	5.	5.	6.	1.	8.	8.
1	3	32.	24.	7.	7.	5.	2.	4.	13.	12.	7.	7.	4.	6.	4.	7.	17.
1	4	9.	2.	2.	5.	1.	0.	0.	1.	14.	15.	28.	16.	11.	12.	9.	15.
1	5	1.	0.	0.	0.	0.	0.	0.	0.	2.	13.	20.	14.	6.	14.	4.	3.
1	6	0.	0.	0.	0.	0.	1.	1.	0.	1.	2.	9.	3.	8.	1.	2.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
2	2	5.	2.	2.	2.	0.	2.	1.	0.	2.	1.	0.	1.	0.	4.	6.	2.
2	3	2.	0.	1.	0.	0.	0.	0.	4.	1.	4.	1.	2.	3.	5.	8.	6.
2	4	1.	0.	1.	0.	0.	0.	2.	2.	3.	5.	11.	4.	4.	6.	1.	1.
2	5	0.	0.	0.	0.	0.	0.	0.	2.	1.	2.	4.	3.	2.	7.	3.	2.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	4.	1.	1.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	1.	1.
3	2	4.	4.	2.	1.	0.	1.	3.	5.	0.	2.	0.	1.	1.	3.	7.	3.
3	3	2.	3.	2.	0.	0.	1.	2.	4.	2.	1.	2.	4.	5.	3.	5.	8.
3	4	3.	0.	0.	0.	0.	0.	2.	5.	8.	11.	13.	12.	7.	8.	5.	1.
3	5	2.	0.	0.	0.	0.	0.	0.	0.	3.	1.	8.	8.	3.	6.	6.	2.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	2.	0.	2.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	1.	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.
4	2	17.	16.	8.	5.	4.	8.	5.	20.	13.	12.	14.	12.	8.	15.	27.	25.
4	3	37.	27.	23.	7.	8.	5.	3.	34.	38.	49.	41.	27.	24.	27.	48.	55.
4	4	26.	14.	14.	2.	4.	0.	1.	13.	35.	98.	81.	33.	24.	43.	62.	43.
4	5	4.	4.	2.	2.	1.	0.	0.	3.	6.	38.	34.	23.	25.	30.	24.	37.
4	6	0.	0.	0.	0.	0.	1.	0.	0.	0.	17.	14.	6.	10.	0.	5.	15.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.	0.	1.	1.	0.	0.
5	1	1.	2.	0.	1.	0.	1.	1.	1.	1.	1.	0.	2.	1.	3.	3.	2.
5	2	65.	51.	26.	14.	13.	21.	12.	34.	45.	41.	35.	39.	27.	24.	40.	63.
5	3	98.	69.	77.	18.	16.	20.	44.	57.	127.	138.	92.	42.	53.	66.	91.	119.
5	4	29.	25.	16.	15.	13.	8.	13.	37.	66.	93.	67.	28.	44.	51.	73.	91.
5	5	2.	0.	2.	1.	0.	1.	0.	3.	9.	42.	45.	29.	23.	23.	53.	59.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	16.	11.	6.	8.	4.	11.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	1.	0.	0.	1.	0.
6	1	0.	1.	0.	1.	0.	1.	1.	0.	0.	1.	0.	0.	2.	1.	2.	0.
6	2	50.	47.	28.	21.	9.	23.	28.	37.	41.	37.	31.	33.	28.	30.	29.	42.
6	3	74.	46.	49.	29.	20.	12.	33.	53.	75.	60.	44.	28.	25.	22.	56.	79.
6	4	14.	7.	8.	3.	2.	0.	8.	32.	42.	45.	13.	14.	11.	34.	41.	40.
6	5	0.	0.	0.	0.	0.	0.	7.	1.	10.	9.	8.	5.	3.	16.	12.	4.
6	6	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	2.	0.	0.	1.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.
7	2	26.	13.	9.	7.	9.	13.	10.	14.	14.	22.	17.	13.	18.	21.	12.	20.
7	3	43.	30.	27.	18.	9.	8.	14.	29.	47.	42.	37.	18.	13.	16.	36.	34.
7	4	7.	4.	0.	3.	1.	0.	12.	8.	16.	16.	13.	6.	6.	15.	37.	37.
7	5	1.	0.	0.	0.	5.	0.	8.	0.	0.	0.	0.	1.	0.	4.	1.	1.
7	6	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.	0.	0.	1.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	1.	31.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 7569 MISSING = 0 CALM = 366 VARIABLE = 106

