

Enclosure (9)

CA06012 Atmospheric Dispersion Coefficient (X/Q) Calculation

ESP No.:	ES200100401	Supp No.	000	Rev. No.	000	Page 1 of 1
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FORM 19, CALCULATION COVER SHEET

A. INITIATION (Control Doc Type - DCALC)

Page 1 of 280 283 *2/12/04*

DCALC No.: CA06012

Revision No.: 000

Vendor Calculation (Check one): ☐ Yes ☒ No

Responsible Group: FOSU

Responsible Engineer: Gerard E. Gryczkowski

B. CALCULATION

ENGINEERING
DISCIPLINE:☐ Civil☐ Instr & Controls☒ Nuc Engrg☐ Electrical☐ Mechanical☐ Nuc Fuel Mngmt☐ Other:☐ Reliability Engrg

Title: CONTROL ROOM HABITABILITY ATMOSPHERIC DISPERSION COEFFICIENT CALCULATIONS

Unit ☐ 1 ☐ 2 ☒ COMMONProprietary or Safeguards Calculation ☐ YES ☒ NO

Comments: NA

Vendor Calc No.: NA

REVISION NO.: NA

Vendor Name: NA

Safety Class (Check one): ☒ SR ☐ AQ ☐ NSR

There are assumptions that require Verification during walkdown:

AIT #: NA

This calculation SUPERSEDES: NA

C. REVIEW AND APPROVAL:

Responsible Engineer: Gerard E. Gryczkowski

2/05/2004

Printed Name and Signature

Date

Independent Reviewer: Kim I. R. Knippel

Printed Name and Signature

Date

Approval:

Phillip Wengloski

Printed Name and Signature

Date

IF the results or conclusions of this calculation or revision might affect a procedure or the basis of a procedure, a Change Notification Form (Form 14) shall be forwarded to the Procedure Development Unit with a summary of the calculation's purpose and results.

2. LIST OF EFFECTIVE PAGES

Page	Latest Rev	Page	Latest Rev	Page	Latest Rev	Page	Latest Rev	Page	Latest Rev
001	0	002	0	003	0	004	0	005	0
006	0	007	0	008	0	009	0	010	0
011	0	012	0	013	0	014	0	015	0
016	0	017	0	018	0	019	0	020	0
021	0	022	0	023	0	024	0	025	0
026	0	027	0	028	0	029	0	030	0
031	0	032	0	033	0	034	0	035	0
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041	0	042	0	043	0	044	0	045	0
046	0	047	0	048	0	049	0	050	0
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071	0	072	0	073	0	074	0	075	0
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231	0	232	0	233	0	234	0	235	0
236	0	237	0	238	0	239	0	240	0
241	0	242	0	243	0	244	0	245	0
246	0	247	0	248	0	249	0	250	0

251	0	252	0	253	0	254	0	255	0
256	0	257	0	258	0	259	0	260	0
261	0	262	0	263	0	264	0	265	0
266	0	267	0	268	0	269	0	270	0
271	0	272	0	273	0	274	0	275	0
276	0	277	0	278	0	279	0	280	0
281	0	282	0	283	0				

3. REVIEWER COMMENTS

4. TABLE OF CONTENTS

01. COVER SHEET.....	1
02. LIST OF EFFECTIVE PAGES.....	2
03. REVIEWER COMMENTS.....	4
04. TABLE OF CONTENTS.....	5
05. INTRODUCTION.....	6
06. INPUT DATA AND METHOD OF ANALYSIS.....	7
07. TECHNICAL ASSUMPTIONS.....	16
08. REFERENCES.....	17
09. DOCUMENTATION OF COMPUTER CODES.....	19
10. CALCULATIONS, RESULTS, AND CONCLUSIONS.....	20
11. ATTACHMENTS.....	24
ATTACHMENT A: ELEVATION MAP.....	24
ATTACHMENT B: AUXILIARY BUILDING ROOF WALKDOWN.....	26
ATTACHMENT C: SOURCE TO RECEPTOR DISTANCES.....	30
ATTACHMENT D: JOINT FREQUENCY TABLES.....	81
ATTACHMENT E: ARCON96 OUTPUT FILES.....	129
ATTACHMENT F: ANALYSIS OF JOINT FREQUENCY DATA BY YEAR AND VELOCITY.....	281
ATTACHMENT G: ANALYSIS OF JOINT FREQUENCY DATA BY YEAR AND STABILITY CLASS.....	283
LAST PAGE OF REPORT.....	283

5. INTRODUCTION

The Atmospheric Dispersion Coefficient (X/Q) denotes the degree of dispersion of activity as it is transported from the point of release to the receptor. It is defined as the ratio of the concentration at the receptor to the activity release rate.

The procedure for calculating X/Q consists of determining the 95th percentile X/Q (defined as the X/Q value exceeded 5% of the time based on site specific meteorological data). This value is used as the X/Q for the first post-accident time interval (0-8 hours). Then the value of X/Q is reduced on the basis of wind speed and wind direction averaging considerations for each subsequent time interval.

The CCNPP design basis atmospheric dispersion coefficients are based on the Halitsky methodology, which consists of wind tunnel tests at New York University that modeled the EBR-II reactor at the National Reactor Testing Station at Idaho Falls, Idaho (Ref.01). The model consisted of the reactor shell, the stack, and the auxiliary buildings constructed to scale. The reactor shell was modeled as a uniformly distributed source, while the vent stack was modeled as a point source. The measured X/Q results were compiled as a function of wind speed and direction. The results were combined with Calvert Cliffs Nuclear Power Plant (CCNPP) meteorological data also as a function of wind speed and direction to yield the 95th percentile X/Q values. While Regulatory Guide 1.194 (Ref.02) states that "holders of operating licenses may continue to use X/Q values determined with methodologies previously approved by the NRC staff", the required modeling of additional source and receptor points necessitated the calculation of additional atmospheric dispersion coefficients. Since it was not possible to deduce the additional atmospheric dispersion coefficients from the limited data of Ref.01, it was necessary to perform additional wind tunnel tests to determine the required atmospheric dispersion coefficients.

CCNPP contracted with Cermak, Petreka, Peterson (CPP) to perform wind tunnel modeling of various source-receptor combinations at CCNPP (Ref.03). The model consisted of the entire site with all buildings constructed to scale. The measured X/Q results for each source-receptor pair were compiled as a function of wind speed and direction. The results were combined with CCNPP meteorological data. Joint Frequency Tables were constructed from hourly on site meteorological data, which tables list the frequency of occurrence of wind by wind speed and direction. From these, the 95th percentile X/Q were determined. The new wind tunnel results agreed well with results of identical source-receptor pairs from Ref.01. While wind tunnel testing per Halitsky (Ref.01) was the design basis methodology of CCNPP's design basis calculations, the NRC would not approve the updated wind tunnel generated atmospheric dispersion coefficient results and instead recommended the use of the conservative computer code ARCON96 (Ref.04) or the very conservative Murphy-Campe methodology of Ref.05 to generate the required atmospheric dispersion coefficient data. Note that while the Halitsky and wind tunnel methodologies produced similar results, the ARCON96 methodology is approximately three times more conservative, and the Murphy-Campe methodology six times more-conservative than CCNPP's design basis methodology (Ref.06).

The Murphy-Campe methodology (Refs.2 and 5) for calculating X/Q is based on a number of wind tunnel and field tests of specific building configurations. 95th percentile velocities and horizontal and vertical standard deviations are input into the Murphy-Campe algorithms to yield 95th percentile atmospheric dispersion coefficients.

The ARCON96 computer code (Ref.4) implements a computational model for calculating atmospheric dispersion coefficients in the vicinity of buildings. The model estimates impacts from ground level, vent, and elevated releases using a single year or multi-years of hourly meteorological data. This model also treats diffusion more realistically under low wind speed conditions than previous NRC-issued models. The ARCON96 methodology is used in this work. ARCON96 is verified and validated per 10 CFR 50 Appendix B. The inputs for these executions are in accordance with NRC guidance as outlined in Regulatory Guide 1.194 (Ref.2). The meteorological data includes eight years (1991-1998) of hourly wind speed, wind direction, and stability class readings from the CCNPP meteorological tower.

6. INPUT DATA AND METHOD OF ANALYSIS

(1) The Auxiliary Building roof above the control room and above A512 was sealed tight via Mod ES199702144.

(2) The control room regions defined by the control room envelope (CRE) are delineated in ES199901282 (Ref.7). The CRE encloses the following distinct regions:

- 69' CRHVAC Equipment Room (Room 512)
- 55' Shift Supervisors Office (Room 438)
- 55' Tech Support Center (Room 436)
- 55' Tech Support Center Annex (Room 437)
- 55' Central Alarm Station (Room 444)
- 45' Control Room (Room 405)
- 45' U1 DAS Room (Room 431)
- 45' U2 DAS Room (Room 406)
- 45' Control Room Annex and Stairway (Room 432)
- 45' Kitchen & Toilet Area (Rooms 402, 403, & 404)
- 27' U1 Cable Spreading Room (Room 306)
- 27' U2 Cable Spreading Room (Room 302)
- U1 Cable Chase 1C
- U2 Cable Chase 2C

(3) The volumes associated with the above regions are extracted from Ref.8, except for the 69' CRHVAC Equipment Room (A512) and the Units 1 and 2 Cable Chases (1C and 2C). The area of A512 (1227.4 ft²) was extracted from Ref.9, while the height (91.5' - 1.5' - 69') can be inferred from Ref.10. The volume of A512 is thus 25775.4 ft³ (1227.4 * 21). The area of each cable chase (22' * 7') was extracted from Ref.11, while the height (91.5' - 1.5' - 45') can be inferred from Refs.7 and 10. The volume of each cable chase is thus 6990 ft³ (22 * 7 * 45).

The component control room volumes are listed in the following table. The updated post-mod volume, which includes the cable chases and the control room hvac equipment room is 289194 ft³. This exceeds the pre-mod volume of 252195 ft³, as calculated in Ref.10, and the current design basis value of 166351 ft³, as defined in Refs.12-13.

Control Room Volume Calculations:

	Room	Current DBA Volume Ref.12-13 ft ³	Updated Pre-Mod Volume Ref.11 ft ³	Updated Post-Mod Volume Ref.7-11 ft ³
27' North CSR	306		47720	47720
27' South CSR	302		47364	47364
45' Shift Office Lower	402			954
45' Shift Office Upper	402			215
45' Kitchen Lower	403		4190	352
45' Kitchen Upper	403		902	80
45' Support Area Lower	404			600
45' Support Area Upper	404			135

45' Control Room Lower	405+438	166351	66261	66261
45' Control Room Upper	405+438		46862	46862
45' S. DAS Lower	406		4318	4318
45' S. DAS Upper	406		6237	6237
45' N. DAS Lower	431		4318	4318
45' N. DAS Upper	431		6237	6237
45' TSC Lower	432		3686	3686
45' TSC Upper	432		477	477
55' TSC Lower	436		5082	5082
55' TSC Upper	436		2477	2477
55' CAS Lower	437+444		4356	4356
55' CAS Upper	437+444		1708	1708
69' CRHVAC Equipment Room	512			25775
Unit 1 Cable Chase	1C			6990
Unit 2 Cable Chase	2C			6990
		166351	252195	289194

(4) The radiological source points include the Units 1 and 2 containments, refueling water tanks (RWTs), atmospheric dump valves (ADVs), ventilation stacks (VSs), main steam goosenecks (MSGs), and equipment hatches or containment outage doors (CODs).

(5) The site elevation map is documented in Attachment A, based on data extracted from Refs.14-21.

(6) The control room inleakage points were deduced from PFT testing carried out by Brookhaven National Laboratory (BNL – Ref.26, Attachment B). These included the Auxiliary Building West Road (WR) Inlet, the Turbine Building (TB) Inlet, the Units 1 and 2 Main Steam Isolation Valve Room (MSIV) Inlets, the Access Control 11 (AC11) Inlet, the Access Control 13 (AC13) Inlet, and the Units 1 and 2 Switch Gear Room (SWGR) Inlets. A walk down was performed on 06/03/2003 to determine the relative positions and elevations of the inlets. The results are documented in Attachment B.

(7) Source to receptor distance calculations are documented in Attachment C, based on data extracted from Refs.17-25 and from Attachment B.

(8) Meteorology

Per Ref.2, the meteorological data utilized for the X/Q calculations included wind speed, wind direction, and a measure of atmospheric stability. These data were obtained from an onsite meteorological measurement program based on the guidance of Safety Guide 23 (Ref.32), that include quality assurance provisions consistent with Appendix B to 10 CFR Part 50. The meteorological data set used in these assessments represents hourly averages as defined in Safety Guide 23. The data was representative of the overall site conditions and was free from local effects.

To be representative of long-term meteorological trends, eight years of meteorological data (1991-1998) was used in the X/Q assessments. The met data files are designated as CC1991.MET, ..., CC1998.MET. Joint Frequency Tables (JFTs) for the 8 years of meteorological data as a function of stability class and instrument height were generated via the JFDMET program and are included in Attachment D. The met data files were transformed into EXCEL files and then sorted by increasing velocity. The 10 m EXCEL files are designated as CC1991.XLS, ..., CC1998.XLS. The 60 m EXCEL files are designated as CC1991a.XLS, ..., CC1998a.XLS. The average velocities were generated by summing the valid velocity values and dividing by the number of valid hours. The 95th percentile velocities were generated by multiplying the number of valid hours by 0.95 and using the velocity associated with that hourly

number. The following table lists the corresponding 10 m and 60 m average velocities (vave), the 95th percentile velocities (v95), the EXCEL and MET filenames, the data recovery statistics, and the ADV 17.22 m 95th percentile velocities. Safety Guide 23 requires that meteorological instruments should be inspected and serviced at a frequency which will assure at least a 90% data recovery. The overall data recovery exceeds 94% for both the 10 m and 60 m data sets by year, with an overall recovery level exceeding 98%. The maximum 10 m and 60 m vave standard deviations are 2.28 and 1.93, respectively. The maximum 10 m and 60 m v95 standard deviations are 1.51 and 1.50, respectively. Thus the data is well behaved.

Average and 95th Percentile Wind Velocity as a Function of Elevation

	10m vave	10m v95	60m vave	60m v95	m95	17.22m v95	10m excel file	60m excel file
1991	3.00	5.80	4.89	8.60	0.2198	6.54	cc1991	cc1991a
1992	2.98	5.90	4.85	8.60	0.2103	6.61	cc1992	cc1992a
1993	3.01	6.20	4.91	9.20	0.2203	6.99	cc1993	cc1993a
1994	3.07	5.90	5.06	8.80	0.2231	6.66	cc1994	cc1994a
1995	3.02	5.80	4.85	8.50	0.2133	6.51	cc1995	cc1995a
1996	3.02	6.20	4.92	9.10	0.2142	6.97	cc1996	cc1996a
1997	3.00	5.90	4.97	8.90	0.2294	6.68	cc1997	cc1997a
1998	2.84	5.70	4.81	8.90	0.2487	6.52	cc1998	cc1998a
	2.99	5.92	4.91	8.82	0.2225	6.68		

$$M95=\ln(u60/u10)/\ln(60/10)$$

Ref.28

$$v95(17.22m)=v95(10m)*(17.22/10)^{m95}$$

Ref.28

	Hours Per Year	10m Bad Hours	10m Good Hours	10m Bad Percent	60m Bad Hours	60m Good Hours	60m Bad Percent	MET File
1991	8760	53	8707	0.61	280	8480	3.20	cc1991
1992	8784	55	8729	0.63	59	8725	0.67	cc1992
1993	8760	88	8672	1.00	90	8670	1.03	cc1993
1994	8760	210	8550	2.40	154	8606	1.76	cc1994
1995	8760	97	8663	1.11	77	8683	0.88	cc1995
1996	8784	464	8320	5.28	214	8570	2.44	cc1996
1997	8760	47	8713	0.54	71	8689	0.81	cc1997
1998	8760	108	8652	1.23	244	8516	2.79	cc1998
	70128	1122	69006	1.60	1189	68939	1.70	

	10m vave	10m vave Deviation	10m v95	10m v95 Deviation	60m vave	60m vave Deviation	60m v95	60m v95 Deviation
1991	3.00	-0.12	5.80	0.67	4.89	0.22	8.60	0.90
1992	2.98	0.18	5.90	0.13	4.85	0.73	8.60	0.90
1993	3.01	-0.27	6.20	-1.51	4.91	-0.03	9.20	-1.50
1994	3.07	-1.16	5.90	0.13	5.06	-1.93	8.80	0.10
1995	3.02	-0.41	5.80	0.67	4.85	0.73	8.50	1.30
1996	3.02	-0.41	6.20	-1.51	4.92	-0.16	9.10	-1.10
1997	3.00	-0.12	5.90	0.13	4.97	-0.79	8.90	-0.30
1998	2.84	2.28	5.70	1.22	4.81	1.23	8.90	-0.30
	2.99		5.92		4.91		8.82	
Std Dev	0.07		0.18		0.08		0.25	

Attachment F displays the joint frequency data in hours and percent by year and velocity at 10 and 60 m. The average and standard deviation for each velocity interval is also shown. Note that the results are well-behaved with reasonable standard deviations, except at the low and high velocities where there are relatively few observations.

Attachment G displays the joint frequency data in hours and percent by year and stability class. The average and standard deviation for each stability class is also shown. Note that the results are well-behaved with reasonable standard deviations. The dispersion conditions are dominated by neutral or slightly stable weather (D and E stabilities: 69%) and neutral and stable weather together (D, E, F, and G stabilities) are found in 82% of observations. Note that the joint frequency data (%) by stability class for the years 1991-1998 is very similar to that listed in Ref.28 for the years 1970-1984 for Calvert Cliffs (A=7.4%, B=3.4%, C=4.8%, D=35.4%, E=33.8%, F=9.2%, G=6.0%).

(9) The ARCON96 X/Q inputs were derived as follows:

- | | | |
|--|---|------------|
| (a) Number of meteorological data files: | 8 | Refs.27,29 |
| (b) Meteorological data file names: | CC1991.MET | Ref.27 |
| | CC1992.MET | Ref.27 |
| | CC1993.MET | Ref.27 |
| | CC1994.MET | Ref.29 |
| | CC1995.MET | Ref.29 |
| | CC1996.MET | Ref.29 |
| | CC1997.MET | Ref.29 |
| | CC1998.MET | Ref.29 |
| (c) Height of lower wind instrument (m): | 10. | Ref.28 |
| (d) Height of upper wind instrument (m): | 60. | Ref.28 |
| (e) Wind speed units type (1=m/s, 2=mph, 3=knots): | 1 | Refs.27,29 |
| (f) Release type (1=ground, 2=vent, 3=elevated): | 1 | Ref.02 |
| (g) Release height (m): | | |
| | (See Attachment A. All heights are in relation to ground level: 45') | |
| (i) Containment: | | |
| | Per Ref.2 Section 3.2.4.5, the release height is set at the center of the vertical plane. | |
| | $(193'5'' - 91'6'')/2 + 91'6'' - 45' = 97.4583' = 29.7053 \text{ m}$ | |
| (ii) RWT: | | |
| | $93.3203' - 45' = 48.3203' = 14.7280 \text{ m}$ | |
| (iii) Ventilation Stack: | | |
| | $203'5'' - 45' = 158.4167' = 48.2854 \text{ m}$ | |
| (iv) ADV: | | |
| | $101'6'' - 45' = 56.5' = 17.2212 \text{ m}$ | |
| (v) Main Steam Gooseneck: | | |
| | $101'3'' - 45' = 56.25' = 17.1450 \text{ m}$ | |
| (vi) Equipment Hatch: | | |
| | $53.3646' - 45' = 8.3646' = 2.5495 \text{ m}$ | |
| (h) Building area (m ²): | 2000 | Ref.02 |
| | Note that a sensitivity study was performed on this input parameter. The results are displayed in Results Section and indicate that the X/Q values are insensitive to this parameter. | |
| (i) Effluent vertical velocity (m/s): | 0.00 | Ref.02 |

(j) Stack or vent flow (m³/s): 0.00 Ref.02

(k) Stack or vent radius (m): 0.00 Ref.02

(l) Direction to source (deg) and distance from source to receptor (m): (See Attachment C)

Unit	Source	Receptor	Distance (m)	Direction (deg)
1	ADV	AC11	50.22	294
2	ADV	AC11	17.99	224
1	ADV	AC13	24.09	326
2	ADV	AC13	24.09	123
1	ADV	SWGR1	19.95	171
2	ADV	SWGR1	64.30	145
1	ADV	SWGR2	64.30	304
2	ADV	SWGR2	19.95	278
1	ADV	Turbine Building	37.46	264
2	ADV	Turbine Building	37.46	186
1	ADV	West Road	62.94	23
2	ADV	West Road	62.94	67
1	COD	AC11	92.58	290
2	COD	AC11	54.05	181
1	COD	AC13	62.70	300
2	COD	AC13	62.70	150
1	COD	SWGR1	39.12	257
2	COD	SWGR1	105.51	153
1	COD	SWGR2	105.51	297
2	COD	SWGR2	39.12	193
1	COD	Turbine Building	78.73	275
2	COD	Turbine Building	78.73	175
1	COD	West Road	71.08	347
2	COD	West Road	71.08	103
1	Containment	AC11	53.17	283
2	Containment	AC11	21.47	202
1	Containment	AC13	21.85	292
2	Containment	AC13	21.85	157
1	Containment	SWGR1	12.09	225
2	Containment	SWGR1	64.90	157
1	Containment	SWGR2	64.90	292
2	Containment	SWGR2	12.09	225
1	Containment	Turbine Building	43.07	263
2	Containment	Turbine Building	43.07	187
1	Containment	West Road	33.38	358
2	Containment	West Road	33.38	92
1	MSG	AC11	51.31	291
2	MSG	AC11	21.13	225
1	MSG	AC13	23.50	319
2	MSG	AC13	23.50	131
1	MSG	SWGR1	22.07	178
2	MSG	SWGR1	64.82	148
1	MSG	SWGR2	64.82	302
2	MSG	SWGR2	22.07	272
1	MSG	Turbine Building	39.87	261

2	MSG	Turbine Building	39.87	189
1	MSG	West Road	59.98	22
2	MSG	West Road	59.98	68
1	RWT	AC11	97.95	270
2	RWT	AC11	72.62	207
1	RWT	AC13	65.23	270
2	RWT	AC13	65.23	180
1	RWT	SWGR1	63.12	231
2	RWT	SWGR1	106.42	171
1	RWT	SWGR2	106.42	279
2	RWT	SWGR2	63.12	219
1	RWT	West Road	46.92	324
2	RWT	West Road	46.92	126
1	RWT	Turbine Building	92.45	255
2	RWT	Turbine Building	92.45	195
1	Ventilation Stack	AC11	57.70	299
2	Ventilation Stack	AC11	18.16	195
1	Ventilation Stack	AC13	32.93	327
2	Ventilation Stack	AC13	32.93	122
1	Ventilation Stack	SWGR1	12.27	187
2	Ventilation Stack	SWGR1	72.44	142
1	Ventilation Stack	SWGR2	72.44	307
2	Ventilation Stack	SWGR2	12.27	262
1	Ventilation Stack	Turbine Building	41.98	275
2	Ventilation Stack	Turbine Building	41.98	175
1	Ventilation Stack	West Road	68.50	17
2	Ventilation Stack	West Road	68.50	73
1	Containment	West Road	36.6	358
2	Containment	West Road	36.6	92
1	Containment	West Road	33.4	358
1	Containment	West Road	33.4	358
1	Containment	West Road	33.4	358

(m) Source window (deg): 90 Ref.02

(n) Intake height (m):

(See Attachment A. All heights are in relation to ground level: 45')

(i) West Road: The Auxiliary Building roof above the control room and above A512 was sealed tight. Most control room inleakage can then be assumed to originate at the Auxiliary Building inlet plenum on the west road side. The inlet plenum is 54'x10' with a bottom elevation of 70'. Ground level is at 45'. Thus the intake height is $75' - 45' = 30' = 9.1440$ m

(ii) Turbine Building: The Turbine Building floor is at 45', while the door into the control room envelope is ~6'. Thus, the turbine building intake height is $48' - 45' = 3' = 0.9144$ m.

(iii) AC11

$$86.6667' + 3.8333' - 45' = 45.5' = 13.8684 \text{ m}$$

(iv) AC13

$$91.5' + 6.3333' - 45' = 52.8333' = 16.1036 \text{ m}$$

(v) SWGR

$$69' + 7.0833' - 45' = 31.0833' = 9.4742 \text{ m}$$

(o) Grade elevation difference (m): 0 Ref.02

(p) Primary input, output, and joint frequency table file names:

Unit	Source	Receptor	Input Files	Output File	JFT File
1	ADV	AC11	ADV1AC11.INP	ADV1AC11.OUT	ADV1AC11.JFD
2	ADV	AC11	ADV2AC11.INP	ADV2AC11.OUT	ADV2AC11.JFD
1	ADV	AC13	ADV1AC13.INP	ADV1AC13.OUT	ADV1AC13.JFD
2	ADV	AC13	ADV2AC13.INP	ADV2AC13.OUT	ADV2AC13.JFD
1	ADV	SWGR1	ADV1SWG1.INP	ADV1SWG1.OUT	ADV1SWG1.JFD
2	ADV	SWGR1	ADV2SWG1.INP	ADV2SWG1.OUT	ADV2SWG1.JFD
1	ADV	SWGR2	ADV1SWG2.INP	ADV1SWG2.OUT	ADV1SWG2.JFD
2	ADV	SWGR2	ADV2SWG2.INP	ADV2SWG2.OUT	ADV2SWG2.JFD
1	ADV	Turbine Building	ADV1TB.INP	ADV1TB.OUT	ADV1TB.JFD
2	ADV	Turbine Building	ADV2TB.INP	ADV2TB.OUT	ADV2TB.JFD
1	ADV	West Road	ADV1WR.INP	ADV1WR.OUT	ADV1WR.JFD
2	ADV	West Road	ADV2WR.INP	ADV2WR.OUT	ADV2WR.JFD
1	COD	AC11	COD1AC11.INP	COD1AC11.OUT	COD1AC11.JFD
2	COD	AC11	COD2AC11.INP	COD2AC11.OUT	COD2AC11.JFD
1	COD	AC13	COD1AC13.INP	COD1AC13.OUT	COD1AC13.JFD
2	COD	AC13	COD2AC13.INP	COD2AC13.OUT	COD2AC13.JFD
1	COD	SWGR1	COD1SWG1.INP	COD1SWG1.OUT	COD1SWG1.JFD
2	COD	SWGR1	COD2SWG1.INP	COD2SWG1.OUT	COD2SWG1.JFD
1	COD	SWGR2	COD1SWG2.INP	COD1SWG2.OUT	COD1SWG2.JFD
2	COD	SWGR2	COD2SWG2.INP	COD2SWG2.OUT	COD2SWG2.JFD
1	COD	Turbine Building	COD1TB.INP	COD1TB.OUT	COD1TB.JFD
2	COD	Turbine Building	COD2TB.INP	COD2TB.OUT	COD2TB.JFD
1	COD	West Road	COD1WR.INP	COD1WR.OUT	COD1WR.JFD
2	COD	West Road	COD2WR.INP	COD2WR.OUT	COD2WR.JFD
1	Containment	AC11	CTMT1AC11.INP	CTMT1AC11.OUT	CTMT1AC11.JFD
2	Containment	AC11	CTMT2AC11.INP	CTMT2AC11.OUT	CTMT2AC11.JFD
1	Containment	AC13	CTMT1AC13.INP	CTMT1AC13.OUT	CTMT1AC13.JFD
2	Containment	AC13	CTMT2AC13.INP	CTMT2AC13.OUT	CTMT2AC13.JFD
1	Containment	SWGR1	CTMT1SWG1.INP	CTMT1SWG1.OUT	CTMT1SWG1.JFD
2	Containment	SWGR1	CTMT2SWG1.INP	CTMT2SWG1.OUT	CTMT2SWG1.JFD
1	Containment	SWGR2	CTMT1SWG2.INP	CTMT1SWG2.OUT	CTMT1SWG2.JFD
2	Containment	SWGR2	CTMT2SWG2.INP	CTMT2SWG2.OUT	CTMT2SWG2.JFD
1	Containment	Turbine Building	CTMT1TB.INP	CTMT1TB.OUT	CTMT1TB.JFD
2	Containment	Turbine Building	CTMT2TB.INP	CTMT2TB.OUT	CTMT2TB.JFD
1	Containment	West Road	CTMT1WR.INP	CTMT1WR.OUT	CTMT1WR.JFD
2	Containment	West Road	CTMT2WR.INP	CTMT2WR.OUT	CTMT2WR.JFD
1	MSG	AC11	MSG1AC11.INP	MSG1AC11.OUT	MSG1AC11.JFD
2	MSG	AC11	MSG2AC11.INP	MSG2AC11.OUT	MSG2AC11.JFD
1	MSG	AC13	MSG1AC13.INP	MSG1AC13.OUT	MSG1AC13.JFD
2	MSG	AC13	MSG2AC13.INP	MSG2AC13.OUT	MSG2AC13.JFD
1	MSG	SWGR1	MSG1SWG1.INP	MSG1SWG1.OUT	MSG1SWG1.JFD
2	MSG	SWGR1	MSG2SWG1.INP	MSG2SWG1.OUT	MSG2SWG1.JFD
1	MSG	SWGR2	MSG1SWG2.INP	MSG1SWG2.OUT	MSG1SWG2.JFD
2	MSG	SWGR2	MSG2SWG2.INP	MSG2SWG2.OUT	MSG2SWG2.JFD
1	MSG	Turbine Building	MSG1TB.INP	MSG1TB.OUT	MSG1TB.JFD
2	MSG	Turbine Building	MSG2TB.INP	MSG2TB.OUT	MSG2TB.JFD
1	MSG	West Road	MSG1WR.INP	MSG1WR.OUT	MSG1WR.JFD
2	MSG	West Road	MSG2WR.INP	MSG2WR.OUT	MSG2WR.JFD
1	RWT	AC11	RWT1AC11.INP	RWT1AC11.OUT	RWT1AC11.JFD

2	RWT	AC11	RWT2AC11.INP	RWT2AC11.OUT	RWT2AC11.JFD
1	RWT	AC13	RWT1AC13.INP	RWT1AC13.OUT	RWT1AC13.JFD
2	RWT	AC13	RWT2AC13.INP	RWT2AC13.OUT	RWT2AC13.JFD
1	RWT	SWGR1	RWT1SWG1.INP	RWT1SWG1.OUT	RWT1SWG1.JFD
2	RWT	SWGR1	RWT2SWG1.INP	RWT2SWG1.OUT	RWT2SWG1.JFD
1	RWT	SWGR2	RWT1SWG2.INP	RWT1SWG2.OUT	RWT1SWG2.JFD
2	RWT	SWGR2	RWT2SWG2.INP	RWT2SWG2.OUT	RWT2SWG2.JFD
1	RWT	Turbine Building	RWT1TB.INP	RWT1TB.OUT	RWT1TB.JFD
2	RWT	Turbine Building	RWT2TB.INP	RWT2TB.OUT	RWT2TB.JFD
1	RWT	West Road	RWT1WR.INP	RWT1WR.OUT	RWT1WR.JFD
2	RWT	West Road	RWT2WR.INP	RWT2WR.OUT	RWT2WR.JFD
1	Ventilation Stack	AC11	VS1AC11.INP	VS1AC11.OUT	VS1AC11.JFD
2	Ventilation Stack	AC11	VS2AC11.INP	VS2AC11.OUT	VS2AC11.JFD
1	Ventilation Stack	AC13	VS1AC13.INP	VS1AC13.OUT	VS1AC13.JFD
2	Ventilation Stack	AC13	VS2AC13.INP	VS2AC13.OUT	VS2AC13.JFD
1	Ventilation Stack	SWGR1	VS1SWG1.INP	VS1SWG1.OUT	VS1SWG1.JFD
2	Ventilation Stack	SWGR1	VS2SWG1.INP	VS2SWG1.OUT	VS2SWG1.JFD
1	Ventilation Stack	SWGR2	VS1SWG2.INP	VS1SWG2.OUT	VS1SWG2.JFD
2	Ventilation Stack	SWGR2	VS2SWG2.INP	VS2SWG2.OUT	VS2SWG2.JFD
1	Ventilation Stack	Turbine Building	VS1TB.INP	VS1TB.OUT	VS1TB.JFD
2	Ventilation Stack	Turbine Building	VS2TB.INP	VS2TB.OUT	VS2TB.JFD
1	Ventilation Stack	West Road	VS1WR.INP	VS1WR.OUT	VS1WR.JFD
2	Ventilation Stack	West Road	VS2WR.INP	VS2WR.OUT	VS2WR.JFD
1	Containment	West Road	CTMT1WRTS.INP	CTMT1WRTS.OUT	CTMT1WRTS.JFD
2	Containment	West Road	CTMT2WRTS.INP	CTMT2WRTS.OUT	CTMT2WRTS.JFD
1	Containment	West Road	CTMT1WRA.INP	CTMT1WRA.OUT	CTMT1WRA.JFD
1	Containment	West Road	CTMT1WRB.INP	CTMT1WRB.OUT	CTMT1WRB.JFD
1	Containment	West Road	CTMT1WRC.INP	CTMT1WRC.OUT	CTMT1WRC.JFD

(q) Surface roughness length (m): 0.2 Ref.02

(r) Minimum wind speed (m/s): 0.5 Ref.02

(s) Sector averaging constant: 4.30 Ref.02

(t) Hours in average: 1 2 4 8 12 24 96 168 360 720 Ref.02

(u) Minimum number of hours: 1 2 4 8 11 22 87 152 324 648 Ref.02

(v) Horizontal diffusion coefficient (m):

(i) Containment:

The horizontal diffusion coefficient is defined as the containment diameter divided by 6 (Ref.02)

$$\sigma_y = 137.5' / 6 = 22.9167' = 6.9850 \text{ m}$$

(ii) RWT, ADV, VS, MSG, COD

$$\sigma_y = 0$$

(w) Vertical diffusion coefficient (m):

(i) Containment:

The vertical diffusion coefficient is defined as 1/6 of the height of the leakage area (Ref.02)

$$\sigma_z = (193.4167' - 91.5') / 6 = 16.9861' = 5.1774 \text{ m}$$

(ii) RWT, ADV, VS, MSG, COD

$$\sigma_z = 0$$

(x) Flag for expanded output:

n

(10) Ref.2 allows an applicant to propose adjustments to the release height for plume rise that are due to buoyancy or mechanical jet on a case-by-case basis. In order to credit these adjustments, the applicant must be able to demonstrate that the assumed buoyancy or vertical velocity of the effluent plumes will be maintained throughout the time intervals that plume rise is credited. In lieu of mechanistically addressing the amount of buoyant plume rise associated with energetic releases from steam relief valves or atmospheric dump valves, the ground level X/Q value calculated with ARCON96 (on the basis of the physical height of the release point) may be reduced by a factor of 5. This reduction may be taken only if (1) the release point is uncapped and vertically oriented and (2) the time-dependent vertical velocity exceeds the 95th percentile wind speed (at the release point height) by a factor of 5.

The 95th percentile wind velocity at the ADV release point of 17.22 m is calculated above to be 6.68 m/sec using the 8 years of meteorological data and the height-to-velocity algorithm of Ref.28 ($u/u_o = (h/h_o)^m$ where m is determined from the 10 m to 60 m wind speed data). The ADV vertical velocity is calculated in an EXCEL spreadsheet as a function of steam generator temperature and pressure based on the methodology of Refs. 30-31. Since the discharge through the ADV will terminate when shutdown cooling is attained at 300°F (UFSAR 1.2.9.2), the minimum exit velocity from the ADV is 67.5 m/sec. This is in excess of 10 times the 95th percentile wind speed at the ADV release point. Thus the factor of 5 decrease in the ADV X/Q values is justified for this work.

Steam Flow Rate through the ADVs

Atmospheric pressure (psia)	14.700	Ref. NEU-94-151	
Resistance coefficient (K)	9.820	Ref. NEU-94-151	
Maximum DP/P1	0.771	Ref. NEU-94-151	Crane P.A-22
Expansion Factor (Y)	0.704	Ref. NEU-94-151	Crane P.A-22
Limiting Diameter dl(in)	3.760	Ref. NEU-94-151	
Exit Diameter de(in)	10.020	Ref. NEU-94-151	

S.G.	S.G.	S.G.	Exit	Exit	Limiting	Exit	Exit	Exit	Exit	Exit	Exit
Temp	Pressure	Soec	Pressure	Spec Vol	Mass	Mass	Vol Flow	Velocity	Vol Flow	Velocity	Velocity
TSG	PSG	SVSG	PEX	SVEX	MFEX	MFEX	VFEX	VEX	VFEX	VEX	VEX
F	psia	ft3/lbm	psia	ft3/lbm	lbm/sec	lbm/sec	cf/sec	ft/sec	m3/sec	m/sec	m/sec
300.000	67.000	6.466	15.343	25.742	4.713	4.713	121.320	221.548	3.435	67.528	67.528
344.343	125.000	3.586	28.625	14.360	8.644	8.644	124.132	226.684	3.515	69.093	69.093
372.000	177.660	2.563	40.684	10.332	12.190	12.190	125.943	229.992	3.566	70.102	70.102
400.000	247.290	1.863	56.629	7.575	16.869	16.869	127.786	233.356	3.618	71.127	71.127
500.000	680.610	0.675	155.860	2.906	46.492	46.492	135.098	246.710	3.826	75.197	75.197
522.000	826.580	0.549	189.287	2.412	56.793	56.793	136.974	250.137	3.879	76.242	76.242
545.000	1000.000	0.446	229.000	2.007	69.331	69.331	139.154	254.116	3.940	77.455	77.455

PSG= From Steam Tables @ TSG

SVSG= From Steam Tables @ TSG

PEX= (1-DP/P1)*PSG

SVEX= From Steam Tables @ PEX

MFEX= $0.525 \cdot Y \cdot d1^2 \cdot \text{SQRT}((\text{PSG} - \text{PEX})/K/\text{SVSG})$ Ref. Crane P.2-15

VFEX= MFEX*SVEX

VEX= $\text{VFEX}/(3.14159 \cdot (de/24)^2)$

VFEXP= VFEX*60

"Flow of Fluids through Valves, Fittings, and Pipes", Crane Technical Paper No. 410.

"ASME Steam Tables Fifth Edition", 1983.

"Fluid Velocities through the Main Steam Valve Room Stack and ADVs", NEU-94-151

7. TECHNICAL ASSUMPTIONS

The following technical assumptions were utilized in this work:

(01) AC11 and AC13 will be isolated on a SIAS signal, which will isolate this leakage path in case of an accident except for the fuel handling accident. The SWGRs are in continual recirculation mode and thus are also isolated from the environment. The MSIV rooms are also isolated from the environment, except for the Main Steam Line Break Accident which occurs in these rooms, due to the thermal buoyancy of the air in these rooms and due to the J-neck exhaust. For conservatism, all of the measured inleakage will be assumed to enter the control room from the most conservative pathway: either the West Road or Turbine Building inlets.

(02) This work calculates the atmospheric dispersion coefficients from the source to the receptor assuming no thermal plume or momentum plume rise.

8. REFERENCES

01. J. Halitsky, J. Golden, P. Halpern, P. Wu, "Wind Tunnel Tests of Gas Diffusion from a Leak in the Shell of a Nuclear Power Reactor and from a Nearby Stack," *Department of Meteorology and Oceanography Geophysical Sciences Laboratory Report No. 63-2*, New York University, 4/1/63.
02. "Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants", Regulatory Guide 1.194, 6/2003.
03. M.A. Ratcliff, B.C. Cochran, "Wind Tunnel Modeling of the Calvert Cliffs Nuclear Power Plant," *Cermak Petreka Petersen Project 94-1040*, 10/94.
04. J.V. Ramsdell, C.A. Simonen, "Atmospheric Relative Concentrations in Building Wakes", *NUREG/CR-6331 Rev.1*, USNRC, 5/97.
05. K.G. Murphy, K.M. Campe, "Nuclear Power Plant Control Room Ventilation System Design for Meeting General Criterion 19," *Proceedings of 13th AEC Air Cleaning Conference*, San Francisco, CONF 740807, USAEC, 8/74.
- (06) "Dose Impact from Increased Control Room Inleakage at the Calvert Cliffs Nuclear Power Plant", ANS Summer Meeting, April 2002.
- (07) ES199901282 Supp.0 Rev.0, "Control Room Envelope Determination"
- (08) CA02725: "Modeling of the Control Room/Cable Spreading Room HVAC System Using GOTHIC Software"
- (09) M-90-207: "Maximum Flood Height Resulting from a Pipe Break in the Control Room HVAC Equipment Room"
- (10) BGE Drawing 63690SH0002 Rev.2: "Auxiliary Building Sections and Details at El. 91'6"
- (11) BGE Drawing 62042SH0001 Rev.15: "Architectural Partial Floor Plan Auxiliary Building Control Room El. 45' 0"
- (12) Bechtel Calculation M-78-1: "Control Room LOCA Doses"
- (13) Letter BGE to NRC, Control Room Dose, 3/5/86.
- (14) BGE Drawing 62006SH0001 Rev.4: "General East and South Elevations"
- (15) BGE Drawing 12329B-03 Rev.8: "Refueling Water Storage Tank"
- (16) BGE Drawing 62043SH0003 Rev.1: "Auxiliary Building Roof Plan"
- (17) BGE Drawing 62043SH0001 Rev.14: "Auxiliary Building Roof Plan"
- (18) , BGE Drawing 60330SH004 Rev.15. "Heating and Ventilation System, Auxiliary Building, El. 69'0", Sections and Details"
- (19) BGE Drawing 61612SH0001 Rev.2: "Turbine Building Cross Sections"
- (20) CA03750: "ARCON95 X/Q Analysis"
- (21) BGE Drawing 61740SH0001 Rev.22: "Containment Liner Plan, Elevation & Penetrations"

- (22) BGE Drawing 62037SH0001 Rev.19: "Auxiliary Building and Containment Structure Floor Plan at El 45'0""
- (23) BGE Drawing 60485SH0001 Rev.5: "Refueling Water Storage Tank Piping El 45'0" Unit 1"
- (24) BGE Drawing 60486SH0001 Rev.7: "Refueling Water Storage Tank Piping El 45'0" Unit 2"
- (25) BGE Drawing 61685SH0001 Rev.29: "Auxiliary Building Unit 1 Floor Plan at El 69'0""
- (26) ETP-01-035R: PFT Testing
- (27) CCMAIL from Mark Abrams at PLG to G.E.Gryczkowski, 3/5/97.
- (28) "Wind Flows and Dispersion Conditions at Calvert Cliffs", Maria Gavrilas and Melissa Wieland, BG&E-EP1, 9/85.
- (29) CCMAIL from Mark Abrams at PLG to G.E.Gryczkowski, 6/26/02.
- (30) NEU-94-151: "NS-94-020 Fluid Velocities through the Main Steam Valve Room Stack and ADVs"
- (31) CRANE Technical Paper No. 410: "Flow of Fluids through Valves, Fittings, and Pipe"
- (32) Safety Guide 23: "Onsite Meteorological Programs"
- (33) CA03940: "ARCON96: Atmospheric Relative Concentrations in Building Wakes"
- (34) CA04906: "ARCON96 Computer Code Installation Testing on PCB386"
- (35) NUREG/CR-6331 Rev.1: "Atmospheric Relative Concentrations in Building Wakes"

9. DOCUMENTATION OF COMPUTER CODES

ARCON96 implements a computational model for calculating atmospheric dispersion coefficients (X/Q 's) in the vicinity of buildings. An atmospheric dispersion coefficient is simply the ratio of the relative concentration at the receptor (gm/m^3) to the release rate at the release point (gm/sec). Thus atmospheric dispersion coefficients are in units of sec/m^3 . The model estimates impacts from ground-level, vent, and elevated releases using a single year or multi-years of hourly meteorological data. This model also treats diffusion more realistically under low wind speed conditions than previous NRC-issued models. ARCON96 is a revision of ARCON95. The differences between ARCON96 and ARCON95 are relatively modest. ARCON96 allows users to enter initial diffusion coefficients that may be used to approximate dimensions of diffuse area sources. The method of calculating average relative concentrations for periods longer than two hours was also changed. Centerline concentrations are now used for the first eight hours in each time period, while sector-average concentrations are used for the remaining hours.

The ARCON96 computer code was documented and described in NUREG/CR-6331 Rev.1 (Ref.35). The code was benchmarked and validated in Ref.33. The installation on the safety-related computer PCB386 is documented in Ref.34.