TABLE 5-11 VENT AND PURGES 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 33 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	1.	1.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
1	2	2.	6.	5.	2.	1.	3.	1.	6.	7.	2.	2.	3.	2.	1.	4.	5.
1	3	9.	7.	2.	6.	1.	1.	1.	4.	6.	6.	3.	6.	1.	1.	1.	2.
1	4	1.	0.	1.	0.	1.	0.	0.	1.	2.	9.	14.	8.	0.	1.	3.	3.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	5.	2.	1.	2.	0.	0.
1	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	2.	1.	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
2	3	1.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	0.	1.	1.
2	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	4.	1.	2.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	1.	1.	0.	1.	0.	1.	0.	3.	0.	0.	0.	0.	0.	1.	1.	1.
3	3	0.	0.	0.	0.	1.	0.	0.	1.	0.	1.	0.	1.	1.	1.	3.	0.
3	4	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	5.	6.	1.	2.	0.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
4	2	6.	3.	4.	3.	0.	2.	1.	3.	5.	2.	2.	4.	3.	2.	4.	4.
4	3	11.	4.	3.	2.	1.	1.	0.	6.	5.	14.	9.	6.	5.	8.	15.	8.
4	4	2.	1.	1.	1.	0.	0.	0.	1.	8.	16.	12.	3.	7.	8.	10.	14.
4	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.	10.	1.	0.	1.	1.	3.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1	0.	0.	0.	1.	0.	0.	0.	0.	1.	1.	1.	0.	1.	2.	2.	0.
5	2	21.	20.	7.	2.	0.	3.	4.	2.	11.	8.	14.	11.	12.	20.	17.	25.
5	3	17.	16.	11.	3.	0.	8.	10.	17.	29.	25.	21.	8.	12.	13.	23.	31.
5	4	2.	0.	1.	5.	0.	0.	0.	2.	7.	19.	13.	6.	2.	1.	2.	15.
5	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	7.	1.	0.	0.	0.	0.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1	1.	1.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	2.	1.	0.
6	2	23.	23.	7.	9.	7.	4.	3.	12.	10.	14.	17.	11.	9.	11.	17.	22.
6	3	11.	5.	7.	3.	4.	1.	3.	10.	33.	15.	12.	6.	9.	7.	15.	7.
6	4	0.	0.	0.	0.	0.	0.	0.	0.	3.	3.	4.	0.	1.	0.	0.	0.
6	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
7	1	1.	1.	1.	1.	1.	0.	0.	0.	0.	1.	0.	0.	0.	1.	0.	1.
7	2	13.	10.	9.	9.	2.	3.	3.	7.	12.	5.	4.	5.	4.	8.	11.	11.
7	3	13.	4.	3.	4.	2.	0.	0.	4.	6.	13.	7.	2.	0.	3.	4.	12.
7	4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	2.	5.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1582 MISSING = 0 CALM = 4 VARIABLE = 43

TABLE 5-12 VENTS AND PURGES 1988 JOINT FREQUENCY DISTRIBUTION FOR THE 245 FT LEVEL
CALCULATED FROM HOURLY AVERAGES FROM TAPE

MAXIMUM WIND SPEEDS FOR EACH CATEGORY IN MPH ARE:
1 - 0.6 2 - 3.0 3 - 7.0 4 - 12.0 5 - 18.0 6 - 24.0

NUMBERS GIVEN ARE HOURS

STAB CLASS	WIND CAT	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
1	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	2	0.	1.	0.	3.	0.	1.	2.	4.	3.	8.	1.	4.	3.	0.	6.	1.
1	3	9.	9.	6.	3.	3.	2.	1.	7.	4.	4.	4.	1.	3.	2.	1.	3.
1	4	3.	1.	2.	4.	0.	0.	0.	0.	2.	5.	14.	5.	0.	2.	1.	4.
1	5	0.	0.	0.	0.	0.	0.	0.	0.	2.	4.	6.	6.	1.	3.	0.	1.
1	6	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	2.	0.	0.	0.	0.	0.
1	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.	0.
2	3	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	3.
2	4	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	2.	1.	0.	0.	0.
2	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	2.	0.	0.
2	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2	1.	0.	1.	0.	0.	1.	0.	3.	0.	0.	0.	0.	1.	0.	1.	1.
3	3	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.	1.	1.
3	4	1.	0.	0.	0.	0.	0.	0.	1.	1.	1.	5.	4.	1.	4.	1.	0.
3	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.	0.	1.	1.	0.
3	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2	5.	5.	2.	2.	0.	2.	0.	2.	1.	4.	4.	2.	0.	1.	5.	5.
4	3	8.	3.	2.	3.	0.	1.	0.	5.	4.	13.	2.	6.	3.	8.	6.	11.
4	4	1.	0.	2.	1.	1.	0.	0.	3.	6.	10.	23.	4.	7.	10.	10.	8.
4	5	2.	0.	0.	0.	0.	0.	0.	1.	2.	2.	7.	2.	4.	6.	7.	7.
4	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.	5.	2.	0.	0.	0.	1.
4	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.
5	1	0.	1.	0.	1.	0.	0.	1.	0.	0.	1.	0.	0.	1.	1.	1.	1.
5	2	12.	10.	4.	5.	3.	5.	1.	3.	6.	9.	9.	11.	9.	4.	10.	17.
5	3	20.	19.	12.	2.	1.	7.	11.	12.	25.	20.	17.	4.	13.	10.	33.	26.
5	4	3.	3.	1.	4.	1.	0.	3.	5.	11.	15.	18.	2.	4.	4.	12.	17.
5	5	2.	0.	0.	1.	0.	0.	0.	0.	1.	8.	14.	2.	5.	0.	5.	14.
5	6	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	9.	2.	0.	0.	0.	0.
5	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
6	1	0.	0.	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.	0.
6	2	16.	13.	3.	6.	1.	4.	9.	11.	10.	7.	7.	10.	3.	2.	7.	3.
6	3	21.	14.	16.	7.	5.	2.	8.	12.	16.	16.	9.	3.	5.	6.	19.	16.
6	4	0.	0.	0.	1.	0.	0.	0.	7.	3.	12.	2.	3.	3.	14.	13.	11.
6	5	0.	0.	0.	0.	0.	0.	1.	0.	1.	2.	3.	1.	1.	2.	0.	1.
6	6	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
7	2	4.	3.	4.	2.	0.	5.	3.	2.	2.	5.	3.	4.	2.	5.	3.	2.
7	3	12.	13.	5.	5.	3.	5.	5.	8.	9.	8.	12.	2.	0.	3.	7.	10.
7	4	6.	2.	0.	0.	0.	0.	1.	1.	3.	3.	4.	3.	5.	2.	9.	10.
7	5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
7	6	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	7	0.	0.	0.	0.	0.	1.	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL NUMBER OF HOURS
USED = 1604 MISSING = 0 CALM = 3 VARIABLE = 22

6.0 DOSE ASSESSMENT - IMPACT ON MAN

Liquid Effluents - The doses to the maximum individual from WNP-2 liquid effluents were calculated using the LADTAP II computer code and the site specific input parameters.

Table 6-1 lists the doses to the maximum individual by calendar quarters respectively.

The doses to the average exposed individual are listed in Table 6-2. The 50-mile population doses are listed in Table 6-3. All doses were calculated using the LADTAP II computer code.

An evaluation of the nearest orchard (approximately 3 miles downstream) using Columbia River water for its irrigation showed an adult total body dose value of 1.02E-05 mRem/yr and an organ dose value of 1.45E-05 mRem/yr. The population doses at this location showed a total body value of 2.58E-05 person-rem and an organ value of 4.57E-05 person-rem.

Gaseous Effluents - The GASPAR II computer code was used to calculate doses at the 1.2 mile site boundary, Taylor Flats which is located 4.2 miles east southeast plus the 50-mile population and individual doses listed in Table 6-4. The quarterly GASPAR II runs utilized the quarterly averaged X/Q and D/Q values, and site specific input parameters pertaining to food productions. The air doses at the site boundary were used to verify compliance with Technical Specification 3.11.2.2. To verify compliance with Technical Specification 3.11.2.3, the maximum organ dose to the maximum exposed individual located at Taylor Flats was evaluated. Table 6-5 lists the doses at these special locations.