10. CALCULATIONS, RESULTS, AND CONCLUSIONS

The atmospheric dispersion coefficients resulting from the ARCON96 executions are as follows:

	Unit 1	Unit 2	Unit 1	Unit 2
	raw adv to ac11		raw adv to ac13	
0-2 hr	2.33E-03	1.84E-02	9.48E-03	8.35E-03
2-8 hr	1.81E-03	1.57E-02	7.58E-03	4.68E-03
8-24hr	7.52E-04	5.91E-03	3.05E-03	1.74E-03
1-4 days	4.86E-04	4.92E-03	2.07E-03	1.28E-03
4-30 days	3.92E-04	3.86E-03	1.75E-03	9.10E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	adjusted adv to ac11		adjusted adv to ac13	
0-2 hr	4.66E-04	3.68E-03	1.90E-03	1.67E-03
2-8 hr	3.62E-04	3.14E-03	1.52E-03	9.36E-04
8-24hr	1.50E-04	1.18E-03	6.10E-04	3.48E-04
1-4 days	9.72E-05	9.84E-04	4.14E-04	2.56E-04
4-30 days	7.84E-05	7.72E-04	3.50E-04	1.82E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	raw adv to swg1		raw adv to swg2	
0-2 hr	1.26E-02	1.36E-03	1.45E-03	1.24E-02
2-8 hr	1.00E-02	9.15E-04	1.15E-03	9.03E-03
8-24hr	3.75E-03	2.96E-04	4.73E-04	3.71E-03
1-4 days	2.66E-03	2.22E-04	3.04E-04	2.49E-03
4-30 days	2.18E-03	1.68E-04	2.46E-04	2.05E-03

	Unit 1	Unit 2	Unit 1	Unit 2
	adjusted adv to swg1		adjusted adv to swg2	
0-2 hr	2.52E-03	2.72E-04	2.90E-04	2.48E-03
2-8 hr	2.00E-03	1.83E-04	2.30E-04	1.81E-03
8-24hr	7.50E-04	5.92E-05	9.46E-05	7.42E-04
1-4 days	5.32E-04	4.44E-05	6.08E-05	4.98E-04
4-30 days	4.36E-04	3.36E-05	4.92E-05	4.10E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	raw adv to west road		raw adv to turbine building	
0-2 hr	1.40E-03	1.35E-03	3.70E-03	3.83E-03
2-8 hr	1.08E-03	9.39E-04	2.78E-03	3.25E-03
8-24hr	4.73E-04	3.78E-04	1.03E-03	1.32E-03
1-4 days	3.48E-04	2.52E-04	8.24E-04	9.92E-04
4-30 days	2.44E-04	1.66E-04	6.31E-04	7.92E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	adjusted adv to west road		adjusted adv to turbine building	
0-2 hr	2.80E-04	2.70E-04	7.40E-04	7.66E-04
2-8 hr	2.16E-04	1.88E-04	5.56E-04	6.50E-04
8-24hr	9.46E-05	7.56E-05	2.06E-04	2.64E-04
1-4 days	6.96E-05	5.04E-05	1.65E-04	1.98E-04
4-30 days	4.88E-05	3.32E-05	1.26E-04	1.58E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	cod to ac11		cod to ac13	
0-2 hr	6.88E-04	2.01E-03	1.41E-03	1.36E-03
2-8 hr	5.56E-04	1.74E-03	1.15E-03	9.74E-04
8-24hr	2.35E-04	7.04E-04	4.81E-04	3.17E-04
1-4 days	1.50E-04	5.03E-04	3.03E-04	2.28E-04
4-30 days	1.21E-04	4.03E-04	2.46E-04	1.77E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	cod to swg1		cod to swg2	
0-2 hr	3.74E-03	5.36E-04	5.51E-04	3.82E-03
2-8 hr	2.98E-03	3.97E-04	4.48E-04	3.42E-03
8-24hr	1.11E-03	1.30E-04	1.88E-04	1.42E-03
1-4 days	8.88E-04	9.31E-05	1.19E-04	1.04E-03
4-30 days	6.77E-04	7.38E-05	9.73E-05	8.41E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	cod to west road		cod to turbine building	
0-2 hr	1.16E-03	9.90E-04	9.83E-04	1.02E-03
2-8 hr	9.49E-04	5.51E-04	7.38E-04	8.48E-04
8-24hr	3.90E-04	2.20E-04	3.04E-04	3.34E-04
1-4 days	2.70E-04	1.53E-04	2.07E-04	2.31E-04
4-30 days	2.36E-04	1.03E-04	1.67E-04	1.90E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	containment to ac11		containment to ac13	
0-2 hr	9.19E-04	1.98E-03	1.93E-03	1.88E-03
2-8 hr	6.19E-04	1.39E-03	1.21E-03	1.14E-03
8-24hr	2.44E-04	5.71E-04	4.91E-04	4.38E-04
1-4 days	1.80E-04	4.90E-04	3.61E-04	3.22E-04
4-30 days	1.50E-04	4.13E-04	2.98E-04	2.67E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	containment to swg1		containment to swg2	
0-2 hr	2.21E-03	6.89E-04	7.18E-04	2.21E-03
2-8 hr	1.47E-03	4.62E-04	4.91E-04	1.47E-03
8-24hr	5.79E-04	1.68E-04	2.05E-04	5.79E-04
1-4 days	5.23E-04	1.22E-04	1.42E-04	5.23E-04
4-30 days	4.46E-04	1.01E-04	1.16E-04	4.46E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	containment to west road		containment to turbine building	
0-2 hr	1.20E-03	1.12E-03	1.02E-03	1.02E-03
2-8 hr	7.78E-04	6.37E-04	7.10E-04	7.98E-04
8-24hr	3.38E-04	2.46E-04	2.57E-04	3.19E-04
1-4 days	2.53E-04	1.77E-04	2.19E-04	2.56E-04
4-30 days	2.11E-04	1.22E-04	1.77E-04	2.14E-04

	Unit 1	Unit 2
	containment to west road (taut string)	
0-2 hr	1.11E-03	1.04E-03
2-8 hr	7.29E-04	5.95E-04
8-24hr	3.19E-04	2.29E-04
1-4 days	2.36E-04	1.64E-04
4-30 days	1.98E-04	1.14E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	msg to ac11		msg to ac13	
0-2 hr	2.25E-03	1.31E-02	1.00E-02	8.72E-03
2-8 hr	1.73E-03	1.17E-02	7.99E-03	5.32E-03
8-24hr	7.15E-04	4.33E-03	3.23E-03	1.83E-03
1-4 days	4.65E-04	3.63E-03	2.15E-03	1.37E-03
4-30 days	3.78E-04	2.84E-03	1.78E-03	1.01E-03

	Unit 1	Unit 2	Unit 1	Unit 2
	msg to swg1		msg to swg2	
0-2 hr	1.07E-02	1.31E-03	1.41E-03	1.04E-02
2-8 hr	9.16E-03	9.52E-04	1.13E-03	7.84E-03
8-24hr	3.54E-03	3.05E-04	4.65E-04	3.10E-03
1-4 days	2.56E-03	2.22E-04	2.96E-04	2.20E-03
4-30 days	2.09E-03	1.72E-04	2.43E-04	1.75E-03

	Unit 1	Unit 2	Unit 1	Unit 2
	msg to west road		msg to turbine building	
0-2 hr	1.54E-03	1.48E-03	3.38E-03	3.48E-03
2-8 hr	1.19E-03	1.02E-03	2.56E-03	2.97E-03
8-24hr	5.15E-04	4.11E-04	9.45E-04	1.21E-03
1-4 days	3.81E-04	2.73E-04	7.73E-04	9.22E-04
4-30 days	2.67E-04	1.81E-04	5.91E-04	7.41E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	rwt to ac11		rwt to ac13	
0-2 hr	6.86E-04	1.27E-03	1.48E-03	1.51E-03
2-8 hr	5.12E-04	1.12E-03	1.09E-03	1.28E-03
8-24hr	2.01E-04	4.51E-04	4.29E-04	5.17E-04
1-4 days	1.46E-04	3.53E-04	3.11E-04	3.69E-04
4-30 days	1.17E-04	2.80E-04	2.48E-04	3.00E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	rwt to swg1		rwt to swg2	
0-2 hr	1.66E-03	5.88E-04	5.74E-04	1.66E-03
2-8 hr	1.42E-03	4.72E-04	4.25E-04	1.44E-03
8-24hr	5.42E-04	1.79E-04	1.79E-04	5.63E-04
1-4 days	4.44E-04	1.26E-04	1.18E-04	4.52E-04
4-30 days	3.47E-04	1.03E-04	9.78E-05	3.59E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	rwt to west road		rwt to turbine building	
0-2 hr	2.57E-03	2.30E-03	7.72E-04	7.90E-04
2-8 hr	2.13E-03	1.32E-03	6.18E-04	6.92E-04
8-24hr	8.50E-04	4.87E-04	2.26E-04	2.86E-04
1-4 days	5.71E-04	3.64E-04	1.87E-04	2.21E-04
4-30 days	4.85E-04	2.55E-04	1.45E-04	1.76E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	vent stack to ac11		vent stack to ac13	
0-2 hr	1.42E-03	4.34E-03	2.89E-03	2.62E-03
2-8 hr	1.12E-03	3.51E-03	2.29E-03	1.72E-03
8-24hr	4.38E-04	1.41E-03	9.15E-04	6.13E-04
1-4 days	3.03E-04	1.10E-03	6.32E-04	4.20E-04
4-30 days	2.45E-04	8.74E-04	5.33E-04	3.16E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	vent stack to swg1		vent stack to swg2	
0-2 hr	3.94E-03	9.33E-04	9.65E-04	3.82E-03
2-8 hr	3.21E-03	6.78E-04	7.78E-04	2.72E-03
8-24hr	1.28E-03	2.21E-04	3.06E-04	1.02E-03
1-4 days	9.74E-04	1.65E-04	2.07E-04	7.61E-04
4-30 days	7.84E-04	1.25E-04	1.70E-04	5.95E-04

	Unit 1	Unit 2	Unit 1	Unit 2
	vent stack to west road		vent stack to turbine building	
0-2 hr	9.54E-04	8.73E-04	1.63E-03	1.68E-03
2-8 hr	6.86E-04	5.79E-04	1.19E-03	1.34E-03
8-24hr	2.95E-04	2.12E-04	4.61E-04	5.14E-04
1-4 days	2.13E-04	1.49E-04	3.22E-04	3.84E-04
4-30 days	1.56E-04	1.03E-04	2.61E-04	3.12E-04

	Unit 1 containment to west road			
File Designation	CTMT1WRA	CTMT1WRC	CTMT1WR	CTMT1WRB
Bldg Area (m2)	1	100	2000	10000
0-2 hr	1.22E-03	1.20E-03	1.20E-03	1.20E-03
2-8 hr	7.98E-04	7.83E-04	7.78E-04	7.77E-04
8-24hr	3.52E-04	3.40E-04	3.38E-04	3.38E-04
1-4 days	2.61E-04	2.55E-04	2.53E-04	2.53E-04
4-30 days	2.19E-04	2.13E-04	2.11E-04	2.11E-04

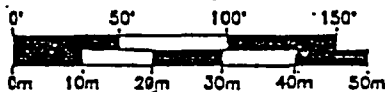
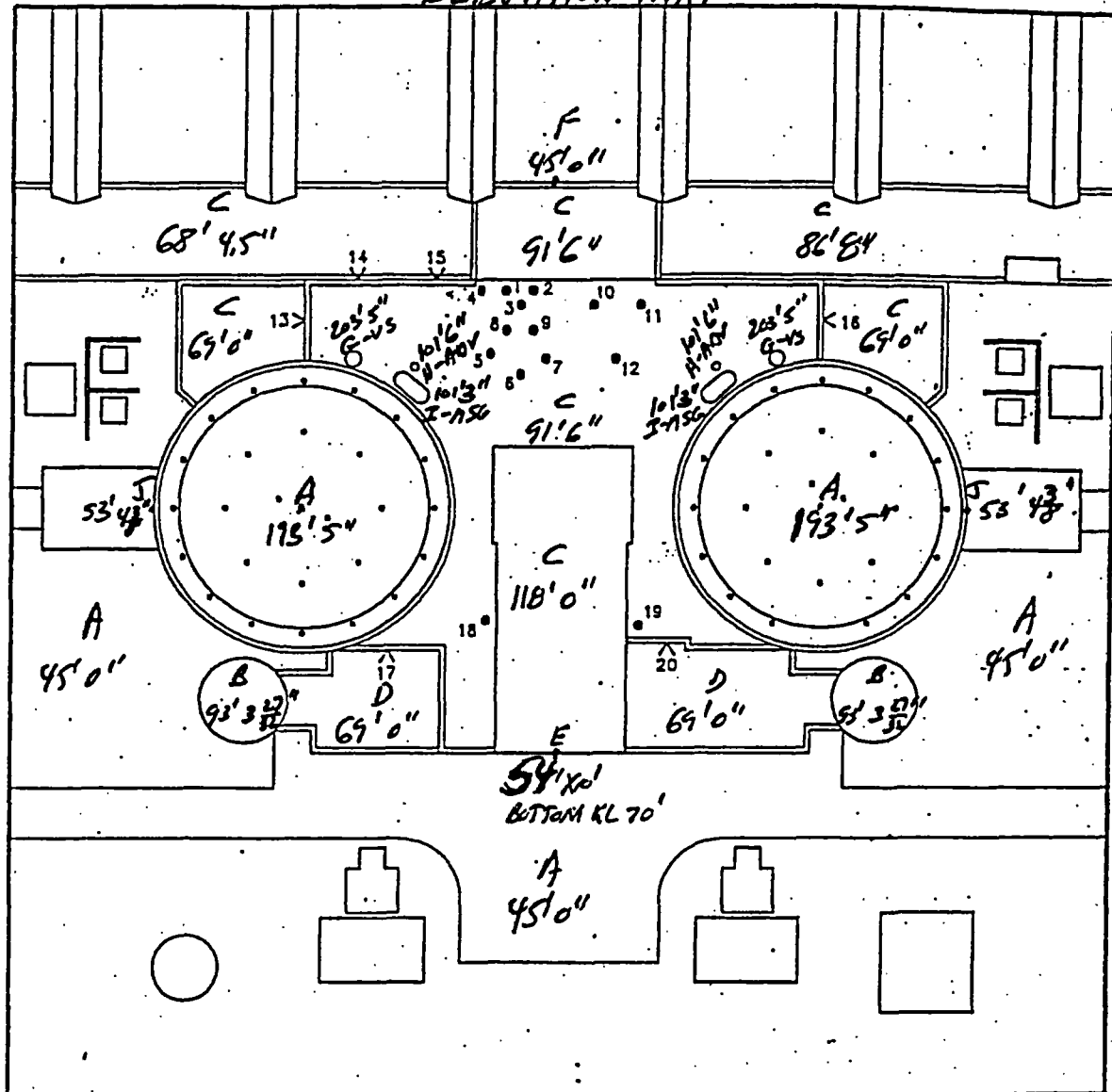
Note that atmospheric dispersion results were generated for all possible release and receptor points. This data verifies the importance of isolating AC11, AC13, the switchgear rooms, and the MSIV rooms post-accident.

Also note that the adjusted ADV X/Q values assume full open ADV releases, which are reduced by a factor of 5 from the raw ADV values to incorporate the effects of thermal and momentum plume rise.

11. ATTACHMENTS

ATTACHMENT A ELEVATION MAP

ELEVATION MAP



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

- (A) 62006SH0001 Rev. 4 (Ref. 14)
 (B) 12329B0003 Rev. 8 (Ref. 15)
 (C) 62043SH0003 Rev. 1 (Ref. 16)
 (D) 62043SH0001 Rev. 14 (Ref. 17)
 (E) 60330SH0004 Rev. 15 (Ref. 18)
 (F) 61612SH0001 Rev. 2 (Ref. 19)
 (G) 62006SH0001 Rev. 4 (Ref. 14)
 (H) CA03750 (11-97-02) (Ref. 20)
 (I) CA05750 (11-97-02) (Ref. 20)
 (J) 61740SH0001 Rev. 22 (Ref. 21)

ATTACHMENT B
AUXILIARY BUILDING ROOF WALKDOWN

CA06012 Rev. 0
Page 27

ATTACHMENT A, RECORD OF WALKDOWN

ESP No.: ES200100401

Supp. No.: 0

Rev. No. 0

Date: 06/30/2003

SUMMARY OF WALKDOWN:

A walkdown of the Auxiliary Building Roof was performed by G.E.Gryczkowski and K.I.R.Knippel to determine the locations of the Control Room Inleakage points. The measured distances are detailed on the following diagram.

CA06012 Rev.0
Page 28TRACER TECHNOLOGY CENTER
BROOKHAVEN NATIONAL LABORATORY

FACSIMILE

DATE: July 29, 2002

TO: John E. Wynn Jr.
Aux Systems Engr Unit
Calvert Cliffs Nuclear Power Plant
Lusby, MD 20657

FAX NO: (410) 495 - 4727

MESSAGE:

John,

I'm on vacation this week but wanted to send you the final results but without my final assessment. Remarkably, total inleakage was 2930 ± 185 cfm. Other flows, in cfm, were:

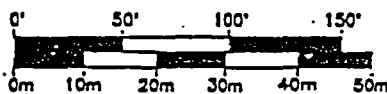
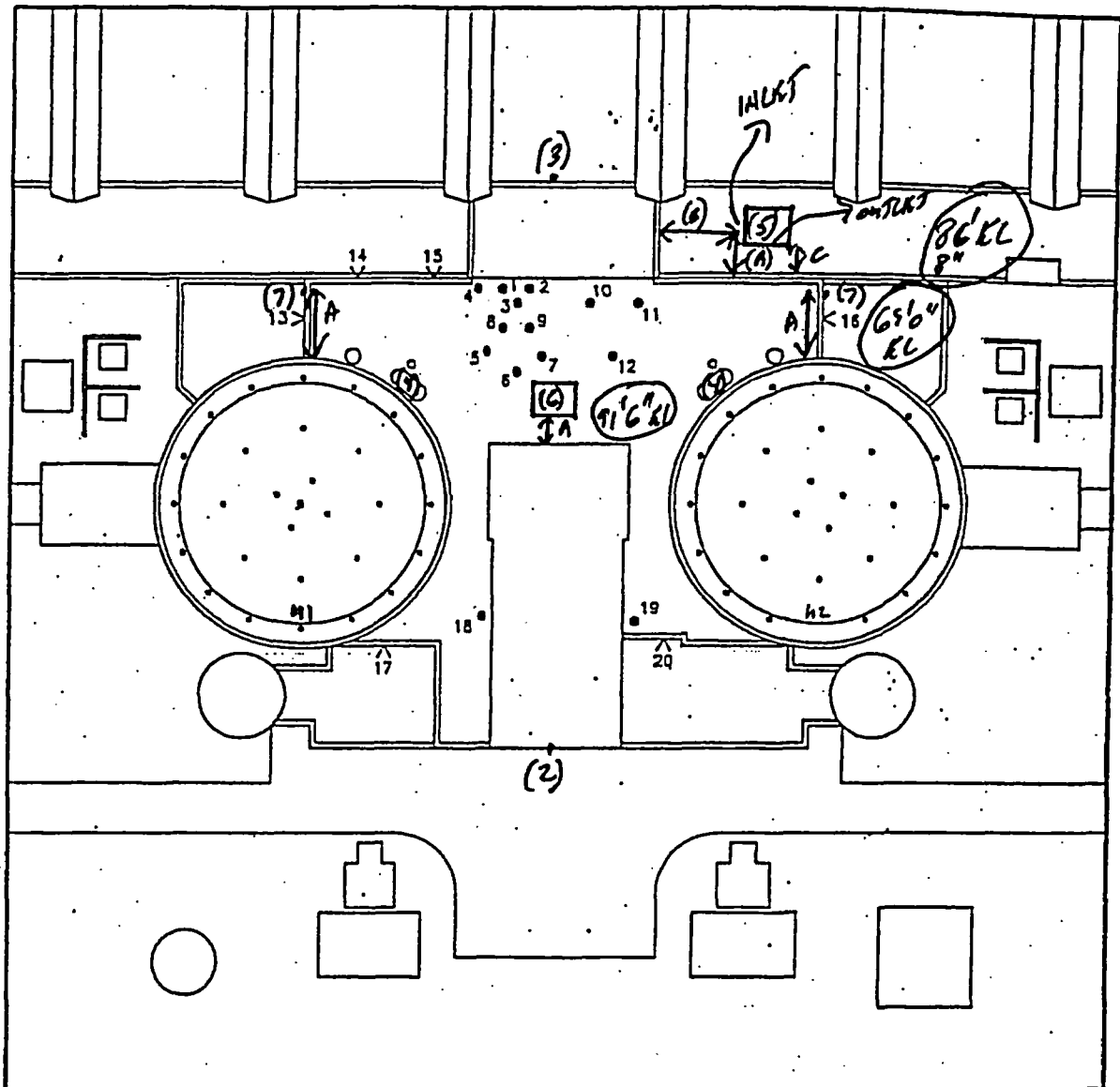
Zone	From/To	CR Inleakage	% of total	CR Outleakage	% of total
0	Outside	275 ± 185	9	1866 ± 470	64
2	AB	436 ± 157	15	366 ± 248	13
3	TB	466 ± 172	16	599 ± 415	20
4	MSIVs	272 ± 134	9	44 ± 33	2
5	AC11	274 ± 33	9	19 ± 3	1
6	AC13	387 ± 38	13	11 ± 8	0
7	SWGRs	818 ± 114	28	21 ± 10	1

More next week. I'll put a copy in the mail also.



Total no. of pages including this cover page: 4

From: Russell N. Dietz - Head
Tracer Technology Center
Atmospheric Sciences Division
Brookhaven National Laboratory
Bldg 815E
Upton, NY 11973-5000Telephone: (631) 344-3059
Fax: (631) 344-2887
Confirmation: (631) 344-3275
Email: dietz@bnl.gov
Secretary: Barbara J. Roland
Secretary's email: roland@bnl.gov



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

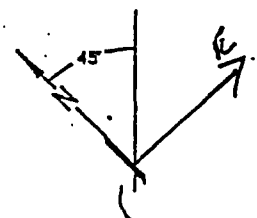
(2) AB - FROM DRAWINGS

(3) TB - FROM DRAWINGS

(4) MSIV

(5) AC11 (A) 13'6" (B) 30'6" (C) 9'3"

(D) 92" H 43" W



(6) AC13 (A) 25'8" (B) 8'4" W

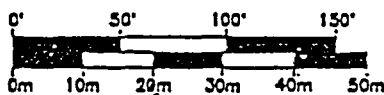
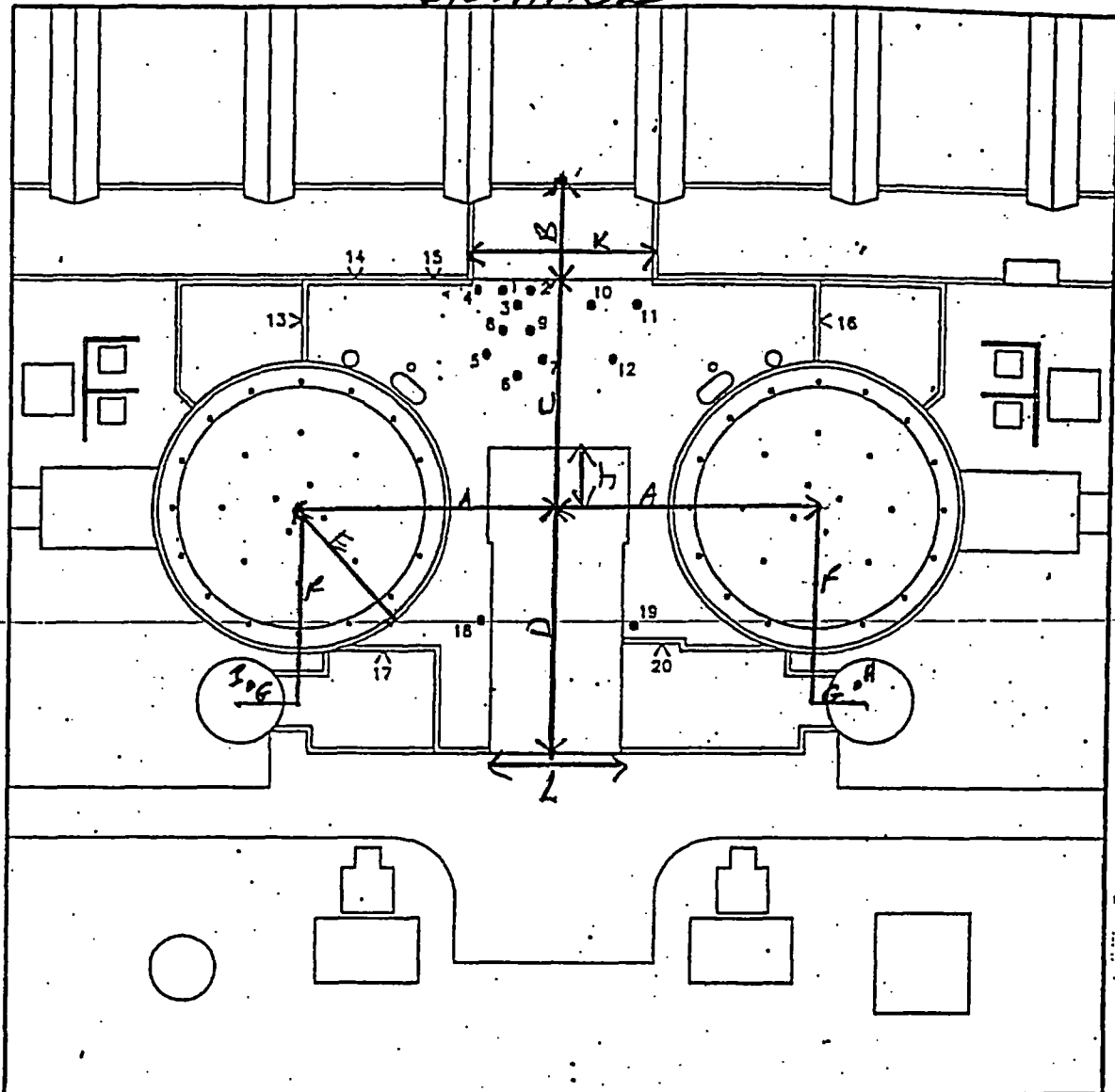
(7) SW6H (A) 34'8" (B) 68" W

86"

1111	34"
1	8"
1111	34"
	38"

ATTACHMENT C
SOURCE TO RECEPTOR DISTANCES

DISTANCES



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
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6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

- (J) 27' 6" G1685SH001 Rev. 29 (Ref. 25)
- (K) 52' 0" G2043SH001 Rev. 14 (Ref. 17)
- (L) 66' 1 1/4" G2043SH001 Rev. 14

- (A) 130' 0" G2043SH001 Rev. 14 (Ref. 17)
- (B) 52' 0" G2043SH001 Rev. 14 (Ref. 17)
- (C) 115' 0" G2037SH001 Rev. 19 (Ref. 22)
- (D) 122' 0" G2037SH001 Rev. 19 (Ref. 22)
- (E) 60' 9" G1740SH001 Rev. 22 (Ref. 21)

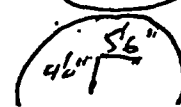
- (F) 101' 6" G0485SH001 Rev. 7(42) G0485SH001 Rev. 5(41)
- (G) 27' 6" G0485SH001 Rev. 7(42) G0485SH001 Rev. 5(41)

(H) RWT VENT

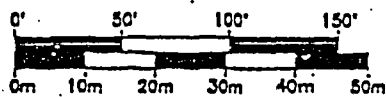
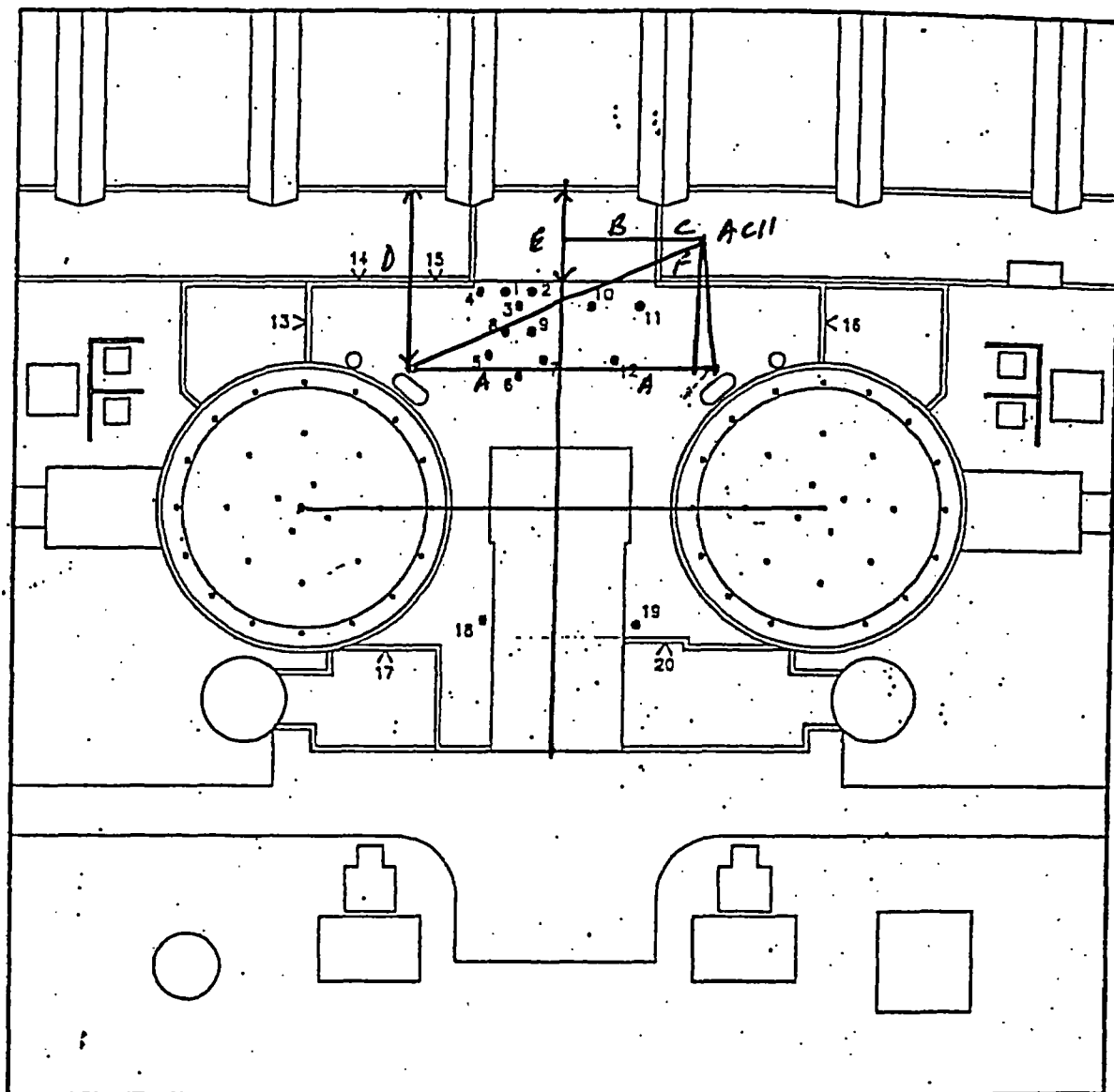
(I) RWT VENT



G0485SH001 Rev. 7(42) (Ref. 24)



G0485SH001 Rev. 5(41) (Ref. 23)



KEY:

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NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

A=77.3562'

(ADV TO WALK)

B=46'0"

(DISTANCES)

C=30'6"

(WALKDOWN)

D=25.5302'

(ADV TO TB)

E=50'0"

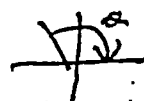
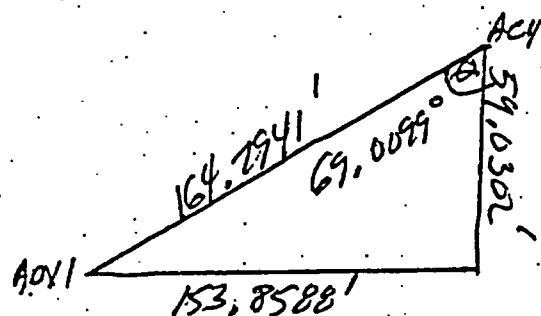
(DISTANCES)

F=13'6"

(WALKDOWN)



ADV1 TO AC11

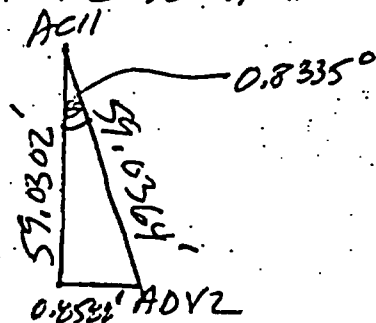


DIRECTION: INTAKE TO
RELEASE

$$d = 164.7941' = 50.2292m$$

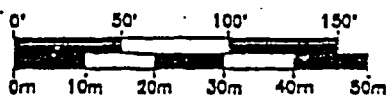
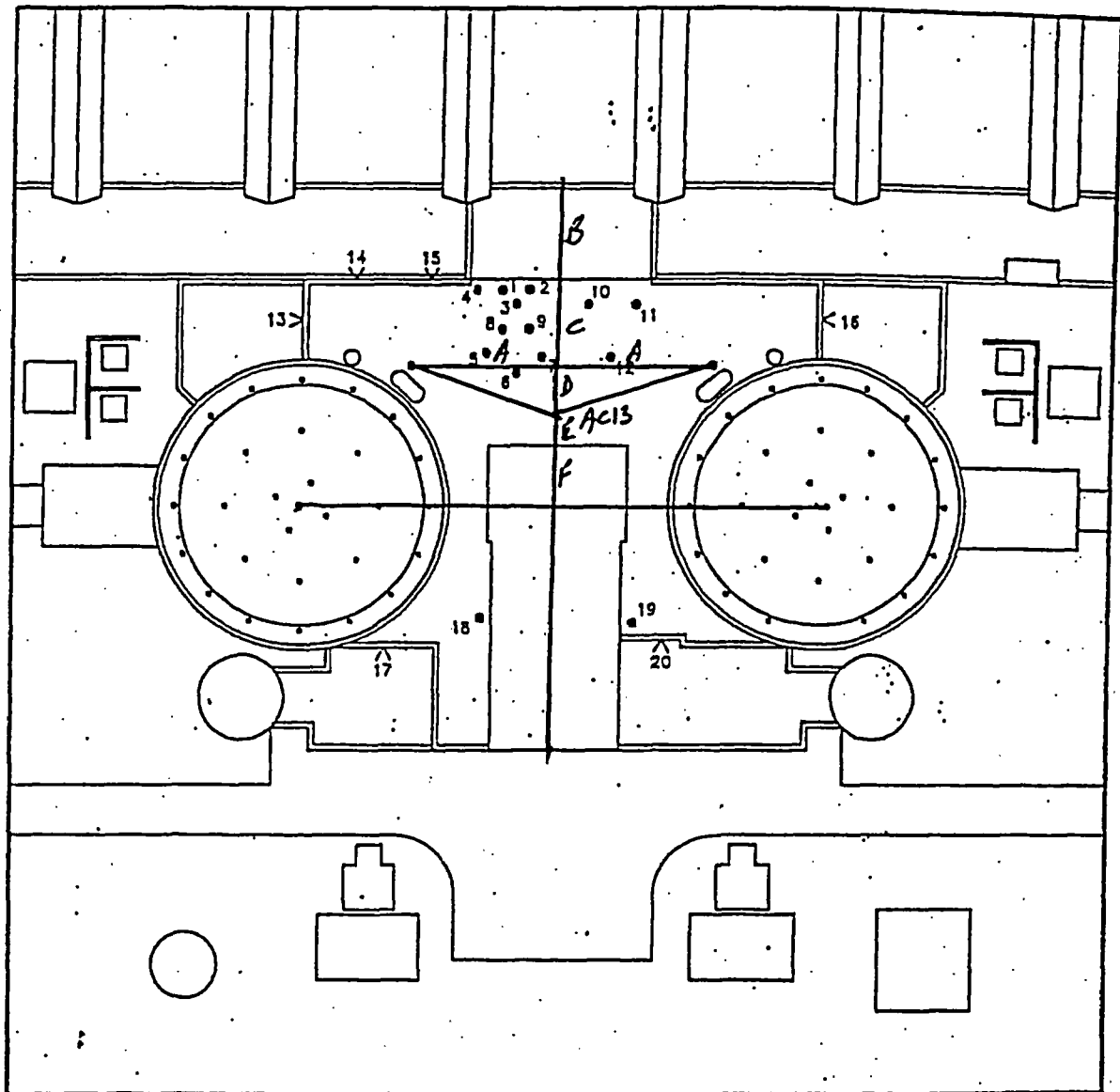
$$\theta = 225 + 69.0099^\circ = 294.0100^\circ$$

ADV2 TO AC11:



$$d = 59.0364' = 17.9943m$$

$$\theta = 225 - 0.8335^\circ = 224.1665^\circ$$



KEY:

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7. Equipment Room Supply Fan VU-28

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
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$$A = 77.5588'$$

$$B = 50'0''$$

$$B+C = 95.5302'$$

$$F = 27'6''$$

$$E = 25'2''$$

$$A+B+C+F = 115'0''$$

$$C = 45.5302'$$

$$D = 16.3081'$$

(ADV TO WR)

(DISTANCES)

(ADV TO WR)

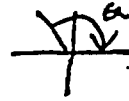
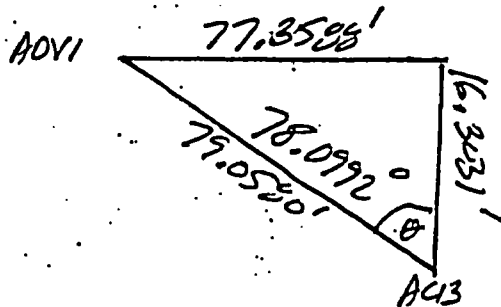
(DISTANCES)

(WALK DOWN)

(DISTANCES)



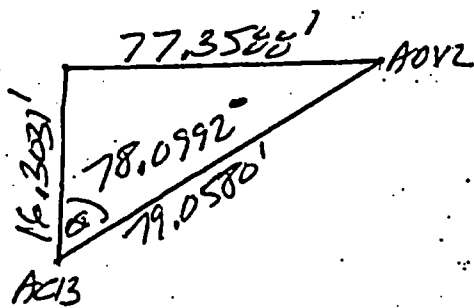
AOV1 TO AC13:

DIRECTION: INTAKE
TO RELEASE

$$d = 79.0580' = 24.0968 \text{ m}$$

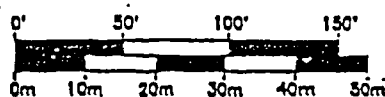
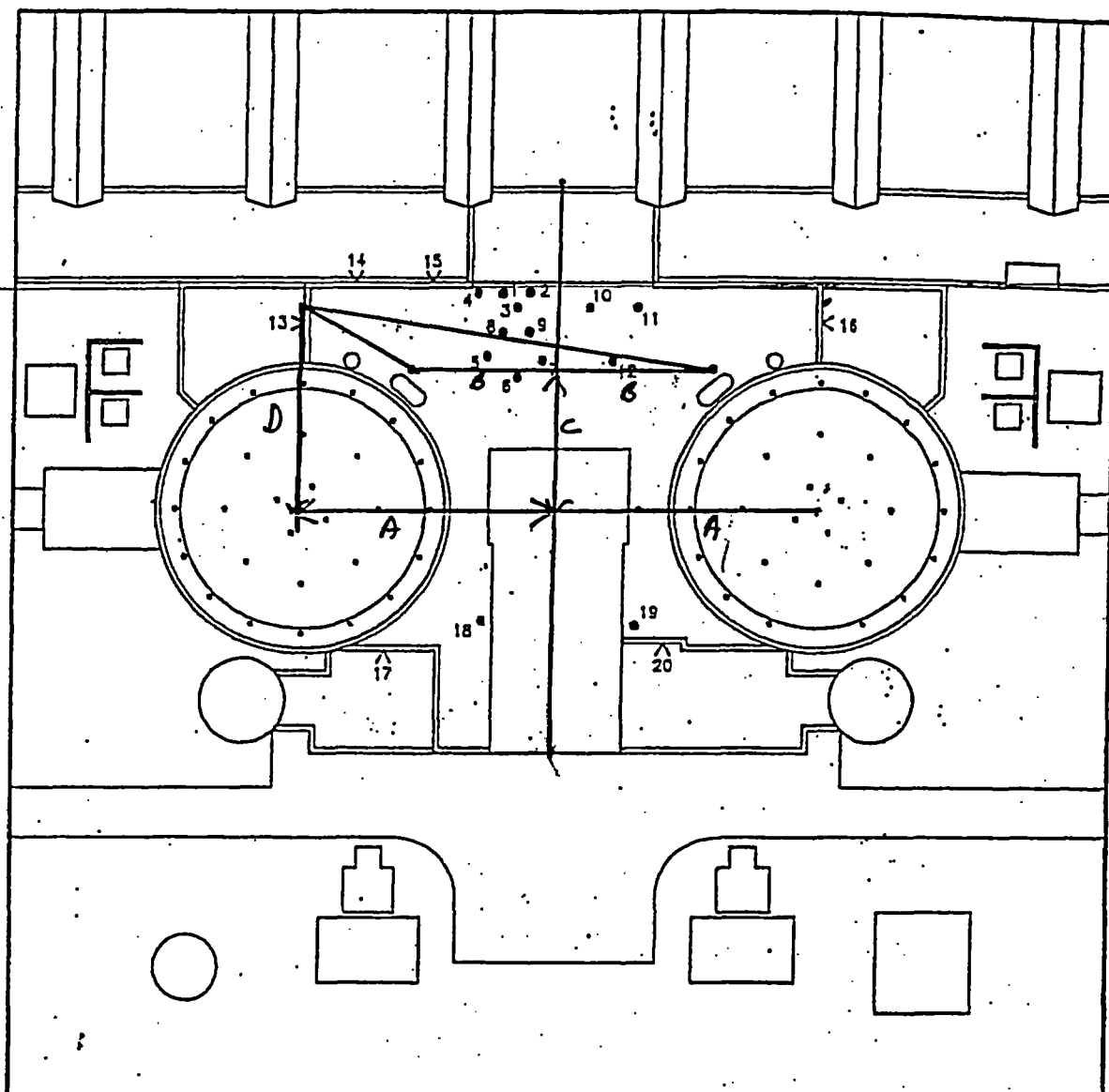
$$\theta = 405 - 78.0992^\circ = 326.9007^\circ$$

AOV2 to AC13:



$$d = 79.0580' = 24.0968 \text{ m}$$

$$\theta = 45 + 78.0992^\circ = 123.0993^\circ$$



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7. Equipment Room Supply Fan VU-28

NOTE:

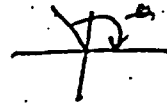
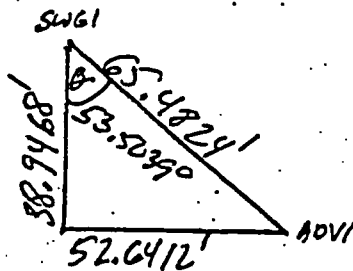
- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

A = 130' 0"
B = 77' 35 88"
C = 69' 46 98"
D = 108' 5"

(DISTANCES)
(ADV TO WK)
(ADV TO AC13)
(CONST TO SW6W)



ADV1 TO SWG1

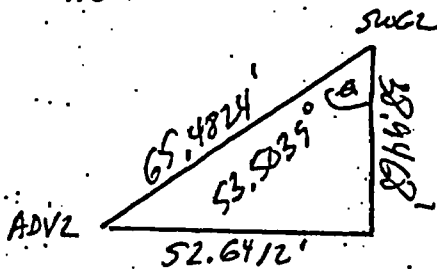


DIRECTION: INTAKE
TO RELEASE

$$d = 65.4824' = 19.9590 \text{ m}$$

$$\theta = 225 - 53.5039^\circ = 171.4961^\circ$$

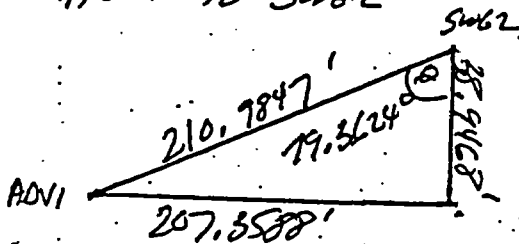
ADV2 TO SWG2



$$d = 65.4824' = 19.9590 \text{ m}$$

$$\theta = 225 + 53.5039^\circ = 278.5039^\circ$$

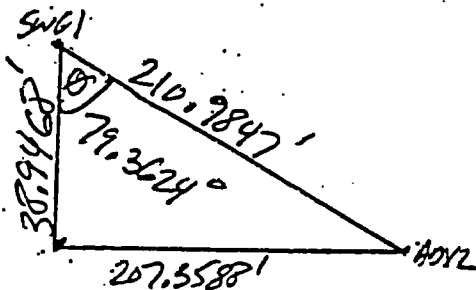
ADV1 TO SWG2



$$d = 210.9847' = 64.3081 \text{ m}$$

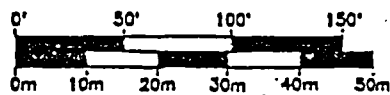
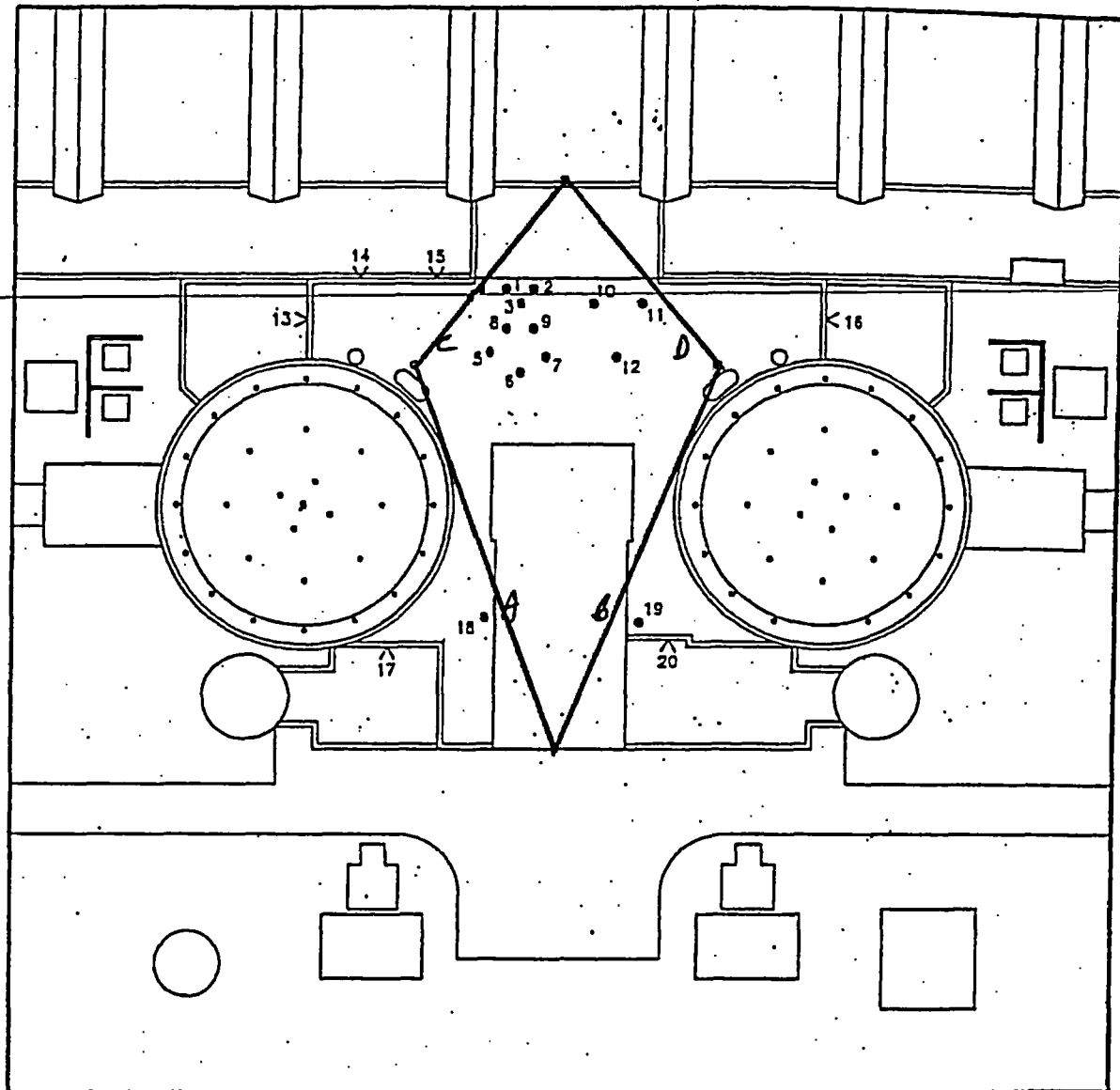
$$\theta = 225 + 79.3624^\circ = 304.3624^\circ$$

ADV2 TO SWG1



$$d = 210.9847' = 64.3081 \text{ m}$$

$$\theta = 225 - 79.3624^\circ = 145.6376^\circ$$



KEY: 1075269 m/min

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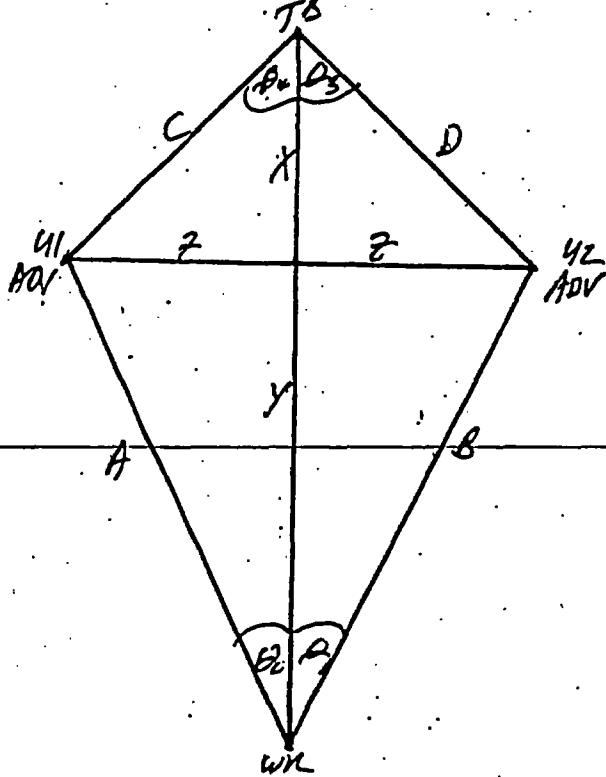
NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

- (A) 62.3656 m 23°
- (B) 62.3656 m 67°
- (C) 35.4839 m 264°
- (D) 35.4839 m 186°



ADV TO WEST ROAD & TYRRENE BLDG:



$$Q_1 = 67^\circ - 45^\circ = 22^\circ$$

$$Q_2 = 45^\circ - 23^\circ = 22^\circ$$

$$\theta_3 = 225^\circ - 186^\circ = 39^\circ$$

$$\Delta y = 26^\circ - 21^\circ = 39^\circ$$

$$x + y = 287'$$

$$\tan(22^\circ) = x/y$$

$$\tan(35^\circ) = z/x$$

$$X_{\text{ten}(35)} = Y_{\text{ten}(22)}$$

$$0.809784 \times = 0.404026 \checkmark$$

$$X = 0.498931 \text{ y}$$

$$Y = 287' / 1.498531 = 191.4698'$$

$$X = 95.5302'$$

$$z = 77.3588'$$

$$b = \sqrt{y^2 + z^2} = 206.5068' = 62.9433 \text{ m}$$

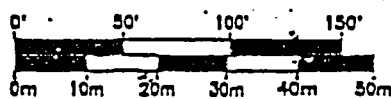
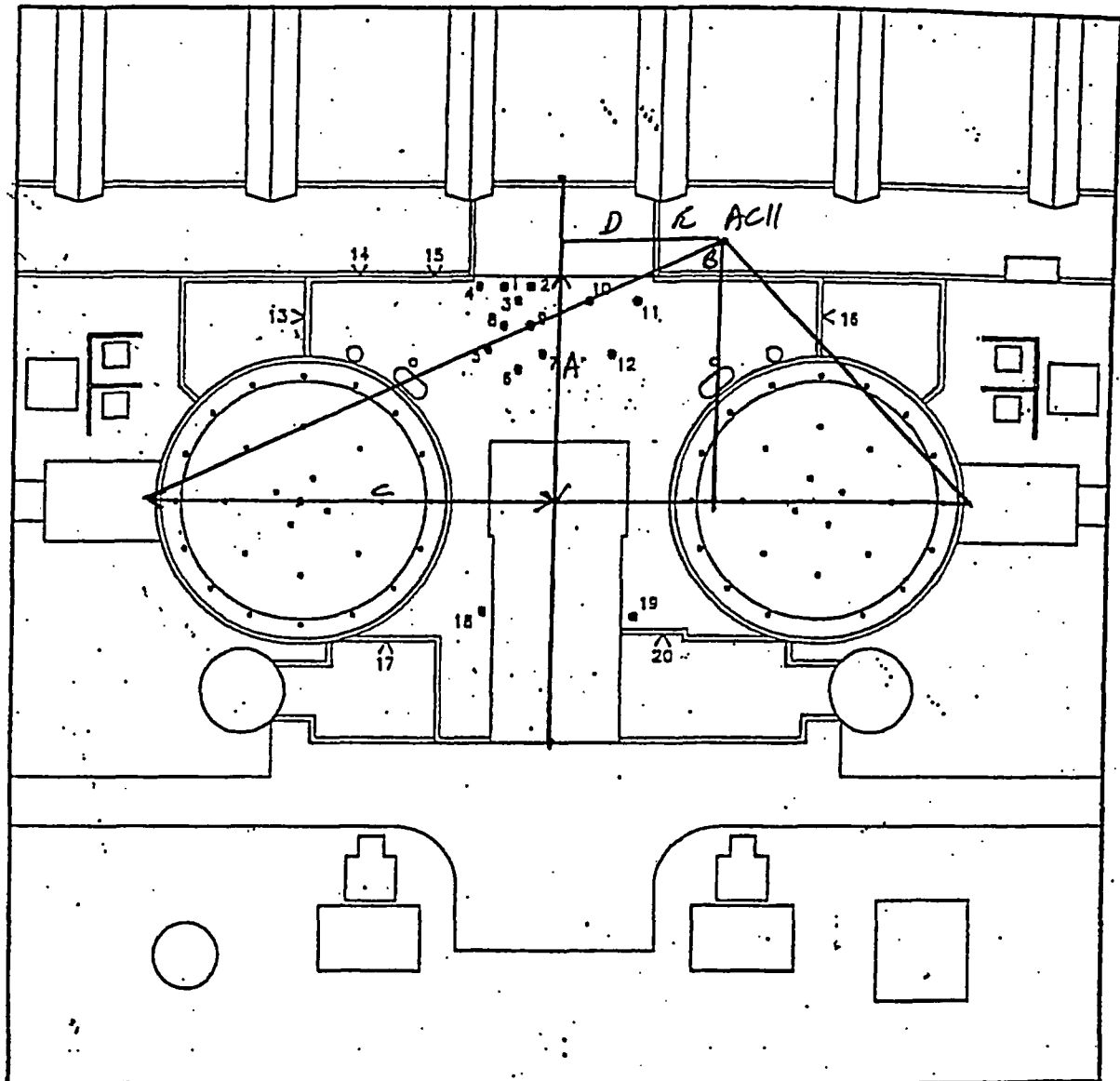
$$C=O=\sqrt{z^2+x^2} = 122.9244' = 37.4674 \text{ m}$$

41 ADV TO WKST ROAD 62.9433_m 23°

UL ADV TO WNS LAD 62.9433m 67°

41 ADV TO TURBINIL B4G 37.4274m 264°

U2 ADV TO TYAGNII SLUG 37.4674m 186°



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-34
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

NOTE:

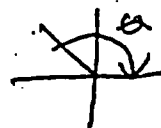
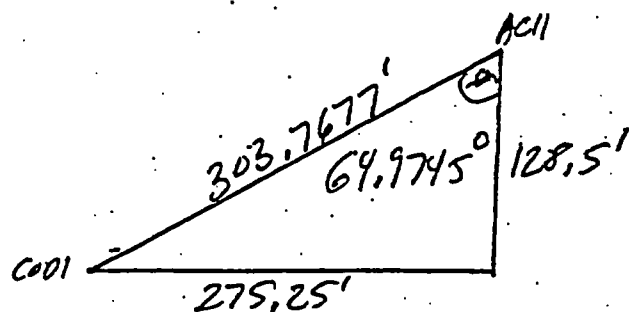
- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

A = 115' 0"
B = 13' 6"
C = 198' 9"
D = 46' 0"
E = 30' 6"

(DISTANCES)
(WALKDOWN)
(DISTANCES)
(DISTANCES)
(WALKDOWN)



COO1 TO AC11

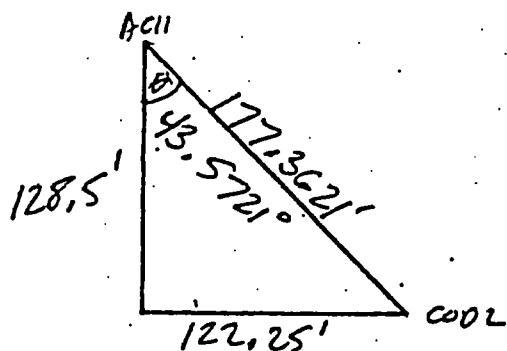


direction: intake to release

$$d = 303.7677' = 92.5883m$$

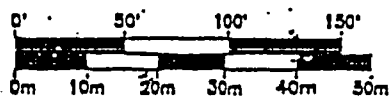
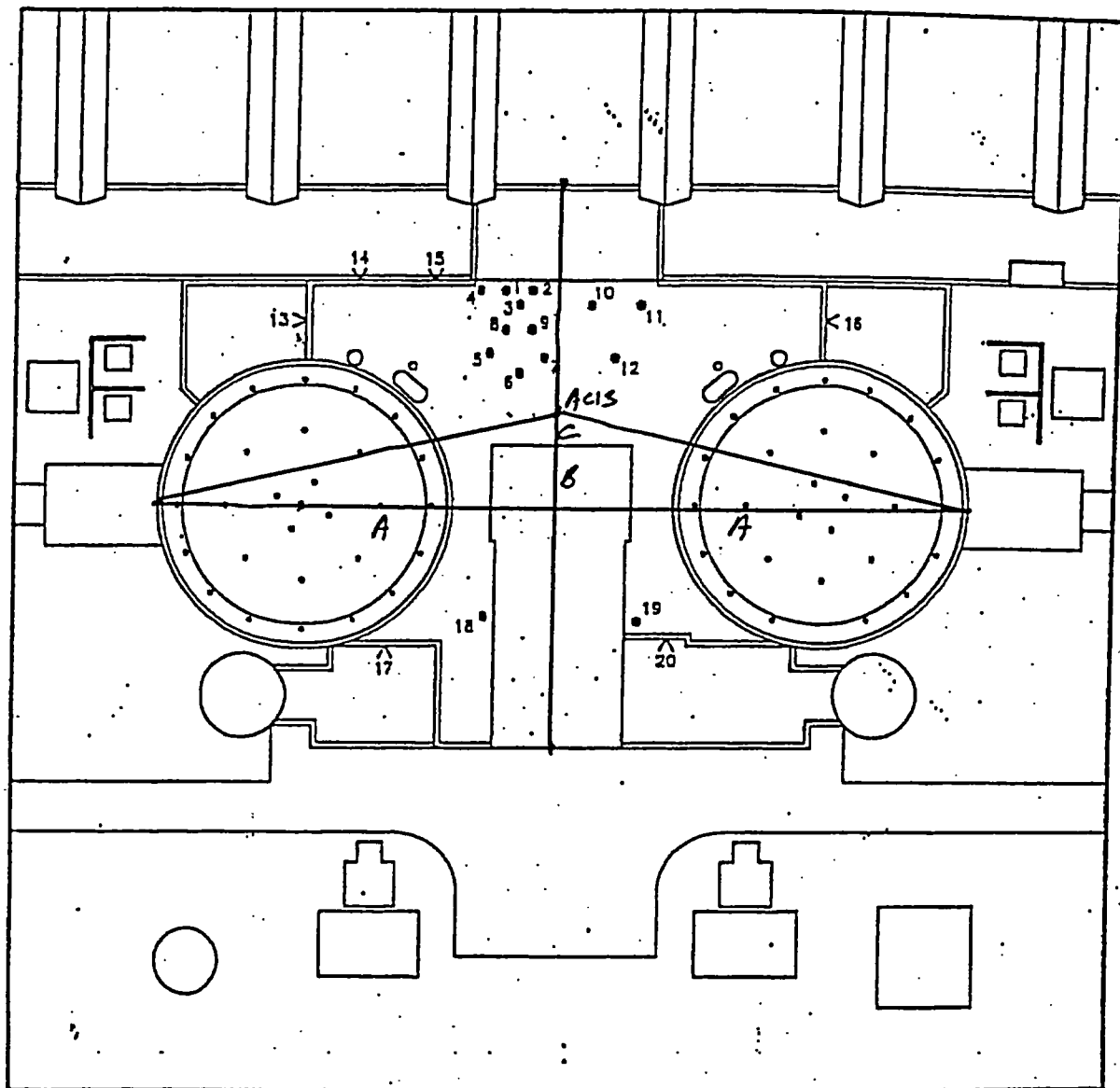
$$A = 225 + 64.9745^\circ = 289.9746^\circ$$

COO2 TO AC11



$$d = 177.3621' = 54.0599m$$

$$A = 225 - 43.5721^\circ = 181.4278^\circ$$



A = 198' 9" (DISTANCES)
B = 27' 6" (DISTANCES)
C = 25' 8" (WALKDOWN)

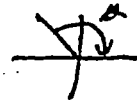
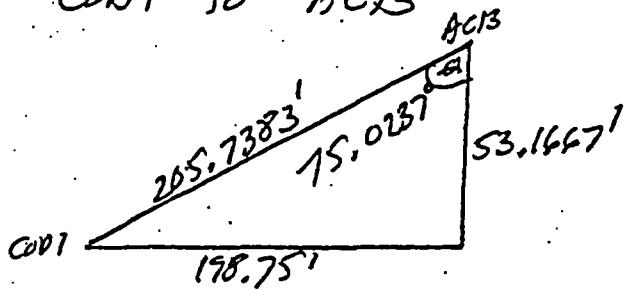
KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

C001 TO AC13

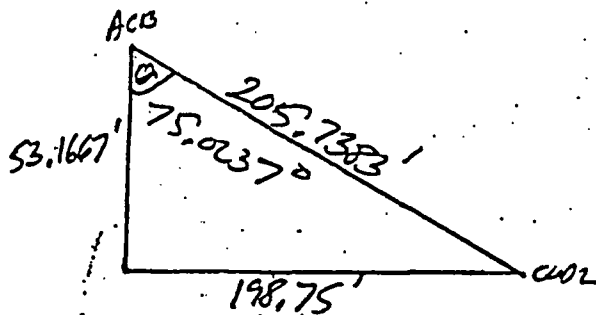


Direction: intake to
release

$$d = 205.7383' = 62.7090m$$

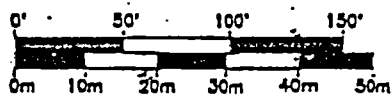
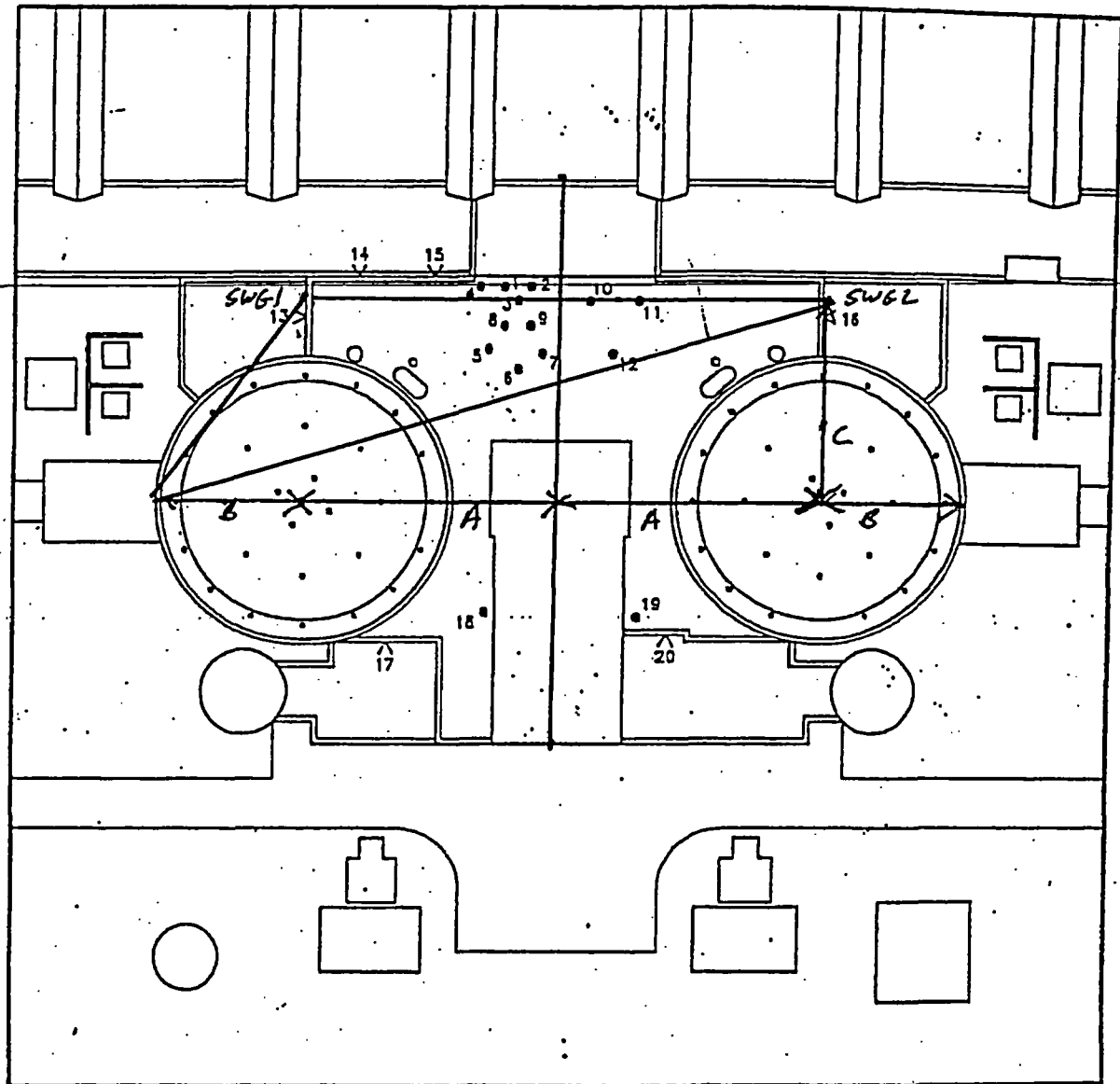
$$\alpha = 225 + 75.0237^\circ = 300.0237^\circ$$

C002 TO AC13



$$d = 205.7383' = 62.7090m$$

$$\alpha = 225 - 75.0237^\circ = 149.9763^\circ$$



A = 130' 0"
B = 68' 9"
C = 108' 5"

(DISTANCES)
(DISTANCES)
(DIST. TO SWGN)

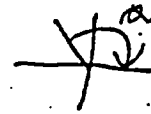
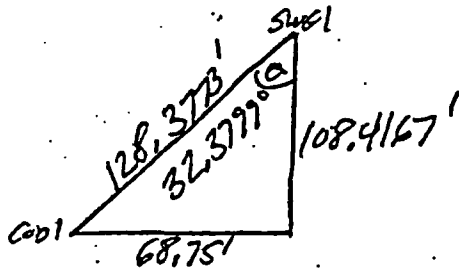
KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent YU-34
5. Smoke Removal Fan YU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan YU-28

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

COO1 TO SWG1

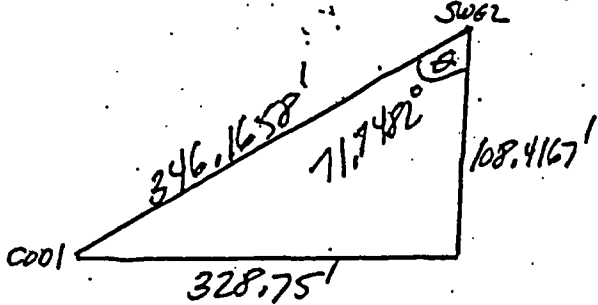


Direction: intake to release

$$d = 128.3773' = 39.1294m$$

$$\theta = 225 + 32.3779^\circ = 257.3779^\circ$$

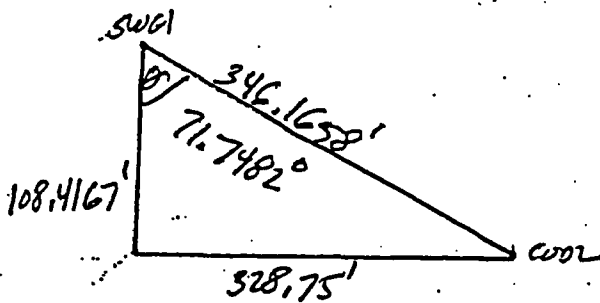
COO1 TO SWG2



$$d = 346.1658' = 105.5113m$$

$$\theta = 225 + 71.7482 = 296.7482^\circ$$

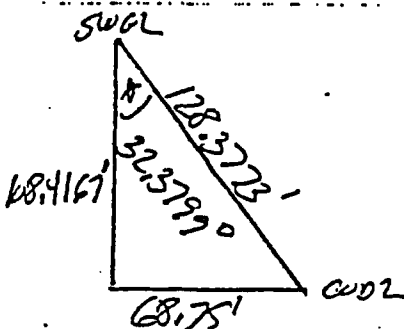
COO2 TO SWG1



$$d = 346.1658' = 105.5113m$$

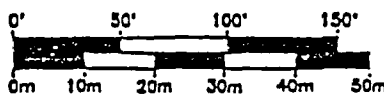
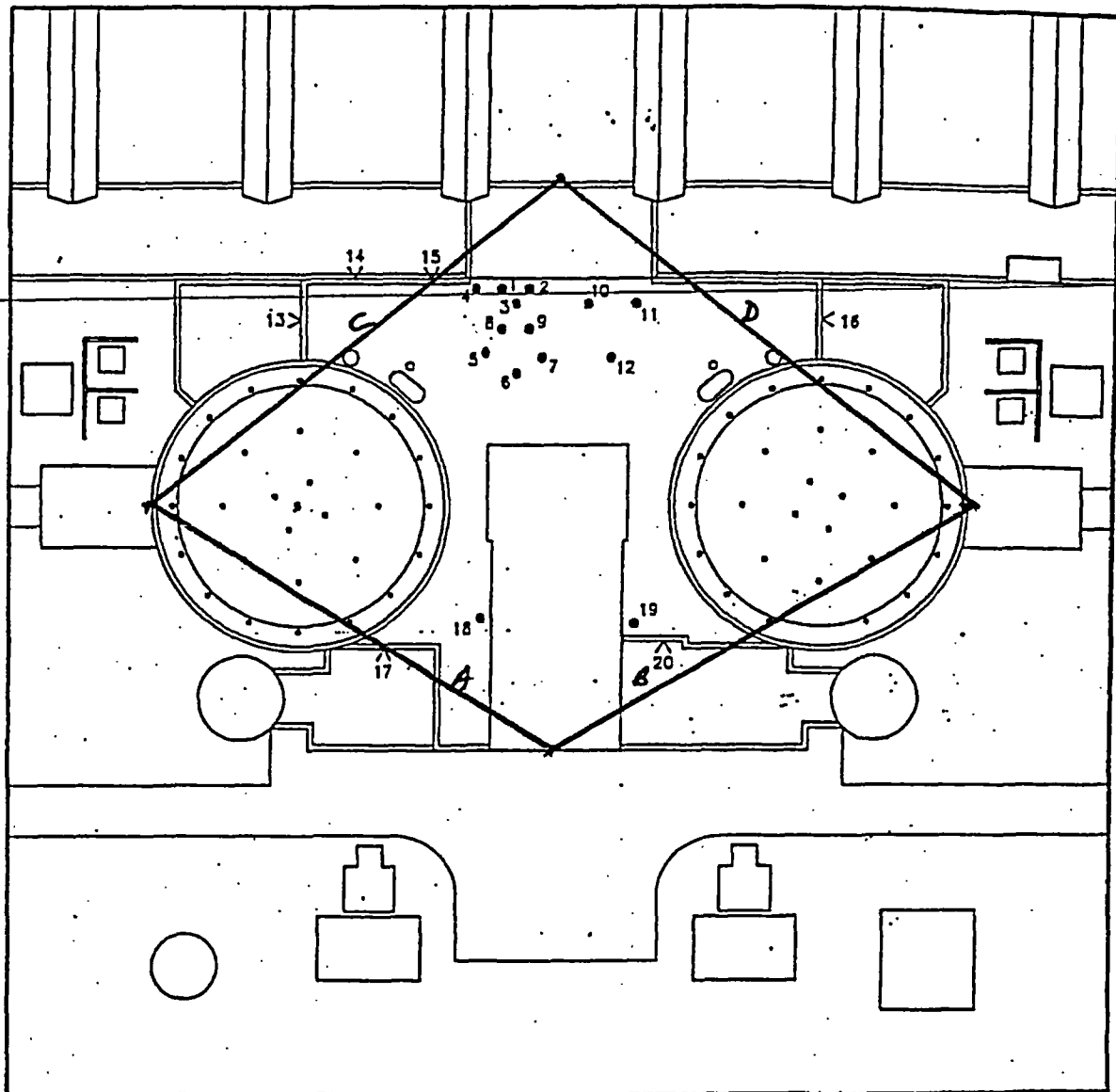
$$\theta = 225 - 71.7482 = 153.2518^\circ$$

COO2 TO SWG2



$$d = 128.3773' = 39.1294m$$

$$\theta = 225 - 32.3779^\circ = 192.6201^\circ$$



KEY:

- 1. Control Room Air Inlet #1
- 2. Control Room Air Inlet #2
- 3. Control Room Air Outlet
- 4. Exhaust Vent VU-54
- 5. Smoke Removal Fan VU-17
- 6. Control Room HVAC Secondary Gooseneck AC #12
- 7. Equipment Room Supply Fan VU-28

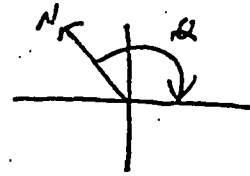
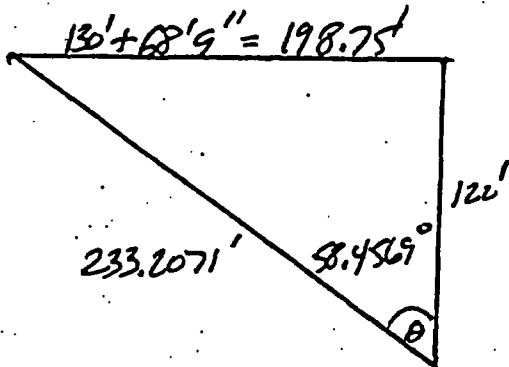
NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

(A) 70.9678m 346°
(B) 70.9678m 104°
(C) 78.4946m 277°
(D) 78.4946m 173°



UNIT 1 COD TO WAST ROAD:

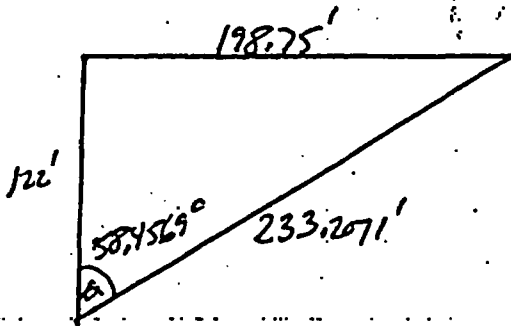


DIRECTION: INTAKE TO ALUNASIL

$$d_{HIWL} = 233.2071' = 71.0875m$$

$$\theta_{HIWL} = 405^\circ - 58.4569^\circ = 346.5431^\circ$$

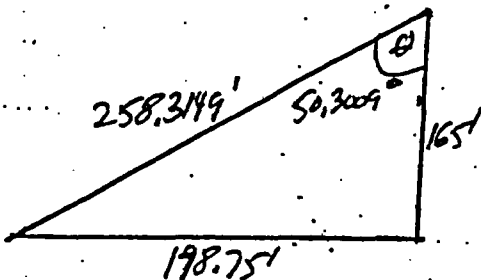
UNIT 2 COD TO WAST ROAD



$$d_{HIWL} = 233.2071' = 71.0875m$$

$$\theta_{HIWL} = 45 + 58.4569^\circ = 103.4569^\circ$$

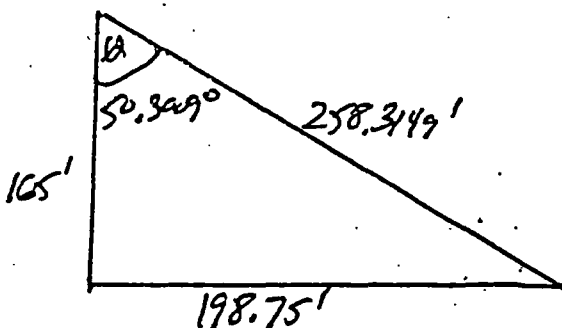
UNIT 1 COD TO TURBINE BLOG



$$d_{H1TB} = 258.3149' = 78.7344m$$

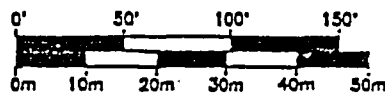
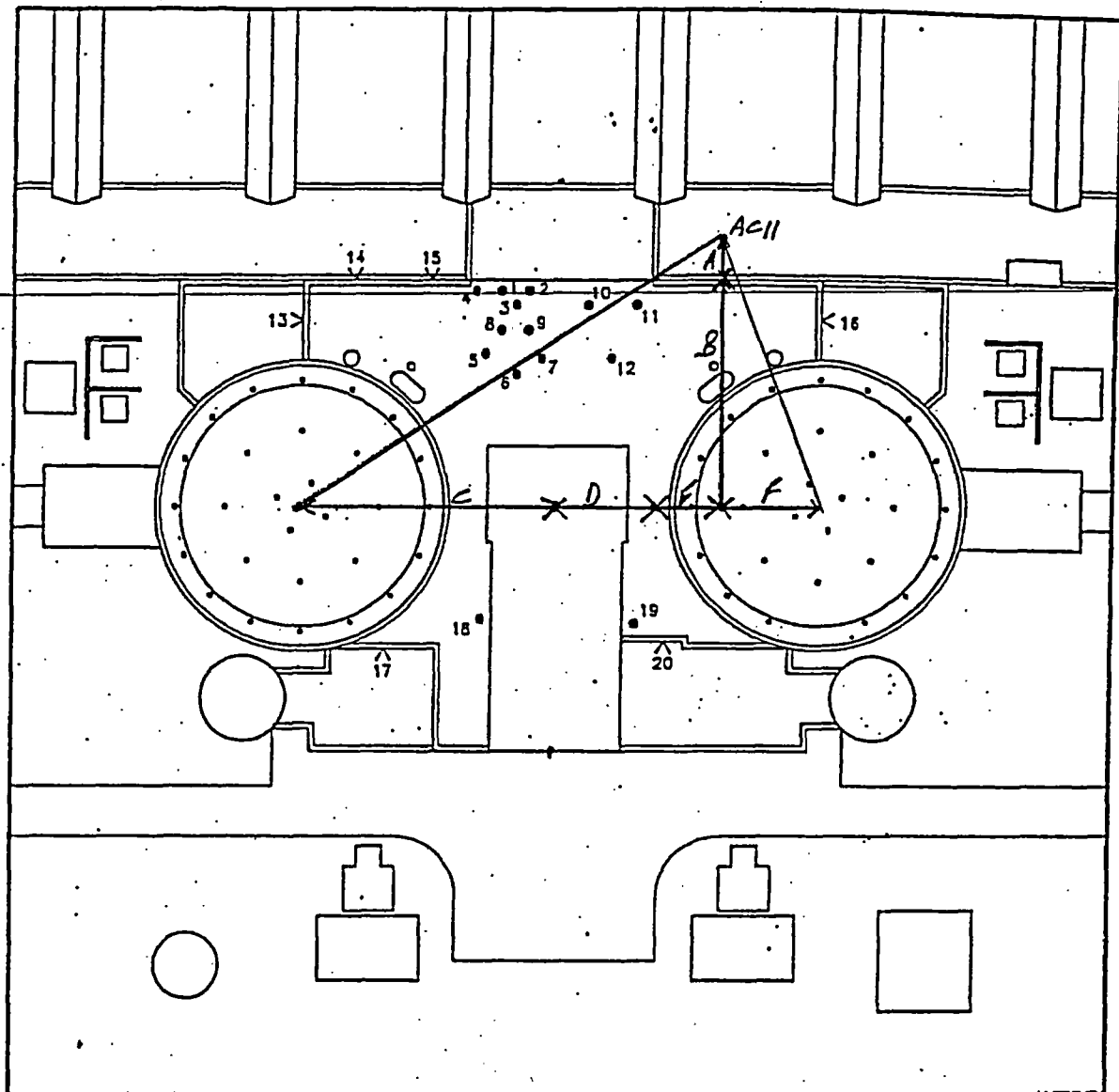
$$\theta_{H1TB} = 225^\circ + 50.3009^\circ = 275.3009^\circ$$

UNIT 2 COD TO TURBINE BLOG



$$d_{H2TB} = 258.3149' = 78.7344m$$

$$\theta_{H2TB} = 225^\circ - 50.3009^\circ = 174.6991^\circ$$



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

(A) 13' 6" (WALKDOWN)
(B) 115' 0" (DISTANCES)
(C) 80' 0" (DISTANCES)
(D) 46' 0" (DISTANCES)
(E) 30' 6" (WALKDOWN)
AC 112 (F) $130' - 46' - 30.5' = 53.5'$

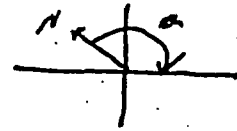
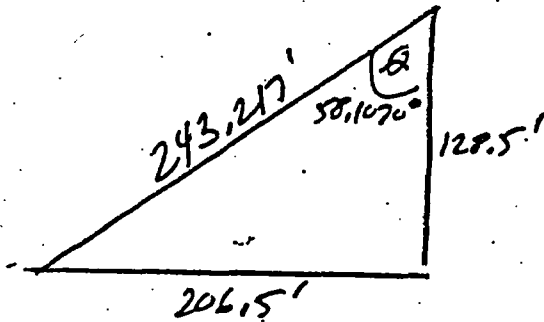
$$(F) 130' - 46' - 30.5' = 53.5'$$

NOTE:

- NOTE:**
- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
 - All other points are located on Auxiliary Bldg. roof.

$$EL: 46'' + 86' 8'' = 90' 6''$$

UNIT 1 CMT TO AC11



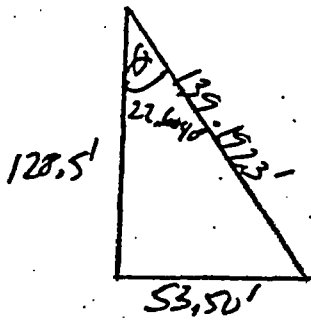
DIRECTION: INTAKE TO RELEASE.

$$d = 243.217' - 68.75' = 174.4670'$$

$$= 53.1775 \text{ m}$$

$$\theta = 225^\circ + 58.107^\circ = 283.107^\circ$$

UNIT 2 CMT TO AC11

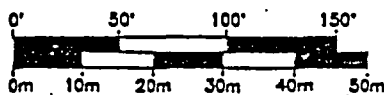
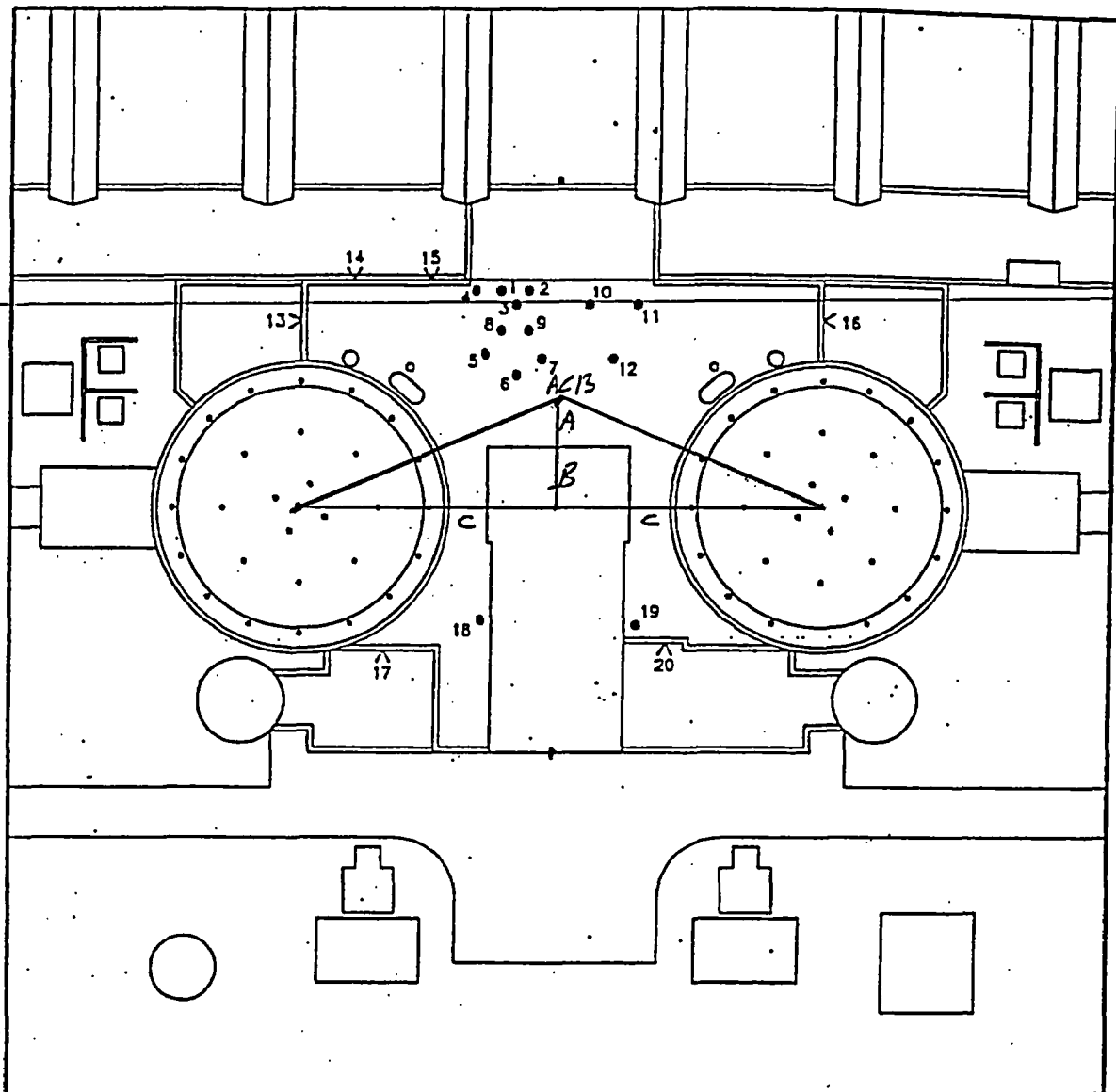


$$d = 137.1923' - 68.75' = 70.4423'$$

$$= 21.4708 \text{ m}$$

$$\theta = 225^\circ - 22.604^\circ = 202.396^\circ$$

$$\text{AC11 ELEVATION: } 90'6'' - 45' = 45.5' = 13.8684 \text{ m}$$



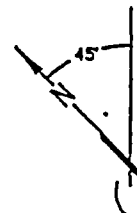
KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

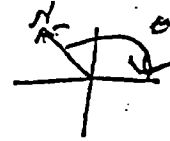
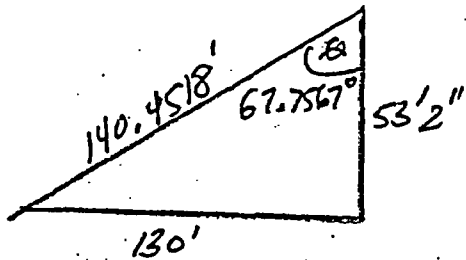
NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

(A) 25' 8" (WALKDOWN)
(B) 27' 6" (DISTANCES)
(C) 130' 0" (DISTANCES)
 $EL: 91' 6" + 6' 4" = 97' 10"$



UNIT 1 CTMT TO ACB:



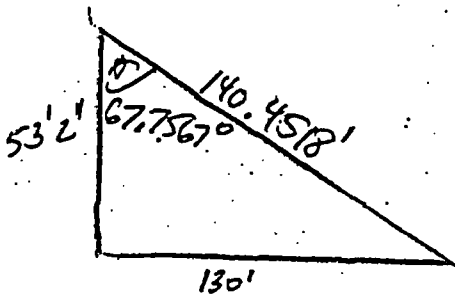
Direction: INTAKE TO RELEASE

$$D = 140.4518' - 68.75' = 71.7018'$$

$$= 21.8546 \text{ m}$$

$$A = 225^\circ + 67.7567^\circ = 292.7567^\circ$$

UNIT 2 CTMT TO ACB:

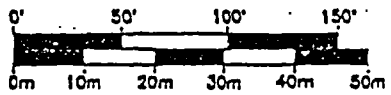
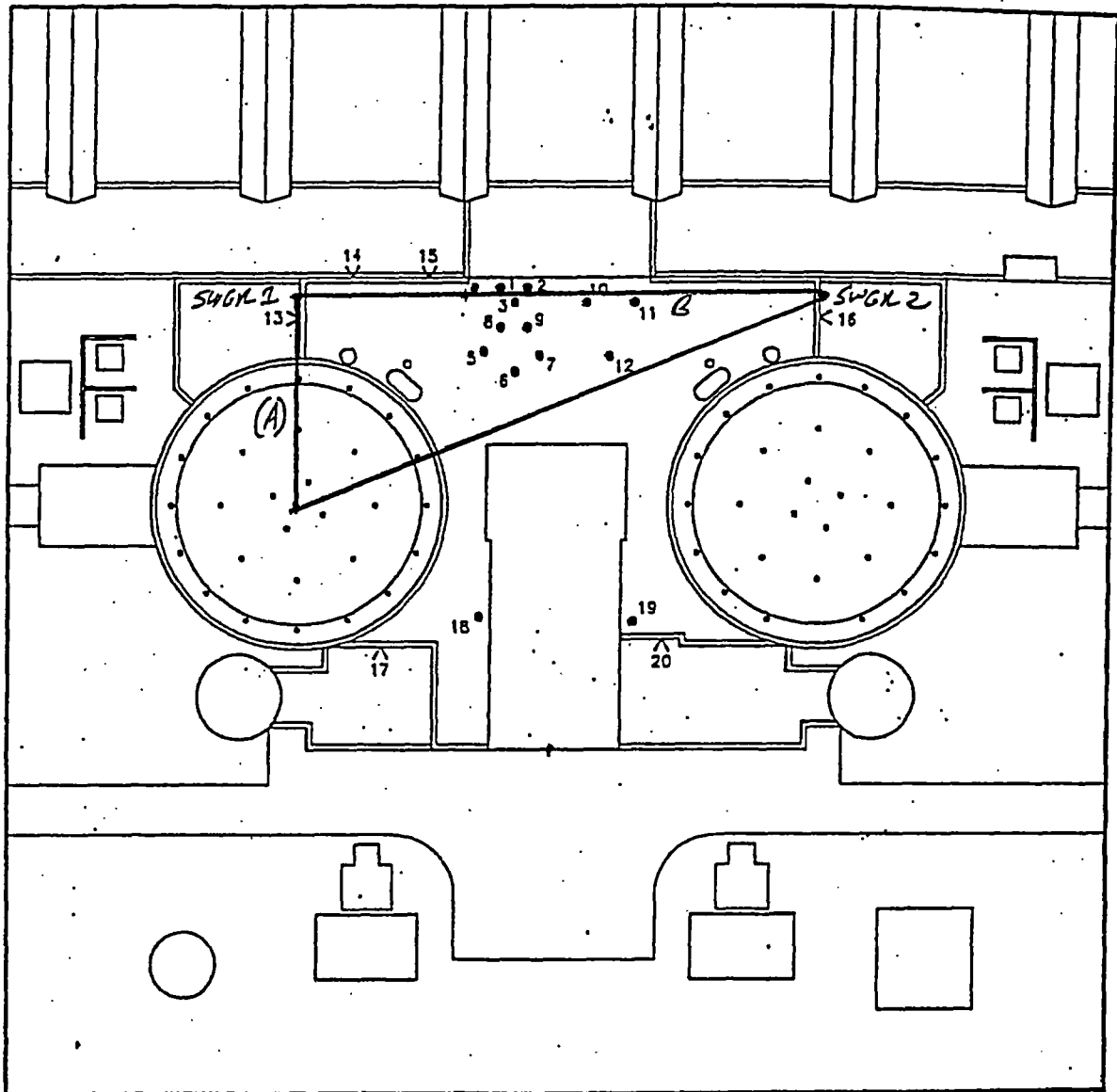


$$D = 140.4518' - 68.75' = 71.7018'$$

$$= 21.8546 \text{ m}$$

$$A = 225^\circ - 67.7567^\circ = 157.2433^\circ$$

$$\text{ACB ELEVATION: } 97'10'' = 45'0'' = 52'10'' = 16.1036 \text{ m}$$



(A) $68.75' + 39' 8'' = 108' 5''$ (DISTANCES + WALKDOWN)

(B) 260' 0"

(DISTANCE)

$$EL: 69'0'' + 85'' = 76'1''$$

KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

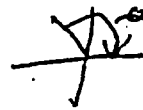
NOTE:

- NOTE:**
- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
 - All other points are located on Auxiliary Bldg. roof.