6.1 Exposure to "A Member of the Public"

The WNP-2 Visitor Center was evaluated for assessment of radiation doses to "Members of the Public", due to their activities within the site boundary. The ODCM assumes an eight (8) hour per year occupancy by "A Member of the Public" at the Visitor Center. The dose assessment resulted in an annual calculated whole body dose of 2.6E-03 mrem. The annual thyroid dose was 5.0E-03 mrem and the maximum dose to any other organ was 4.8E-03 mrem.

The annual assessment of radiation doses to the likely most exposed "Member of the Public" to show conformance with 40CFR Part 190 is assumed to be located in the Taylor Flats vicinity (4.2 miles ESE). The Gaspar II computer code with annual source terms and XOQDOQ meteorological data was used to obtain the dose assessment from gaseous effluents. It is assumed there is no dose contribution from liquid effluents at Taylor Flats. The assessment resulted in annual calculated whole body dose of 2.6E-02 mrem. The annual thyroid dose was 6.8E-01 mrem and the maximum dose to any other organ was 4.3E-02 mrem.

The direct radiation contribution showed no significant amount above normal background for that area which is approximately 99 mrem per year.

Table 6-1

MAXIMUM INDIVIDUAL DOSES FROM WNP-2 LIQUID EFFLUENTS

1ST AND 2ND QUARTERS 1988

First Quarter 1988

Pathway	Whole Body (mrem/qtr)	1988 Cumulative Whole Body (mrem/yr)	Max. Organ. (mrem/qtr)	1988 Cumulative Max. Organ. (mrem/yr)
Fishing	2.1E-05	2.1E-05	3.9E-05	3.9E-05
Drinking	4.2E-07	4.2E-07	8.8E-07	8.8E-07
Shoreline	2.7E-08	2.7E-08	3.1E-08	3.1E-08
Swimming	5.3E-11	5.3E-11	5.3E-11	5.3E-11
Boating	1.5E-09	1.5E-09	1.5E-09	1.5E-09
Vegetables	3.8E-07	3.8E-07	2.8E-06	2.8E-06
Leafy Veg.	4.0E-08	4.0E-08	5.0E-07	5.0E-07
Milk	1.1E-07	1.1E-07	2.2E-07	2.2E-07
Meat	4.0E-08	4.0E-08	5.0E-08	5.0E-08
Total	2.2E-05	2.2E-05	4.3E-05	4.3E-05

Second Quarter 1988

Pathway	Whole Body (mrem/qtr)	1988 Cumulative Whole Body (mrem/yr)	Max. Organ. (mrem/qtr)	1988 Cumulative Max. Organ. (mrem/yr)
Fishing	2.0E-03	2.0E-03	3.3E-03	3.4E-03
Drinking	3.2E-06	3.7E-06	1.2E-05	1.3E-05
Shoreline	2.4E-06	2.4E-06	2.8E-06	2.8E-06
Swimming	6.7E-09	6.8E-09	6.7E-09	6.8E-09
Boating	1.9E-07	1.9E-07	1.9E-07	1.9E-07
Vegetables	7.9E-06	8.3E-06	1.4E-05	1.7E-05
Leafy Veg.	1.7E-06	1.7E-06	4.0E-06	4.5E-06
Milk	4.9E-06	5.0E-06	1.4E-05	1.5E-05
Meat	1.1E-06	1.1E-06	3.0E-06	3.1E-06
Total	2.0E-03	2.0E-03	3.3E-03	3.5E-03

Table 6-1

MAXIMUM INDIVIDUAL DOSES FROM WNP-2 LIQUID EFFLUENTS(1)

3RD AND 4TH QUARTERS 1988
(Continued)

Third Quarter 1988

Pathway	Whole Body (mrem/qtr)	1988 Cumulative Whole Body (mrem/yr)	Max. Organ. (mrem/qtr)	1988 Cumulative Max. Organ. (mrem/yr)
Fishing	7.8E-05	2.1E-03	1.2E-04	3.5E-03
Drinking	3.6E-07	4.0E-06	3.8E-07	1.3E-05
Shoreline	7.8E-08	2.4E-06	8.7E-08	2.9E-06
Swimming	1.3E-10	7.0E-09	1.3E-10	7.0E-09
Boating	3.6E-09	1.9E-07	3.6E-09	1.9E-07
Vegetables	4.4E-07	8.7E-06	8.5E-07	1.8E-05
Leafy Veg.	6.9E-08	1.8E-06	1.7E-07	4.7E-06
Milk	2.1E-07	5.2E-06	2.8E-07	1.5E-05
Meat	2.7E-07	1.4E-06	6.9E-08	3.2E-06
Total	7.9E-05	2.1E-03	1.2E-04	3.6E-03