UNIT 1 CTMT TO UNIT 1 SWGR:

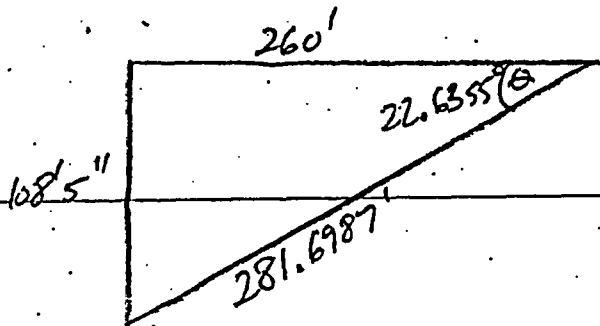
$$D = 39'8'' = 12.0904m$$

$$\theta = 225^\circ$$



DIRECTION: INTAKE TO RELEASE

UNIT 1 CTMT TO UNIT 2 SWGR:



$$d = 281.6987' - 68.75' = 212.9487'$$

$$= 64.9067m$$

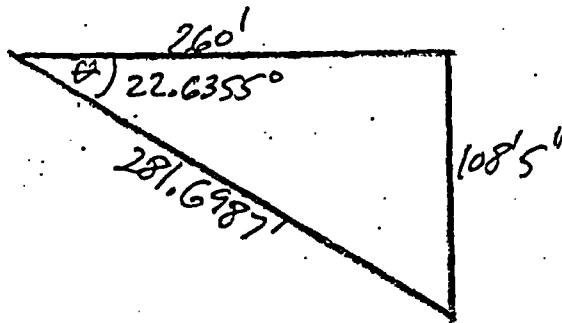
$$\theta = 315^\circ - 22.6355^\circ = 292.3645^\circ$$

UNIT 2 CTMT TO UNIT 2 SWGR:

$$d = 39'8'' = 12.0904m$$

$$\theta = 225^\circ$$

UNIT 2 CTMT TO UNIT 1 SWGR:

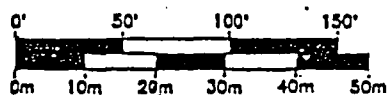
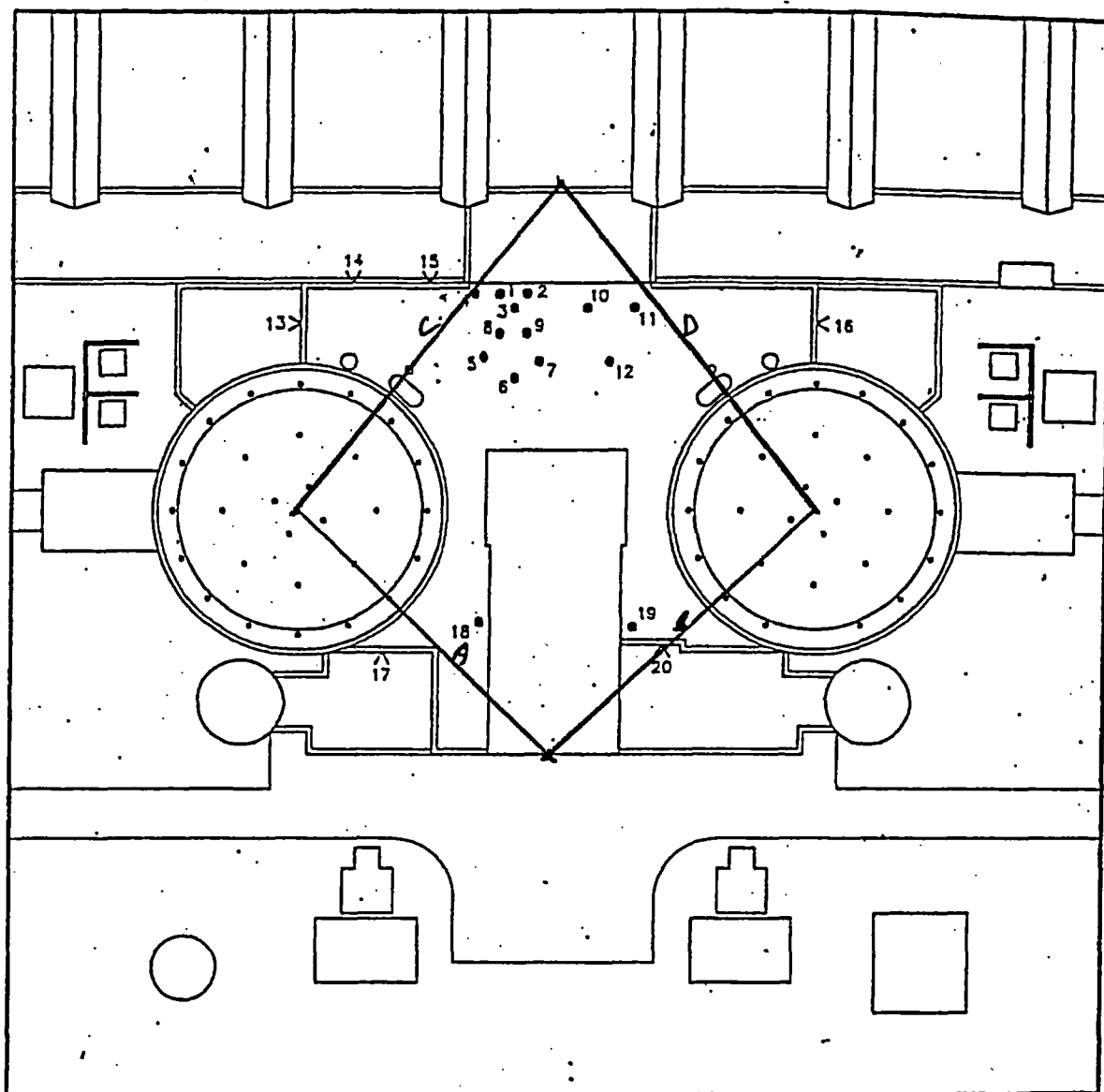


$$d = 281.6987' - 68.75' = 212.9487'$$

$$= 64.9067m$$

$$\theta = 135^\circ + 22.6355^\circ = 157.6355^\circ$$

$$\text{SWGR ELEVATION: } 76'1'' - 45' = 31'1'' = 9.4742m$$



KEY: 1.075269m/min

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

NOTE:

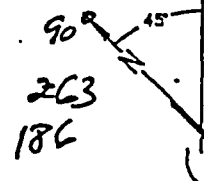
- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

(A) $53.7635 - 20.9550 = 32.8085m$ 357°

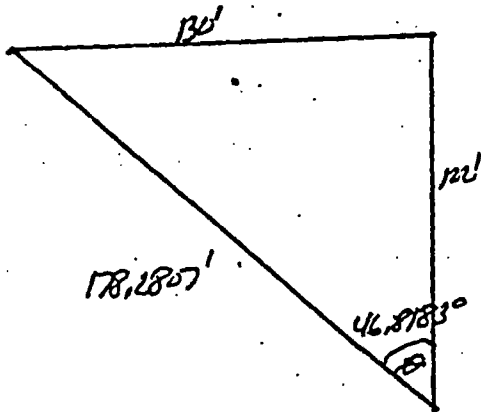
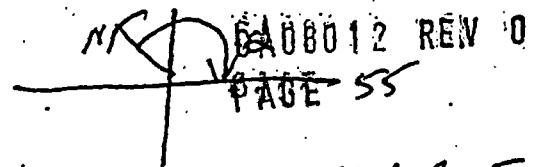
(B) —

(C) $63.4409 - 20.9550 = 42.4859m$ 263°

(D) —



UNIT 1 CMT TO WEST ROAD

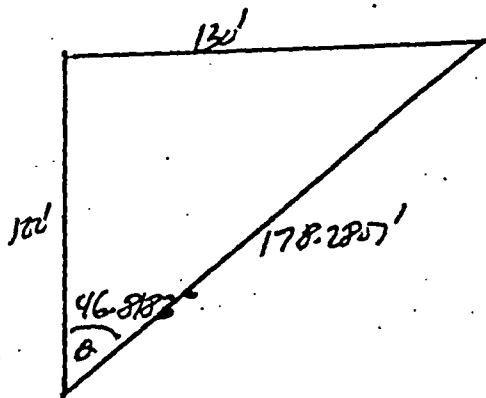


DIRECTION IN TRACK TO RELEASE POINT

$$d_{CWR} = 178.2807' - 68.75' = 109.5307' = 33.3847m$$

$$\theta_{CWR} = 405^\circ - 46.8783^\circ = 358.1217^\circ$$

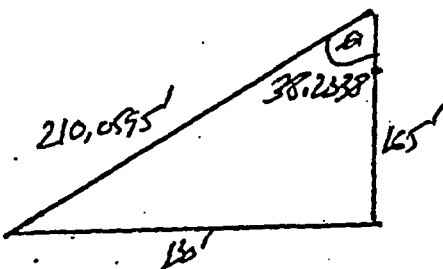
UNIT 2 CMT TO WEST ROAD



$$d_{CWR} = 178.2807' - 68.75' = 109.5307' = 33.3847m$$

$$\theta_{CWR} = 45^\circ + 46.8783^\circ = 91.8783^\circ$$

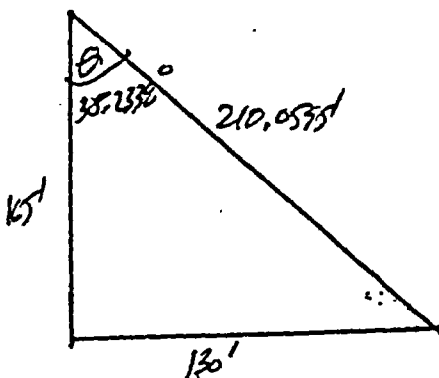
UNIT 1 CMT TO TURBINE BLOG



$$d_{CTB} = 210.0595' - 68.75' = 141.3095' = 43.0711m$$

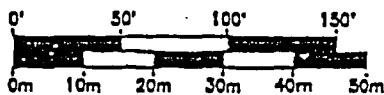
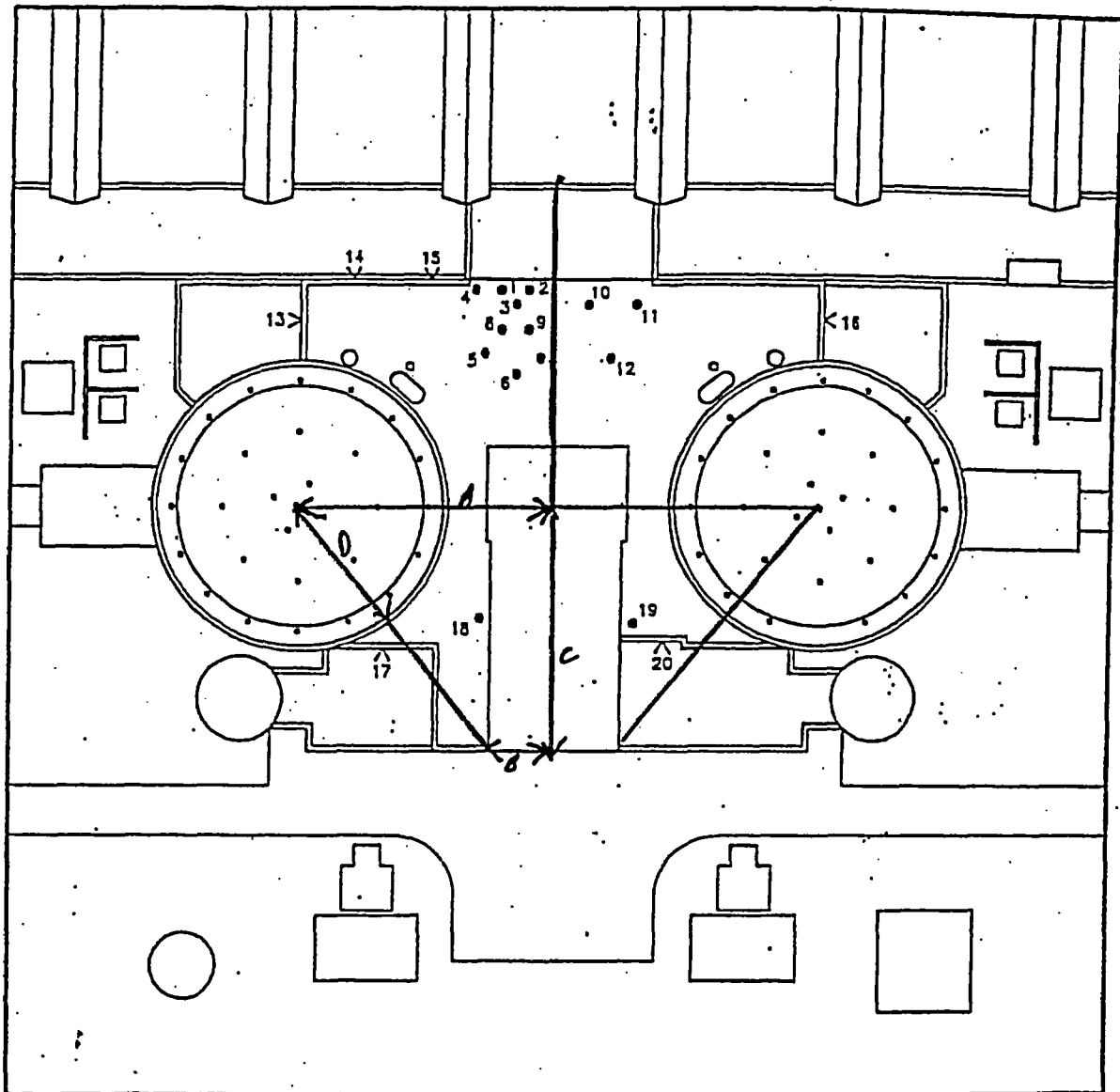
$$\theta_{CTB} = 225^\circ + 38.2338^\circ = 263.2338^\circ$$

UNIT 2 CMT TO TURBINE BLOG



$$d_{CTB} = 210.0595' - 68.75' = 141.3095' = 43.0711m$$

$$\theta_{CTB} = 225^\circ - 38.2338^\circ = 186.7662^\circ$$



KEY:

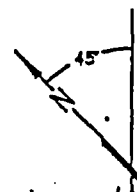
1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
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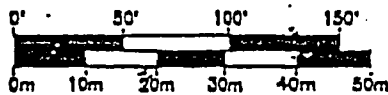
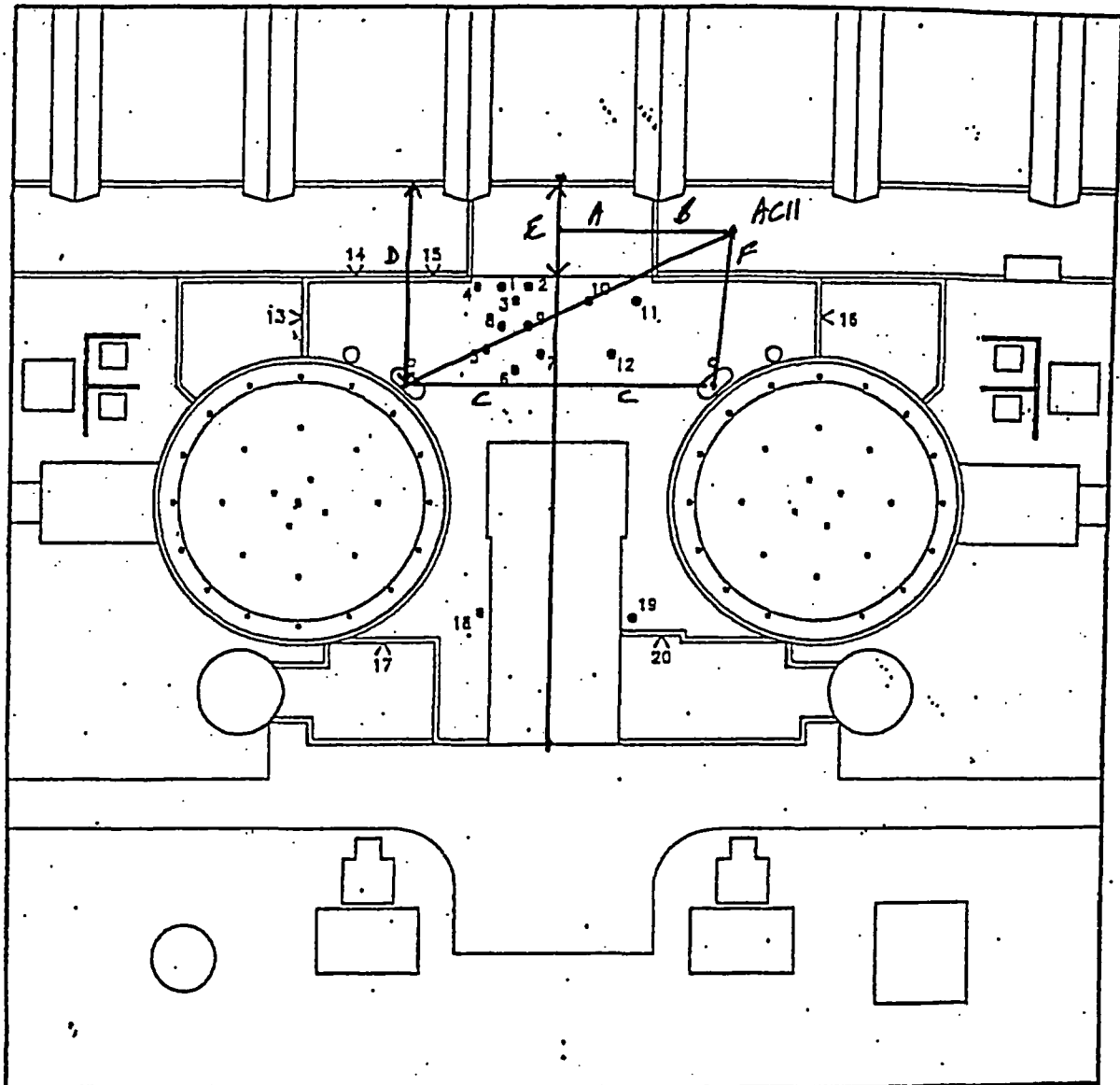
NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

- (A) 130' 0" (distances)
(B) 32' 5/8" (distances)
(C) 122' 0" (distances)
(D) 68' 9" (distances)

$$d = \sqrt{96.9475^2 + 111^2} - 68.75 + 33.0521 = 120.318' \\ = 36.6161m$$





KEY:

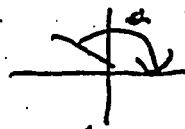
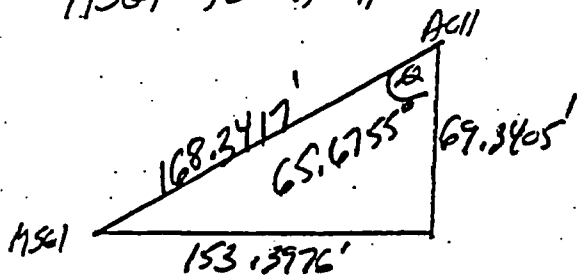
1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

A=46'0" (DISTANCE)
B=30'6" (WALKDOWN)
C=76.8976' (MSG TO WK)
D=165.8405' (MSG TO WK)
E=50'0" (DISTANCE)
F=13'6" (WALKDOWN)

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

MSG1 TO AC11

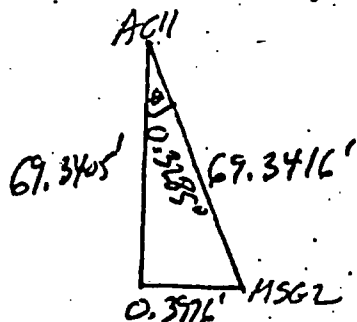


Direction: intake to release

$$d = 168.3417' = 51.3105 \text{ m}$$

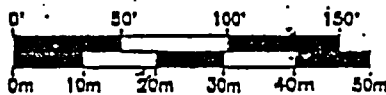
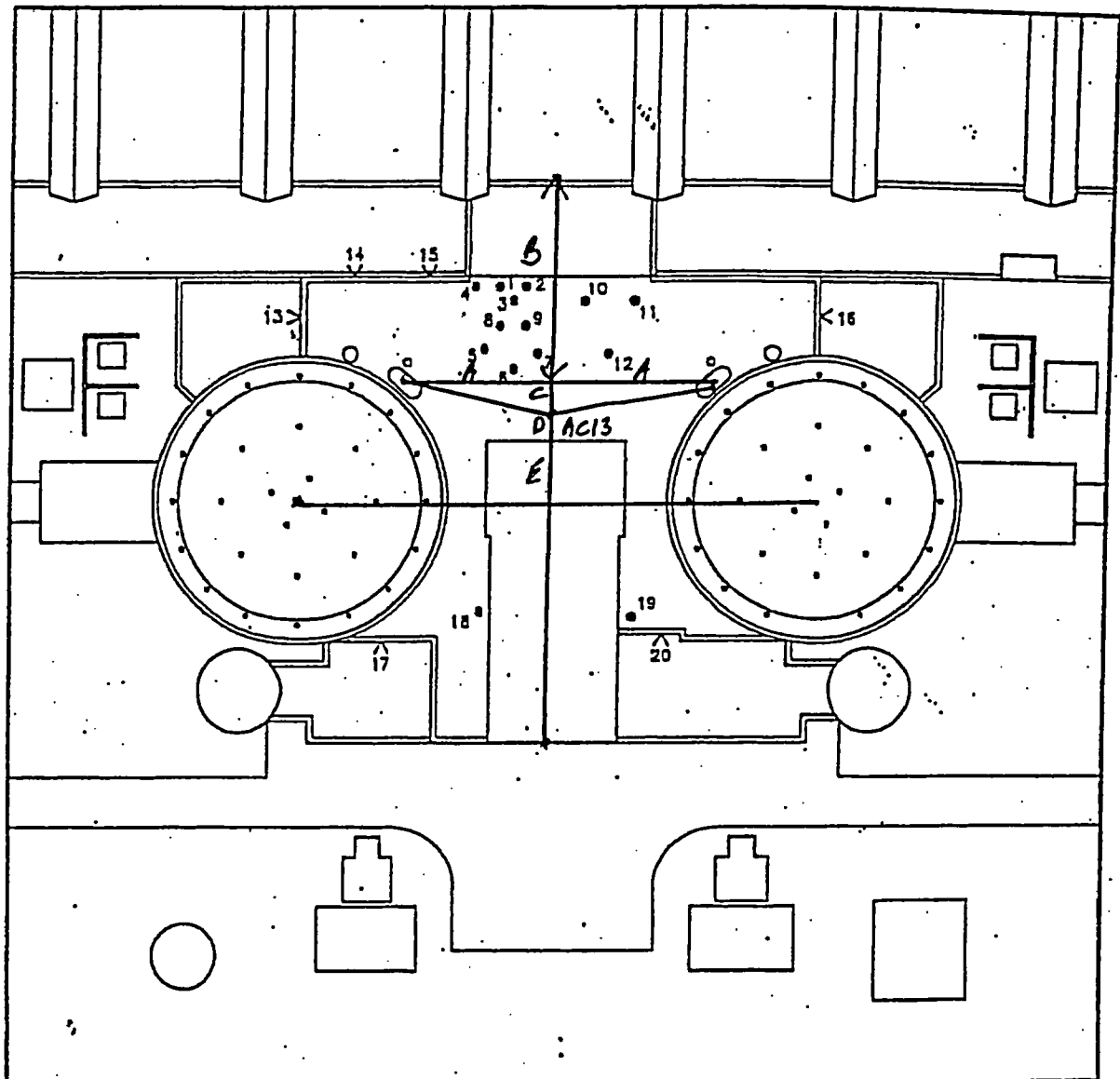
$$\theta = 225 + 65.6755^\circ = 290.6755^\circ$$

MSG2 TO AC11



$$d = 69.3416' = 21.1353 \text{ m}$$

$$\theta = 225 - 0.3225^\circ = 224.6775^\circ$$



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
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4. Exhaust Vent VU-54
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6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

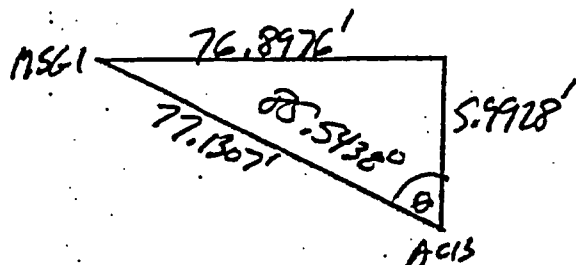
$A = 76.8776'$ (HSG TO WK)
 $B = 105.8405'$ (MSG TOWN)
 $E = 27'6"$ (DISTANCES)
 $D = 25'8"$ (WALKDOWN)
 $B + C + D + E = 165'0"$ (DISTANCES)
 $C = 5.9928'$

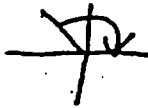


NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

MSG1 TO AC13

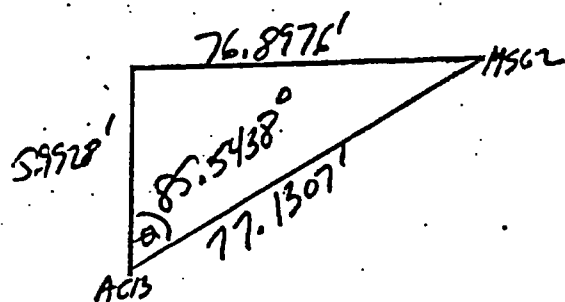


 Direction: Portals to Release

$$d = 77.1307' = 23.5094m$$

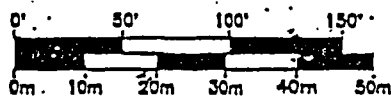
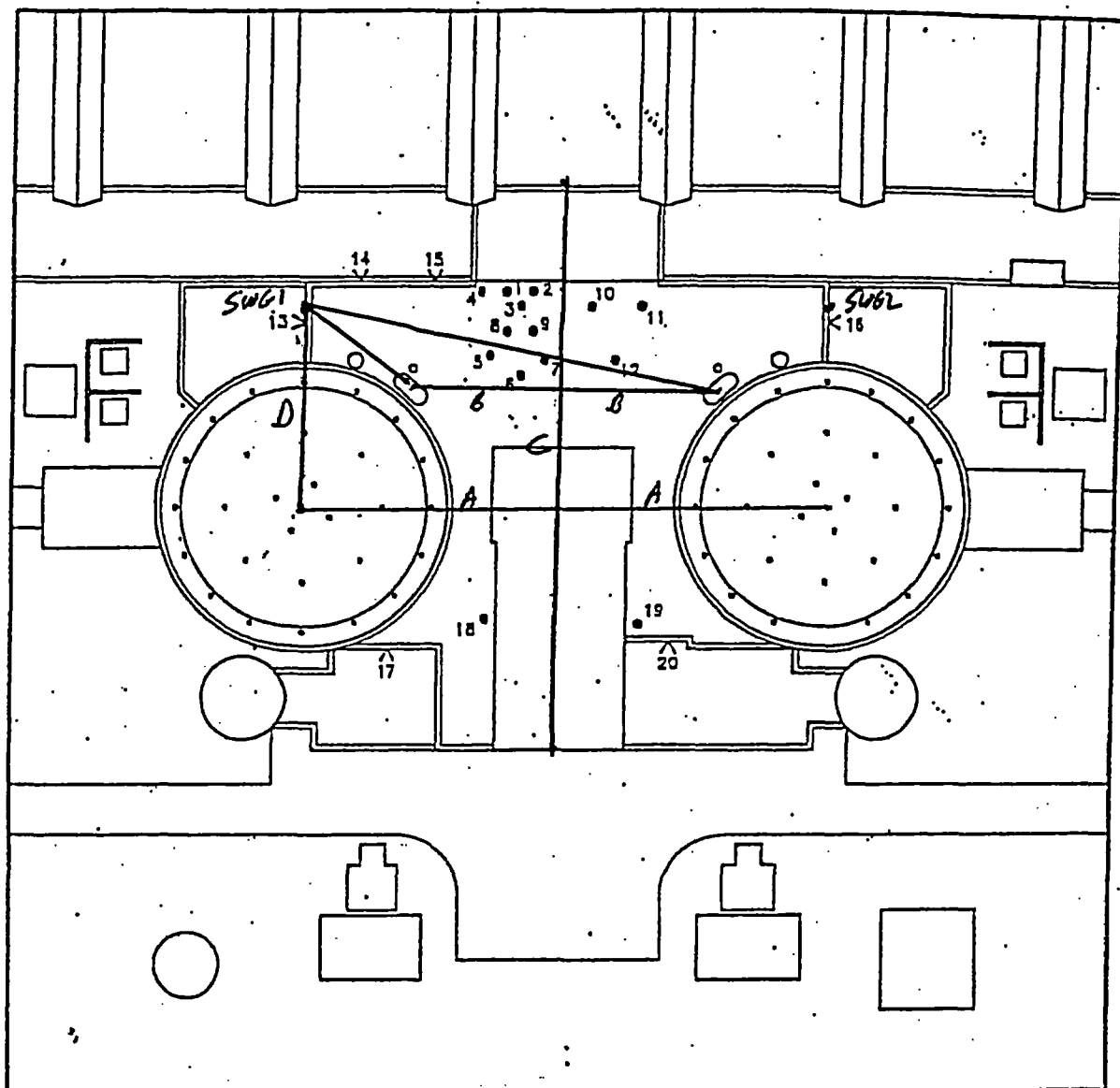
$$\theta = 45 - 85.5438^\circ = 319.4562^\circ$$

MSG2 TO AC13



$$d = 77.1307' = 23.5094m$$

$$\alpha = 45^\circ + 85.5438^\circ = 130.5438^\circ$$



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

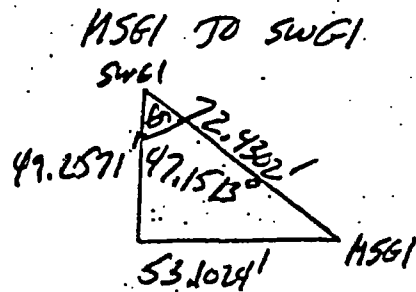
NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

A = 130' 0"
B = 76' 8 9/16"
C = 59' 15 5/8"
D = 108' 5"

(DISTANCES)
(MSG TO WR)
(MSG TO AC13)
(CTAT TO SWGN)

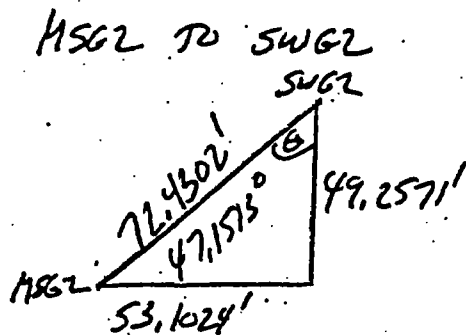




Direction: Intake
to Release

$d = 72.4302' = 22.0767m$

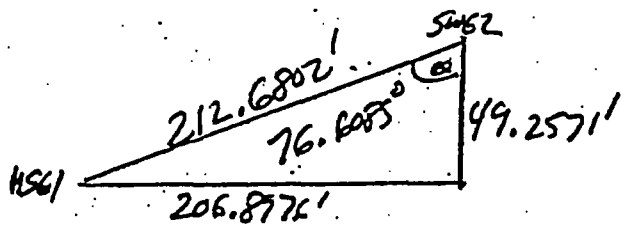
$\theta = 225 - 47.1513 = 177.8486^\circ$



$d = 72.4302' = 22.0767m$

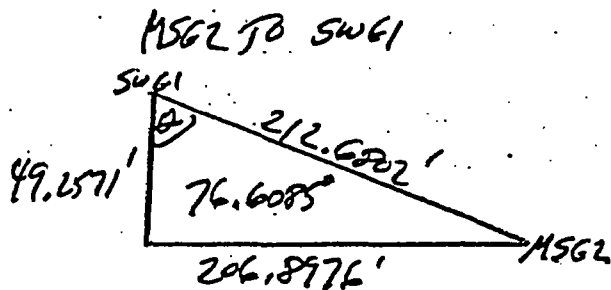
$\theta = 225 + 47.1513 = 272.1514^\circ$

MSG1 TO SWG2



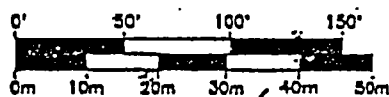
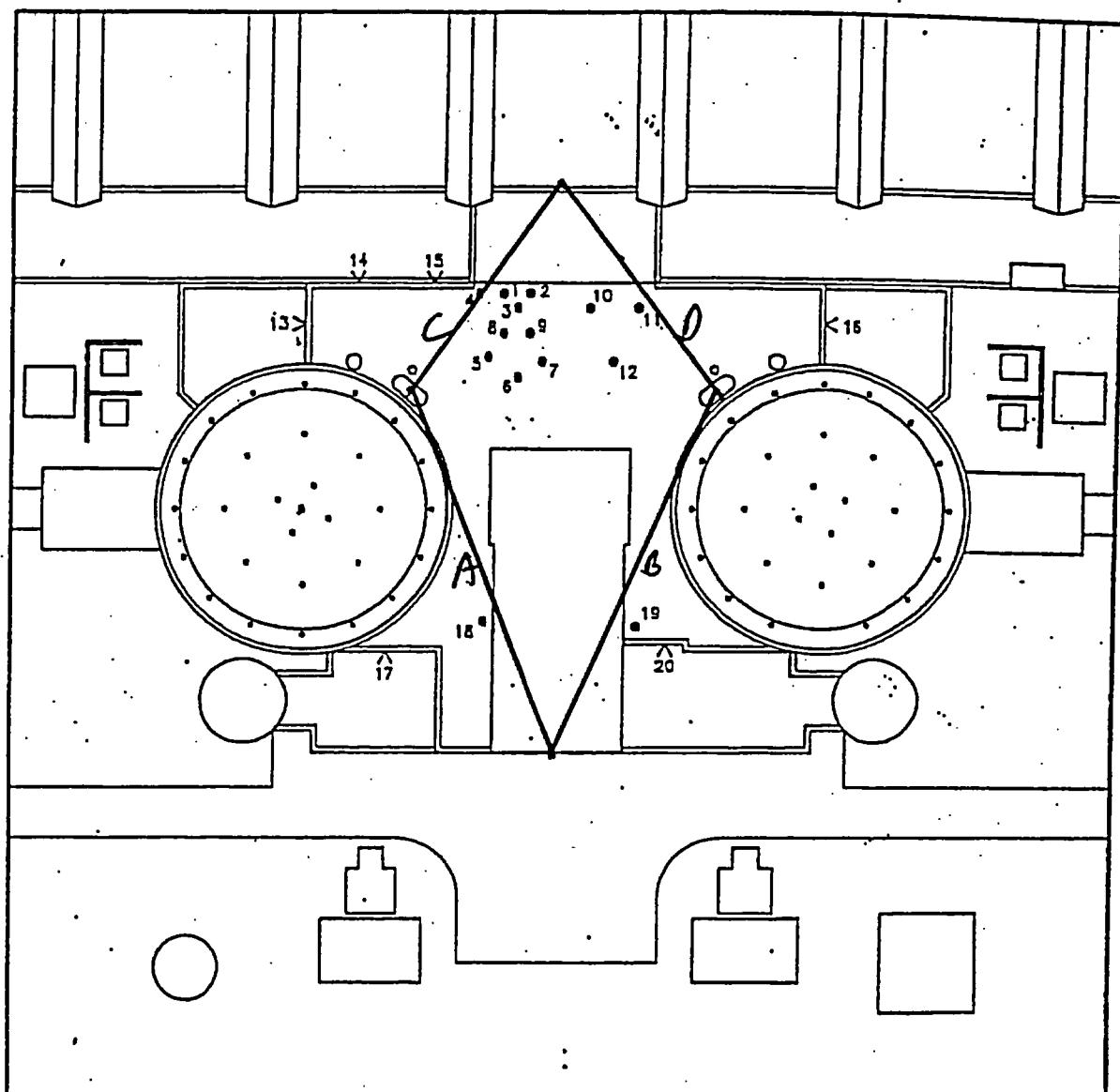
$d = 212.6802' = 64.8249m$

$\theta = 225 + 76.6085 = 301.6086^\circ$



$d = 212.6802' = 64.8249m$

$\theta = 225 - 76.6085 = 148.3914^\circ$



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

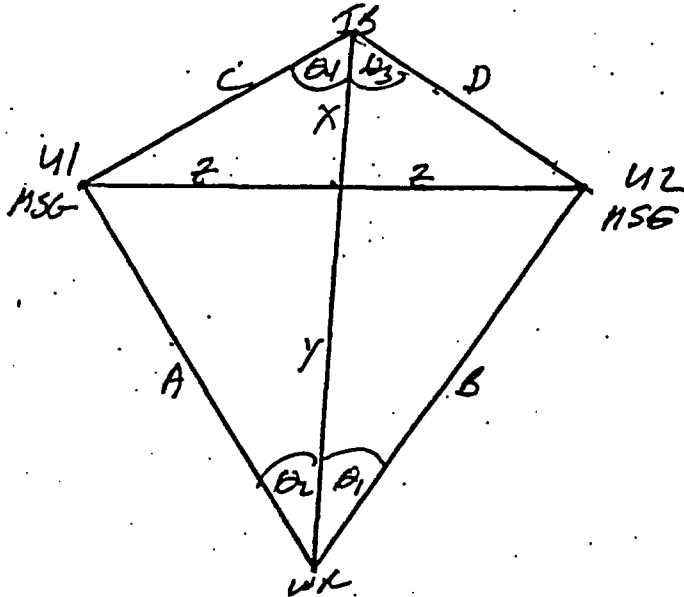
- (A) 60.2151m 22°
(B) 60.2151m 68°
(C) 38.7077m 261°
(D) 38.7077m 189°



NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

MSG TO WEST ROAD + TURNING BLOG:



$$B_1 = 68^\circ - 45^\circ = 23^\circ$$

$$B_2 = 45^\circ - 22^\circ = 23^\circ$$

$$B_3 = 225^\circ - 189^\circ = 36^\circ$$

$$B_4 = 261^\circ - 225^\circ = 36^\circ$$

$$X + Y = 287'$$

$$\tan(23^\circ) = Z/Y$$

$$\tan(36^\circ) = Z/X$$

$$X \tan(36^\circ) = Y \tan(23^\circ)$$

$$X (0.726543) = Y (0.424475)$$

$$X = (0.584239) Y$$

$$Y = 287 / 1.584239 = 181.1595'$$

$$X = 105.8405'$$

$$Z = 76.8776'$$

$$A = B = \sqrt{Z^2 + Y^2} = 196.8045' = 59.9860m$$

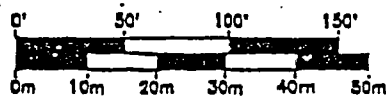
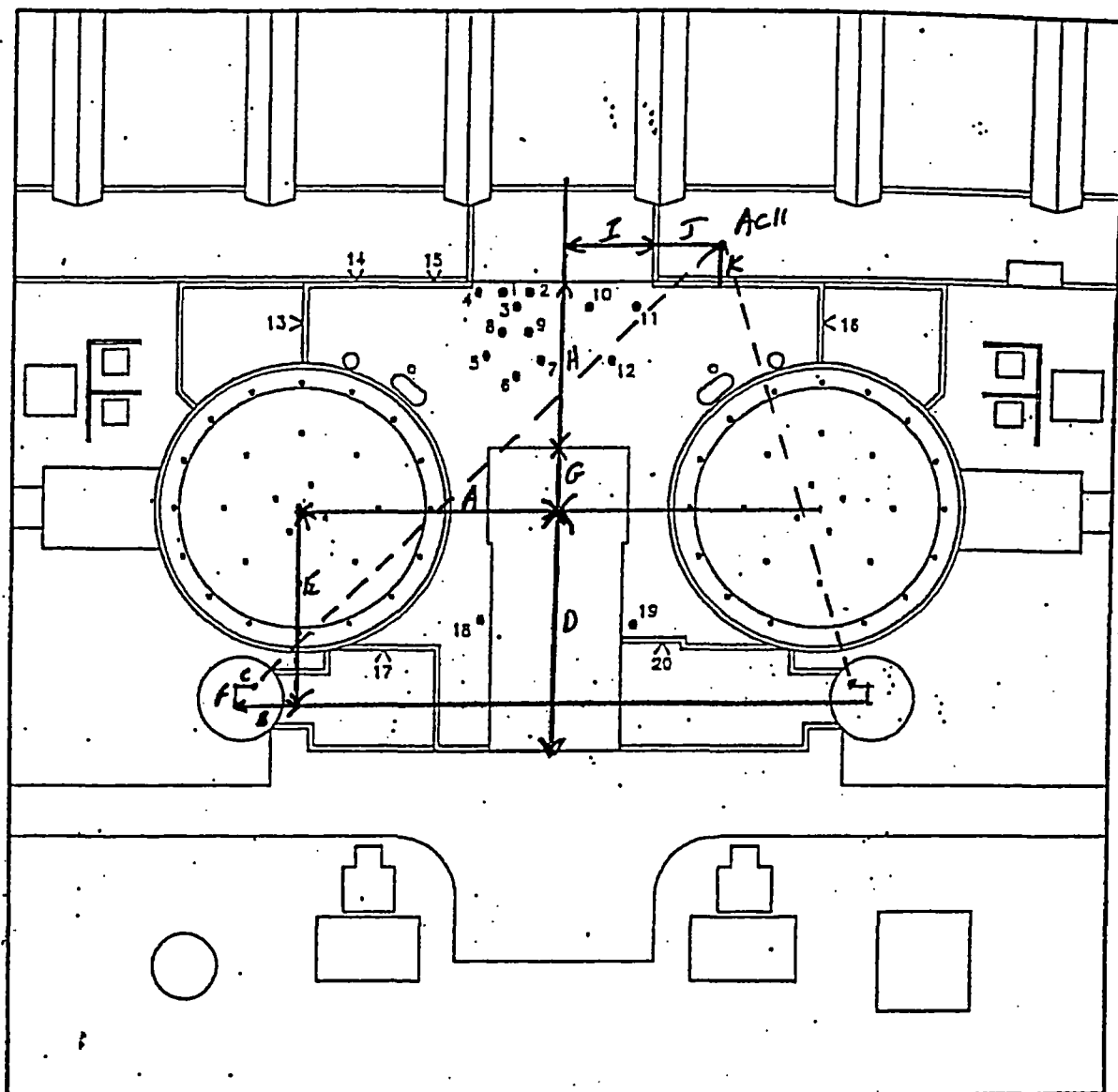
$$C = D = \sqrt{Z^2 + X^2} = 130.8261' = 39.8758m$$

U1 MSG TO WEST ROAD 59.9860m 22°

U2 MSG TO WEST ROAD 59.9860m 68°

U1 MSG TO TURNING BLOG 39.8758m 261°

U2 MSG TO TURNING BLOG 39.8758m 189°



KEY:

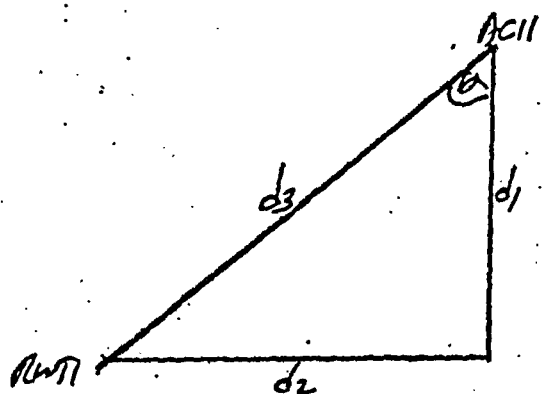
1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck
7. Equipment Room Supply Fan VU-28

(A) 130' 0"	(distances)	(H) 87' 6"	(distances)
(B) 27' 6"	(")	(I) 46' 0"	(")
(C) 5' 6"	(")	(J) 30' 6"	(WALKWAYS)
(D) 122' 0"	(")	(K) 13' 6"	(")
(E) 101' 6"	(")		
(F) 4' 0"	(")		
(G) 27' 6"	(")		

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
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PLWT1 TO AC11



$$d_1 = 101.5 - 4.0 + 27.5 + 87.5 + 13.5 = 226.0'$$

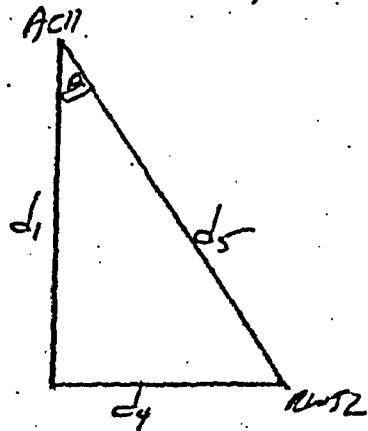
$$d_2 = 27.5 - 5.5 + 130 + 46 + 30.5 = 228.5'$$

$$d_3 = 321.3849' = 97.9581 \text{ m}$$

$$\theta = 45.3151^\circ$$

$$\theta_4 = \theta + 225 = 270.3152^\circ$$

PLWT2 TO AC11



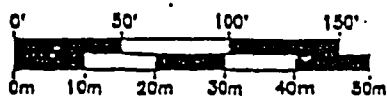
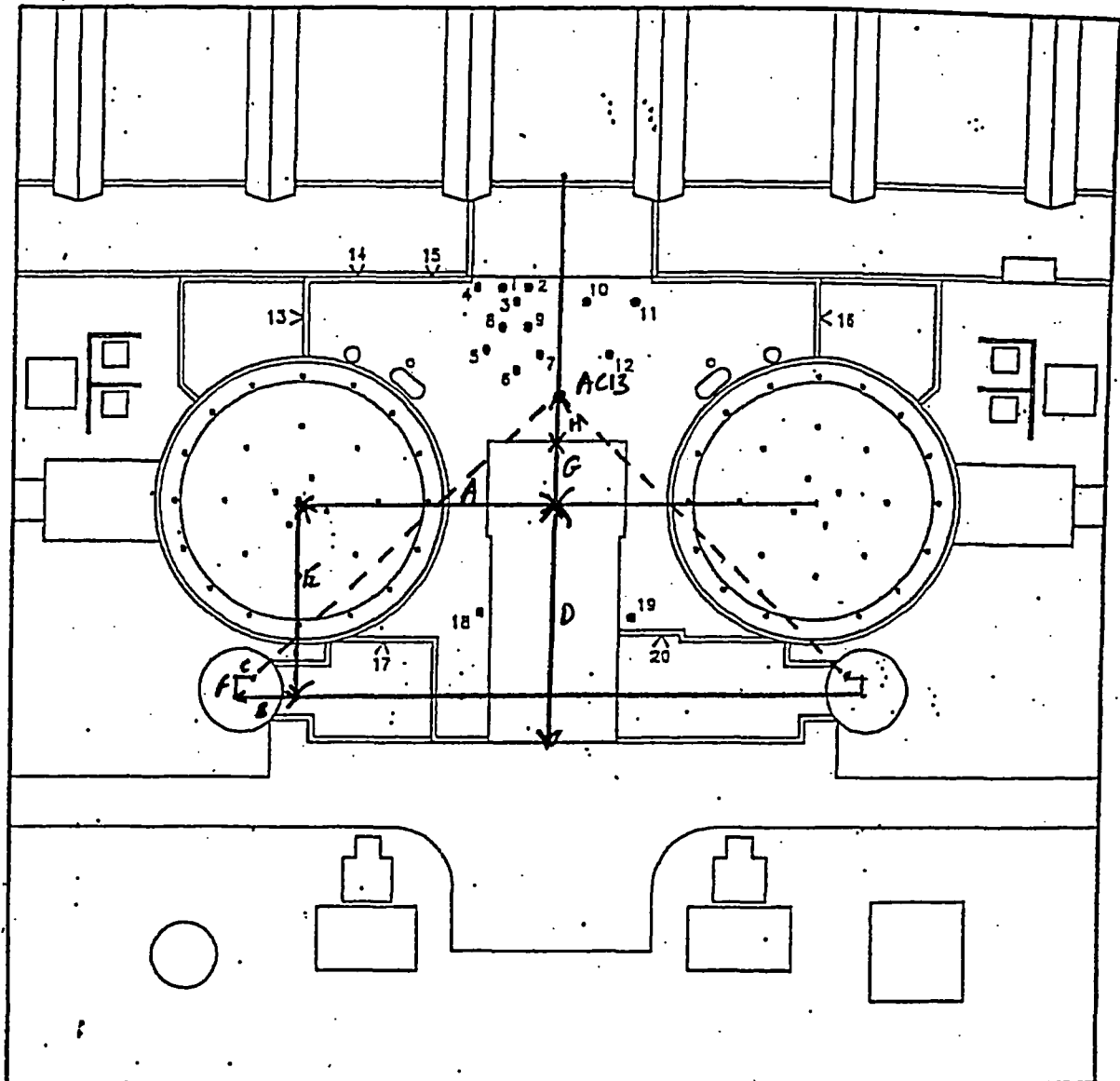
$$d_1 = 226.0'$$

$$d_4 = 27.5 - 5.5 + 130 - 46 - 30.5 = 75.5'$$

$$d_5 = 238.2777' = 72.6270 \text{ m}$$

$$\theta = 18.4729^\circ$$

$$\theta_d = 225 - \theta = 206.5270^\circ$$



KEY:

1. Control Room Air Inlet #1
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6. Control Room HVAC Secondary Gooseneck AC
7. Equipment Room Supply Fan VU-28

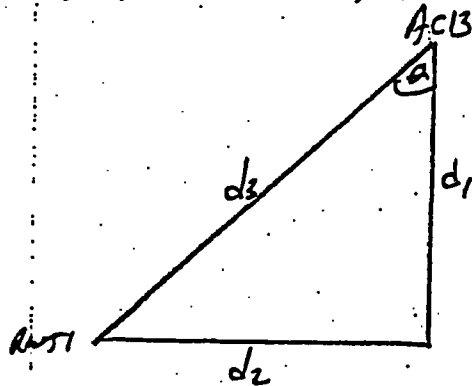
NOTE:

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(A)	136' 0"	(distances)
(B)	27' 6"	(")
(C)	5' 6"	(")
(D)	122' 0"	(")
(E)	101' 6"	(")
(F)	4' 10"	(")
(G)	27' 6"	(")
(H)	25' 8"	(WALKDOWN)



RWT1 TO ACB:



$$d_1 = 191.5' + 27.5' + 25.6667' - 4' = 150.6667'$$

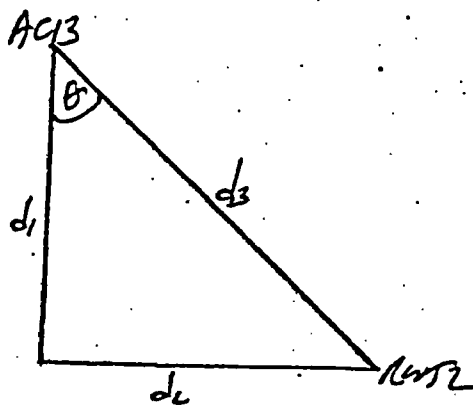
$$d_2 = 130' + 27.5' - 5.5' = 152.0'$$

$$d_3 = 214.0198' = 65.2332\text{ m}$$

$$\alpha = 45.2524^\circ$$

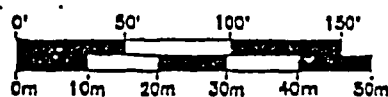
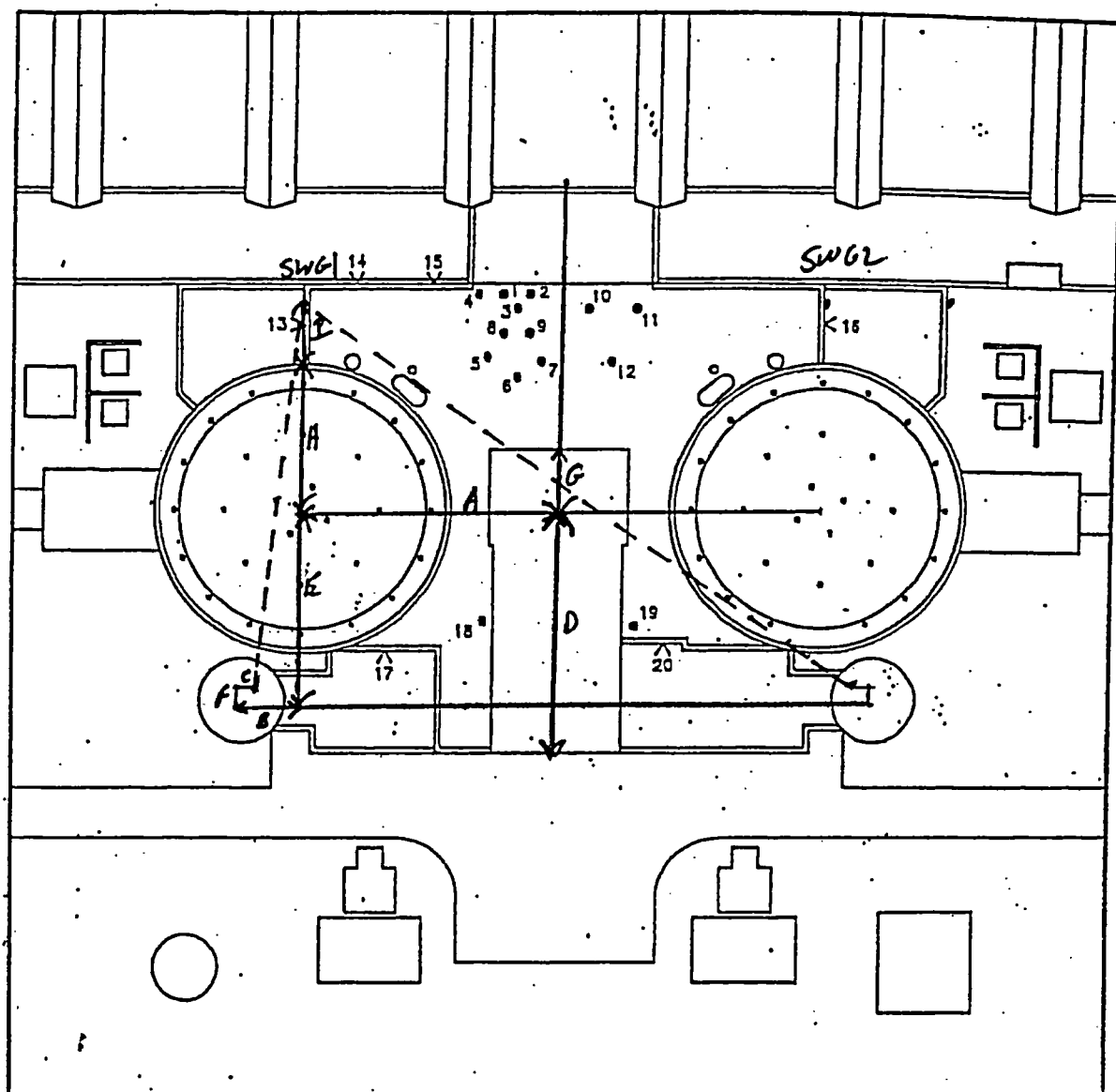
$$\theta_1 = \alpha + 225^\circ = 270.2524^\circ$$

RWT2 TO ACB:



$$d_3 = 65.2332\text{ m}$$

$$\theta_2 = 225 - \alpha = 179.7476^\circ$$



KEY:

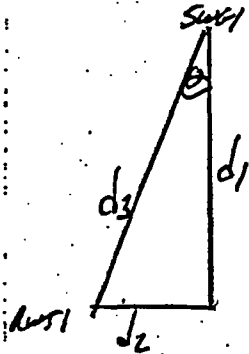
1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck
7. Equipment Room Supply Fan VU-28

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

(A) 130' 0" (distances)
(B) 27' 6" ("
(C) 5' 6" ("
(D) 121' 0" ("
(E) 101' 6" ("
(F) 4' 0" ("
(G) 27' 6" ("
(H) 68' 9" (distances)
(I) 39' 8" (walkdown)

NWT1 TO SWG1:



$$d_1 = 101.5' - 4' + 68.75' + 39.6667' = 205.9167'$$

$$= 62.7684 \text{ m}$$

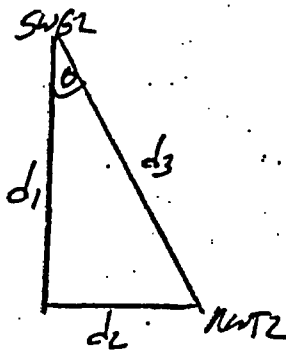
$$d_2 = 27.5' - 5.5' = 22'$$

$$d_3 = 207.0886' = 63.1206 \text{ m}$$

$$\theta = 6.0983^\circ$$

$$\theta_d = 225 + \theta = 231.0983^\circ$$

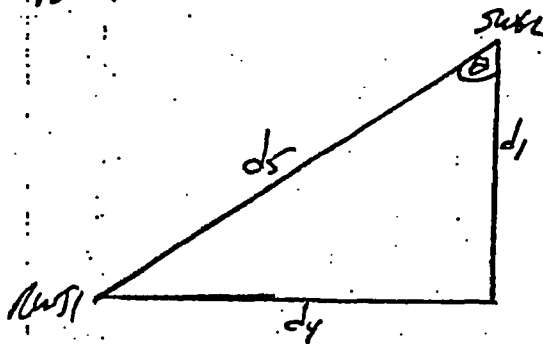
NWT2 TO SWG2:



$$d_3 = 207.0886' = 63.1206 \text{ m}$$

$$\theta_d = 225 - \theta = 218.9017^\circ$$

NWT1 TO SWG2



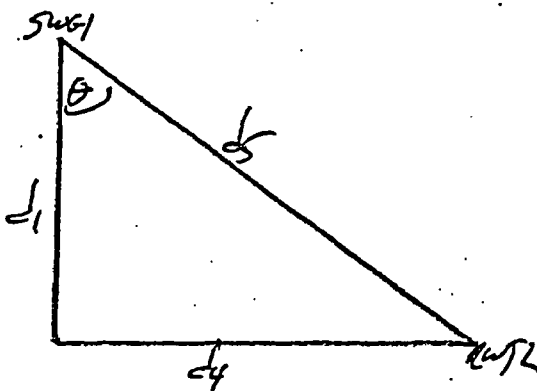
$$d_4 = 260' + 27.5' - 5.5' = 282'$$

$$d_5 = 349.1786' = 106.4296 \text{ m}$$

$$\theta = 53.8630^\circ$$

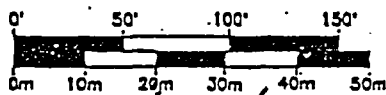
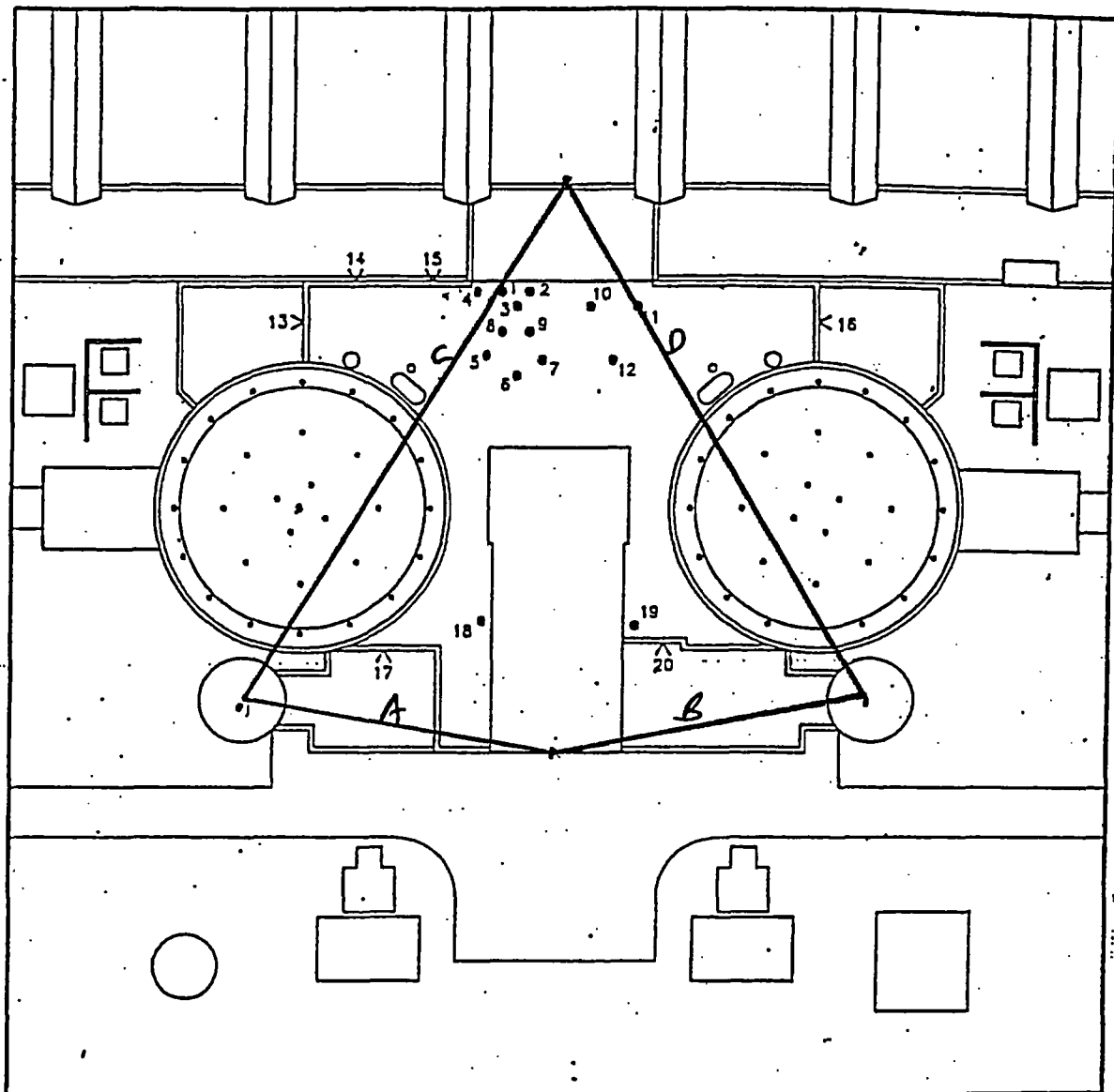
$$\theta_d = 225 + \theta = 278.8630^\circ$$

NWT2 TO SWG1



$$d_5 = 349.1786' = 106.4296 \text{ m}$$

$$\theta_d = 225 - \theta = 171.1370^\circ$$



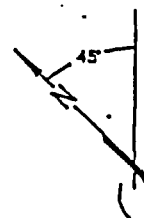
KEY: 1.075269m/mm

1. Control Room Air Inlet #1
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7. Equipment Room Supply Fan VU-28

NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

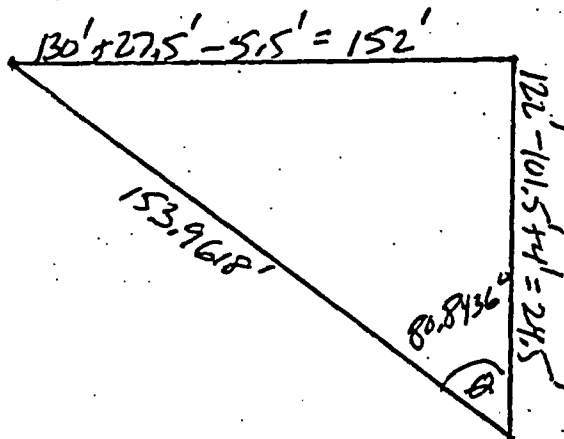
- (A) 47.3118m 325°
(B) 47.3118m 124°
(C) 91.3979m 257°
(D) 91.3979m 194°





DIRECTION: INTAKE TO HOUSE

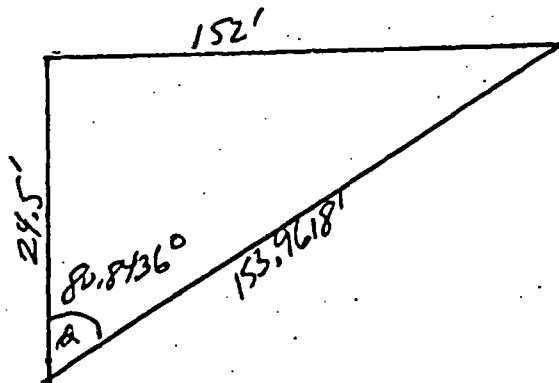
UNIT 1 RWT TO WEST ROAD



$$d_{RWL} = 153.9618' = 46.9276m$$

$$\theta_{RWL} = 405 - 80.8436 = 324.1564^\circ$$

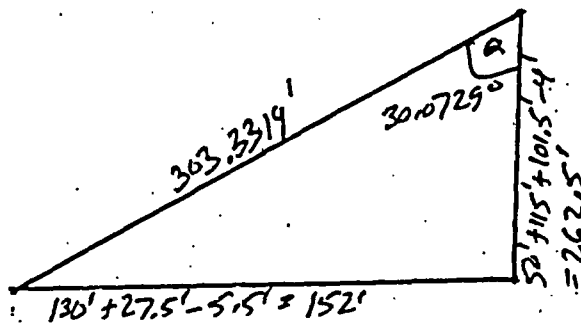
UNIT 2 RWT TO WEST ROAD



$$d_{RWL} = 153.9618' = 46.9276m$$

$$\theta_{RWL} = 45^\circ + 80.8436^\circ = 125.8436^\circ$$

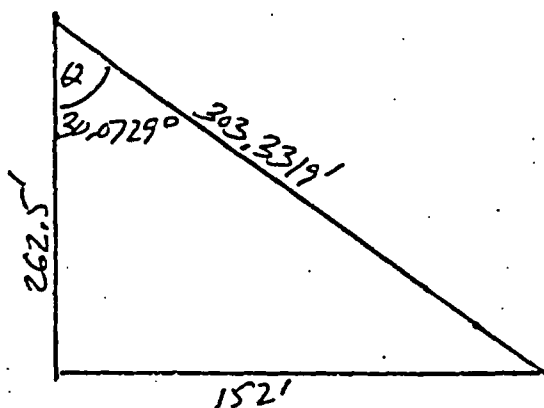
UNIT 1 RWT TO TURBINE BUILDING



$$d_{RTB} = 303.3319' = 92.4556m$$

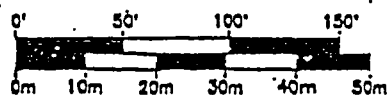
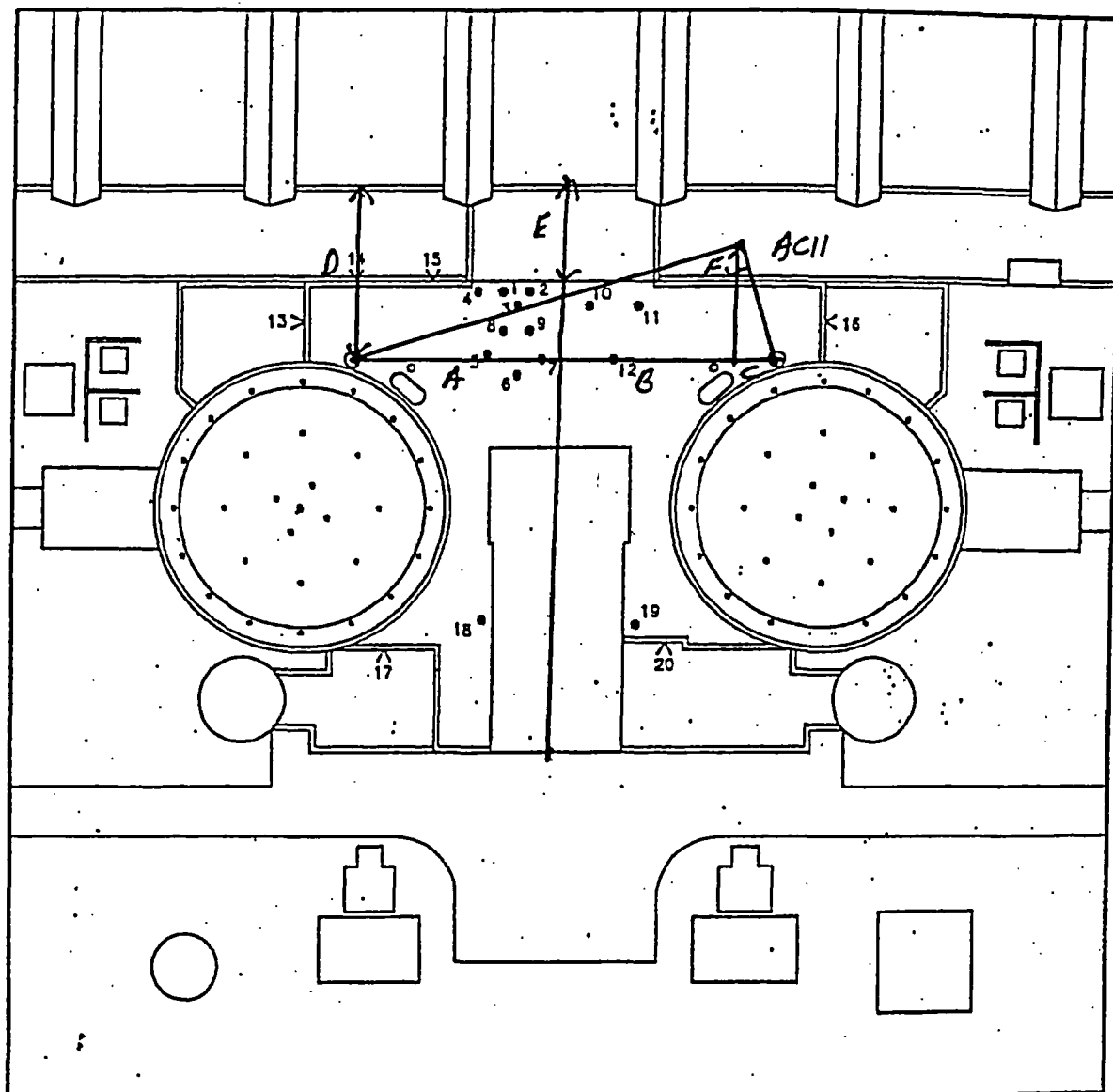
$$\theta_{RTB} = 225 + 30.0729^\circ = 255.0729^\circ$$

UNIT 2 RWT TO TURBINE BUILDING



$$d_{RTB} = 303.3319' = 92.4556m$$

$$\theta_{RTB} = 225 - 30.0729^\circ = 194.9271^\circ$$



KEY:

1. Control Room Air Inlet #1
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7. Equipment Room Supply Fan VU-28

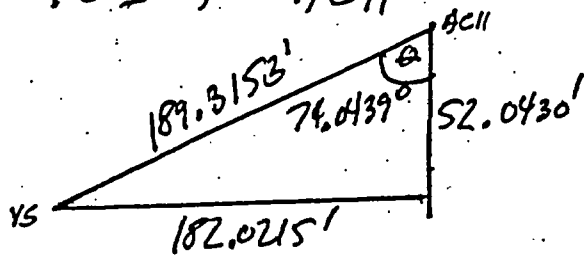
NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

$A = 105.5215'$ (VS TO WR)
 $B = 76'6''$ (CTMT TO ACII)
 $C = A - B = 29.0215'$
 $D = 88.5430'$ (VS TO TB)
 $E = 50'0''$ (DISTANCES)
 $F = 18'6''$ (CTMT TO ACII)



VS1 TO AC11

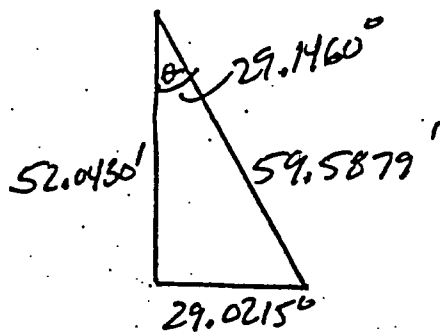


DIRECTION: INTAKE TO RELEASE

$$d = 189.3153' = 57.7033 \text{ m}$$

$$\theta = 225^\circ + 74.0439^\circ = 299.0439^\circ$$

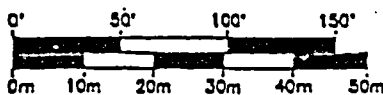
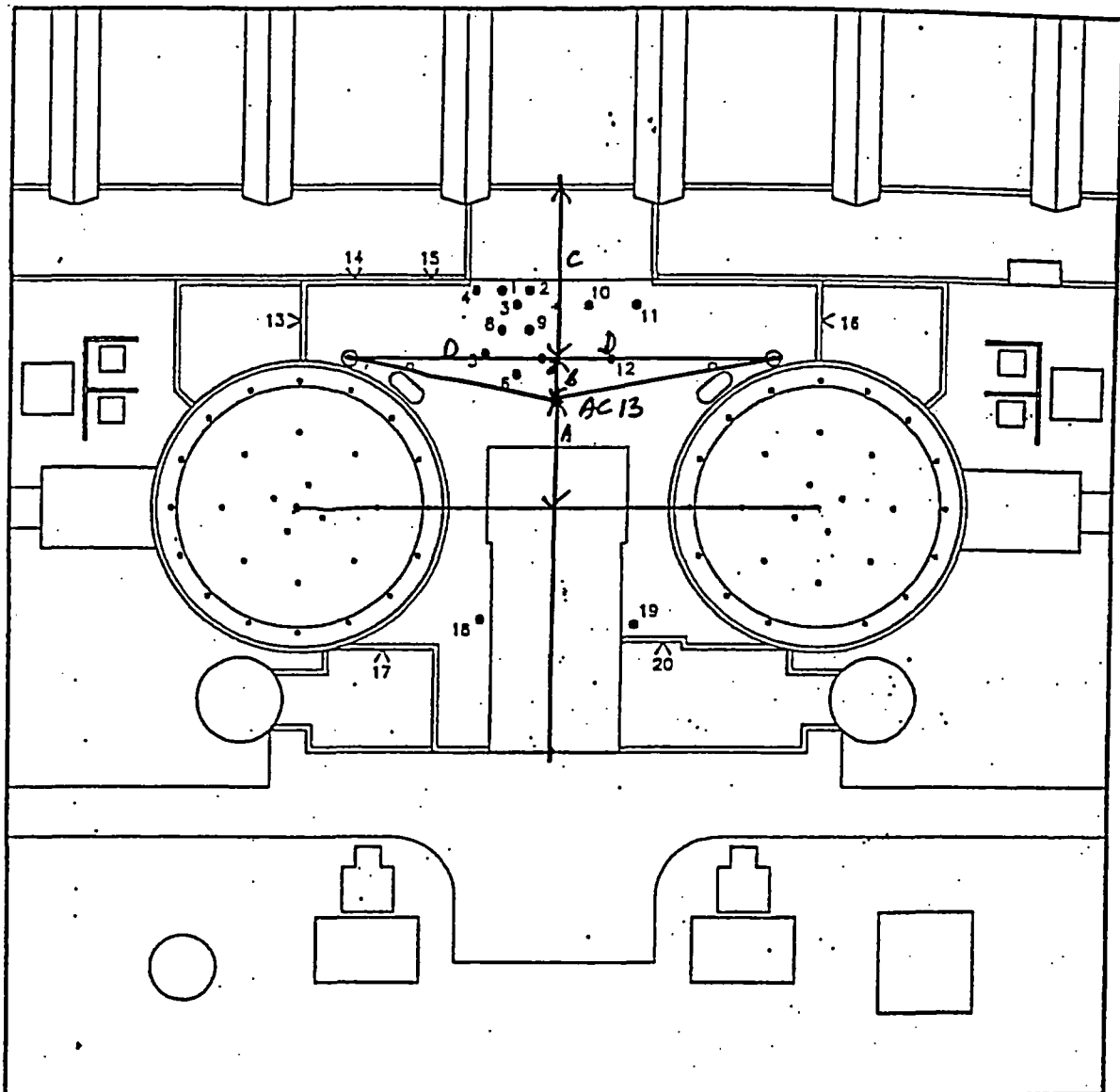
VS2 TO AC11



$$d = 59.5879' = 18.1629 \text{ m}$$

$$\theta = 225^\circ - 29.1460^\circ = 195.8540^\circ$$

$$\text{AC11 ELEVATION: } 90'6'' - 45' = 45.5' = 13.8684 \text{ m}$$



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
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7. Equipment Room Supply Fan VU-28

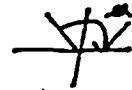
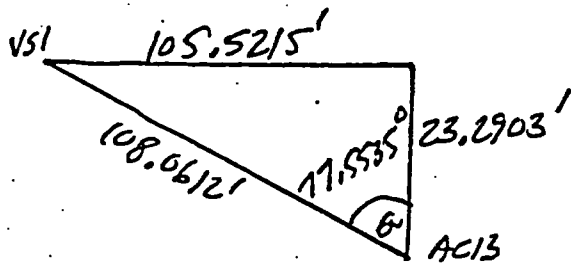
NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

$$\begin{aligned}
 A+B+C &= 165' && (\text{CTMT TO TB}) \\
 A &= 53' 2'' && (\text{CTMT TO AC13}) \\
 C &= 88.5430' && (\text{VS TO TB}) \\
 B &= 23.2903' && \\
 D &= 105.5215' && (\text{VS TO TB})
 \end{aligned}$$



VSI TO AC13

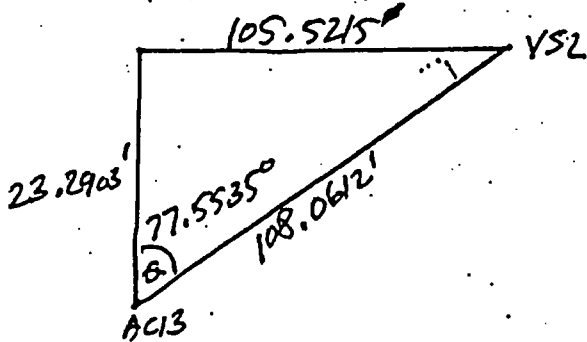


DIRECTION: INTAKE TO RELEASE

$$d = 108.0612' = 32.9370 \text{ m}$$

$$\theta = 405^\circ - 77.5535^\circ = 327.4466^\circ$$

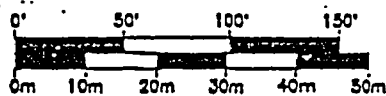
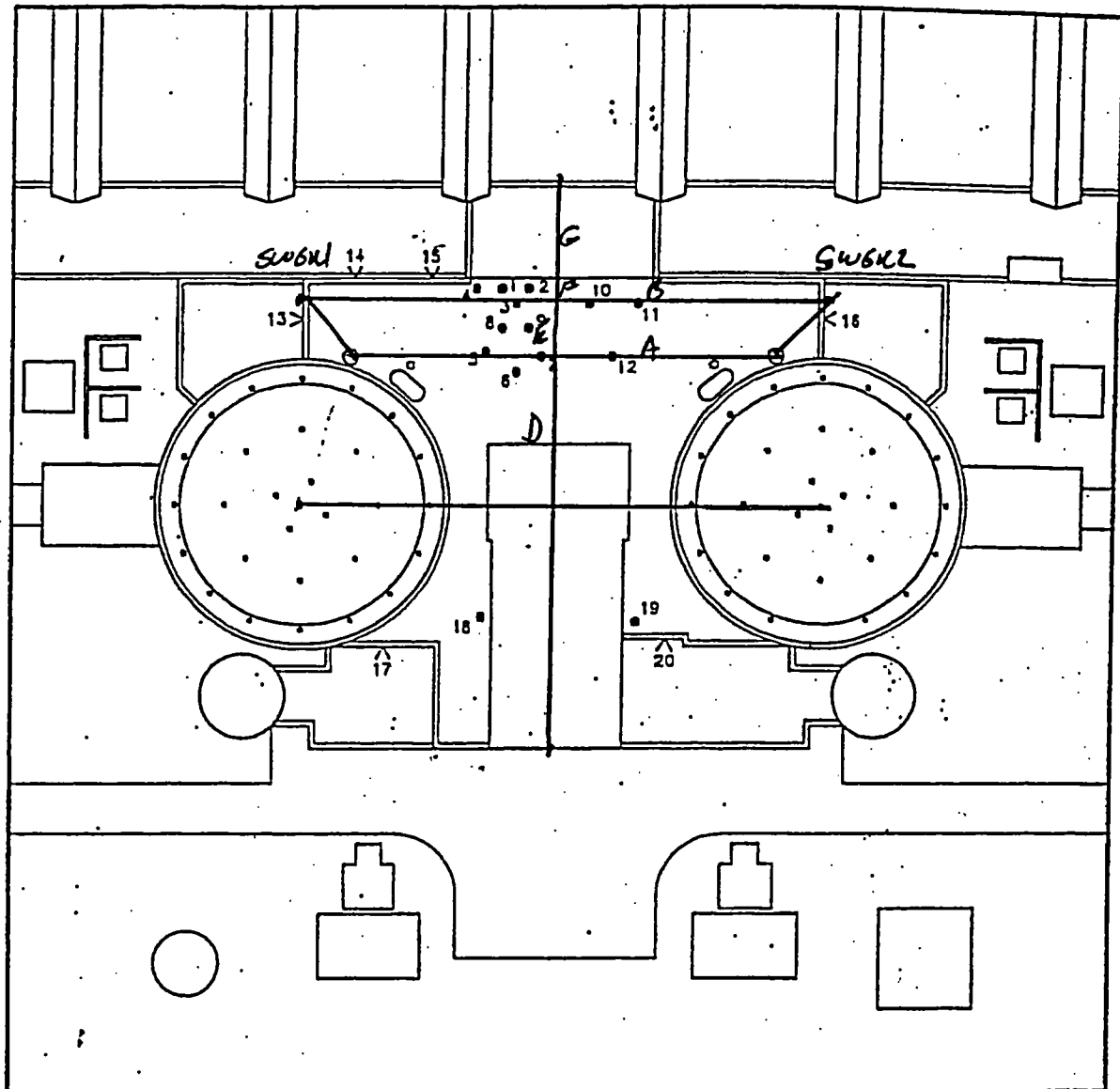
VSI TO AC13



$$d = 108.0612' = 32.9370 \text{ m}$$

$$\theta = 45^\circ + 77.5535^\circ = 122.5535^\circ$$

$$\text{AC13 ELEVATION: } 97'10'' - 45'0'' = 52'10'' = 16.1036 \text{ m}$$



KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

NOTE:

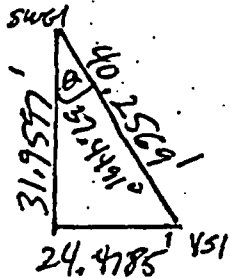
- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

$$\begin{aligned}
 A &= 165.5215' && (VS \text{ TO } TB) \\
 B &= 130' && (CTMT \text{ TO } SW6N) \\
 D+E &= 108' 5'' && (CTMT \text{ TO } SW6N) \\
 D+E+F &= 115' 0'' && (DISTANCES) \\
 G &= 50' 0'' && (DISTANCES) \\
 E+F+G &= 88.5430' && (VS \text{ TO } TB) \\
 F &= 6.5833' \\
 E &= 31.9597' \\
 D &= 76.4570'
 \end{aligned}$$





V51 TO SW61

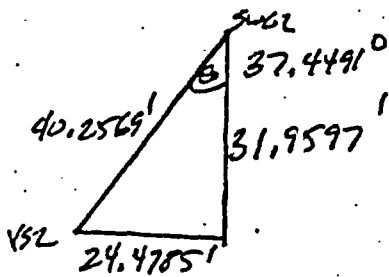


DIRECTION: INTAKE TO RELEASE

$$d = 40.2569' = 12.2703m$$

$$\theta = 225 - 37.4491^\circ = 187.5509^\circ$$

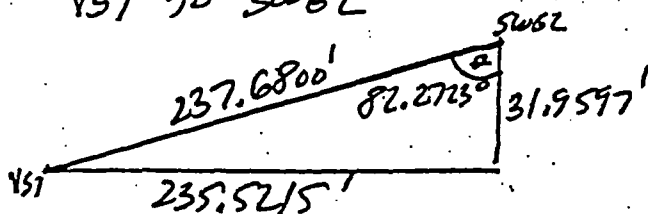
V52 TO SW62



$$d = 40.2569' = 12.2703m$$

$$\theta = 225 + 37.4491^\circ = 262.4491^\circ$$

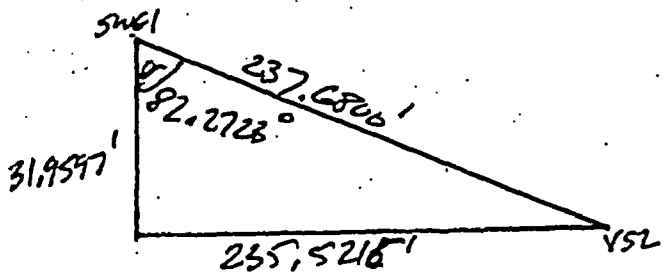
V51 TO SW62



$$d = 237.6800' = 72.4449m$$

$$\theta = 225 + 82.2723^\circ = 307.2723^\circ$$

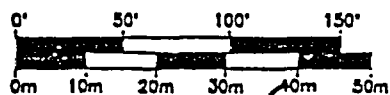
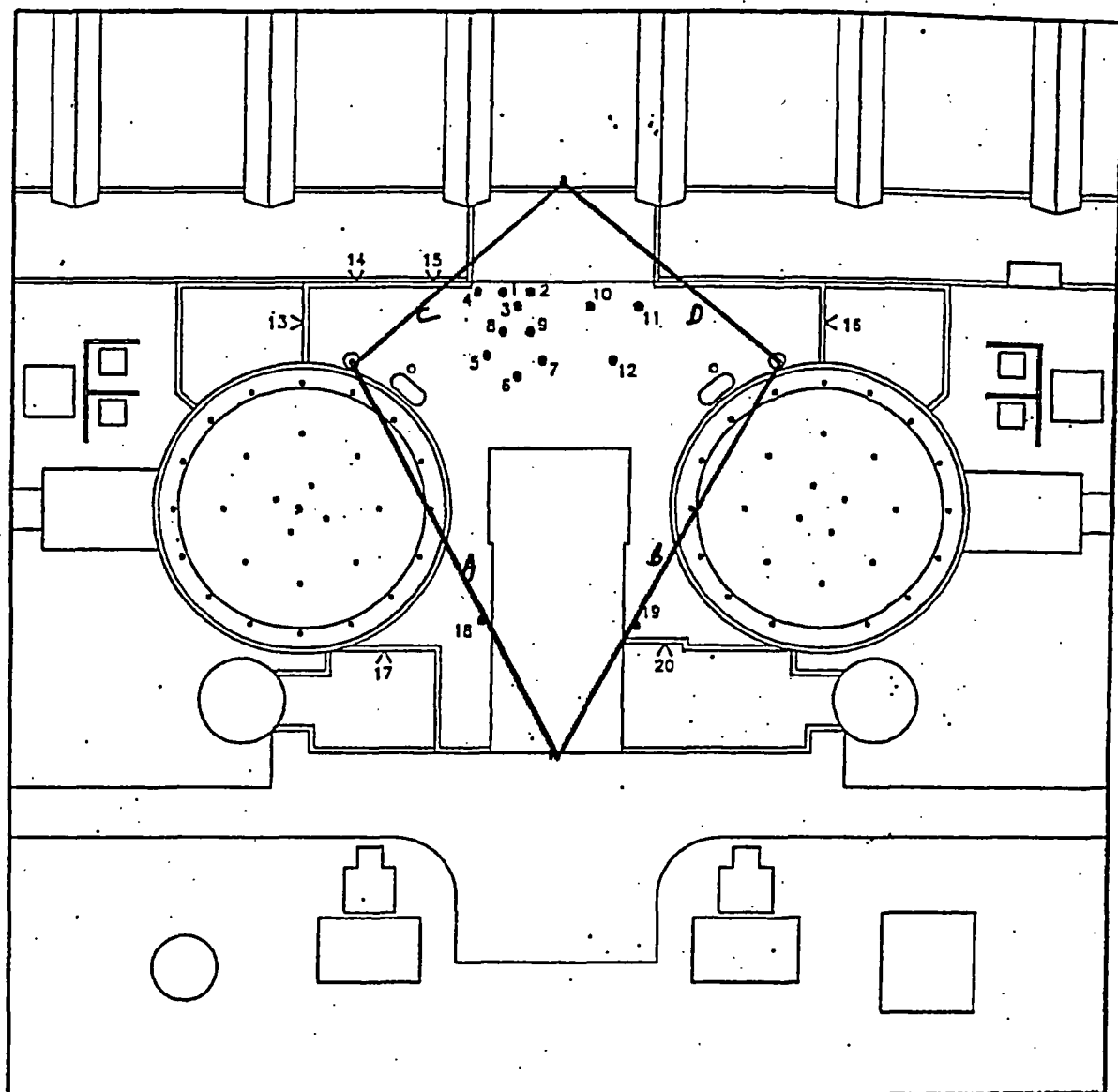
V52 TO SW61



$$d = 237.6800' = 72.4449m$$

$$\theta = 225 - 82.2723^\circ = 142.7277^\circ$$

SW62 ELEVATION: $76' 1'' - 45' = 31' 1'' = 9.4742m$



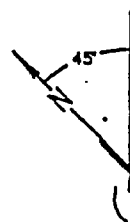
KEY:

1. Control Room Air Inlet #1
2. Control Room Air Inlet #2
3. Control Room Air Outlet
4. Exhaust Vent VU-54
5. Smoke Removal Fan VU-17
6. Control Room HVAC Secondary Gooseneck AC #12
7. Equipment Room Supply Fan VU-28

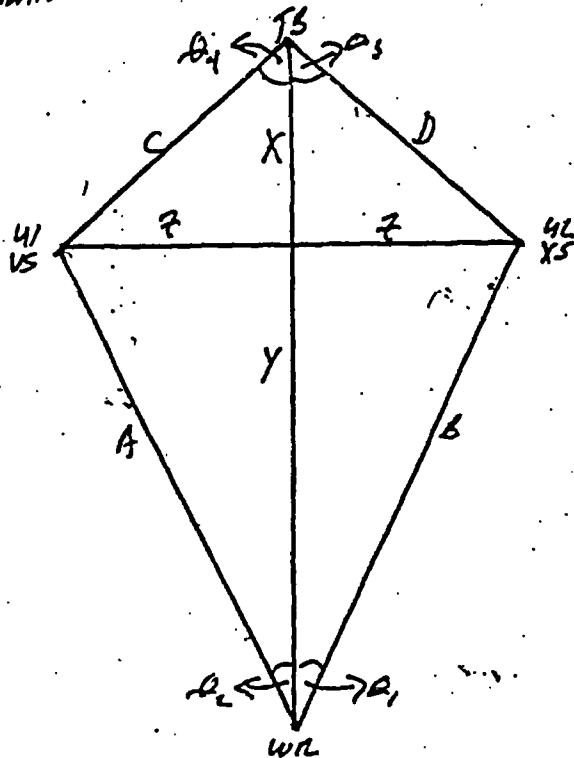
NOTE:

- Points 13-17 and 20 are located on walls 10' below Auxiliary Bldg. roof.
- All other points are located on Auxiliary Bldg. roof.

(A) 67.2043m 18°
 (B) 67.2043m 73°
 (C) 41.9355m 2750
 (D) 41.9355m 175°



VEHICLE STATION TO WEST ROAD + TURBINE BLDG;



$$A_1 = 73^\circ - 45^\circ = 28^\circ$$

$$A_2 = 45^\circ - 17^\circ = 28^\circ$$

$$A_3 = 225^\circ - 175^\circ = 50^\circ$$

$$A_4 = 275^\circ - 225^\circ = 50^\circ$$

$$X + Y = 287'$$

$$\tan(28^\circ) = Z/Y$$

$$\tan(50^\circ) = Z/X$$

$$X \tan(50^\circ) = Y \tan(28^\circ)$$

$$1.191754 X = 0.531709 Y$$

$$X = 0.446157 Y$$

$$Y = 287' / 1.446157 = 198.4570'$$

$$X = 88.5430'$$

$$Z = 105.5215'$$

$$A = B = \sqrt{Y^2 + Z^2} = 224.7665' = 68.5288m$$

$$C = D = \sqrt{X^2 + Z^2} = 137.7485' = 41.9857m$$

U1 VS TO WEST ROAD 68.5288m 17°

U2 VS TO WEST ROAD 68.5288m 73°

U1 VS TO TURBINE BLDG 41.9857m 275°

U2 VS TO TURBINE BLDG 41.9857m 175°

ATTACHMENT D JOINT FREQUENCY TABLES

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JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10

DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	1	20	60	30	10	1	0	0	0	122
NNE	0	0	0	0	3	2	17	50	17	6	2	0	0	0	97
NE	0	0	1	0	2	7	20	20	11	5	3	0	0	0	69
ENE	0	0	0	5	5	8	21	19	0	0	0	0	0	0	58
E	0	0	0	1	1	11	23	18	1	0	0	0	0	0	55
ESE	0	0	0	0	0	3	7	25	2	0	0	0	0	0	37
SE	0	0	0	0	0	1	10	37	6	1	0	0	0	0	55
SSE	0	0	0	1	0	1	4	28	26	3	0	0	0	0	63
S	0	0	0	0	1	1	3	6	4	1	0	0	0	0	16
SSW	0	0	0	0	0	1	1	31	20	5	0	0	0	0	58
SW	0	0	0	0	0	1	5	63	43	3	0	0	0	0	115
WSW	0	0	0	0	2	3	6	29	12	4	1	0	0	0	57
W	0	0	0	0	1	1	0	20	10	9	1	0	0	0	42
WNW	0	0	0	0	0	0	2	13	12	18	3	0	0	0	48
NW	0	0	0	1	1	2	8	18	19	25	0	0	0	0	74
NNW	0	0	0	0	3	2	15	18	13	5	0	0	0	0	56
999	0	0	1	0	0	3	2	0	0	0	1	0	0	0	7
	0	0	2	8	19	48	164	455	226	95	12	0	0	0	1029

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JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10

DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	1	10	26	11	10	1	0	0	0	59
NNE	1	0	0	1	2	0	15	14	6	4	0	0	0	0	43
NE	0	1	1	0	3	3	6	4	6	3	1	0	0	0	28
ENE	0	0	0	0	2	5	8	9	3	0	0	0	0	0	27
E	0	0	0	0	1	2	8	4	1	0	0	0	0	0	16
ESE	0	0	0	0	1	1	12	3	0	0	0	0	0	0	17
SE	0	0	0	0	2	1	1	9	3	0	0	0	0	0	16
SSE	0	0	0	0	0	1	3	17	9	3	0	0	0	0	33
S	0	0	0	0	2	0	3	7	8	0	0	0	0	0	20
SSW	0	0	0	0	0	1	2	19	16	2	0	0	0	0	40
SW	0	0	0	0	1	1	8	34	20	6	0	0	0	0	70
WSW	0	0	0	0	0	2	5	15	12	2	2	0	0	0	38
W	0	0	0	0	1	1	3	17	4	3	0	0	0	0	29
WNW	0	0	0	0	0	1	2	6	13	11	4	0	0	0	37
NW	0	0	0	0	0	0	5	16	9	8	0	0	0	0	38
NNW	0	0	0	0	0	0	1	7	6	3	0	0	0	0	17
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	15	20	92	207	127	55	8	0	0	0	528

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JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10

DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	3	6	14	16	6	10	4	1	0	0	60
NNE	0	0	0	1	2	2	14	10	7	4	0	0	0	1	41
NE	0	0	0	1	3	7	5	4	7	5	0	0	0	0	32
ENE	0	0	0	0	4	1	5	8	4	0	0	0	0	0	22
E	0	0	0	2	3	1	7	9	2	0	0	0	0	0	24
ESE	0	0	0	0	2	1	3	5	1	0	0	0	0	0	12
SE	0	0	0	0	0	1	8	14	4	0	0	0	0	0	27
SSE	0	0	0	0	0	0	4	23	6	3	0	0	0	0	36
S	0	0	0	0	1	1	3	11	3	3	0	0	0	0	22
SSW	0	1	0	0	0	3	13	13	19	8	2	0	0	0	59
SW	0	0	0	0	2	3	4	35	25	7	1	0	0	0	77
WSW	0	0	0	0	3	2	4	24	10	0	2	0	0	0	45
W	0	0	0	0	0	1	6	9	3	0	0	0	0	0	19
WNW	0	0	0	0	0	0	5	10	6	8	1	0	0	0	30
NW	0	0	0	0	0	1	4	17	5	5	1	0	0	0	33
NNW	0	0	0	0	1	0	3	12	8	3	0	0	0	0	27
999	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
	0	1	0	4	24	30	103	220	117	56	11	1	0	1	568

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JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	1	0	0	0	4	15	21	44	63	134	27	1	0	1 311
NNE	0	2	0	2	1	10	24	30	28	55	42	6	0	3 203
NE	0	0	1	6	6	3	9	31	48	36	1	0	0	0 141
ENE	2	0	0	3	5	9	14	39	47	10	0	0	0	3 132
E	0	1	1	2	9	11	18	42	28	2	0	0	0	0 114
ESE	0	0	0	1	1	8	8	16	8	2	0	0	0	1 45
SE	0	0	0	2	6	5	22	41	19	6	1	0	0	1 103
SSE	0	1	0	1	2	7	17	76	59	31	4	0	0	0 198
S	0	0	1	2	3	4	22	43	35	9	0	0	0	1 120
SSW	1	0	0	2	5	3	23	54	59	53	3	0	0	0 203
SW	1	1	0	1	7	8	21	74	82	48	2	0	0	1 246
WSW	0	0	1	1	11	5	28	54	28	4	0	0	0	0 132
W	0	0	1	2	1	8	12	34	13	10	1	0	0	0 82
WNW	0	1	0	2	2	5	21	25	55	39	10	0	0	0 160
NW	0	0	2	1	7	8	12	67	89	59	4	0	0	0 249
NNW	1	1	0	0	5	3	12	63	101	72	4	0	0	1 263
999	0	0	0	0	0	0	0	0	0	2	1	0	0	0 3
	6	7	7	28	75	112	284	733	762	572	100	7	0	12 2705

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JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	1	0	2	6	3	13	38	23	12	1	0	0	1 100
NNE	0	1	2	1	3	5	12	16	20	7	3	0	0	2 72
NE	0	2	3	3	4	6	7	9	4	0	0	0	0	1 39
ENE	0	0	0	2	2	5	8	8	0	0	0	0	0	0 25
E	1	1	1	1	1	6	7	10	2	0	0	0	0	0 30
ESE	0	1	1	1	1	2	7	23	6	1	0	0	0	0 43
SE	0	0	1	1	2	1	10	34	18	3	1	0	0	1 72
SSE	0	2	0	2	1	1	11	48	62	18	1	0	0	2 148
S	1	0	0	0	2	3	9	66	145	19	0	0	0	0 245
SSW	0	0	0	2	1	1	9	62	201	86	3	0	0	0 365
SW	2	2	1	1	7	2	14	53	157	78	1	0	0	1 319
WSW	1	0	2	4	3	5	4	48	66	3	1	0	0	0 137
W	3	1	0	2	2	3	9	47	29	3	0	0	0	1 100
WNW	1	3	0	0	5	4	11	50	57	11	0	0	0	0 142
NW	3	1	1	1	2	4	8	67	80	12	0	0	0	0 179
NNW	3	0	1	2	4	6	11	61	50	9	1	0	0	2 150
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0
	15	15	13	25	46	57	150	640	920	262	12	0	0	11 2166

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JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	2	1	1	1	4	5	14	1	0	0	0	0	0 29
NNE	1	1	0	2	0	4	4	6	1	1	0	0	0	0 20
NE	0	1	2	2	1	2	6	2	1	0	0	0	0	1 18
ENE	0	0	0	0	4	2	6	5	0	0	0	0	0	0 17
E	0	0	1	1	2	6	3	6	0	0	0	0	0	2 21
ESE	0	1	0	1	0	3	10	6	2	0	0	0	0	1 24
SE	0	0	0	1	2	1	3	14	4	0	0	0	0	1 26
SSE	0	0	0	0	3	2	6	19	16	0	0	0	0	0 46
S	1	0	0	1	1	7	5	38	84	4	0	0	0	1 142
SSW	0	0	0	3	1	1	8	52	81	25	0	0	0	0 171
SW	1	2	0	3	3	3	10	50	71	14	0	0	0	0 157
WSW	1	0	2	2	2	5	9	28	38	5	0	0	0	0 92
W	0	2	0	1	1	2	4	15	16	1	0	0	0	0 42
WNW	0	1	0	0	2	4	13	24	14	0	0	0	0	1 59
NW	1	1	0	0	6	1	5	14	26	2	0	0	0	1 57
NNW	1	2	0	2	3	0	8	32	14	0	0	0	0	1 63
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0
	6	13	6	20	32	47	105	325	369	52	0	0	0	9 984