Fourth Quarter 1988

Pathway	Whole Body (mrem/qtr)	1988 Cumulative Whole Body (mrem/yr)	Max. Organ. (mrem/qtr)	1988 Cumulative Max. Organ. (mrem/yr)
Fishing	1.5E-05	2.1E-03	3.2E-05	3.5E-03
Drinking	1.1E-07	4.1E-06	1.2E-07	1.3E-05
Shoreline	3.7E-08	2.4E-06	4.4E-08	2.9E-06
Swimming	1.3E-10	7.1E-09	1.3E-10	7.1E-09
Boating	3.6E-09	1.9E-07	3.6E-09	1.9E-07
Vegetables	1.3E-07	8.8E-06	2.6E-07	1.8E-05
Leafy Veg.	2.7E-08	1.8E-06	7.9E-08	4.8E-06
Milk	1.1E-07	5.3E-06	2.2E-07	1.5E-05
Meat	2.6E-08	1.4E-06	4.8E-08	3.2E-06
Total	1.5E-05	2.1E-03	3.3E-05	3.6E-03

(1) Age Group - Adult: Maximum individual resides at Richland and fishes near the WNP-2 outfall area.

Table 6-2

AVERAGE INDIVIDUAL DOSES FROM WNP-2 LIQUID EFFLUENTS

1ST AND 2ND QUARTERS 1988

	Total per 1st Quarter		Total per 2nd Quarter	
Pathway	Max. Organ. (mrem)	Whole Body (mrem)	Max. Organ. (mrem)	Whole Body (mrem)
Fish	5.5E-07	3.0E-07	4.6E-05	3.1E-05
Drinking Water	4.0E-07	1.9E-07	5.6E-06	1.5E-06
Shoreline	5.9E-09	5.0E-09	5.3E-07	4.5E-07
Swimming	2.9E-11	2.9E-11	3.7E-09	3.7E-09
Boating	7.3E-12	7.3E-12	9.3E-10	9.3E-10
Vegetables	1.8E-06	2.3E-07	1.1E-05	4.4E-06
Leafy vegetables	3.7E-07	2.5E-07	2.8E-06	9.2E-07
Milk	1.7E-07	8.8E-08	9.6E-06	3.6E-06
Meat	2.4E-08	1.9E-08	1.2E-06	5.0E-07
Total	3.3E-06	1.1E-06	7.7E-05	4.2E-05

3RD AND 4TH QUARTERS 1988

	Total per 3rd Quarter		Total per 4th Quarter	
Pathway	Max. Organ. (mrem)	Whole Body (mrem)	Max. Organ. (mrem)	Whole Body (mrem)
Fish	1.7E-06	1.1E-06	4.1E-07	1.9E-07
Drinking Water	1.7E-07	1.6E-07	5.6E-08	5.1E-08
Shoreline	1.6E-08	1.4E-08	3.4E-09	2.9E-09
Swimming	7.0E-11	7.0E-11	3.1E-11	3.1E-11
Boating	1.8E-11	1.8E-11	7.9E-12	7.9E-12
Vegetables	6.3E-07	2.5E-07	4.3E-08	3.6E-08
Leafy vegetables	1.3E-07	3.8E-08	2.7E-08	1.6E-08
Milk	2.5E-07	1.3E-07	4.5E-08	2.7E-08
Meat	3.2E-08	2.2E-08	1.2E-08	7.2E-09
Total	2.9E-06	1.7E-06	6.0E-07	3.3E-07