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JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10													
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	1	1	0	3	4	2	5	9	1	0	0	0	0	1
NNE	0	0	0	1	1	1	1	1	1	0	0	0	0	6
NE	1	1	0	1	0	1	2	1	0	0	0	0	0	7
ENE	0	0	1	0	0	1	1	0	0	0	0	0	0	4
E	0	1	2	1	1	2	6	0	0	0	0	0	0	16
ESE	0	1	0	0	3	2	10	3	0	0	0	0	0	20
SE	0	2	0	1	4	4	11	5	0	0	0	0	0	27
SSE	0	0	1	3	1	3	7	11	5	1	0	0	0	33
S	1	1	0	1	2	4	4	27	38	4	0	0	0	82
SSW	0	0	0	0	1	6	4	24	24	6	0	0	0	68
SW	0	0	0	3	1	0	7	20	17	11	0	0	0	59
WSW	0	0	1	2	0	1	5	20	9	2	0	0	0	40
W	0	0	0	0	4	2	6	9	8	3	0	0	0	32
WNW	0	0	0	1	0	5	8	20	11	1	0	0	0	47
NW	0	0	0	1	3	0	6	22	17	0	0	0	0	51
NNW	0	2	0	0	0	0	10	10	3	0	0	0	0	26
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	9	5	18	25	34	93	182	134	28	0	0	0	545

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JOINT FREQUENCY TABLE FOR 60M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10													
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	1	0	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	1	0	0	0	0	0	0	1
999	0	0	0	0	0	0	1	0	0	0	0	0	233	234
	0	0	0	0	0	0	3	0	0	0	0	0	233	236

CC1991.MET

JOINT FREQUENCY TABLE FOR 60M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10													
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	2	4	1	6	18	32	88	207	135	176	34	2	0	3
NNE	2	4	2	8	12	24	87	127	80	77	47	6	0	6
NE	1	5	8	13	19	29	55	71	77	49	5	0	0	2
ENE	2	0	1	10	22	31	63	88	54	10	0	0	0	4
E	1	3	5	8	18	39	72	89	34	2	0	0	0	5
ESE	0	3	1	3	8	20	57	81	19	3	0	0	0	3
SE	0	2	1	5	16	14	66	154	54	10	2	0	0	3
SSE	0	3	1	7	7	15	52	222	183	59	5	0	0	3
S	3	1	1	4	12	20	49	198	317	40	0	0	0	2
SSW	1	1	0	7	8	16	60	255	420	185	8	0	0	3
SW	4	5	1	8	21	18	69	329	415	167	4	0	0	2
WSW	2	0	6	9	21	23	61	218	175	20	6	0	0	0
W	3	3	1	5	10	18	40	151	83	29	2	0	0	1
WNW	1	5	0	3	9	19	62	148	168	88	18	0	0	2
NW	4	2	3	4	19	16	48	221	245	111	5	0	0	3
NNW	5	5	1	4	16	11	61	203	195	92	5	0	0	5
999	0	0	1	0	0	3	4	0	1	2	2	0	0	233
	31	46	34	104	236	348	994	2762	2655	1120	143	8	0	8761

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	1	1	9	31	54	12	0	0	0	0	0	108	
NNE	0	0	0	0	0	6	55	83	5	0	0	0	0	0	149	
NE	0	0	0	3	0	4	18	41	9	0	0	0	0	0	75	
ENE	0	0	0	0	8	17	24	7	1	0	0	0	0	0	57	
E	0	0	1	1	6	10	34	2	0	0	0	0	0	0	54	
ESE	0	0	0	1	2	8	25	6	0	0	0	0	0	0	42	
SE	0	0	0	0	0	2	18	24	2	0	0	0	0	0	46	
SSE	0	0	0	0	1	5	10	45	10	0	0	0	0	0	71	
S	0	1	0	0	0	0	4	4	2	1	0	0	0	0	12	
SSW	0	0	0	0	0	1	8	27	6	0	0	0	0	0	42	
SW	0	0	0	0	0	0	20	78	19	1	0	0	0	0	118	
WSW	0	0	0	0	1	4	13	40	9	1	0	0	0	0	68	
W	0	0	0	0	4	0	7	18	5	1	0	0	0	0	35	
WNW	0	0	0	0	0	0	9	25	17	1	0	0	0	0	52	
NW	0	0	0	2	0	1	7	19	23	4	0	0	0	0	56	
NNW	0	0	0	1	0	4	10	18	10	0	0	0	0	0	43	
999	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
	0	1	1	9	24	71	293	491	130	9	0	0	0	0	1029	

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	0	0	2	9	19	12	1	0	0	0	0	43	
NNE	0	0	0	0	2	4	19	19	2	0	0	0	0	0	46	
NE	0	0	0	0	1	3	17	17	3	0	0	0	0	0	41	
ENE	0	0	0	1	1	8	14	5	1	0	0	0	0	0	30	
E	0	0	0	0	3	10	5	2	0	0	0	0	0	0	20	
ESE	0	0	0	0	1	4	10	1	0	0	0	0	0	0	16	
SE	0	0	0	0	3	4	5	6	0	0	0	0	0	0	18	
SSE	0	0	0	0	0	0	5	16	8	0	0	0	0	0	29	
S	0	0	0	0	1	1	5	11	0	0	0	0	0	0	18	
SSW	0	0	0	0	0	1	5	27	4	0	0	0	0	0	37	
SW	0	0	0	0	0	1	21	35	10	0	0	0	0	0	67	
WSW	0	0	0	0	1	2	9	26	3	1	0	0	0	0	42	
W	0	0	0	0	0	3	5	14	4	1	0	0	0	0	27	
WNW	0	0	0	0	1	1	7	14	7	1	0	0	0	0	31	
NW	0	0	0	0	0	1	7	16	13	3	0	0	0	0	40	
NNW	0	0	0	0	0	1	9	11	2	0	0	0	0	0	23	
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	1	14	46	152	239	69	7	0	0	0	0	528	

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	1	2	3	15	23	9	1	0	0	0	0	54	
NNE	0	0	0	2	2	6	26	9	6	1	0	0	0	0	52	
NE	0	0	0	0	1	3	17	14	5	0	0	0	0	0	40	
ENE	0	0	0	0	5	5	6	8	0	0	0	0	0	0	24	
E	0	0	0	1	4	7	6	4	1	0	0	0	0	0	23	
ESE	0	0	0	0	4	2	8	1	0	0	0	0	0	0	15	
SE	0	0	0	0	1	3	7	6	0	0	0	0	0	0	17	
SSE	0	0	0	0	0	2	12	26	5	0	0	0	0	0	45	
S	0	0	0	1	0	2	5	10	2	0	0	0	0	0	20	
SSW	0	0	0	0	3	1	9	16	7	1	0	0	0	0	37	
SW	0	0	0	0	2	3	14	47	18	2	0	0	0	0	86	
WSW	0	0	0	0	1	3	17	23	2	2	0	0	0	0	48	
W	0	0	0	0	3	4	10	10	1	1	0	0	0	0	29	
WNW	0	0	0	0	1	4	6	4	6	1	0	0	0	0	22	
NW	0	0	0	0	0	2	8	12	8	0	0	0	0	0	30	
NNW	0	0	1	0	1	1	9	9	4	0	0	0	0	0	25	
999	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
	0	0	1	5	30	51	176	222	74	9	0	0	0	0	568	

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	2	0	0	5	11	13	48	128	100	6	0	0	0	0	313	
NNE	0	0	1	4	14	21	47	77	86	7	0	0	0	0	257	
NE	0	0	2	2	11	12	30	54	57	5	0	0	0	0	173	
ENE	0	1	2	0	8	16	33	78	7	0	0	0	0	0	145	
E	0	1	2	6	14	13	37	35	1	0	0	0	0	0	109	
ESE	0	0	2	4	13	10	21	16	0	0	0	0	0	0	66	
SE	0	1	2	2	10	14	30	16	2	0	0	0	0	1	78	
SSE	0	1	3	2	11	21	43	77	24	4	0	0	0	0	186	
S	0	0	1	2	12	15	40	53	11	0	0	0	0	0	134	
SSW	0	1	1	5	8	10	30	76	35	3	0	0	0	1	170	
SW	0	1	1	2	14	17	64	104	64	4	0	0	0	0	271	
WSW	1	1	3	5	14	18	41	65	5	0	0	0	0	0	153	
W	0	0	1	2	12	16	28	20	8	1	0	0	0	0	88	
WNW	0	0	5	1	9	8	21	45	22	8	0	0	0	0	119	
NW	0	1	0	5	11	18	34	108	35	7	0	0	0	0	219	
NNW	0	2	2	3	8	10	53	121	24	0	0	0	0	0	223	
999	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
	3	10	28	50	181	232	600	1073	481	45	0	0	0	2	2705	

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	3	4	6	15	14	37	28	5	1	0	0	0	0	113	
NNE	0	2	2	6	10	17	18	14	3	0	0	0	0	0	72	
NE	0	0	2	2	7	10	9	9	2	0	0	0	0	0	41	
ENE	0	2	4	7	5	9	4	1	0	0	0	0	0	0	32	
E	1	1	1	5	7	0	7	2	0	0	0	0	0	0	24	
ESE	0	3	2	3	8	9	9	0	0	0	0	0	0	0	34	
SE	1	2	3	5	10	14	14	7	2	1	0	0	0	0	59	
SSE	0	4	2	8	18	12	29	24	3	0	0	0	0	1	101	
S	3	4	4	8	17	20	77	85	2	0	0	0	0	0	220	
SSW	1	8	6	8	22	29	87	148	25	1	0	0	0	0	335	
SW	4	4	5	8	16	31	103	240	51	1	0	0	0	1	464	
WSW	4	4	4	5	12	14	58	60	1	1	0	0	0	0	163	
W	2	2	1	4	12	16	35	16	2	0	0	0	0	0	90	
WNW	0	5	2	7	16	24	33	25	3	0	0	0	0	0	115	
NW	0	4	4	7	21	18	76	46	2	0	0	0	0	0	178	
NNW	1	3	4	7	11	21	48	28	0	0	0	0	0	0	123	
999	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
	17	53	50	96	207	258	644	733	101	5	0	0	0	2	2166	

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	1	4	2	4	5	7	2	0	0	0	0	0	0	0	25	
NNE	0	1	2	1	5	5	4	0	0	0	0	0	0	0	18	
NE	0	0	4	2	2	3	2	0	0	0	0	0	0	0	13	
ENE	0	2	2	0	3	8	0	0	0	0	0	0	0	0	15	
E	1	1	5	1	1	2	0	0	0	0	0	0	0	0	11	
ESE	0	5	4	0	3	0	0	0	0	0	0	0	0	0	12	
SE	1	2	2	2	3	4	0	0	0	0	0	0	0	0	14	
SSE	0	2	2	4	12	5	6	0	0	0	0	0	0	0	31	
S	1	4	6	7	15	23	33	3	0	0	0	0	0	0	92	
SSW	4	5	8	12	21	44	84	15	0	0	0	0	0	0	193	
SW	1	6	3	14	34	44	107	60	0	0	0	0	0	0	269	
WSW	2	6	3	5	8	13	36	8	0	0	0	0	0	0	81	
W	0	2	3	5	14	17	16	2	0	0	0	0	0	0	59	
WNW	1	4	0	6	18	17	7	0	0	0	0	0	0	0	53	
NW	0	4	2	4	14	18	16	3	0	0	0	0	0	0	61	
NNW	3	3	3	5	5	8	6	1	0	0	0	0	0	0	34	
999	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	
	15	51	51	72	164	218	321	92	0	0	0	0	0	0	984	

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	1	2	1	1	0	0	0	0	0	0	0	5
NNE	0	0	1	1	4	2	1	0	0	0	0	0	0	0	9
NE	0	0	2	2	9	2	1	0	0	0	0	0	0	0	16
ENE	0	2	2	0	2	1	1	0	0	0	0	0	0	0	8
E	1	2	1	0	0	0	1	0	0	0	0	0	0	0	5
ESE	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SE	1	1	2	1	2	0	1	0	0	0	0	0	0	0	8
SSE	0	2	2	0	2	0	0	0	0	0	0	0	0	0	6
S	2	5	1	7	11	16	12	0	0	0	0	0	0	0	54
SSW	0	2	2	2	36	25	25	2	0	0	0	0	0	0	94
SW	0	6	2	18	22	28	38	11	0	0	0	0	0	0	125
WSW	0	6	6	11	19	12	12	2	0	0	0	0	0	0	68
W	2	3	9	13	16	12	6	1	0	0	0	0	0	0	62
WNW	0	0	1	3	24	13	4	0	0	0	0	0	0	0	45
NW	0	1	0	5	5	8	11	0	0	0	0	0	0	0	30
NNW	0	1	1	3	3	1	0	0	0	0	0	0	0	0	9
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	32	32	67	157	121	114	16	0	0	0	0	0	0	545

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	2	1	2	3	7	3	0	0	0	0	0	0	19
NNE	0	0	0	3	2	3	5	8	0	0	0	0	0	0	21
NE	0	0	1	0	5	0	2	0	0	0	0	0	0	0	8
ENE	0	0	1	2	1	3	0	0	0	0	0	0	0	0	7
E	0	0	0	1	1	8	1	0	0	0	0	0	0	0	11
ESE	0	0	1	5	2	0	0	0	0	0	0	0	0	0	8
SE	0	0	0	1	1	3	0	0	0	0	0	0	0	0	5
SSE	0	1	1	0	1	2	7	0	0	0	0	0	0	0	12
S	0	0	0	0	4	6	1	0	0	0	0	0	0	0	11
SSW	0	0	1	1	3	3	1	0	0	0	0	0	0	0	9
SW	0	0	2	0	3	4	5	6	0	0	0	0	0	0	20
WSW	0	0	1	0	4	1	3	3	0	0	0	0	0	0	12
W	0	0	0	0	3	4	9	1	0	0	0	0	0	0	17
WNW	0	0	0	0	2	1	2	0	0	0	0	0	0	0	5
NW	0	1	0	2	5	2	1	0	0	0	0	0	0	0	11
NNW	0	0	0	2	5	2	1	0	0	0	0	0	0	0	10
999	0	0	0	0	0	1	0	0	0	0	0	0	0	49	50
	0	3	10	18	44	46	45	21	0	0	0	0	0	49	236

CC1991.MET

JOINT FREQUENCY TABLE FOR 10M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	3	8	8	19	38	52	150	255	138	9	0	0	0	0	680
NNE	0	3	6	17	39	64	175	210	102	8	0	0	0	0	624
NE	0	0	11	11	36	37	96	135	76	5	0	0	0	0	407
ENE	0	7	11	10	33	67	82	99	9	0	0	0	0	0	318
E	3	5	10	15	36	50	91	45	2	0	0	0	0	0	257
ESE	0	9	9	13	33	33	73	24	0	0	0	0	0	0	194
SE	3	6	9	11	30	44	75	59	6	1	0	0	0	1	245
SSE	0	10	10	14	45	47	112	188	50	4	0	0	0	1	481
S	6	14	12	25	60	83	177	166	17	1	0	0	0	0	561
SSW	5	16	18	28	93	114	249	311	77	5	0	0	0	1	917
SW	5	17	13	42	91	128	372	581	162	8	0	0	0	1	1420
WSW	7	17	17	26	60	67	189	227	20	5	0	0	0	0	635
W	4	7	14	24	64	72	116	82	20	4	0	0	0	0	407
WNW	1	9	8	17	71	68	89	113	55	11	0	0	0	0	442
NW	0	11	6	25	56	68	160	204	81	14	0	0	0	0	625
NNW	4	9	11	21	33	48	136	188	40	0	0	0	0	0	490
999	0	2	0	0	3	1	3	0	0	0	0	0	0	49	58
	41	150	173	318	821	1043	2345	2887	855	75	0	0	0	53	8761

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 1

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	1	0	3	25	67	29	5	2	0	0	0	132
NNE	0	0	0	0	0	7	27	32	14	11	3	0	0	0	94
NE	0	1	0	0	0	3	13	8	1	7	2	0	0	0	35
ENE	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
E	0	0	0	0	0	1	4	5	2	0	0	0	0	0	12
ESE	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
SE	0	0	0	0	0	0	0	3	3	0	0	0	0	0	6
SSE	0	0	0	0	0	1	0	1	7	3	0	0	0	0	12
S	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
SSW	0	0	1	0	0	0	1	1	3	1	0	0	0	0	7
SW	0	0	0	0	0	0	0	1	11	3	0	0	0	0	15
WSW	0	0	0	0	0	0	4	5	2	4	0	0	0	0	15
W	0	0	0	1	0	0	4	4	6	0	0	0	0	1	16
WNW	0	0	0	0	0	3	2	4	13	4	4	0	0	0	30
NW	0	0	0	0	0	0	0	10	5	6	5	0	0	0	26
NNW	0	0	0	0	0	1	1	8	9	1	1	0	0	0	21
999	0	0	0	0	1	2	5	2	0	0	0	0	0	1	11
	0	1	1	2	1	21	86	158	108	45	17	0	0	2	442

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 2

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	1	16	33	8	1	1	0	0	0	61
NNE	0	0	0	0	0	5	15	14	3	3	3	0	0	0	43
NE	0	0	0	0	1	1	6	4	1	1	2	0	0	0	16
ENE	0	0	0	0	1	3	8	3	1	0	0	0	0	0	16
E	0	0	0	0	0	0	10	14	0	0	0	0	0	0	24
ESE	0	0	0	0	0	0	1	3	1	0	0	0	0	0	5
SE	0	0	0	0	0	0	0	2	1	3	0	0	0	0	6
SSE	0	0	0	0	0	0	0	4	5	1	0	0	0	0	10
S	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5
SSW	0	0	0	0	0	0	0	1	3	0	0	0	0	0	4
SW	0	0	0	0	0	0	1	4	12	5	0	0	0	0	22
WSW	0	0	0	0	0	0	0	4	4	2	1	0	0	0	11
W	0	0	0	0	0	0	1	3	5	1	0	0	0	0	10
WNW	0	0	0	0	0	0	1	6	10	2	1	0	0	0	20
NW	0	0	0	0	1	0	0	2	11	14	0	0	0	0	28
NNW	0	0	0	0	0	0	3	6	9	3	0	0	0	0	21
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	4	10	62	106	76	36	8	0	0	0	302

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 3

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	2	4	12	14	14	9	1	0	0	0	56
NNE	0	0	0	0	5	4	10	14	5	4	1	0	0	0	43
NE	0	0	0	0	0	3	11	7	3	3	5	0	0	0	32
ENE	0	0	0	0	0	4	3	4	2	1	0	0	0	0	14
E	0	0	0	0	2	2	9	6	0	0	0	0	0	1	20
ESE	0	0	0	0	1	2	4	6	0	0	0	0	0	0	13
SE	0	0	0	0	0	1	2	3	3	1	0	0	0	0	10
SSE	0	0	0	0	0	1	2	12	9	2	0	0	0	0	26
S	0	0	0	0	0	0	2	8	3	0	0	0	0	0	13
SSW	0	0	0	0	0	0	0	9	5	1	0	0	0	0	15
SW	0	0	0	0	0	0	2	11	8	4	0	0	0	0	25
WSW	0	0	0	0	0	0	2	11	7	2	2	0	0	0	24
W	0	0	0	0	0	0	1	8	3	0	1	0	0	0	13
WNW	0	0	0	0	0	0	0	7	8	12	2	0	0	0	29
NW	0	0	0	0	1	0	2	6	6	4	2	0	0	0	21
NNW	0	0	0	0	0	4	4	8	11	2	0	0	0	0	29
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	11	25	66	134	87	45	14	0	0	1	383

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	1	0	1	7	11	23	86	94	72	30	8	2	2	337	
NNE	0	0	1	3	7	9	35	104	78	54	26	5	0	1	323	
NE	0	2	0	2	6	13	33	74	86	31	29	3	0	0	279	
ENE	0	1	3	3	11	15	34	101	47	17	1	0	1	1	235	
E	0	1	2	4	13	22	51	82	27	2	0	0	0	2	206	
ESE	0	0	0	3	6	4	29	70	24	8	3	0	0	1	148	
SE	0	0	0	1	7	9	17	68	23	18	0	0	0	0	143	
SSE	0	0	0	4	3	7	26	110	65	49	5	0	0	1	270	
S	0	0	0	0	0	5	18	41	23	12	5	0	0	0	104	
SSW	0	0	0	1	4	5	28	72	47	31	1	1	0	0	190	
SW	0	0	0	1	3	7	47	83	74	43	1	1	0	0	260	
WSW	1	0	2	1	3	4	20	53	31	16	1	1	0	1	134	
W	0	1	1	1	1	5	17	33	22	11	1	0	0	0	93	
WNW	0	1	3	2	2	4	11	50	50	42	15	1	0	2	183	
NW	0	0	0	2	9	4	10	70	63	39	9	0	0	0	206	
NNW	0	0	1	5	2	5	10	75	97	47	3	0	0	1	246	
999	1	0	0	0	1	0	4	0	0	0	0	0	0	1	7	
	2	7	13	34	85	129	413	1172	851	492	130	20	3	13	3364	

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	1	1	0	1	7	6	27	93	73	31	4	1	1	0	246	
NNE	0	0	0	2	4	8	32	52	32	18	4	0	0	1	153	
NE	0	0	2	3	4	7	11	25	10	2	4	0	0	0	68	
ENE	0	0	0	2	1	4	25	25	5	3	1	0	0	0	66	
E	0	1	1	0	6	13	26	42	9	1	1	0	0	0	100	
ESE	0	0	0	2	6	6	12	35	15	0	1	0	0	1	78	
SE	0	0	0	1	2	4	12	59	11	3	1	0	0	0	93	
SSE	0	0	0	1	2	3	24	79	71	21	1	0	0	2	204	
S	0	0	0	2	3	4	10	90	112	30	0	0	0	0	251	
SSW	0	0	0	0	1	6	14	73	138	59	1	0	0	0	292	
SW	0	1	1	1	4	3	25	69	134	98	3	0	0	0	339	
WSW	0	1	0	0	4	2	20	62	62	25	0	0	0	0	176	
W	0	0	1	1	3	5	15	60	20	2	0	0	0	1	108	
WNW	1	0	0	0	2	5	14	79	71	19	3	1	0	0	195	
NW	0	0	1	0	5	5	16	117	90	26	2	0	0	2	264	
NNW	1	0	0	0	1	5	17	123	107	12	0	1	0	0	267	
999	1	0	1	0	0	0	1	0	0	0	0	0	0	0	3	
	4	4	7	16	55	86	301	1083	960	350	26	3	1	7	2903	

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	1	1	1	1	3	5	10	16	8	0	0	0	0	0	46	
NNE	0	0	0	2	1	3	12	2	3	3	0	0	0	0	26	
NE	1	0	0	2	3	4	8	14	2	0	0	0	0	0	34	
ENE	0	0	0	0	2	2	3	6	2	0	0	0	0	0	15	
E	0	0	0	0	1	4	5	3	0	0	0	0	0	0	13	
ESE	0	1	0	1	1	2	11	7	1	0	0	0	0	0	24	
SE	0	0	0	0	1	4	4	14	3	0	0	0	0	0	26	
SSE	1	0	0	0	1	1	4	18	9	1	0	0	0	2	37	
S	0	0	0	0	1	1	5	37	61	6	0	0	0	0	112	
SSW	0	0	0	0	1	3	6	27	52	6	0	0	0	0	95	
SW	0	0	0	1	2	3	6	27	28	10	0	0	0	0	77	
WSW	0	0	0	0	0	3	4	27	29	5	0	0	0	0	68	
W	0	0	0	2	4	3	4	29	14	0	0	0	0	0	56	
WNW	1	0	0	0	1	2	6	15	13	0	0	0	0	0	38	
NW	0	0	0	1	1	3	6	25	28	3	0	0	0	2	69	
NNW	0	1	0	1	1	3	9	24	24	0	0	0	0	0	63	
999	0	1	0	0	0	1	1	6	1	0	0	0	0	5	15	
	4	4	1	12	24	47	104	297	278	34	0	0	0	9	814	

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 7

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	3	1	7	4	10	5	0	0	0	0	0	1	32
NNE	0	0	1	1	2	1	7	4	1	0	0	0	0	0	17
NE	0	0	1	0	3	2	1	0	1	0	0	0	0	0	8
ENE	1	0	1	1	2	1	6	1	0	0	0	0	0	0	13
E	0	3	2	0	1	2	2	0	0	0	0	0	0	0	10
ESE	0	1	0	1	2	3	2	3	1	0	0	0	0	2	15
SE	1	0	0	0	2	1	6	2	0	0	0	0	0	0	12
SSE	0	1	0	0	3	3	5	8	6	0	0	0	0	0	26
S	0	0	1	2	1	3	5	18	35	5	0	0	0	0	70
SSW	0	1	0	0	2	4	10	30	37	5	0	0	0	0	89
SW	0	0	0	0	3	3	4	29	9	0	0	0	0	0	48
WSW	1	0	0	1	3	4	4	26	6	3	0	0	0	0	48
W	1	0	1	2	3	2	4	19	22	2	0	0	0	1	57
WNW	0	1	0	1	0	2	4	13	8	5	0	0	0	0	34
NW	0	0	0	2	3	2	7	8	4	0	0	0	0	0	26
NNW	0	1	0	0	1	4	8	12	7	0	0	0	0	0	33
999	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
	4	9	10	12	38	41	85	178	138	20	0	0	0	5	540

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND NO STABILITY CLASS

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
NNE	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3
E	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
SW	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
WSW	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
W	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
WNW	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
NW	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22
	0	0	1	2	2	2	3	4	0	1	0	0	0	22	37

CC1992.MET

JOINT FREQUENCY TABLE FOR 60M AND ALL STABILITY CLASSES

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	2	4	4	5	27	34	123	315	226	118	38	9	3	3	911
NNE	0	0	3	8	19	37	138	222	136	93	37	5	0	2	700
NE	1	3	3	7	17	33	83	132	104	44	42	3	0	0	472
ENE	1	1	4	6	17	29	80	145	58	21	2	0	1	1	366
E	0	5	5	4	23	45	108	152	38	3	1	0	0	3	387
ESE	0	2	0	7	16	17	59	128	42	8	4	0	0	4	287
SE	1	0	0	3	12	19	41	151	44	25	1	0	0	0	297
SSE	1	1	0	5	9	16	61	232	172	77	6	0	0	5	585
S	0	0	1	5	5	13	40	197	238	53	5	0	0	0	557
SSW	0	1	1	1	8	18	60	213	285	103	2	1	0	0	693
SW	0	1	1	3	14	16	85	224	276	163	4	1	0	0	788
WSW	2	1	2	2	10	14	54	188	141	57	4	1	0	1	477
W	1	1	3	7	11	15	46	156	92	17	2	0	0	3	354
WNW	2	2	3	3	5	16	38	175	173	84	25	2	0	2	530
NW	0	0	1	6	20	14	41	238	207	92	18	0	0	4	641
NNW	1	2	1	6	5	22	52	256	264	65	4	1	0	1	680
999	2	1	1	0	2	3	11	8	2	0	0	0	0	30	60
	14	25	33	78	220	361	1120	3132	2498	1023	195	23	4	59	8785

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	2	6	31	57	8	1	0	0	0	0	105
NNE	0	0	0	0	2	12	41	46	7	0	0	0	0	0	108
NE	0	0	0	0	1	5	26	8	13	1	0	0	0	0	54
ENE	0	0	0	0	1	1	4	0	2	0	0	0	0	0	8
E	0	0	0	0	0	0	8	2	0	0	0	0	0	0	10
ESE	0	0	0	0	0	1	4	2	0	0	0	0	0	0	7
SE	0	0	0	0	0	0	1	4	0	0	0	0	0	0	5
SSE	0	0	0	0	0	0	1	8	3	0	0	0	0	0	12
S	0	0	0	0	1	1	0	2	1	0	0	0	0	0	5
SSW	0	0	0	0	1	0	0	3	0	0	0	0	0	0	4
SW	1	0	0	0	0	0	0	3	9	0	0	0	0	0	13
WSW	0	0	0	1	0	1	6	5	6	0	0	0	0	0	19
W	0	0	0	0	2	1	5	7	1	0	0	0	0	0	16
WNW	0	0	0	0	1	0	3	10	5	3	0	0	0	0	22
NW	0	0	0	0	0	1	4	13	4	7	0	0	0	0	29
NNW	0	0	0	1	0	0	2	9	5	1	0	0	0	0	18
999	0	0	0	0	1	0	2	0	0	0	0	0	0	4	7
	1	0	0	2	12	29	138	179	64	13	0	0	0	4	442

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	1	20	27	2	1	0	0	0	0	51
NNE	0	0	0	0	0	3	27	12	2	0	0	0	0	0	44
NE	0	0	0	0	3	3	15	9	4	1	0	0	0	0	35
ENE	0	0	0	0	1	4	11	2	0	0	0	0	0	0	18
E	0	0	0	0	1	4	14	1	0	0	0	0	0	0	20
ESE	0	0	0	0	0	1	3	3	0	0	0	0	0	0	7
SE	0	0	0	0	0	0	1	3	1	0	0	0	0	0	5
SSE	0	0	0	0	0	0	0	7	4	0	0	0	0	0	11
S	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
SSW	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5
SW	0	0	0	0	0	0	1	5	14	1	0	0	0	0	21
WSW	0	0	0	0	0	1	2	5	2	2	0	0	0	0	12
W	0	0	0	0	0	1	2	4	3	0	0	0	0	0	10
WNW	0	0	0	0	0	0	3	8	1	1	0	0	0	0	13
NW	0	0	0	0	1	0	0	15	16	0	0	0	0	0	32
NNW	0	0	0	0	0	1	2	7	3	0	0	0	0	0	13
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	6	19	101	116	54	6	0	0	0	0	302

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	2	5	14	30	9	1	0	0	0	0	61
NNE	0	0	0	0	5	5	15	8	2	0	0	0	0	0	35
NE	0	0	0	0	2	2	18	13	5	4	0	0	0	0	44
ENE	0	0	0	0	1	4	8	7	1	0	0	0	0	0	21
E	0	0	0	0	3	4	10	1	0	0	0	0	0	0	18
ESE	0	0	0	0	0	2	6	1	0	0	0	0	0	0	9
SE	0	0	0	0	0	2	3	6	0	0	0	0	0	0	11
SSE	0	0	0	0	0	1	2	17	4	0	0	0	0	0	24
S	0	0	0	0	0	1	2	11	0	0	0	0	0	0	14
SSW	0	0	0	0	0	0	2	8	3	0	0	0	0	0	13
SW	0	0	0	0	0	1	2	23	5	0	0	0	0	0	31
WSW	0	0	0	0	0	0	1	13	3	3	0	0	0	0	20
W	0	0	0	0	0	1	3	9	0	0	0	0	0	0	13
WNW	0	0	0	0	0	0	4	9	6	3	0	0	0	0	22
NW	0	0	0	0	0	3	1	10	9	0	0	0	0	0	23
NNW	0	0	1	0	2	0	6	11	1	2	0	0	0	1	24
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	0	15	31	97	177	48	13	0	0	0	1	383

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 4

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	1	6	12	16	68	149	65	25	4	0	0	0	347
NNE	1	0	0	3	18	40	93	108	27	7	0	0	0	0	297
NE	0	0	1	6	9	18	79	128	45	24	0	0	0	1	311
ENE	0	1	0	4	24	47	104	88	8	0	1	0	0	0	277
E	1	0	4	8	27	38	68	18	1	0	0	0	0	2	167
ESE	0	2	1	4	16	32	59	41	5	1	0	0	0	0	161
SE	1	0	1	7	6	21	48	44	12	0	0	0	0	0	140
SSE	0	0	1	1	13	8	66	122	42	5	0	0	0	0	258
S	2	1	2	0	11	15	32	49	18	3	0	0	0	0	133
SSW	0	0	1	4	5	13	41	76	24	4	0	0	0	0	168
SW	0	2	1	3	13	20	63	118	57	3	1	0	0	0	281
WSW	0	1	2	4	4	9	38	75	17	1	1	0	0	0	152
W	1	3	1	3	11	12	28	34	12	1	1	0	0	0	107
WNW	0	0	2	3	9	8	30	52	31	11	0	0	0	1	147
NW	0	1	0	6	11	10	51	81	35	10	0	0	0	0	205
NNW	0	0	1	3	8	12	53	107	17	5	0	0	0	1	207
999	0	0	0	0	0	1	1	1	0	0	0	0	0	3	6
	6	12	19	65	197	320	922	1291	416	100	8	0	0	8	3364

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 5

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	3	6	20	20	75	76	12	3	0	0	0	0	216
NNE	0	1	3	9	20	25	58	39	4	0	1	0	0	0	160
NE	1	1	1	5	7	12	20	20	3	1	0	0	0	0	71
ENE	0	0	2	4	11	13	19	6	3	1	0	0	0	0	59
E	1	0	3	7	14	15	23	2	2	0	0	0	0	0	67
ESE	2	3	6	7	24	19	16	11	1	0	0	0	0	0	89
SE	0	4	0	5	15	17	23	7	1	1	0	0	0	1	74
SSE	2	1	3	5	27	20	48	49	9	0	0	0	0	1	165
S	6	3	5	8	28	39	92	90	5	1	0	0	0	0	277
SSW	2	2	3	4	19	37	81	134	20	2	0	0	0	0	304
SW	2	3	5	5	20	34	79	187	55	4	0	0	0	1	395
WSW	2	5	8	13	16	25	58	70	8	0	0	0	0	0	205
W	1	6	1	10	23	27	38	21	3	0	0	0	0	0	130
WNW	1	0	3	11	32	43	44	33	8	2	1	0	0	0	178
NW	0	3	4	9	28	51	82	92	21	3	0	0	0	0	293
NNW	0	3	2	3	28	30	91	59	0	0	0	0	0	0	216
999	0	0	0	0	1	0	0	0	0	0	0	0	0	3	4
	20	36	52	111	333	427	847	896	155	18	2	0	0	6	2903

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 6

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	1	1	2	4	9	1	5	5	0	0	0	0	0	0	28
NNE	0	0	0	2	5	2	10	4	0	0	0	0	0	0	23
NE	0	2	0	3	4	2	4	0	0	0	0	0	0	0	15
ENE	0	1	1	1	5	2	1	0	0	0	0	0	0	0	11
E	1	1	3	2	1	3	3	0	0	0	0	0	0	0	14
ESE	1	3	0	2	2	1	0	0	0	0	0	0	0	0	9
SE	1	1	1	6	5	3	1	0	0	0	0	0	0	0	18
SSE	1	2	2	3	13	9	2	0	0	0	0	0	0	0	32
S	3	3	4	5	15	19	30	1	0	0	0	0	0	0	80
SSW	7	4	4	4	25	33	59	14	0	0	0	0	0	0	150
SW	3	2	2	2	14	27	46	33	0	0	0	0	0	0	129
WSW	1	3	8	1	21	23	20	10	0	0	0	0	0	1	88
W	2	4	4	9	13	13	11	1	0	0	0	0	0	0	57
WNW	0	3	4	7	19	21	9	0	0	0	0	0	0	0	63
NW	0	4	1	3	9	15	25	3	1	0	0	0	0	0	61
NNW	1	2	1	4	7	6	5	1	0	0	0	0	0	0	27
999	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
	22	36	37	58	167	180	231	72	1	0	0	0	0	10	814

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 7

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	1	0	1	0	3	0	1	2	0	0	0	0	0	0	0	8
NNE	0	1	0	1	1	1	0	1	0	0	0	0	0	0	0	5
NE	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
ENE	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	4
E	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	4
ESE	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
SE	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	4
SSE	0	1	1	0	4	3	1	0	0	0	0	0	0	0	0	10
S	1	2	3	6	17	15	7	1	0	0	0	0	0	2	2	54
SSW	3	7	3	11	23	19	41	1	0	0	0	0	0	0	0	108
SW	2	4	3	15	19	46	17	0	0	0	0	0	0	0	0	106
WSW	1	8	8	18	28	17	16	3	0	0	0	0	0	1	1	100
W	1	10	2	16	14	18	17	0	0	0	0	0	0	0	0	78
WNW	0	6	7	5	11	2	3	0	0	0	0	0	0	0	0	34
NW	0	0	1	0	1	6	8	0	0	0	0	0	0	0	0	16
NNW	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	4
999	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	12	40	34	76	124	129	113	8	0	0	0	0	0	4	4	540

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND NO STABILITY CLASS

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
E	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	4
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
SW	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
WSW	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
W	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
WNW	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22	22
	0	0	0	3	2	2	7	1	0	0	0	0	0	22	22	37

CC1992.MET

JOINT FREQUENCY TABLE FOR 10M AND ALL STABILITY CLASSES

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	2	3	7	16	48	49	214	346	96	31	4	0	0	0	0	816
NNE	1	2	3	15	51	88	245	218	42	7	1	0	0	0	0	673
NE	1	3	3	14	26	42	162	178	70	31	0	0	0	0	1	531
ENE	0	2	5	9	44	71	152	103	14	1	1	0	0	0	0	402
E	4	1	10	20	47	66	127	24	3	0	0	0	0	2	2	304
ESE	3	8	7	14	43	57	88	58	6	1	0	0	0	0	0	285
SE	3	6	2	20	26	43	77	64	14	1	0	0	0	1	1	257
SSE	3	4	7	9	57	41	120	203	62	5	0	0	0	1	1	512
S	12	9	14	19	72	90	163	159	24	4	0	0	0	2	2	568
SSW	12	13	11	23	73	102	225	239	49	6	0	0	0	0	0	753
SW	8	11	11	25	67	129	208	369	140	8	1	0	0	1	1	978
WSW	4	17	26	37	70	76	141	181	36	6	1	0	0	2	2	597
W	5	23	8	38	63	73	105	76	19	1	1	0	0	0	0	412
WNW	1	9	16	26	72	74	96	113	51	20	1	0	0	1	1	480
NW	0	8	6	18	50	86	171	214	86	20	0	0	0	0	0	659
NNW	2	5	7	12	45	49	159	194	26	8	0	0	0	2	2	509
999	0	0	0	0	2	1	3	1	0	0	0	0	0	42	42	49
	61	124	143	315	856	1137	2456	2740	738	150	10	0	0	55	55	8785

CC1993.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	11	33	24	20	1	0	0	0	89
NNE	0	0	0	0	0	0	4	22	47	18	8	2	0	0	101
NE	0	0	0	0	0	3	16	8	4	1	0	3	0	0	35
ENE	0	0	0	0	2	6	16	3	0	0	0	0	0	0	27
E	0	0	0	0	0	7	21	9	0	0	0	0	0	0	37
ESE	0	0	0	1	0	1	9	14	2	0	0	0	0	0	27
SE	0	0	0	0	0	1	7	19	11	1	0	0	0	0	39
SSE	0	0	0	0	0	0	3	25	13	3	0	0	0	0	44
S	0	0	0	0	0	0	2	7	4	1	0	0	0	0	14
SSW	0	0	0	0	0	1	4	9	6	2	0	0	0	0	22
SW	0	0	0	0	0	0	2	11	19	11	0	0	0	0	43
WSW	0	0	0	0	0	0	0	15	1	2	0	0	0	0	18
W	0	0	0	0	0	0	0	7	2	0	1	0	0	0	10
WNW	0	0	0	0	0	0	0	8	7	2	2	0	0	0	19
NW	0	0	0	0	0	0	0	7	20	6	1	0	0	0	34
NNW	0	0	0	0	0	1	1	7	7	0	0	0	0	0	16
999	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
	0	0	0	1	2	24	114	229	138	57	9	3	0	0	577

CC1993.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	2	11	19	18	5	3	0	0	0	58
NNE	0	0	1	0	3	5	20	16	5	1	1	0	0	0	52
NE	0	0	0	0	0	2	8	5	2	0	0	1	0	0	18
ENE	0	0	0	0	2	1	6	1	0	0	2	1	0	0	13
E	0	0	0	1	1	3	11	2	0	0	0	0	0	0	18
ESE	0	0	0	0	2	1	5	7	0	0	0	0	0	0	15
SE	0	0	0	0	0	1	5	6	1	1	1	0	0	0	15
SSE	0	0	0	2	0	0	3	10	6	1	0	0	0	0	22
S	0	0	0	0	0	0	2	2	1	0	0	0	0	0	5
SSW	0	0	0	0	0	0	2	7	4	1	1	0	0	0	15
SW	0	0	0	0	0	0	2	11	7	4	0	0	0	0	24
WSW	0	0	0	0	0	1	1	14	6	2	0	0	0	0	24
W	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
WNW	0	0	0	0	0	0	0	6	6	5	0	0	0	0	17
NW	0	0	0	0	0	0	0	2	9	8	3	0	0	0	22
NNW	0	0	0	0	0	1	1	2	5	1	1	0	0	0	11
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	3	8	17	77	113	70	29	12	2	0	0	332

CC1993.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	1	14	21	11	8	1	0	0	0	57
NNE	0	0	0	0	2	6	14	18	6	3	7	0	0	0	56
NE	0	0	0	0	1	1	4	6	1	0	7	0	0	0	20
ENE	0	0	0	0	1	3	0	2	0	0	1	1	0	0	8
E	0	0	0	0	0	7	5	3	0	0	0	0	0	0	15
ESE	0	0	0	0	0	1	3	1	0	0	0	0	0	0	5
SE	0	0	0	1	1	0	5	10	5	0	0	0	0	0	22
SSE	0	0	0	0	0	0	2	12	9	1	0	0	0	0	24
S	0	0	0	0	0	0	1	3	1	0	0	0	0	0	5
SSW	0	0	0	0	1	0	3	4	5	1	0	0	0	0	14
SW	0	0	0	0	0	1	4	11	10	6	0	0	0	0	32
WSW	0	0	0	0	0	0	3	9	5	3	0	0	0	0	20
W	0	0	0	0	0	2	2	6	0	1	0	0	0	0	11
WNW	0	0	0	0	0	0	0	6	5	7	3	0	0	0	21
NW	0	0	0	0	0	0	0	8	9	13	5	0	0	0	35
NNW	0	0	0	0	0	0	2	7	9	5	0	0	0	0	23
999	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	0	0	0	1	7	22	62	128	76	48	24	1	0	0	369

CC1993.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	1	8	12	46	91	70	75	39	2	0	1 345
NNE	0	0	0	1	5	15	57	107	79	95	27	2	0	0 388
NE	0	0	1	3	2	18	35	91	68	59	21	3	0	0 301
ENE	1	0	0	1	12	15	40	68	26	18	2	2	0	0 185
E	0	0	1	1	7	21	47	48	18	0	0	1	0	0 144
ESE	0	0	1	1	6	16	27	36	10	10	0	0	0	0 107
SE	0	1	1	1	6	4	13	58	28	12	5	0	0	0 129
SSE	0	0	0	1	3	4	21	102	69	30	5	1	0	0 236
S	0	0	1	1	4	4	7	36	36	9	0	0	0	0 98
SSW	0	0	0	1	2	2	13	51	55	40	4	0	0	0 168
SW	0	0	0	1	2	5	24	80	54	49	7	1	0	0 223
WSW	0	0	0	0	2	4	20	68	44	3	0	0	0	0 141
W	0	0	0	0	4	6	18	43	13	14	2	0	0	0 100
WNW	0	0	0	1	5	6	6	30	44	33	11	0	0	0 136
NW	0	1	2	0	1	3	10	48	55	60	16	1	0	0 197
NNW	0	0	1	1	4	4	9	62	49	47	7	1	0	0 185
999	0	0	0	0	0	0	0	0	0	1	9	2	0	1 13
	1	2	8	15	73	139	393	1019	718	555	155	16	0	2 3096

CC1993.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	1	2	4	1	18	63	58	18	0	0	0	0 165
NNE	0	0	1	1	3	2	24	57	21	14	2	0	0	0 125
NE	0	0	2	2	3	9	22	37	13	18	0	0	0	0 106
ENE	0	0	0	1	4	8	12	36	7	2	1	0	0	0 71
E	0	1	2	1	4	9	28	32	5	1	1	0	0	0 84
ESE	0	4	0	5	2	3	19	37	8	1	0	0	0	0 79
SE	0	0	1	2	4	4	11	58	19	4	0	0	0	0 103
SSE	0	0	0	1	1	1	22	93	80	26	7	0	0	0 231
S	0	0	1	4	2	6	18	60	128	39	0	0	0	0 258
SSW	0	0	0	1	3	6	9	53	128	92	3	0	0	0 295
SW	0	0	0	1	2	3	14	78	122	75	2	0	0	0 297
WSW	0	0	0	2	3	1	11	81	66	15	0	0	0	0 179
W	0	0	3	1	3	3	13	38	20	12	0	0	0	0 93
WNW	0	0	0	0	1	7	11	66	58	20	2	0	0	0 165
NW	0	0	0	2	4	4	17	95	97	36	1	0	0	0 256
NNW	0	0	1	1	2	1	14	124	93	16	0	0	0	0 252
999	0	0	1	0	0	1	0	0	0	0	0	0	0	0 2
	0	5	13	27	45	69	263	1008	923	389	19	0	0	0 2761

CC1993.MET

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	1	1	2	2	4	4	9	12	1	1	0	0	0	0 37
NNE	0	0	1	1	2	2	4	5	4	0	0	0	0	0 19
NE	0	1	0	0	2	3	12	5	3	1	0	0	0	0 27
ENE	0	0	0	1	1	2	6	6	1	0	0	0	0	0 17
E	0	0	1	3	4	3	6	2	0	0	0	0	0	0 19
ESE	0	0	0	1	3	4	7	14	1	0	0	0	0	0 30
SE	0	0	1	2	1	5	8	18	4	0	0	0	0	0 39
SSE	1	0	0	0	1	4	7	30	21	1	0	0	0	0 65
S	0	1	0	0	2	4	6	26	81	2	0	0	0	0 122
SSW	0	0	1	1	1	1	12	38	73	5	0	0	0	0 132
SW	0	1	0	1	3	3	4	33	62	4	0	0	0	0 111
WSW	0	0	0	2	2	3	9	35	15	5	0	0	0	0 71
W	0	0	0	1	3	4	9	14	26	1	0	0	0	0 58
WNW	1	0	1	2	0	1	8	19	15	0	0	0	0	0 47
NW	0	0	0	0	0	1	4	17	22	4	0	0	0	0 48
NNW	0	0	0	0	1	0	4	20	9	0	0	0	0	0 34
999	0	0	0	1	0	0	0	0	0	0	0	0	0	0 1
	3	4	7	18	30	44	115	294	338	24	0	0	0	0 877

CC1993.MET
JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	2	2	2	1	5	9	9	0	0	0	0	0	0	30
NNE	1	0	0	1	2	2	3	1	0	0	0	0	0	0	10
NE	0	0	1	1	1	3	1	1	1	0	0	0	0	0	9
ENE	0	0	0	2	2	3	4	1	0	0	0	0	0	0	12
E	0	1	0	3	5	6	4	0	0	0	0	0	0	0	19
ESE	0	2	0	2	5	3	6	3	0	0	0	0	0	0	21
SE	0	0	1	1	8	2	9	15	2	0	0	0	0	0	38
SSE	0	0	1	1	4	3	10	11	5	0	0	0	0	0	35
S	0	1	0	0	0	5	13	26	28	2	0	0	0	0	75
SSW	0	1	1	2	2	2	7	34	35	2	0	0	0	0	86
SW	0	0	1	3	5	2	10	40	19	4	0	0	0	0	84
WSW	1	1	2	1	2	3	4	26	13	2	0	0	0	0	55
W	0	0	0	1	4	7	7	28	23	0	0	0	0	0	70
WNW	0	0	1	1	1	0	11	9	9	4	0	0	0	0	36
NW	0	1	1	2	1	3	3	10	11	4	0	0	0	0	36
NNW	0	2	0	1	2	8	7	13	3	0	0	0	0	0	36
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	11	11	24	45	57	108	227	149	18	0	0	0	0	652

CC1993.MET
JOINT FREQUENCY TABLE FOR 60M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
NE	0	0	0	0	0	1	1	0	1	0	0	0	0	2	5
ENE	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
E	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
SSE	0	0	0	0	0	0	0	0	1	0	0	0	0	3	4
S	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11
SSW	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
NNW	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
999	0	0	0	0	0	0	0	0	0	0	0	0	0	59	59
	0	0	0	2	2	1	2	0	2	0	0	0	0	88	97

CC1993.MET
JOINT FREQUENCY TABLE FOR 60M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	1	3	5	7	18	25	118	248	182	127	44	2	0	6	786
NNE	1	0	3	4	17	36	144	251	133	121	39	2	0	2	753
NE	0	1	4	6	9	40	99	153	93	79	28	7	0	2	521
ENE	1	0	0	6	24	38	84	117	34	20	6	4	0	0	334
E	0	2	4	9	21	56	123	96	23	1	1	1	0	0	337
ESE	0	6	1	10	18	29	76	112	21	11	0	0	0	0	284
SE	0	1	4	7	20	17	58	184	70	18	6	0	0	4	389
SSE	1	0	1	5	9	12	68	283	204	62	12	1	0	3	661
S	0	2	2	5	8	19	49	160	279	53	0	0	0	11	588
SSW	0	1	2	5	10	12	50	196	306	143	8	0	0	0	733
SW	0	1	1	6	12	14	60	264	293	153	9	1	0	0	814
WSW	1	1	2	5	9	12	48	248	150	32	0	0	0	2	510
W	0	0	3	3	14	22	49	139	84	28	3	0	0	0	345
WNW	1	0	2	4	7	14	36	144	144	71	18	0	0	0	441
NW	0	2	3	4	7	11	34	187	223	131	26	1	0	0	629
NNW	0	2	2	4	9	15	38	235	175	69	8	1	0	0	558
999	0	0	1	1	0	1	0	1	0	1	11	2	0	60	78
	6	22	40	91	212	373	1134	3018	2414	1120	219	22	0	90	8761

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 1

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	2	14	31	10	2	0	0	0	0	60
NNE	0	0	0	0	0	5	36	55	14	0	0	0	0	0	110
NE	0	0	0	0	0	11	28	13	2	3	0	0	0	0	57
ENE	0	0	0	0	4	6	19	1	0	0	0	0	0	0	30
E	0	0	0	0	1	9	19	4	1	0	0	0	0	0	34
ESE	0	0	0	0	0	4	19	6	0	0	0	0	0	0	29
SE	0	0	0	0	0	2	9	16	0	0	0	0	0	0	27
SSE	0	0	0	0	0	0	13	34	7	0	0	0	0	0	54
S	0	0	0	0	0	0	2	7	1	0	0	0	0	0	10
SSW	0	0	0	0	1	1	8	9	3	0	0	0	0	0	22
SW	0	0	0	0	0	1	4	26	15	0	0	0	0	0	46
WSW	0	0	0	0	0	0	5	14	3	0	0	0	0	0	22
W	0	0	0	0	0	0	1	7	0	1	0	0	0	0	9
WNW	0	0	0	0	0	0	1	11	2	4	0	0	0	0	18
NW	0	0	0	0	0	0	0	24	7	1	0	0	0	0	32
NNW	0	0	0	0	0	0	3	12	2	0	0	0	0	0	17
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	7	41	181	270	67	11	0	0	0	0	577

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 2

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	2	3	12	25	4	2	0	0	0	0	48
NNE	0	0	0	0	1	9	23	17	2	1	0	0	0	0	53
NE	0	0	1	0	2	6	11	10	0	0	1	0	0	0	31
ENE	0	0	0	0	4	1	6	2	1	2	0	0	0	0	16
E	0	0	0	0	1	4	11	1	0	0	0	0	0	0	17
ESE	0	0	0	0	1	1	4	3	0	0	0	0	0	0	9
SE	0	0	0	0	0	4	5	2	1	1	0	0	0	0	13
SSE	0	0	0	1	0	1	11	12	2	0	0	0	0	0	27
S	0	0	0	1	1	0	2	1	0	0	0	0	0	0	5
SSW	0	0	0	0	0	0	3	12	1	1	0	0	0	0	17
SW	0	0	0	0	0	0	2	11	5	0	0	0	0	0	18
WSW	0	0	0	0	0	1	8	15	1	0	0	0	0	0	25
W	0	0	0	0	0	0	1	2	3	0	0	0	0	0	6
WNW	0	0	0	0	1	0	3	7	5	0	0	0	0	0	16
NW	0	0	0	0	1	0	0	9	10	4	0	0	0	0	24
NNW	0	0	0	0	0	0	0	5	1	1	0	0	0	0	7
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	2	14	30	102	134	36	12	1	0	0	0	332

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 3

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	3	12	25	5	1	0	0	0	0	46
NNE	0	0	0	1	0	10	26	12	6	0	0	0	0	0	55
NE	0	0	0	0	2	5	4	14	11	1	0	0	0	0	37
ENE	0	0	0	0	1	4	5	1	0	3	0	0	0	0	14
E	0	0	0	0	2	2	9	0	0	0	0	0	0	0	13
ESE	0	0	0	0	1	1	0	1	0	0	0	0	0	0	3
SE	0	0	0	0	1	1	8	6	0	0	0	0	0	0	16
SSE	0	0	1	0	0	3	3	20	4	0	0	0	0	0	31
S	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4
SSW	0	0	0	0	0	1	3	7	1	0	0	0	0	0	12
SW	0	0	0	0	2	0	5	16	5	1	0	0	0	0	29
WSW	0	0	0	0	0	2	5	13	3	1	0	0	0	0	24
W	0	0	0	0	1	1	6	3	2	0	0	0	0	0	13
WNW	0	0	0	0	0	1	2	6	3	2	0	0	0	0	14
NW	0	0	0	0	0	0	4	10	20	4	0	0	0	0	38
NNW	0	0	0	0	0	0	3	12	4	1	0	0	0	0	20
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	1	10	35	96	148	64	14	0	0	0	0	369

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	0	3	15	21	68	120	65	24	0	0	0	0	317
NNE	0	0	0	4	11	44	104	113	41	4	0	0	0	0	321
NE	0	1	2	5	12	28	104	134	87	14	1	0	0	0	388
ENE	0	0	2	3	10	42	82	69	25	6	1	0	0	0	240
E	0	0	3	7	26	40	49	19	0	1	0	0	0	0	145
ESE	0	1	0	5	16	19	30	13	4	0	0	0	0	0	88
SE	0	3	2	5	10	16	30	41	12	3	0	0	0	0	122
SSE	0	1	1	2	6	12	56	93	22	5	1	0	0	0	199
S	0	1	0	2	5	14	30	65	13	1	0	0	0	0	131
SSW	0	2	0	2	6	11	22	79	33	9	0	0	0	0	164
SW	0	0	2	0	6	12	58	98	51	14	1	0	0	0	242
WSW	0	0	1	2	6	13	58	65	5	1	0	0	0	0	151
W	0	0	1	0	13	9	37	27	15	1	0	0	0	0	103
WNW	0	2	2	2	7	6	21	53	27	22	0	0	0	0	142
NW	0	0	0	2	6	5	36	66	48	16	0	0	0	0	179
NNW	0	0	1	1	5	10	43	54	42	6	0	0	0	0	162
999	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
	0	12	18	45	160	302	828	1109	490	127	4	0	0	1	3096

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	1	3	12	17	55	67	3	0	0	0	0	0	159
NNE	0	1	0	8	17	36	49	26	3	0	0	0	0	0	140
NE	0	2	1	3	16	16	21	20	10	0	0	0	0	0	89
ENE	0	3	1	4	14	10	27	12	2	0	0	0	0	0	73
E	0	2	4	4	17	23	16	8	0	1	0	0	0	0	75
ESE	0	2	6	9	15	19	13	5	0	0	0	0	0	0	69
SE	1	1	4	6	21	22	19	15	1	0	0	0	0	0	90
SSE	3	0	4	5	25	25	42	38	24	3	0	0	0	0	169
S	1	2	0	9	24	29	77	95	22	1	0	0	0	0	260
SSW	2	2	4	8	14	30	83	110	59	3	0	0	0	0	315
SW	3	2	2	5	16	26	101	179	42	2	0	0	0	0	378
WSW	0	7	4	8	19	25	59	56	8	0	0	0	0	0	186
W	1	5	3	6	18	19	37	18	6	0	0	0	0	0	113
WNW	1	5	3	17	25	23	39	37	6	2	0	0	0	0	158
NW	1	3	2	4	28	49	74	77	18	2	0	0	0	0	258
NNW	2	2	3	7	30	48	74	54	8	0	0	0	0	0	228
999	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	15	40	42	107	311	417	786	817	212	14	0	0	0	0	2761

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	2	5	3	1	2	3	1	0	1	0	0	0	0	0	18
NNE	0	1	3	6	6	4	6	0	0	0	0	0	0	0	26
NE	1	1	2	0	1	1	3	2	0	0	0	0	0	0	11
ENE	0	2	0	4	7	2	1	0	0	0	0	0	0	0	16
E	2	0	0	2	5	1	0	0	0	0	0	0	0	0	10
ESE	2	0	2	4	4	1	0	0	0	0	0	0	0	0	13
SE	2	3	1	2	11	4	3	0	0	0	0	0	0	0	26
SSE	1	5	1	4	8	11	2	1	0	0	0	0	0	0	33
S	0	5	4	8	19	21	24	8	0	0	0	0	0	0	89
SSW	4	5	4	17	30	35	54	14	1	0	0	0	0	0	164
SW	3	4	4	10	24	35	86	24	1	0	0	0	0	0	191
WSW	6	3	4	6	14	20	23	9	0	0	0	0	0	0	85
W	1	2	6	7	13	17	18	1	0	0	0	0	0	0	65
WNW	1	3	3	1	22	14	6	0	0	0	0	0	0	0	50
NW	0	2	5	6	10	22	17	2	0	0	0	0	0	0	64
NNW	1	1	0	4	1	8	0	0	0	0	0	0	0	0	15
999	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	26	42	42	82	177	200	244	61	3	0	0	0	0	0	877

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
NNE	0	1	1	1	2	0	1	0	0	0	0	0	0	0	6
NE	0	0	0	0	2	2	0	0	0	0	0	0	0	0	4
ENE	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
E	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
ESE	0	1	2	0	1	0	0	0	0	0	0	0	0	0	4
SE	0	1	2	2	0	0	2	0	0	0	0	0	0	0	7
SSE	1	6	3	0	6	3	0	0	0	0	0	0	0	0	19
S	1	5	6	2	17	7	6	0	0	0	0	0	0	0	44
SSW	2	5	9	17	26	35	18	1	0	0	0	0	0	0	113
SW	3	3	7	22	49	54	32	7	0	0	0	0	0	0	177
WSW	2	5	12	23	32	21	17	3	0	0	0	0	0	0	115
W	2	4	13	15	16	14	6	0	0	0	0	0	0	0	70
WNW	4	5	4	7	19	13	3	0	0	0	0	0	0	0	55
NW	2	7	3	5	5	3	5	0	0	0	0	0	0	0	30
NNW	0	2	0	1	0	1	0	0	0	0	0	0	0	0	4
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	17	46	62	97	176	153	90	11	0	0	0	0	0	0	652

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
NNE	0	0	0	1	0	0	0	0	0	0	0	0	0	13	14
NE	0	0	0	0	1	0	1	0	0	0	0	0	0	4	6
ENE	0	0	0	0	0	0	1	0	0	0	0	0	0	2	4
E	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
SSE	0	0	0	0	0	0	0	2	0	0	0	0	0	7	9
S	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
SSW	0	0	0	0	1	0	0	0	0	0	0	0	0	3	4
SW	0	0	0	0	1	0	0	0	0	0	0	0	0	2	3
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
W	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
999	0	0	0	1	0	0	0	0	0	0	0	0	0	25	26
	0	0	0	2	3	0	2	3	0	0	0	0	0	87	97

CC1993.MET

JOINT FREQUENCY TABLE FOR 10M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	2	7	4	8	33	49	162	268	88	29	0	0	0	7	657
NNE	0	3	4	21	37	108	245	223	66	5	0	0	0	13	725
NE	1	4	6	8	36	69	172	193	110	18	2	0	0	4	623
ENE	0	6	3	11	40	65	141	86	28	11	1	0	0	2	394
E	2	2	7	14	52	79	104	32	1	2	0	0	0	2	297
ESE	2	4	10	18	38	45	66	28	4	0	0	0	0	1	216
SE	3	8	9	15	43	49	76	80	14	4	0	0	0	7	308
SSE	5	12	10	12	45	55	127	200	59	8	1	0	0	7	541
S	2	13	10	22	66	72	142	178	36	2	0	0	0	9	552
SSW	8	14	17	44	78	113	191	232	98	13	0	0	0	3	811
SW	9	9	15	37	98	128	288	361	119	17	1	0	0	2	1084
WSW	8	15	21	39	71	82	175	175	20	2	0	0	0	2	610
W	4	11	23	28	61	60	106	58	26	2	0	0	0	2	381
WNW	6	15	12	27	74	57	75	114	43	30	0	0	0	0	453
NW	3	12	10	17	50	79	136	188	103	27	0	0	0	0	625
NNW	3	5	4	13	36	67	123	137	57	8	0	0	0	1	454
999	0	0	1	2	0	1	0	0	0	0	0	0	0	26	30
	58	140	166	336	858	1178	2329	2553	872	178	5	0	0	88	8761

cc1994.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	7	44	19	2	0	0	0	0	72
NNE	0	0	0	1	0	0	17	44	17	5	1	0	0	0	85
NE	0	0	0	0	1	2	5	10	4	1	0	0	0	0	23
ENE	0	0	0	0	0	4	13	5	0	0	0	0	0	0	22
E	0	0	0	0	1	6	20	9	0	0	0	0	0	0	36
ESE	0	0	0	0	0	2	13	24	1	0	0	0	0	0	40
SE	0	0	0	0	1	1	16	34	19	1	0	0	0	0	72
SSE	0	0	0	0	0	1	6	28	22	13	1	0	0	0	71
S	0	0	0	0	0	1	11	12	6	3	0	0	0	0	33
SSW	0	0	0	0	1	2	7	30	22	10	1	0	0	0	73
SW	0	0	0	0	0	1	9	38	25	8	0	0	0	0	81
WSW	0	0	0	0	0	1	4	16	8	2	0	0	0	0	31
W	0	0	0	0	0	1	0	2	3	0	0	0	0	0	6
WNW	0	0	0	0	0	1	1	0	5	12	1	0	0	0	20
NW	0	0	0	0	0	0	1	2	4	6	3	0	0	0	16
NNW	0	0	0	0	0	0	1	1	3	2	0	0	0	0	7
999	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	0	0	0	1	4	23	131	299	158	65	7	0	0	1	689

cc1994.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	7	39	14	0	0	0	0	0	60
NNE	0	0	0	0	0	3	22	23	8	4	0	0	0	0	60
NE	0	0	0	0	0	3	4	7	2	1	0	0	0	0	17
ENE	0	0	0	0	2	5	5	3	0	0	0	0	0	0	15
E	0	0	0	0	0	5	11	3	0	0	0	0	0	0	19
ESE	0	0	0	0	1	3	5	4	0	0	0	0	0	0	13
SE	0	0	0	0	0	2	4	7	5	1	0	0	0	0	19
SSE	0	0	0	0	0	1	3	12	11	5	0	0	0	0	32
S	0	0	0	0	0	3	1	3	2	2	0	0	0	0	11
SSW	0	0	0	0	0	0	5	17	16	7	0	0	0	0	45
SW	0	0	0	0	2	1	5	20	23	17	0	0	0	0	68
WSW	0	0	0	0	0	0	5	14	2	3	0	0	0	0	24
W	0	0	0	0	0	1	4	8	7	3	0	0	0	0	23
WNW	0	0	0	0	0	0	0	2	5	3	2	0	0	0	12
NW	0	0	0	0	0	0	0	0	4	5	3	0	0	0	12
NNW	0	0	0	0	0	0	0	6	8	5	0	0	0	0	19
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	5	27	81	168	107	56	5	0	0	0	449

cc1994.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	1	0	0	2	9	25	17	4	0	0	0	0	58
NNE	0	0	0	0	2	3	17	18	8	4	2	0	0	1	55
NE	0	0	0	0	4	3	7	5	4	0	0	0	0	0	23
ENE	0	0	0	0	2	2	8	6	0	0	0	0	0	0	18
E	0	0	0	0	1	4	4	1	0	0	0	0	0	0	10
ESE	0	0	0	1	1	2	6	2	0	0	0	0	0	0	12
SE	0	0	0	0	0	0	3	12	4	0	0	0	0	0	19
SSE	0	0	0	0	0	1	6	7	6	2	0	0	0	0	22
S	0	0	0	0	1	0	2	8	1	1	0	0	0	0	13
SSW	0	0	0	0	1	1	7	8	15	3	2	0	0	0	37
SW	0	0	0	0	0	3	3	24	16	10	0	0	0	0	56
WSW	0	0	0	0	0	1	4	16	4	6	0	0	0	0	31
W	0	0	0	0	0	1	1	7	6	2	0	0	0	0	17
WNW	0	0	0	1	0	0	2	7	11	8	1	0	0	0	30
NW	0	0	0	0	0	0	1	3	10	14	3	0	0	0	31
NNW	0	0	0	0	0	0	1	10	12	4	0	0	0	0	27
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	2	12	23	81	159	114	58	8	0	0	1	459

cc1994.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	2	1	2	3	12	22	86	93	106	17	2	0	11 357
NNE	0	1	1	1	8	14	36	53	81	110	31	4	0	10 350
NE	0	0	1	2	8	7	16	39	57	49	21	3	3	4 210
ENE	0	0	0	0	5	10	16	62	50	7	4	1	0	0 155
E	0	0	0	2	9	11	16	30	7	1	0	0	0	0 76
ESE	0	0	1	0	3	6	13	34	6	1	0	0	0	0 64
SE	0	0	0	2	4	10	16	43	14	8	1	0	0	0 98
SSE	0	0	0	2	1	3	21	66	63	29	1	0	0	0 186
S	1	2	1	3	9	3	14	37	35	11	1	0	0	0 117
SSW	0	0	0	3	6	4	22	56	70	52	2	0	0	0 215
SW	0	0	0	0	6	7	29	66	74	49	5	0	0	0 236
WSW	0	1	1	1	4	9	20	60	29	10	0	0	0	1 136
W	0	1	1	0	6	7	12	24	22	9	1	1	0	0 84
WNW	0	1	0	4	1	2	13	28	52	32	9	0	0	2 144
NW	0	1	0	2	5	3	11	54	93	87	12	0	0	1 269
NNW	0	0	0	1	7	6	11	64	101	82	12	0	0	4 288
999	0	0	0	0	1	0	0	2	2	3	3	0	0	87 98
	1	9	7	25	86	114	288	804	849	646	120	11	3	120 3083

cc1994.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	4	2	22	41	59	38	11	2	1	0 180
NNE	1	0	0	0	4	4	13	39	27	16	1	0	0	0 105
NE	0	0	0	3	1	1	11	41	5	2	2	1	1	0 68
ENE	0	0	0	3	4	5	18	16	7	0	0	0	0	0 53
E	0	0	1	3	4	5	19	23	6	0	0	0	0	0 61
ESE	0	1	0	0	5	4	14	21	2	2	0	0	0	0 49
SE	0	0	1	0	3	2	12	38	14	5	0	1	0	0 76
SSE	0	0	0	1	3	2	11	65	65	19	2	0	0	0 168
S	0	1	1	1	2	5	13	47	154	32	0	0	0	0 256
SSW	1	0	0	1	3	1	10	84	149	113	0	1	0	0 363
SW	0	0	0	0	2	3	20	76	139	88	0	0	0	0 328
WSW	0	1	0	0	4	4	16	54	58	13	0	0	0	0 150
W	0	0	0	1	1	3	15	46	20	3	0	0	0	1 90
WNW	0	0	0	0	3	7	13	45	48	11	2	0	0	3 132
NW	0	1	0	2	2	1	14	67	105	23	1	0	0	0 216
NNW	0	1	0	0	1	2	14	91	108	17	1	1	0	0 236
999	0	0	0	0	0	1	0	0	0	0	0	0	0	15 16
	2	5	3	15	46	52	235	794	966	382	20	6	2	19 2547

cc1994.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	1	0	0	1	1	5	17	3	2	0	0	0	0 30
NNE	1	0	0	1	0	1	6	8	4	0	0	0	0	0 21
NE	0	0	2	1	1	2	7	5	2	1	0	0	0	0 21
ENE	0	0	0	0	2	4	8	1	1	0	0	0	0	0 16
E	0	1	0	2	3	6	3	6	0	0	0	0	0	0 21
ESE	0	0	1	1	2	6	4	7	0	0	0	0	0	0 21
SE	0	1	0	0	1	4	12	16	7	0	0	0	0	0 41
SSE	0	0	1	0	0	3	9	28	30	2	1	0	0	0 74
S	0	0	0	0	2	3	9	26	66	13	0	0	0	0 119
SSW	0	0	0	2	2	2	3	27	105	25	0	0	0	0 166
SW	1	0	0	0	0	1	5	31	37	9	0	0	0	0 84
WSW	0	0	0	2	3	1	5	29	21	2	0	0	0	1 64
W	0	0	0	0	1	1	2	17	13	1	0	0	0	0 35
WNW	0	0	0	0	1	0	3	16	9	1	0	0	0	0 30
NW	1	0	0	0	2	0	5	22	28	5	0	0	0	0 63
NNW	0	0	1	0	4	1	3	19	20	0	0	0	0	0 48
999	0	0	0	0	0	0	0	0	0	0	0	0	0	5 5
	3	3	5	9	25	36	89	275	346	61	1	0	0	6 859

cc1994.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	2	2	1	1	5	11	10	2	0	0	0	0	0	34
NNE	1	1	0	1	0	5	1	4	1	1	0	0	0	0	15
NE	0	0	0	1	3	0	2	2	2	2	0	0	0	0	12
ENE	0	2	1	0	1	1	8	2	0	0	0	0	0	0	15
E	0	0	1	1	1	0	4	1	0	0	0	0	0	0	8
ESE	0	0	0	4	1	3	2	0	0	0	0	0	0	0	10
SE	0	0	0	0	2	4	3	2	2	0	0	0	0	0	13
SSE	1	2	1	0	6	2	4	8	2	1	0	0	0	0	27
S	0	0	0	1	3	4	13	32	36	5	0	0	0	0	94
SSW	0	0	1	1	2	4	7	35	30	14	0	0	0	0	94
SW	0	1	0	1	3	2	10	27	28	15	0	0	0	0	87
WSW	0	0	1	0	2	5	5	30	18	2	0	0	0	0	63
W	0	0	0	1	2	5	6	25	10	0	0	0	0	0	49
WNW	0	0	0	1	3	4	8	22	8	1	0	0	0	0	47
NW	0	1	0	0	2	4	7	13	11	1	0	0	0	0	39
NNW	0	0	1	0	2	2	13	15	9	0	0	0	0	0	42
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	9	8	13	34	50	104	228	159	42	0	0	0	0	649

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JOINT FREQUENCY TABLE FOR 60M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
NE	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
ENE	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
E	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
ESE	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SE	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
SW	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
WSW	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3
W	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
NNW	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
999	0	0	0	0	1	0	0	0	0	0	0	0	0	7	8
	0	0	0	4	2	2	9	1	0	0	0	0	0	7	25

cc1994.met

JOINT FREQUENCY TABLE FOR 60M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	5	4	3	9	22	83	262	207	152	28	4	1	11	791
NNE	3	2	1	4	14	30	113	189	146	140	35	4	0	11	692
NE	0	0	3	7	18	18	53	109	76	56	23	4	4	4	375
ENE	0	2	1	3	16	31	77	95	58	7	4	1	0	0	295
E	0	1	2	8	19	37	80	73	13	1	0	0	0	0	234
ESE	0	1	2	7	13	26	57	92	9	3	0	0	0	0	210
SE	0	1	1	2	12	23	66	152	65	15	1	1	0	0	339
SSE	1	2	2	3	10	13	60	214	199	71	5	0	0	0	580
S	1	3	2	5	17	19	63	165	300	67	1	0	0	0	643
SSW	1	0	1	7	15	14	62	257	407	224	5	1	0	0	994
SW	1	1	0	1	13	18	82	283	342	196	5	0	0	0	942
WSW	0	2	2	5	13	21	60	219	140	38	0	0	0	2	502
W	0	1	1	2	10	20	40	129	81	18	1	1	0	1	305
WNW	0	1	0	6	8	14	40	120	138	68	15	0	0	5	415
NW	1	3	0	5	11	8	39	161	255	141	22	0	0	1	647
NNW	0	1	2	1	14	12	43	206	261	110	13	1	0	4	668
999	0	0	0	0	2	1	0	2	2	3	3	0	0	115	128
	8	26	24	69	214	327	1018	2728	2699	1310	161	17	5	154	8760

cc1994.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	0	0	0	13	27	3	0	0	0	0	0	43	
NNE	0	0	0	0	2	0	33	41	0	0	0	0	0	0	76	
NE	0	0	0	0	0	3	18	28	6	0	0	0	0	0	55	
ENE	0	0	0	0	0	7	21	2	0	0	0	0	0	0	30	
E	0	0	0	0	0	6	22	3	0	0	0	0	0	0	31	
ESE	0	0	0	0	1	2	19	5	0	0	0	0	0	0	27	
SE	0	0	0	0	1	2	36	24	3	0	0	0	0	0	66	
SSE	0	0	0	0	2	0	18	41	21	1	0	0	0	0	83	
S	0	0	0	0	1	0	9	5	6	0	0	0	0	0	21	
SSW	0	0	0	0	2	3	13	30	13	1	0	0	0	0	62	
SW	0	0	0	0	1	4	23	49	13	2	0	0	0	0	92	
WSW	0	0	0	0	0	1	9	16	3	0	0	0	0	0	29	
W	0	0	0	0	1	0	1	5	0	0	0	0	0	0	7	
WNW	0	0	0	0	0	1	0	3	6	2	0	0	0	0	12	
NW	0	0	0	0	0	1	1	5	10	5	0	0	0	0	22	
NNW	0	0	0	0	0	0	0	2	3	1	0	0	0	0	6	
999	0	0	0	0	0	1	1	0	0	0	0	0	0	25	27	
	0	0	0	0	11	31	237	286	87	12	0	0	0	25	689	

cc1994.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	0	0	0	13	42	3	0	0	0	0	0	58	
NNE	0	0	0	0	0	6	21	22	0	0	0	0	0	0	49	
NE	0	0	0	0	1	3	15	15	3	0	0	0	0	0	37	
ENE	0	0	0	0	1	8	10	1	0	0	0	0	0	0	20	
E	0	0	0	0	1	7	10	1	0	0	0	0	0	0	19	
ESE	0	0	0	0	3	3	1	1	0	0	0	0	0	0	8	
SE	0	0	0	0	0	2	4	6	0	0	0	0	0	0	12	
SSE	0	0	0	0	2	2	4	22	6	1	0	0	0	0	37	
S	0	0	0	0	1	2	4	3	1	0	0	0	0	0	11	
SSW	0	0	0	0	1	2	7	15	15	0	0	0	0	0	40	
SW	0	0	0	0	0	2	12	36	16	1	0	0	0	0	68	
WSW	0	0	0	0	2	3	11	7	7	1	0	0	0	0	31	
W	0	0	0	0	1	2	4	13	3	0	0	0	0	0	23	
WNW	0	0	0	0	0	0	0	5	3	1	0	0	0	0	9	
NW	0	0	0	0	0	0	0	4	3	4	0	0	0	0	11	
NNW	0	0	0	0	0	0	0	4	7	0	0	0	0	0	11	
999	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	
	0	0	0	0	13	42	116	197	67	8	0	0	0	6	449	

cc1994.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	0	0	1	12	33	5	0	0	0	0	0	51	
NNE	0	0	0	0	2	5	28	18	2	0	0	0	0	0	55	
NE	0	0	0	0	4	4	17	11	3	0	0	0	0	0	39	
ENE	0	0	0	0	1	1	14	5	0	0	0	0	0	0	21	
E	0	0	0	1	3	2	7	0	0	0	0	0	0	0	13	
ESE	0	0	1	0	1	1	4	0	0	0	0	0	0	0	7	
SE	0	0	0	0	2	0	6	5	0	0	0	0	0	0	13	
SSE	0	0	0	0	1	3	7	15	3	0	0	0	0	0	29	
S	0	0	0	0	2	2	4	5	0	0	0	0	0	0	13	
SSW	0	0	0	0	0	1	6	14	5	1	0	0	0	0	27	
SW	0	0	0	0	2	3	14	34	14	1	0	0	0	0	68	
WSW	0	0	0	0	0	2	9	13	3	0	0	0	0	0	27	
W	0	0	0	0	0	2	1	11	5	0	0	0	0	0	19	
WNW	0	0	0	0	0	0	4	15	5	0	0	0	0	0	24	
NW	0	0	0	0	0	0	0	14	16	3	0	0	0	0	33	
NNW	0	0	1	0	0	1	2	7	2	1	0	0	0	0	14	
999	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	
	0	0	2	1	18	28	135	200	63	6	0	0	0	6	459	

cc1994.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	5	12	15	57	166	76	8	1	0	0	1	341
NNE	0	0	1	3	12	28	68	135	49	3	0	0	0	6	305
NE	0	0	1	1	9	20	48	118	85	14	3	1	0	4	304
ENE	0	0	0	2	9	12	57	99	18	7	1	0	0	0	205
E	0	1	1	10	17	15	27	14	0	0	0	0	0	0	85
ESE	0	1	1	3	6	14	20	11	0	0	0	0	0	0	56
SE	0	0	0	6	7	16	25	10	2	0	0	0	0	1	67
SSE	0	2	3	5	14	6	54	80	26	0	0	0	0	0	190
S	0	2	2	2	6	13	30	45	8	1	0	0	0	0	109
SSW	0	3	2	5	9	13	43	95	43	2	0	0	0	2	217
SW	1	2	2	7	15	21	57	113	56	8	0	0	0	0	282
WSW	0	1	1	5	9	18	36	51	11	1	0	0	0	1	134
W	0	0	0	4	8	7	31	24	5	2	0	0	0	0	81
WNW	0	0	1	7	5	14	25	57	22	9	0	0	0	0	140
NW	1	0	2	8	10	7	29	106	63	12	0	0	0	0	238
NNW	0	1	1	4	9	8	60	126	61	3	0	0	0	0	273
999	0	1	0	0	1	0	1	5	5	0	0	0	0	43	56
	2	14	18	77	158	227	668	1255	530	70	5	1	0	58	3083

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JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	1	4	12	19	57	68	20	5	1	0	0	0	188
NNE	1	0	2	4	16	21	44	22	1	0	0	0	0	0	111
NE	0	5	2	2	7	7	20	13	3	1	0	0	0	0	60
ENE	0	1	1	4	10	10	20	3	0	1	0	1	0	0	51
E	0	4	0	3	14	11	10	5	0	0	0	0	0	0	47
ESE	1	5	2	9	16	9	8	1	0	0	0	0	0	0	51
SE	2	4	2	9	12	13	12	5	0	1	0	0	0	0	60
SSE	1	4	3	4	19	24	30	24	5	2	0	0	0	1	117
S	1	1	4	9	11	24	77	88	10	0	0	0	0	0	225
SSW	1	4	4	10	20	34	115	145	44	3	0	0	0	0	380
SW	1	2	4	9	19	43	118	185	50	1	0	0	0	0	432
WSW	3	4	5	8	13	18	52	58	4	0	0	0	0	0	165
W	1	4	5	11	16	22	22	8	1	0	0	0	0	0	90
WNW	0	2	4	6	16	22	24	35	5	2	0	0	0	0	116
NW	0	1	0	5	24	33	90	71	9	1	0	0	0	0	234
NNW	0	2	3	6	19	26	63	44	0	0	0	0	0	0	163
999	0	0	0	0	0	1	0	0	0	0	0	0	0	56	57
	12	44	42	103	244	337	762	775	152	17	1	1	0	57	2547

cc1994.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	1	5	6	4	5	2	0	0	0	0	0	0	23
NNE	2	0	2	4	8	4	3	2	0	0	0	0	0	0	25
NE	0	1	0	1	5	2	1	1	0	0	0	0	0	0	11
ENE	0	1	1	1	6	5	1	0	0	0	0	0	0	0	15
E	0	1	1	4	4	2	1	0	0	0	0	0	0	0	13
ESE	0	2	2	2	2	0	0	0	0	0	0	0	0	0	8
SE	2	2	0	6	5	3	1	0	0	0	0	0	0	0	19
SSE	1	5	1	9	14	9	10	0	1	0	0	0	0	0	50
S	1	3	6	7	13	20	26	6	0	0	0	0	0	0	82
SSW	0	4	3	9	28	39	91	37	0	0	0	0	0	0	211
SW	0	3	3	7	14	33	66	27	0	0	0	0	0	0	153
WSW	1	2	3	4	12	18	19	5	0	0	0	0	0	0	64
W	3	3	4	4	10	12	6	0	0	0	0	0	0	0	42
WNW	1	1	2	6	16	15	10	0	0	0	0	0	0	0	51
NW	1	0	0	5	8	12	32	5	0	0	0	0	0	0	63
NNW	2	2	0	0	3	5	1	0	0	0	0	0	0	0	13
999	0	0	1	0	0	0	0	0	0	0	0	0	0	15	16
	14	30	30	74	154	183	273	85	1	0	0	0	0	15	859

cc1994.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10													
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	1	0	0	1	1	1	0	0	0	0	0	0	0
NNE	0	0	1	4	0	4	6	1	0	0	0	0	0	16
NE	0	0	0	1	1	2	0	0	0	0	0	0	0	4
ENE	0	0	2	2	0	1	0	0	0	0	0	0	0	5
E	1	2	0	2	2	0	0	0	0	0	0	0	0	7
ESE	0	0	0	0	0	1	0	0	0	0	0	0	0	1
SE	1	1	0	0	0	1	1	0	0	0	0	0	0	4
SSE	0	2	4	2	2	3	2	0	0	0	0	0	0	15
S	1	1	4	2	15	7	14	0	0	0	0	0	0	44
SSW	1	2	2	14	31	27	31	6	0	0	0	0	0	114
SW	2	6	7	16	47	35	45	21	0	0	0	0	0	179
WSW	0	2	8	25	24	13	14	0	0	0	0	0	0	86
W	3	4	6	15	32	14	4	0	0	0	0	0	0	78
WNW	1	2	4	7	15	14	6	0	0	0	0	0	0	49
NW	1	0	0	0	3	6	7	0	0	0	0	0	0	17
NNW	0	0	1	0	2	0	0	0	0	0	0	0	0	3
999	0	0	0	0	0	0	0	0	0	0	0	0	23	23
	11	23	39	90	175	129	131	28	0	0	0	0	0	649

cc1994.met

JOINT FREQUENCY TABLE FOR 10M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10													
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	1	0	0	0	0	0	0	1
NE	0	0	0	1	0	0	0	0	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW	0	0	0	0	1	0	0	0	0	0	0	0	0	1
WSW	0	0	0	0	1	0	0	0	0	0	0	0	0	1
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	0	0	0	0	0	0	0	0	0	0	0	20	20
	0	0	1	1	2	0	1	0	0	0	0	0	0	25

cc1994.met

JOINT FREQUENCY TABLE FOR 10M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10													
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	2	2	14	31	40	158	338	107	13	2	0	0	708
NNE	3	0	6	15	40	68	204	241	52	3	0	0	0	638
NE	0	6	3	6	27	41	119	186	100	15	3	1	0	511
ENE	0	2	4	9	27	44	123	110	18	8	1	1	0	347
E	1	8	2	20	41	43	77	23	0	0	0	0	0	215
ESE	1	8	6	14	29	30	52	18	0	0	0	0	0	158
SE	5	7	3	21	27	37	85	50	5	1	0	0	0	242
SSE	2	13	11	20	54	47	125	182	62	4	0	0	0	521
S	3	7	16	20	49	68	164	152	25	1	0	0	0	505
SSW	2	13	11	38	91	119	306	342	120	7	0	0	0	1051
SW	4	13	16	39	99	141	335	465	149	13	0	0	0	1275
WSW	4	9	17	42	61	73	150	150	28	2	0	0	0	537
W	7	11	15	34	68	59	69	61	14	2	0	0	0	340
WNW	2	5	11	26	52	66	69	115	41	14	0	0	0	401
NW	3	1	2	18	45	59	159	205	101	25	0	0	0	618
NNW	2	5	6	10	33	40	126	183	73	5	0	0	0	483
999	0	1	1	0	1	2	2	5	5	0	0	0	193	210
	39	111	132	346	775	977	2323	2826	900	113	6	2	0	8760

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	3	33	18	9	0	0	0	0	63
NNE	0	0	0	0	0	2	5	34	26	4	0	0	0	0	71
NE	0	0	0	0	1	1	3	8	5	5	0	0	0	0	23
ENE	0	0	0	1	0	2	6	1	0	0	0	0	0	0	10
E	0	0	0	0	1	5	19	9	0	0	0	0	0	0	34
ESE	0	0	0	0	1	4	12	11	0	0	0	0	0	0	28
SE	0	0	0	0	1	1	8	34	6	5	0	0	0	0	55
SSE	0	0	0	0	0	1	6	41	16	3	0	0	0	0	67
S	0	0	0	0	1	0	6	10	3	0	0	0	0	0	20
SSW	0	0	0	0	0	2	5	21	11	1	0	0	0	0	40
SW	0	0	0	0	0	2	8	32	24	4	0	0	0	0	70
WSW	0	0	0	0	0	1	1	11	14	3	0	0	0	0	30
W	0	0	0	0	0	0	4	8	5	5	0	0	0	0	22
WNW	0	0	0	0	0	1	1	8	24	12	3	0	0	0	49
NW	0	0	0	0	0	0	1	0	13	10	0	0	0	0	24
NNW	0	0	0	0	0	0	0	1	1	2	0	0	0	0	4
999	0	0	0	0	2	0	2	4	5	0	0	0	0	2	15
	0	0	0	1	7	22	90	266	171	63	3	0	0	2	625

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	1	0	0	0	0	0	5	29	17	4	0	0	0	0	56
NNE	0	0	0	1	0	1	14	33	5	4	0	0	0	0	58
NE	0	0	0	0	0	2	14	6	7	0	0	0	0	0	29
ENE	0	0	0	0	0	1	3	2	0	0	0	0	0	0	6
E	0	0	0	0	1	3	9	3	0	0	0	0	0	0	16
ESE	0	0	0	0	0	0	2	2	1	0	0	0	0	0	5
SE	0	0	0	0	0	2	3	3	1	1	0	0	0	0	10
SSE	0	0	0	0	0	1	5	22	5	2	1	0	0	0	36
S	0	0	0	0	2	0	2	5	1	0	0	0	0	0	10
SSW	0	0	0	0	0	1	3	8	7	10	0	0	0	0	29
SW	0	0	0	0	0	1	9	20	9	5	2	0	0	0	46
WSW	0	0	0	0	1	0	1	7	10	4	1	0	0	0	24
W	0	0	0	0	0	1	0	7	3	2	0	0	0	0	13
WNW	0	0	0	0	0	0	1	13	11	9	5	0	0	0	39
NW	0	0	0	0	0	0	2	12	6	8	2	0	0	0	30
NNW	0	0	0	0	0	0	2	5	6	3	0	0	0	0	16
999	0	0	0	0	0	1	2	2	2	1	0	0	0	1	9
	1	0	0	1	4	14	77	179	91	53	11	0	0	1	432

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	1	10	34	13	3	0	0	0	0	61
NNE	0	0	0	0	0	3	10	30	7	5	2	0	0	0	57
NE	0	0	0	0	1	4	11	11	3	3	0	0	0	0	33
ENE	0	0	0	0	0	5	11	2	0	0	0	0	0	0	18
E	0	0	0	0	2	2	7	4	1	0	0	0	0	0	16
ESE	0	0	0	0	1	3	9	4	0	0	0	0	0	0	17
SE	0	0	0	0	0	0	4	6	0	2	0	0	0	0	12
SSE	0	0	0	0	0	2	3	19	8	6	0	0	0	0	38
S	0	0	0	0	0	3	1	9	2	0	0	0	0	0	15
SSW	0	0	0	0	0	2	5	11	12	4	0	0	0	0	34
SW	0	0	0	0	0	3	8	17	8	3	1	0	0	0	40
WSW	0	0	0	1	0	1	4	9	9	4	1	0	0	0	29
W	0	0	0	0	0	1	1	4	6	2	1	0	0	0	15
WNW	0	0	0	0	0	2	2	10	8	5	0	0	0	0	27
NW	0	0	0	0	0	0	2	11	9	12	3	0	0	0	37
NNW	0	0	0	0	0	0	1	8	6	0	0	0	0	0	15
999	0	0	0	0	1	1	2	3	0	0	0	0	0	0	7
	0	0	0	1	5	33	91	192	92	49	8	0	0	0	471

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	1	1	3	10	21	44	104	92	83	6	0	0	0 365
NNE	0	1	0	0	6	16	59	84	80	75	21	0	0	0 342
NE	1	0	1	2	7	15	31	60	86	54	8	0	0	0 265
ENE	0	0	2	0	12	15	44	83	46	15	0	0	0	0 217
E	0	0	0	7	8	15	33	53	28	3	0	0	0	0 147
ESE	0	0	1	3	1	5	23	45	14	0	0	0	0	0 92
SE	0	0	0	2	6	5	25	38	13	7	0	0	0	0 96
SSE	0	1	0	2	0	2	34	88	71	52	8	2	0	0 260
S	0	0	0	1	3	2	19	46	23	9	0	0	0	0 103
SSW	0	0	0	1	1	4	5	42	47	48	4	0	0	0 152
SW	0	0	1	0	6	8	19	58	52	32	4	0	0	0 180
WSW	0	0	0	2	8	7	20	43	32	15	1	0	0	0 128
W	0	0	0	4	9	7	14	33	24	13	1	0	0	0 105
WNW	0	0	0	2	6	9	17	64	70	61	18	1	0	0 248
NW	0	0	0	0	5	7	10	79	130	94	6	0	0	0 331
NNW	0	1	0	4	2	4	20	87	100	52	6	0	0	0 276
999	0	0	2	0	2	4	7	14	12	11	5	0	0	12 69
	1	4	8	33	92	146	424	1021	920	624	88	3	0	12 3376

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	1	4	9	12	51	46	26	5	0	0	0 154
NNE	0	2	1	1	0	4	13	35	15	16	2	0	0	0 89
NE	0	0	1	1	3	4	8	18	10	2	0	0	0	0 47
ENE	0	1	1	2	4	3	18	21	5	0	0	0	0	0 55
E	0	1	0	0	8	12	28	28	2	0	0	0	0	0 79
ESE	0	3	1	4	5	3	20	40	1	1	0	0	0	0 78
SE	0	0	0	1	6	4	18	58	12	2	0	0	0	0 101
SSE	0	0	0	1	6	4	8	59	56	19	4	0	0	0 157
S	0	0	0	1	2	2	9	81	114	50	0	0	0	0 259
SSW	1	0	0	1	3	4	8	46	113	66	2	0	0	0 244
SW	0	1	1	1	1	7	18	61	129	65	3	0	0	1 288
WSW	0	0	0	0	2	4	9	28	44	11	0	0	0	0 98
W	0	2	1	0	7	5	15	37	35	2	1	0	0	0 105
WNW	0	0	0	0	3	2	14	65	72	8	0	0	0	0 164
NW	0	0	1	1	0	3	11	105	83	12	0	0	0	0 216
NNW	0	0	0	0	2	6	9	76	67	13	0	0	0	0 173
999	0	0	0	2	1	1	6	38	14	0	0	0	0	8 70
	1	10	7	17	57	77	224	847	818	293	17	0	0	9 2377

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	1	0	0	0	4	7	16	8	6	0	0	0	0 42
NNE	1	1	0	0	1	3	2	13	2	0	0	0	0	0 23
NE	0	1	0	0	0	2	7	7	1	0	0	0	0	0 18
ENE	0	0	1	1	2	3	5	2	0	0	0	0	0	0 14
E	1	0	0	1	4	4	3	3	0	0	0	0	0	0 16
ESE	0	2	1	0	0	2	5	4	0	1	0	0	0	0 15
SE	0	0	0	1	3	2	6	16	2	0	0	0	0	0 30
SSE	0	0	1	0	4	1	11	24	16	1	0	0	0	0 58
S	0	0	0	1	4	2	7	35	55	4	0	0	0	0 108
SSW	0	0	2	2	1	3	10	29	58	2	0	0	0	0 107
SW	0	0	0	0	2	2	5	43	65	8	0	0	0	0 125
WSW	0	0	1	0	2	2	5	24	20	4	0	0	0	0 58
W	0	0	2	2	2	1	9	24	21	0	0	0	0	0 61
WNW	0	4	0	0	0	2	7	22	19	2	0	0	0	0 56
NW	1	1	0	2	0	0	6	27	27	4	0	0	0	0 68
NNW	0	0	0	0	3	2	10	34	8	0	0	0	0	0 57
999	0	0	0	1	0	0	6	8	3	0	0	0	0	1 19
	3	10	8	11	28	35	111	331	305	32	0	0	0	1 875

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	0	2	2	2	3	4	0	0	0	0	0	0	14
NNE	0	0	0	0	2	1	1	1	1	0	0	0	0	0	6
NE	0	0	0	1	5	1	0	2	1	0	0	0	0	0	10
ENE	0	0	1	2	1	2	5	0	0	0	0	0	0	0	11
E	1	0	2	1	6	4	2	0	0	0	0	0	0	0	16
ESE	0	0	0	1	3	2	4	0	0	0	0	0	0	0	10
SE	0	0	0	0	4	6	2	5	0	0	0	0	0	0	17
SSE	0	0	1	3	3	3	7	9	14	0	0	0	0	0	40
S	0	0	0	0	1	2	7	27	34	0	0	0	0	0	71
SSW	0	1	0	1	2	1	5	33	51	6	0	0	0	0	100
SW	0	0	0	2	1	1	12	29	19	4	0	0	0	0	68
WSW	0	0	0	0	0	0	6	27	17	1	0	0	0	0	51
W	0	1	0	0	1	1	4	13	14	2	0	0	0	1	37
WNW	0	0	1	2	1	0	9	15	12	0	0	0	0	0	40
NW	0	1	0	0	1	0	8	12	10	1	0	0	0	0	33
NNW	0	0	0	0	1	1	5	9	3	0	0	0	0	0	19
999	0	0	0	1	0	0	1	4	0	0	0	0	0	3	9
	1	4	5	16	34	27	81	190	176	14	0	0	0	4	552

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	0	0	0	0	0	0	0	0	0	0	0	0	48	48
	0	0	0	0	1	0	1	2	0	0	0	0	0	48	52

cc1995.met

JOINT FREQUENCY TABLE FOR 60M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	1	3	1	6	16	37	84	271	194	131	11	0	0	0	755
NNE	1	4	1	2	9	30	104	230	136	104	25	0	0	0	646
NE	1	1	2	4	17	29	74	112	113	64	8	0	0	0	425
ENE	0	1	5	6	19	31	92	111	51	15	0	0	0	0	331
E	2	1	2	9	30	45	101	100	31	3	0	0	0	0	324
ESE	0	5	3	8	11	19	75	106	16	2	0	0	0	0	245
SE	0	0	0	4	20	20	66	160	34	17	0	0	0	0	321
SSE	0	1	2	6	13	14	74	262	186	83	13	2	0	0	656
S	0	0	0	3	13	11	51	213	232	63	0	0	0	0	586
SSW	1	1	2	5	7	17	41	190	299	137	6	0	0	0	706
SW	0	1	2	3	11	24	79	260	306	121	10	0	0	1	818
WSW	0	0	1	3	13	15	46	149	146	42	3	0	0	0	418
W	0	3	3	6	19	16	48	126	108	26	3	0	0	1	359
WNW	0	4	1	4	10	16	51	197	216	97	26	1	0	0	623
NW	1	2	1	3	6	10	40	248	278	141	11	0	0	0	741
NNW	0	1	0	4	8	13	47	220	191	70	6	0	0	0	560
999	0	0	2	4	6	7	26	73	36	12	5	0	0	75	246
	7	28	28	80	228	354	1099	3028	2573	1128	127	3	0	77	8760