Table 6-3

50-MILE POPULATION DOSES FROM WNP-2 LIQUID EFFLUENTS

1ST AND 2ND QUARTERS 1988

	Total per 1st Quarter		Total per 2nd Quarter	
Pathway	Max. Organ. (person-rem)	Whole Body (person-rem)	Max. Organ. (person-rem)	Whole Body (person-rem)
Fish	1.3E-06	6.1E-07	1.1E-04	3.3E-05
Drinking water	3.3E-05	1.5E-05	4.6E-04	1.1E-04
Shoreline	1.0E-06	8.8E-07	9.3E-05	7.9E-05
Swimming	5.1E-09	5.1E-09	6.6E-07	6.6E-07
Boating	1.3E-09	1.3E-09	1.6E-07	1.6E-07
Vegetables	1.7E-05	2.3E-06	1.1E-04	4.4E-05
Leafy vegetables	3.8E-06	2.6E-07	3.0E-05	9.5E-06
Milk	1.7E-06	7.7E-07	9.3E-05	3.4E-05
Meat	2.4E-07	1.9E-07	1.2E-05	5.0E-06
Total	5.9E-05	2.0E-05	9.1E-04	3.1E-04

3RD AND 4TH QUARTERS 1988

	Total per 3rd Quarter		Total per 4th Quarter	
Pathway	Max. Organ. (person-rem)	Whole Body (person-rem)	Max. Organ. (person-rem)	Whole Body (person-rem)
Fish	3.9E-06	2.2E-06	9.4E-07	4.5E-07
Drinking water	1.4E-05	1.2E-05	4.4E-06	4.0E-06
Shoreline	2.9E-06	2.5E-06	5.9E-07	5.1E-07
Swimming	1.2E-08	1.2E-08	5.5E-09	5.5E-09
Boating	3.1E-09	3.1E-09	1.4E-09	1.4E-09
Vegetables	6.3E-06	2.5E-06	4.3E-07	3.6E-07
Leafy vegetables	1.3E-06	3.9E-06	4.3E-07	1.5E-07
Milk	2.4E-06	1.3E-06	4.4E-07	2.6E-07
Meat	3.2E-07	2.2E-07	1.2E-07	7.2E-08
Total	3.1E-05	2.1E-05	7.3E-06	5.8E-06

TABLE 6-4

50-MILE POPULATION DOSES FROM 1988 GASEOUS EFFLUENTS

Exposure Pathway	Whole Body (Person-Rem)	Max. Organ (Person-Rem)
Plume	1.7 E-01	5.6 E-01
Ground	3.3 E-02	3.9 E-02
Inhalation	1.2 E-02	1.2 E+00
Vegetables	1.5 E-02	2.1 E-02
Milk	1.5 E-02	4.5 E-01
Meat	5.8 E-03	2.7 E-02
Total	2.5 E-01	2.3 E+00

AVERAGE INDIVIDUAL DOSES FROM 1988 GASEOUS EFFLUENTS[a]

Exposure Pathway	Whole Body (mRem)	Max. Organ (mRem)
Plume	6.7 E-04	2.2 E-03
Ground	1.3 E-04	1.5 E-04
Inhalation	4.8 E-05	4.8 E-03
Vegetables	5.9 E-05	8.3 E-05
Milk	5.9 E-04	1.8 E-03
Meat	2.3 E-05	1.1 E-04
Total	1.5 E-03	9.1 E-03

(a) The 50 mile population doses divided by the population within 50 miles of the Plant by direction and radii interval and converted to mrem.

Table 6-5

SUMMARY OF DOSES FROM WNP-2 GASEOUS EFFLUENTS

CALENDAR QUARTERS 1988

Location: 1.2 miles site boundary

Reporting Period: Calendar Quarters Plus Annual Cumulative, 1988

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Annual Cumulative
Beta air dose (mrad)*	4.2E-02	1.8E-02	2.3E-02	4.1E-02	1.2E-01
Gamma air dose (mrad)*	3.0E-02	1.1E-02	3.5E-02	4.5E-02	1.2E-01

Location: Taylor Flats, 4.2 miles ESE

Reporting Period: Calendar Quarters Plus Annual Cumulative, 1988

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Annual Cumulative
Maximum organ dose (mrem)**	1.2E-01	6.2E-01	4.6E-03	3.5E-03	7.5E-01

* Technical Specification 3.11.2.2.
** Technical Specification 3.11.2.3.

7.0 REVISIONS TO THE ODCM

During this semi-annual reporting period, Amendment No. 6 was issued to the Offsite Dose Calculation Manual (ODCM). This Amendment is included.