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	0	0	1	2	32	6	0	0	0	0	0	41	
NNE	0	0	0	0	0	1	17	47	5	0	0	0	0	0	70	
NE	0	0	0	0	0	3	9	17	8	0	0	0	0	0	37	
ENE	0	0	0	0	0	2	12	3	0	0	0	0	0	0	17	
E	0	0	0	0	0	5	18	6	0	0	0	0	0	0	29	
ESE	0	0	0	0	2	5	17	1	0	0	0	0	0	0	25	
SE	0	0	0	0	0	3	19	40	5	0	0	0	0	0	67	
SSE	0	0	0	0	1	1	13	42	6	0	0	0	0	0	63	
S	0	0	0	0	2	0	7	10	1	0	0	0	0	0	20	
SSW	0	0	0	0	3	4	12	25	2	0	0	0	0	0	46	
SW	0	0	0	0	1	3	14	35	12	0	0	0	0	0	65	
WSW	0	0	0	0	0	1	9	16	5	0	0	0	0	0	31	
W	0	0	0	0	0	2	4	13	6	0	0	0	0	0	25	
WNW	0	0	1	0	0	0	3	24	12	2	0	0	0	0	42	
NW	0	0	0	0	0	1	1	12	16	1	0	0	0	0	31	
NNW	0	0	0	0	1	0	0	4	1	0	0	0	0	0	6	
999	0	0	0	0	2	0	0	0	0	0	0	0	0	8	10	
	0	0	1	0	12	32	157	327	85	3	0	0	0	8	625	

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	0	0	1	11	36	6	0	0	0	0	0	54	
NNE	0	0	0	0	0	3	22	17	3	0	0	0	0	0	45	
NE	0	0	0	0	1	2	25	20	0	0	0	0	0	0	48	
ENE	0	0	0	0	0	2	8	3	1	0	0	0	0	0	14	
E	0	0	0	0	0	4	9	0	0	0	0	0	0	0	13	
ESE	0	0	0	0	1	2	2	1	0	0	0	0	0	0	6	
SE	0	0	0	0	0	2	8	5	1	0	0	0	0	0	16	
SSE	0	0	0	0	0	2	14	12	7	0	0	0	0	0	35	
S	0	0	0	0	1	0	4	4	0	0	0	0	0	0	9	
SSW	0	0	0	0	1	4	6	7	11	0	0	0	0	0	29	
SW	0	0	0	1	0	2	17	18	8	2	0	0	0	0	48	
WSW	0	0	0	0	0	0	6	9	3	3	0	0	0	0	21	
W	0	0	0	0	0	0	2	9	4	0	0	0	0	0	15	
WNW	0	0	0	0	0	0	5	14	8	3	0	0	0	0	30	
NW	0	0	0	0	0	1	2	17	9	6	0	0	0	0	35	
NNW	0	0	0	0	0	0	2	5	4	0	0	0	0	0	11	
999	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	
	0	0	0	1	4	25	143	177	65	14	0	0	0	3	432	

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10																
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999		
N	0	0	0	0	0	0	14	39	3	0	0	0	0	0	56	
NNE	0	0	0	0	1	3	19	19	4	0	0	0	0	0	46	
NE	0	0	0	0	2	5	16	17	3	0	0	0	0	0	43	
ENE	0	0	0	0	3	4	15	5	0	0	0	0	0	0	27	
E	0	0	0	0	2	6	8	2	0	0	0	0	0	0	18	
ESE	0	0	0	0	1	4	9	1	1	0	0	0	0	0	16	
SE	0	0	0	0	1	3	4	6	1	0	0	0	0	0	15	
SSE	0	0	0	0	0	1	8	18	5	1	0	0	0	0	33	
S	0	0	0	0	2	1	4	9	1	0	0	0	0	0	17	
SSW	0	0	0	0	0	2	8	18	5	0	0	0	0	0	33	
SW	0	0	0	1	1	3	16	19	3	1	0	0	0	0	44	
WSW	0	0	0	0	1	1	6	15	5	1	0	0	0	0	29	
W	0	0	0	0	1	1	4	3	3	1	0	0	0	0	13	
WNW	0	0	0	0	1	1	4	12	4	0	0	0	0	0	22	
NW	0	0	0	0	0	1	6	13	14	3	0	0	0	0	37	
NNW	0	0	0	0	0	2	3	13	2	0	0	0	0	0	20	
999	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
	0	0	0	1	16	38	144	209	54	7	0	0	0	2	471	

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	2	3	3	7	26	105	173	65	5	0	0	0	0	389
NNE	0	0	0	3	16	31	90	112	25	1	0	0	0	0	279
NE	0	0	0	2	10	19	69	157	63	1	0	0	0	0	321
ENE	0	0	1	3	14	35	100	103	11	0	0	0	0	0	267
E	0	0	2	7	17	30	50	34	1	0	0	0	0	0	141
ESE	0	0	3	4	18	22	37	14	0	0	0	0	0	0	98
SE	0	0	1	3	10	22	24	21	3	0	0	0	0	0	84
SSE	0	1	0	5	9	19	67	88	55	8	1	0	0	0	253
S	1	1	0	2	8	15	47	47	9	0	0	0	0	0	130
SSW	0	1	3	3	6	6	32	52	41	6	0	0	0	0	151
SW	0	0	2	1	6	22	49	83	34	4	0	0	0	0	202
WSW	0	1	1	3	12	11	33	56	12	2	0	0	0	0	131
W	0	0	2	6	10	20	18	49	9	1	0	0	0	0	116
WNW	0	0	1	1	20	14	31	94	41	18	0	0	0	0	220
NW	0	1	1	1	9	12	59	135	77	10	0	0	0	0	305
NNW	0	0	2	3	9	14	60	141	22	2	0	0	0	0	253
999	0	0	0	1	1	0	1	8	10	5	0	0	0	10	36
	1	7	22	51	182	318	872	1367	478	63	1	0	0	14	3376

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	1	8	17	15	35	64	8	1	0	0	0	0	150
NNE	0	2	0	2	12	16	30	25	3	0	0	0	0	0	90
NE	0	2	1	4	5	3	14	9	2	0	0	0	0	0	40
ENE	0	0	1	3	7	13	19	8	0	0	0	0	0	0	51
E	1	0	2	11	30	13	16	2	0	0	0	0	0	0	75
ESE	0	0	8	9	13	16	15	3	1	0	0	0	0	0	65
SE	0	3	5	6	25	21	13	6	0	0	0	0	0	0	79
SSE	0	2	2	12	26	25	31	41	11	2	0	0	0	0	152
S	1	1	7	14	18	23	91	103	12	0	0	0	0	0	270
SSW	0	3	5	12	22	26	76	110	31	3	0	0	0	0	288
SW	0	2	3	5	15	26	82	169	30	0	0	0	0	0	332
WSW	1	3	4	8	18	20	48	26	2	0	0	0	0	0	130
W	0	3	3	10	20	23	35	25	3	0	0	0	0	0	122
WNW	1	3	3	8	21	22	56	44	2	1	0	0	0	0	161
NW	1	1	4	9	18	29	91	58	3	0	0	0	0	0	214
NNW	1	2	2	6	11	19	68	36	0	0	0	0	0	0	145
999	0	0	0	1	0	0	0	1	0	0	0	0	0	11	13
	6	28	51	128	278	310	720	730	108	7	0	0	0	11	2377

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	2	6	4	3	9	0	0	0	0	0	0	24
NNE	0	3	1	1	4	11	7	1	1	0	0	0	0	0	29
NE	1	0	2	7	3	3	2	0	0	0	0	0	0	0	18
ENE	0	0	2	2	0	4	7	0	0	0	0	0	0	0	15
E	0	2	0	2	1	2	0	0	0	0	0	0	0	0	7
ESE	0	3	4	3	4	1	1	0	0	0	0	0	0	0	16
SE	0	3	4	1	7	4	0	0	0	0	0	0	0	0	19
SSE	0	0	0	6	11	10	7	1	0	0	0	0	0	0	35
S	0	3	5	11	31	28	28	1	0	0	0	0	0	0	107
SSW	1	5	9	8	18	34	69	6	0	0	0	0	0	0	150
SW	2	3	2	9	16	31	85	18	0	0	0	0	0	0	166
WSW	2	2	3	5	17	21	26	5	0	0	0	0	0	0	81
W	0	1	2	6	11	11	11	0	0	0	0	0	0	0	42
WNW	1	6	2	7	21	26	16	2	0	0	0	0	0	0	81
NW	0	1	2	2	13	16	21	2	0	0	0	0	0	0	57
NNW	0	2	3	3	5	3	1	0	0	0	0	0	0	0	17
999	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11
	7	34	41	75	168	209	284	45	1	0	0	0	0	11	875

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	2	0	0	1	2	0	0	1	0	0	0	0	0	0	6
NNE	0	1	0	0	0	0	1	1	0	0	0	0	0	0	3
NE	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
ENE	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
E	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
ESE	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
SE	1	0	1	0	2	0	1	0	0	0	0	0	0	0	5
SSE	0	2	1	8	5	5	0	0	0	0	0	0	0	0	21
S	0	2	2	9	15	24	15	0	0	0	0	0	0	0	67
SSW	1	5	2	10	26	42	40	1	0	0	0	0	0	0	127
SW	2	4	5	12	20	44	45	2	0	0	0	0	0	0	134
WSW	1	3	5	10	13	28	16	0	0	0	0	0	0	0	76
W	0	3	3	13	17	19	6	1	0	0	0	0	0	0	62
WNW	0	3	0	1	8	10	6	0	0	0	0	0	0	0	28
NW	0	0	0	0	3	1	3	0	0	0	0	0	0	0	7
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	1	0	0	0	0	0	0	0	0	0	0	0	4	5
	8	27	20	66	115	174	133	5	0	0	0	0	0	4	552

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
WNW	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
NW	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
NNW	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
999	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44
	0	0	0	1	4	2	1	0	0	0	0	0	0	44	52

cc1995.met

JOINT FREQUENCY TABLE FOR 10M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	2	3	4	14	32	47	170	354	88	6	0	0	0	0	720
NNE	0	6	1	6	33	66	186	221	41	1	0	0	0	1	562
NE	1	3	3	13	23	35	135	220	76	1	0	0	0	0	510
ENE	0	2	5	8	25	60	161	122	12	0	0	0	0	0	395
E	2	2	4	21	50	60	101	44	1	0	0	0	0	0	285
ESE	0	3	15	17	40	50	81	20	2	0	0	0	0	0	228
SE	1	6	11	10	45	55	69	78	10	0	0	0	0	0	285
SSE	0	5	3	31	52	63	140	202	84	11	1	0	0	0	592
S	2	7	14	36	77	91	196	174	23	0	0	0	0	0	620
SSW	2	14	19	33	77	118	243	219	90	9	0	0	0	1	825
SW	4	9	12	29	59	131	308	344	87	7	0	0	0	1	991
WSW	4	9	13	26	61	82	144	127	27	6	0	0	0	0	499
W	0	7	10	35	60	76	80	100	25	2	0	0	0	1	396
WNW	2	12	7	17	71	74	121	190	67	24	0	0	0	0	585
NW	1	3	7	12	44	62	184	237	119	20	0	0	0	0	689
NNW	1	4	7	13	27	38	134	199	29	2	0	0	0	0	454
999	0	1	0	2	3	0	1	9	10	5	0	0	0	93	124
	22	96	135	323	779	1108	2454	2860	791	94	1	0	0	97	8760

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 1

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	3	20	14	1	1	0	0	0	39
NNE	0	0	0	0	1	0	6	24	16	4	1	0	0	0	52
NE	0	0	0	0	2	2	5	14	0	1	0	0	0	0	24
ENE	0	0	0	0	0	2	5	0	0	0	0	0	0	0	7
E	0	0	0	0	0	2	5	2	0	0	0	0	0	3	12
ESE	0	0	0	0	0	0	1	10	0	0	0	0	0	0	11
SE	0	0	0	0	1	0	0	21	10	1	0	0	0	0	33
SSE	0	0	0	0	0	1	5	15	17	9	0	0	0	0	47
S	0	0	0	0	0	2	3	9	2	2	1	0	0	0	19
SSW	0	0	0	0	0	2	5	28	13	11	3	0	0	0	62
SW	0	0	0	0	0	6	6	45	8	7	2	0	0	0	74
WSW	0	0	0	0	0	1	7	27	12	1	0	0	0	0	48
W	0	0	0	0	0	0	3	21	9	1	0	0	0	0	34
WNW	0	0	0	0	0	1	1	4	18	14	5	0	0	0	43
NW	0	0	0	0	0	0	0	3	10	10	2	0	0	0	25
NNW	0	0	0	0	0	1	0	0	1	7	0	0	0	0	9
999	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
	0	0	0	0	4	20	57	243	130	69	15	0	0	3	541

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 2

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	1	3	26	9	4	0	0	0	0	43
NNE	0	0	0	1	0	2	7	12	2	0	0	0	0	0	24
NE	0	0	0	0	0	1	3	5	2	1	1	0	0	0	13
ENE	0	0	0	0	0	2	4	0	0	1	0	0	0	0	7
E	0	0	0	0	0	2	6	0	0	0	0	0	0	1	9
ESE	0	0	0	0	0	0	1	5	1	1	0	0	0	0	8
SE	0	0	0	0	1	0	1	9	2	1	0	0	0	0	14
SSE	0	0	0	0	0	0	0	9	15	3	0	0	0	0	27
S	0	0	0	0	1	1	4	6	4	0	0	0	0	0	16
SSW	0	0	0	0	1	3	4	9	8	4	1	0	0	0	30
SW	0	0	0	0	2	1	0	21	6	3	1	0	0	0	34
WSW	0	0	0	0	0	0	5	12	3	0	1	0	0	0	21
W	0	0	0	0	0	0	4	10	13	2	2	0	0	0	31
WNW	0	0	0	0	0	0	1	15	17	8	3	0	0	0	44
NW	0	0	0	0	0	1	0	5	19	10	2	0	0	0	37
NNW	0	0	0	0	1	0	1	6	4	0	0	0	0	0	12
999	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	0	0	0	1	6	14	44	150	105	38	11	0	0	2	371

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 3

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	3	15	40	8	5	1	0	0	0	73
NNE	0	0	0	0	4	5	8	16	5	2	0	0	0	0	40
NE	0	0	0	0	4	4	11	3	2	2	0	0	0	0	26
ENE	0	0	0	0	1	3	4	3	0	0	0	0	0	0	11
E	0	0	0	0	1	8	7	1	0	0	0	0	0	1	18
ESE	0	0	0	0	0	3	4	2	0	0	0	0	0	0	9
SE	0	0	0	0	0	3	5	4	3	2	0	0	0	0	17
SSE	0	0	0	0	1	1	6	23	14	6	0	0	0	0	51
S	0	0	0	0	2	1	5	5	3	0	0	0	0	0	16
SSW	0	0	0	0	0	3	2	15	3	8	3	0	0	0	34
SW	0	0	0	0	2	1	4	17	3	6	2	0	0	0	35
WSW	0	0	0	0	2	0	8	15	6	0	0	0	0	0	31
W	0	0	0	0	0	0	4	8	2	1	0	0	0	0	15
WNW	0	0	0	0	0	1	3	10	10	10	2	0	0	0	36
NW	0	0	0	1	0	0	2	8	8	13	2	0	0	0	34
NNW	0	0	0	1	0	0	1	9	6	5	0	0	0	0	22
999	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	0	0	0	2	18	36	89	179	73	60	10	0	0	2	469

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 4

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	1	1	0	6	5	14	59	107	78	99	32	8	0	2	412
NNE	0	0	2	0	7	17	56	82	52	39	19	18	2	0	294
NE	0	1	2	6	4	9	19	47	31	15	11	1	0	1	147
ENE	0	0	0	4	16	22	32	68	31	16	1	0	0	1	191
E	0	0	0	3	14	20	27	68	20	4	2	0	0	2	160
ESE	0	1	1	1	7	12	30	32	7	1	0	1	0	0	93
SE	0	0	0	0	5	6	25	55	30	9	10	0	0	0	140
SSE	0	0	0	2	4	11	46	109	101	49	10	1	0	0	333
S	0	2	1	3	2	4	23	58	24	31	6	0	0	0	154
SSW	0	0	1	3	6	8	14	49	45	67	7	0	0	1	201
SW	0	1	0	1	2	6	18	52	45	34	7	0	0	0	166
WSW	0	0	1	0	2	6	16	51	24	8	1	0	0	0	109
W	0	0	0	4	3	4	14	45	14	17	1	0	0	7	109
WNW	0	0	0	0	2	10	16	57	60	49	9	2	0	2	207
NW	0	1	2	2	4	5	11	62	94	86	15	0	0	2	284
NNW	0	1	2	2	8	5	22	84	83	67	3	1	0	1	279
999	0	0	0	0	0	0	0	3	0	0	0	0	0	3	6
	1	8	12	37	91	159	428	1029	739	591	134	32	2	22	3285

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 5

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	2	0	2	4	8	13	53	41	8	0	0	0	0	131
NNE	1	0	0	3	6	5	14	35	38	13	0	0	0	0	115
NE	0	0	1	3	4	4	13	36	23	2	0	0	0	0	86
ENE	0	1	0	1	1	7	12	21	4	0	0	0	0	5	52
E	0	0	1	3	5	11	21	29	4	2	0	0	0	6	82
ESE	0	2	0	3	6	5	13	34	11	0	2	1	0	10	87
SE	0	0	0	0	4	5	14	62	22	4	4	0	0	1	116
SSE	0	1	0	1	2	4	16	102	88	23	18	3	0	0	258
S	1	1	0	1	4	8	17	78	103	34	1	0	0	1	249
SSW	0	0	2	2	0	5	13	71	135	100	6	0	0	2	336
SW	1	3	3	3	6	2	14	57	85	66	2	0	0	0	242
WSW	1	1	0	2	3	3	12	45	54	8	0	0	0	1	130
W	0	3	1	1	3	3	13	50	41	6	0	0	0	2	123
WNW	0	1	0	2	1	3	14	69	91	13	0	0	0	5	199
NW	0	0	2	0	1	3	19	66	106	10	1	0	0	5	213
NNW	0	0	1	0	0	3	9	76	45	7	0	0	0	0	141
999	0	0	0	0	0	0	0	1	0	0	0	0	0	3	4
	4	15	11	27	50	79	227	885	891	296	34	4	0	41	2564

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 6

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	2	2	3	10	30	3	0	0	0	0	0	50
NNE	0	3	1	1	2	3	1	8	0	1	0	0	0	0	20
NE	0	0	0	0	2	1	3	3	5	1	0	0	0	0	15
ENE	1	0	0	1	3	3	5	2	0	0	0	0	0	0	15
E	0	0	0	1	1	2	6	0	0	0	0	0	0	0	10
ESE	0	1	0	0	4	6	6	5	0	0	0	0	0	0	22
SE	0	0	1	0	2	8	9	17	1	0	0	0	0	0	38
SSE	0	0	0	1	2	3	9	24	11	0	0	0	0	0	50
S	0	0	0	0	3	1	8	43	80	7	0	0	0	0	142
SSW	0	0	0	0	3	1	5	43	69	10	0	0	0	0	131
SW	1	1	0	1	1	1	7	47	39	3	1	0	0	0	102
WSW	0	0	1	0	3	3	1	24	17	5	0	0	0	0	54
W	0	0	0	0	0	7	5	15	21	1	0	0	0	0	49
WNW	0	1	0	0	1	0	5	29	18	0	0	0	0	0	54
NW	0	0	0	0	3	2	2	16	21	5	0	0	0	0	49
NNW	0	0	0	1	1	1	8	26	10	0	0	0	0	0	47
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	6	3	8	33	45	90	332	295	33	1	0	0	0	848

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	1	1	1	4	12	8	0	0	0	0	0	0	28
NNE	0	0	0	1	4	2	2	0	0	0	0	0	0	0	11
NE	0	0	0	1	0	4	0	0	0	0	0	0	0	0	5
ENE	0	2	0	1	4	0	2	0	0	0	0	0	0	0	9
E	1	0	2	3	1	5	0	0	0	0	0	0	0	0	12
ESE	0	0	1	2	1	1	4	2	0	0	0	0	0	0	11
SE	0	0	0	0	4	0	6	4	0	0	0	0	0	0	14
SSE	0	0	1	0	3	4	5	9	7	2	0	0	0	0	31
S	0	0	0	0	2	3	2	23	39	10	0	0	0	0	79
SSW	0	1	1	0	2	2	9	40	34	6	0	0	0	0	95
SW	0	0	0	1	2	1	8	37	14	5	0	0	0	0	68
WSW	0	0	0	1	4	1	8	13	13	2	0	0	0	0	42
W	0	0	0	2	2	3	3	15	14	1	0	0	0	0	40
WNW	0	1	0	1	3	2	10	14	6	2	0	0	0	0	39
NW	0	1	0	0	6	0	3	6	13	1	0	0	0	0	30
NNW	0	0	0	2	4	5	7	9	6	0	0	0	0	0	33
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	6	6	16	43	37	81	182	146	29	0	0	0	0	547

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
S	0	0	0	0	1	0	0	1	0	1	0	0	0	0	3
SSW	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
SW	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3
WSW	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
W	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	0	0	0	0	0	1	0	0	0	0	0	0	144	145
	0	0	0	0	1	3	3	5	1	2	0	0	0	144	159

cc1996.met

JOINT FREQUENCY TABLE FOR 60M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	1	4	1	11	13	33	115	284	153	117	34	8	0	2	776
NNE	1	3	3	6	24	34	94	179	113	59	20	18	2	0	556
NE	0	1	3	10	16	25	54	108	63	22	12	1	0	1	316
ENE	1	3	0	7	25	39	64	95	35	17	1	0	0	6	293
E	1	0	3	10	22	51	73	100	24	6	2	0	0	13	305
ESE	0	4	2	6	18	27	59	90	19	2	2	2	0	10	241
SE	0	0	1	0	17	22	60	172	68	17	14	0	0	1	372
SSE	0	1	1	4	12	25	87	291	253	92	28	4	0	0	798
S	1	3	1	4	15	20	62	223	255	85	8	0	0	1	678
SSW	0	1	4	5	12	24	52	256	307	206	20	0	0	3	890
SW	2	5	3	6	15	18	57	278	200	125	15	0	0	0	724
WSW	1	1	2	3	14	15	58	187	129	24	2	0	0	1	437
W	0	3	1	7	8	17	46	164	115	29	3	0	0	9	402
WNW	0	3	0	3	7	17	50	198	220	96	19	2	0	7	622
NW	0	2	4	3	14	11	37	166	271	135	22	0	0	7	672
NNW	0	1	3	6	14	15	48	210	155	86	3	1	0	1	543
999	0	0	0	0	0	0	3	4	0	0	0	0	0	152	159
	8	35	32	91	246	393	1019	3005	2380	1118	205	36	2	214	8784

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 1

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	8	19	4	1	0	0	0	1	33
NNE	0	0	0	0	1	1	10	27	1	0	0	0	0	2	42
NE	0	0	0	0	3	1	13	21	3	0	0	0	0	0	41
ENE	0	0	0	0	0	2	6	1	0	0	0	0	0	0	9
E	0	0	0	0	0	4	4	1	0	0	0	0	0	2	11
ESE	0	0	0	0	0	1	5	7	0	0	0	0	0	1	14
SE	0	0	0	0	0	1	2	22	1	0	0	0	0	0	26
SSE	0	0	0	0	1	1	3	33	13	0	0	0	0	0	51
S	0	0	0	0	2	2	7	11	2	0	0	0	0	0	24
SSW	0	0	0	0	1	0	12	22	7	8	0	0	0	0	50
SW	0	0	0	0	0	8	26	31	9	3	0	0	0	0	77
WSW	0	0	0	1	3	3	14	22	2	0	0	0	0	4	49
W	0	0	0	0	0	0	13	16	4	0	0	0	0	1	34
WNW	0	0	0	0	1	0	2	15	19	6	0	0	0	0	43
NW	0	0	0	0	0	0	1	15	10	3	0	0	0	1	30
NNW	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
999	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
	0	0	0	1	13	25	126	263	80	21	0	0	0	12	541

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 2

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	12	23	3	0	0	0	0	0	38
NNE	0	0	0	0	2	1	10	11	0	0	0	0	0	2	26
NE	0	0	0	0	0	1	10	4	2	0	0	0	0	0	17
ENE	0	0	0	0	0	1	8	2	1	0	0	0	0	1	13
E	0	0	0	0	0	2	4	0	0	0	0	0	0	1	7
ESE	0	0	0	0	1	1	1	2	0	0	0	0	0	0	5
SE	0	0	0	0	0	0	4	10	1	0	0	0	0	0	15
SSE	0	0	0	0	0	2	2	17	8	0	0	0	0	0	29
S	0	0	0	0	1	1	1	9	0	0	0	0	0	0	12
SSW	0	0	0	0	3	2	7	15	4	2	0	0	0	0	33
SW	0	0	0	0	0	1	12	13	6	1	0	0	0	0	33
WSW	0	0	0	0	1	0	7	12	0	1	0	0	0	0	21
W	0	0	0	0	0	0	5	15	3	1	0	0	0	4	28
WNW	0	0	0	0	0	0	8	24	7	5	0	0	0	0	44
NW	0	0	0	0	1	0	1	15	17	2	0	0	0	4	40
NNW	0	0	0	0	0	0	2	7	0	0	0	0	0	0	9
999	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	0	0	0	0	9	12	94	179	52	12	0	0	0	13	371

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 3

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	1	0	0	3	21	29	7	1	0	0	0	1	63
NNE	0	0	0	0	6	4	21	10	1	0	0	0	0	5	47
NE	0	0	0	0	1	8	14	9	1	0	0	0	0	3	36
ENE	0	0	0	0	3	3	13	1	0	0	0	0	0	1	21
E	0	0	0	0	1	6	6	0	0	0	0	0	0	0	13
ESE	0	0	0	0	1	1	4	0	0	0	0	0	0	1	7
SE	0	0	0	0	2	1	11	4	1	0	0	0	0	0	19
SSE	0	0	0	1	0	5	11	19	11	1	0	0	0	0	48
S	0	0	0	0	1	1	6	7	2	0	0	0	0	0	17
SSW	0	0	0	0	3	0	7	8	3	4	0	0	0	1	26
SW	0	0	0	0	2	3	8	17	9	3	0	0	0	1	43
WSW	0	0	0	0	2	1	8	12	0	0	0	0	0	1	24
W	0	0	0	0	0	3	10	8	1	0	0	0	0	0	22
WNW	0	0	0	0	1	1	5	14	10	2	0	0	0	0	33
NW	0	0	0	0	0	0	6	11	16	2	0	0	0	0	35
NNW	0	0	0	0	0	0	6	3	3	0	0	0	0	0	12
999	0	0	0	0	2	0	0	0	0	0	0	0	0	1	3
	0	0	1	1	25	40	157	152	65	13	0	0	0	15	469

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 4

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	4	13	32	102	134	94	29	3	0	0	6 417	
NNE	0	0	4	6	18	39	106	60	29	19	0	0	0	9 290	
NE	0	1	3	5	11	16	41	61	18	12	0	0	0	10 178	
ENE	0	0	1	3	20	33	56	63	12	0	0	0	0	13 201	
E	0	0	0	4	28	25	68	25	3	0	0	0	0	13 166	
ESE	0	1	2	5	12	23	18	8	1	0	0	0	0	8 78	
SE	0	1	3	4	11	25	29	35	9	8	0	0	0	21 146	
SSE	1	1	0	3	7	29	78	111	43	7	0	0	0	15 295	
S	0	0	1	6	12	15	49	55	31	5	0	0	0	3 177	
SSW	0	1	0	6	10	10	31	69	56	15	0	0	0	6 204	
SW	0	0	0	7	10	16	47	56	31	9	0	0	0	4 180	
WSW	1	1	1	2	6	12	42	41	5	1	0	0	0	4 116	
W	0	1	1	7	8	13	24	37	16	1	0	0	0	8 116	
WNW	0	1	0	1	10	15	32	60	41	9	1	0	0	9 179	
NW	0	0	2	11	5	15	50	136	73	17	0	0	0	4 313	
NNW	0	1	2	1	17	11	48	96	36	3	0	0	0	7 222	
999	0	0	1	0	0	0	0	0	0	0	0	0	0	6 7	
	2	9	21	75	198	329	821	1047	498	135	4	0	0	146 3285	

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 5

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	5	9	21	13	39	42	3	0	0	0	0	5 138	
NNE	1	3	0	5	15	17	38	31	0	0	0	0	0	0 110	
NE	0	1	2	3	8	13	19	20	0	0	0	0	0	0 66	
ENE	0	2	2	3	9	9	17	8	0	0	0	0	0	2 52	
E	0	1	5	9	12	15	18	1	2	0	0	0	0	5 68	
ESE	0	1	2	9	17	14	13	7	1	2	0	0	0	8 74	
SE	0	2	4	6	18	21	30	14	0	3	0	0	0	5 103	
SSE	0	3	5	10	32	35	51	57	9	20	0	0	0	2 224	
S	0	12	4	5	33	33	70	92	13	1	0	0	0	7 270	
SSW	0	3	5	9	26	30	100	106	35	4	0	0	0	14 332	
SW	3	5	5	6	15	31	82	118	32	2	0	0	0	16 315	
WSW	2	5	1	7	17	22	45	43	1	0	0	0	0	5 148	
W	3	3	5	6	27	15	42	33	1	0	0	0	0	5 140	
WNW	0	1	3	11	16	31	53	49	8	0	0	0	0	16 188	
NW	0	6	3	9	20	30	77	52	6	0	0	0	0	9 212	
NNW	3	1	6	2	12	18	53	18	0	0	0	0	0	3 116	
999	0	0	0	0	0	2	0	0	0	0	0	0	0	6 8	
	12	50	57	109	298	349	747	691	111	32	0	0	0	108 2564	

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 6

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	4	3	7	3	3	0	0	0	0	0	0	0	20
NNE	1	0	0	3	6	3	5	1	0	0	0	0	0	0	19
NE	0	1	1	1	5	4	3	0	0	0	0	0	0	0	15
ENE	0	0	1	4	4	4	1	0	0	0	0	0	0	0	14
E	0	1	2	5	3	1	3	0	0	0	0	0	0	0	15
ESE	0	0	1	2	4	3	0	0	0	0	0	0	0	0	10
SE	0	2	1	1	8	5	1	0	0	0	0	0	0	0	18
SSE	1	1	4	5	13	7	4	0	0	0	0	0	0	0	35
S	2	4	2	3	28	28	32	6	0	0	0	0	0	1	106
SSW	3	3	1	4	24	52	72	13	1	0	0	0	0	1	174
SW	2	4	5	2	20	31	66	16	0	0	0	0	0	0	146
WSW	2	3	3	6	14	25	24	4	0	0	0	0	0	2	83
W	1	1	4	4	12	21	14	1	0	0	0	0	0	3	61
WNW	0	1	0	5	16	12	9	0	0	0	0	0	0	2	45
NW	2	3	1	4	11	16	17	4	0	0	0	0	0	2	60
NNW	1	2	2	3	13	3	1	0	0	0	0	0	0	0	25
999	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	15	27	33	55	188	218	255	45	1	0	0	0	0	11	848

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	6	0	1	0	0	0	0	0	0	0	0	0	7
NNE	0	0	0	2	1	1	0	0	0	0	0	0	0	0	4
NE	0	1	1	0	3	0	0	0	0	0	0	0	0	0	5
ENE	0	0	0	3	5	2	2	0	0	0	0	0	0	0	12
E	0	1	0	0	2	1	0	0	0	0	0	0	0	0	4
ESE	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SE	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
SSE	0	1	1	4	5	2	0	0	0	0	0	0	0	0	13
S	0	5	0	1	10	13	7	0	0	0	0	0	0	2	38
SSW	1	6	6	5	19	37	42	3	0	0	0	0	0	3	122
SW	0	7	9	8	32	52	31	2	0	0	0	0	0	6	147
WSW	1	2	5	13	21	18	6	2	0	0	0	0	0	1	69
W	2	6	5	9	16	13	8	0	0	0	0	0	0	1	60
WNW	1	3	2	5	14	10	6	0	0	0	0	0	0	0	41
NW	0	0	0	1	3	7	8	0	0	0	0	0	0	0	19
NNW	0	0	2	0	1	1	0	0	0	0	0	0	0	0	4
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	32	38	52	133	157	110	7	0	0	0	0	0	13	547

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
NE	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
ESE	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
SSW	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
SW	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
WSW	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	0	1	0	0	0	0	0	0	0	0	0	0	144	145
	0	0	1	0	4	4	1	3	0	0	0	0	0	146	159

cc1996.met

JOINT FREQUENCY TABLE FOR 10M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	16	16	43	51	185	247	111	31	3	0	0	13	717
NNE	2	3	4	16	49	66	190	140	31	19	0	0	0	20	540
NE	0	4	7	9	31	44	100	115	24	12	0	0	0	13	359
ENE	0	2	4	13	41	54	103	76	13	0	0	0	0	17	323
E	0	3	7	18	46	55	103	27	5	0	0	0	0	21	285
ESE	0	2	5	17	36	43	41	24	2	2	0	0	0	18	190
SE	0	5	9	11	39	53	77	85	12	11	0	0	0	26	328
SSE	2	6	10	23	58	81	149	237	84	28	0	0	0	17	695
S	2	21	7	15	88	94	172	180	48	6	0	0	0	13	646
SSW	4	13	12	24	86	131	271	238	106	33	0	0	0	25	943
SW	5	16	19	23	79	143	272	253	87	18	0	0	0	27	942
WSW	6	11	10	29	65	81	146	136	8	2	0	0	0	17	511
W	6	11	15	26	63	65	116	110	25	2	0	0	0	22	461
WNW	1	6	5	22	58	69	116	162	85	22	1	0	0	27	574
NW	2	9	6	25	40	68	160	233	122	24	0	0	0	20	709
NNW	4	4	12	6	43	33	110	124	44	3	0	0	0	10	393
999	0	1	3	0	3	3	0	0	0	0	0	0	0	158	168
	34	118	151	293	868	1134	2311	2387	807	213	4	0	0	464	8784

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	6	33	107	33	8	7	0	0	0	194
NNE	0	0	0	0	2	8	38	82	19	6	5	0	0	0	160
NE	0	0	0	0	4	7	27	14	6	1	2	0	0	0	61
ENE	0	1	0	1	2	7	12	3	0	0	0	0	0	0	26
E	0	0	0	0	2	10	16	2	1	0	0	0	0	0	31
ESE	0	0	0	0	1	4	15	19	1	0	0	0	0	0	40
SE	0	0	1	1	1	3	13	32	6	2	0	0	0	0	59
SSE	0	0	0	0	0	0	9	45	25	6	0	0	0	0	85
S	0	0	0	0	1	0	7	19	4	2	0	0	0	0	33
SSW	0	0	0	0	1	2	17	36	18	11	1	0	0	0	86
SW	0	0	0	0	1	2	21	53	41	30	3	0	0	0	151
WSW	0	0	0	0	0	1	3	16	42	17	11	2	0	0	92
W	0	0	1	0	0	2	9	22	18	7	2	0	0	0	61
WNW	0	0	0	1	0	0	4	19	40	38	3	0	0	0	105
NW	0	0	1	0	1	0	3	11	32	49	6	1	0	0	104
NNW	0	0	0	0	0	1	5	12	15	8	0	0	0	0	41
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	3	3	17	55	245	518	276	179	31	1	0	0	1329

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	3	13	20	13	4	0	1	0	0	55
NNE	0	0	0	0	1	2	18	11	3	3	5	0	0	0	43
NE	0	0	0	1	3	5	10	5	2	3	1	0	0	0	30
ENE	0	0	0	0	0	7	7	2	0	0	0	0	0	0	16
E	0	0	0	0	3	7	6	1	0	1	0	0	0	0	18
ESE	0	0	0	0	0	2	4	4	0	0	0	0	0	0	10
SE	0	0	0	0	0	0	5	6	1	1	0	0	0	0	13
SSE	0	0	0	0	1	3	4	12	5	1	0	0	0	0	26
S	0	0	0	0	0	0	2	7	1	1	1	0	0	0	12
SSW	0	0	0	0	0	1	0	7	5	5	0	0	0	0	18
SW	0	0	1	0	2	3	3	11	4	8	1	0	0	0	33
WSW	0	0	0	0	0	2	1	12	10	5	0	0	0	0	30
W	0	0	0	0	0	3	6	7	4	0	0	0	0	0	20
WNW	0	0	0	0	0	0	2	13	10	4	3	0	0	0	32
NW	0	0	0	0	1	0	3	8	9	10	2	3	0	0	36
NNW	0	0	0	0	1	0	3	7	4	1	1	0	0	0	17
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	1	13	38	87	133	71	47	14	4	0	0	409

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	3	3	6	18	5	4	3	0	0	0	42
NNE	0	0	0	0	0	4	7	6	9	6	2	0	0	0	34
NE	0	0	0	1	3	6	9	9	4	3	5	0	0	0	40
ENE	0	0	0	0	3	2	8	3	0	1	0	0	0	0	17
E	0	0	0	1	4	6	4	4	1	0	0	0	0	0	20
ESE	0	0	0	0	2	2	2	0	0	0	0	0	0	0	6
SE	0	0	0	0	1	1	4	5	2	0	1	0	0	0	14
SSE	0	0	0	0	0	2	4	11	11	2	0	0	0	0	30
S	0	0	0	0	0	0	2	2	2	0	0	0	0	0	6
SSW	0	0	0	0	0	1	9	9	8	5	0	0	0	0	32
SW	0	0	0	0	1	2	9	16	11	8	2	0	0	0	49
WSW	0	0	0	0	1	0	8	15	7	8	0	0	0	0	39
W	0	0	0	0	0	2	4	6	8	2	1	0	0	0	23
WNW	0	0	0	0	1	0	4	12	4	3	3	0	0	0	27
NW	0	0	0	0	0	0	2	6	9	9	1	0	0	0	27
NNW	0	0	0	1	0	3	3	12	5	4	0	0	0	0	28
999	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	0	0	0	3	19	34	85	134	87	55	18	0	0	0	435

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	1	1	2	6	10	22	50	58	78	13	0	0	0 241
NNE	0	1	0	2	10	8	30	49	75	94	19	0	0	0 288
NE	0	1	1	4	2	8	20	40	54	75	28	0	0	1 234
ENE	0	0	2	5	7	7	23	71	44	16	2	0	0	3 180
E	0	1	1	1	14	11	23	67	20	2	0	0	0	1 141
ESE	0	1	4	0	2	6	14	27	6	0	0	0	0	0 60
SE	0	0	3	2	3	6	10	46	23	5	1	0	0	0 99
SSE	0	1	0	0	5	12	16	71	68	28	3	0	0	0 204
S	0	1	1	1	6	0	13	33	27	16	2	0	0	0 100
SSW	0	0	0	1	1	3	9	41	46	45	7	0	0	0 153
SW	0	0	0	0	2	4	14	50	63	59	6	0	0	0 198
WSW	0	0	2	0	1	4	15	36	33	20	1	0	0	0 112
W	0	1	0	1	1	7	21	30	21	5	1	0	0	0 88
WNW	0	1	1	2	3	5	16	49	39	28	7	1	0	1 153
NW	0	0	0	4	2	1	18	68	95	59	27	0	0	0 274
NNW	0	1	0	2	3	3	11	89	94	41	3	0	0	0 247
999	0	0	0	0	0	0	0	1	0	0	0	0	0	7 8
	0	10	16	27	68	95	275	818	766	571	120	1	0	13 2780

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	1	1	10	51	38	12	3	0	0	0 116
NNE	0	1	0	1	3	5	10	28	17	16	0	0	0	0 81
NE	0	0	0	2	4	5	16	23	7	4	0	0	0	0 61
ENE	0	1	0	1	2	1	9	23	2	0	0	0	0	1 40
E	0	0	0	0	2	7	22	20	0	0	0	0	0	4 55
ESE	0	1	1	0	2	5	15	16	6	1	0	0	0	10 57
SE	0	0	0	0	2	2	5	26	10	4	0	0	0	0 49
SSE	0	0	0	1	3	1	5	55	55	5	0	0	0	0 125
S	1	1	0	2	1	3	7	55	99	23	0	0	0	0 192
SSW	0	1	2	1	0	2	8	45	132	73	4	0	0	0 268
SW	0	0	0	3	3	4	4	42	122	100	0	0	0	0 278
WSW	0	0	0	1	4	0	9	43	58	13	0	0	0	0 128
W	0	0	0	1	1	2	5	56	48	5	0	0	0	0 118
WNW	0	0	0	1	0	2	14	76	70	16	1	0	0	0 180
NW	0	0	0	1	1	3	5	91	100	27	0	0	0	0 228
NNW	0	1	0	2	1	3	16	76	96	14	0	0	0	0 209
999	0	0	0	0	0	0	0	0	0	0	0	0	0	17 17
	1	6	3	17	30	46	160	726	860	313	8	0	0	32 2202

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	1	0	4	1	9	10	6	0	0	0	0	0 31
NNE	0	3	0	1	4	1	4	4	2	1	0	0	0	0 20
NE	0	0	0	0	2	2	8	6	5	0	0	0	0	0 23
ENE	0	0	0	0	1	4	3	4	1	0	0	0	0	0 13
E	0	0	0	1	5	2	3	3	2	0	0	0	0	0 16
ESE	0	0	1	1	2	6	6	5	1	0	0	0	0	0 22
SE	0	1	0	1	2	2	3	22	4	0	0	0	0	0 35
SSE	1	0	0	1	3	3	6	22	25	0	0	0	0	0 61
S	0	0	1	1	0	2	3	27	54	5	0	0	0	0 93
SSW	0	1	0	0	0	4	9	34	76	5	0	0	0	0 129
SW	0	0	0	0	2	0	6	35	65	9	0	0	0	0 117
WSW	0	0	0	0	1	2	8	20	31	0	0	0	0	0 62
W	0	0	0	0	0	1	9	21	21	0	0	0	0	0 52
WNW	0	0	0	0	0	1	2	30	20	2	0	0	0	0 55
NW	0	0	0	1	2	1	3	25	38	2	0	0	0	0 72
NNW	0	0	0	1	1	4	4	34	12	0	0	0	0	0 56
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0
	1	5	3	8	29	36	86	302	363	24	0	0	0	0 857

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	1	2	4	13	2	0	0	0	0	0	0	22
NNE	0	0	0	1	4	5	3	3	0	0	0	0	0	0	16
NE	0	0	0	2	3	3	1	0	0	0	0	0	0	0	9
ENE	0	2	0	1	3	0	0	1	0	0	0	0	0	0	7
E	0	0	1	2	4	1	0	0	0	0	0	0	0	0	8
ESE	0	0	0	1	3	1	3	0	0	0	0	0	0	0	8
SE	0	1	0	0	0	4	2	7	1	0	0	0	0	0	15
SSE	0	0	1	3	1	3	2	20	5	0	0	0	0	0	35
S	0	0	0	1	2	5	4	29	22	1	0	0	0	0	64
SSW	0	0	0	1	3	7	9	45	48	7	0	0	0	0	120
SW	0	0	0	1	4	2	10	41	36	5	0	0	0	0	99
WSW	0	0	0	2	1	4	10	40	24	3	0	0	0	0	84
W	0	0	0	2	3	1	14	38	15	2	0	0	0	0	75
WNW	0	0	0	0	1	0	12	26	13	0	0	0	0	0	52
NW	0	0	1	1	3	2	4	17	9	1	0	0	0	0	38
NNW	0	1	1	0	1	1	4	12	9	0	0	0	0	0	29
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	4	4	19	38	43	91	281	182	19	0	0	0	0	681

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
NNE	0	0	0	0	1	0	3	1	0	0	0	0	0	0	5
NE	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
ENE	0	0	0	0	1	1	0	0	0	0	0	0	0	1	3
E	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
ESE	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
SE	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
SSE	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
S	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
SSW	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3
SW	0	0	0	0	1	2	5	1	0	0	0	0	0	0	9
WSW	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
W	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
WNW	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
NW	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
NNW	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
999	0	0	0	0	0	0	1	1	0	0	0	0	0	24	26
	0	0	1	2	6	6	17	9	0	0	0	0	0	26	67

cc1997.met

JOINT FREQUENCY TABLE FOR 60M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	3	3	17	28	106	259	153	106	26	1	0	0	703
NNE	0	5	0	5	25	33	113	184	125	126	31	0	0	0	647
NE	0	1	1	10	21	36	92	97	78	86	36	0	0	2	460
ENE	0	4	2	8	19	29	62	107	47	17	2	0	0	5	302
E	0	1	2	5	34	45	74	97	24	3	0	0	0	5	290
ESE	0	2	6	2	12	27	59	71	14	1	0	0	0	10	204
SE	0	2	4	4	11	18	42	144	47	12	2	0	0	0	286
SSE	1	1	1	5	13	24	46	237	194	42	3	0	0	0	567
S	1	2	2	6	10	10	39	172	209	48	3	0	0	0	502
SSW	0	2	2	3	6	20	62	218	333	151	12	0	0	0	809
SW	0	0	1	4	16	19	72	249	342	219	12	0	0	0	934
WSW	0	0	2	3	9	15	68	209	180	60	3	0	0	0	549
W	0	1	1	5	5	18	69	180	135	21	4	0	0	0	439
WNW	0	1	1	4	5	9	55	226	196	91	17	1	0	1	607
NW	0	0	2	7	10	7	38	227	292	157	36	4	0	0	780
NNW	0	3	1	6	7	15	48	242	235	68	4	0	0	0	629
999	0	0	0	0	0	0	1	2	1	0	0	0	0	48	52
	2	26	31	80	220	353	1046	2921	2605	1208	191	6	0	71	8760

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 1

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	2	4	49	85	14	4	0	0	0	0	158
NNE	0	0	0	1	2	16	74	71	8	0	0	0	0	0	172
NE	0	0	0	0	1	7	53	29	3	1	0	0	0	0	94
ENE	0	0	0	0	1	12	16	3	0	1	0	0	0	0	33
E	1	0	0	1	1	12	19	2	0	0	0	0	0	0	36
ESE	0	0	0	0	2	7	19	6	0	0	0	0	0	0	34
SE	1	0	0	0	1	3	18	23	1	0	0	0	0	0	47
SSE	0	1	0	0	0	1	24	56	13	0	0	0	0	0	95
S	0	0	0	0	1	5	15	13	2	0	0	0	0	0	36
SSW	0	0	0	0	1	7	28	27	10	1	0	0	0	0	74
SW	0	0	0	0	2	13	36	63	36	4	0	0	0	0	154
WSW	0	0	0	1	1	4	30	42	11	2	0	0	0	0	91
W	0	1	0	0	1	9	15	31	6	2	0	0	0	0	65
WNW	0	0	0	1	0	2	15	42	39	4	0	0	0	0	103
NW	0	0	0	0	0	0	9	38	58	6	1	0	0	0	112
NNW	0	0	0	0	1	2	7	11	4	0	0	0	0	0	25
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	2	0	4	17	104	427	542	205	25	1	0	0	0	1329

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 2

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	4	16	23	5	2	0	0	0	0	51
NNE	0	0	0	0	0	9	17	10	6	0	0	0	0	0	42
NE	0	0	0	1	2	6	15	9	4	0	0	0	0	0	37
ENE	0	0	0	0	5	2	11	2	0	0	0	0	0	0	20
E	0	0	0	1	2	6	8	1	0	0	0	0	0	0	18
ESE	0	0	0	0	0	3	7	0	0	0	0	0	0	0	10
SE	0	0	0	0	2	0	6	1	0	0	0	0	0	0	9
SSE	0	0	0	0	1	2	13	10	2	0	0	0	0	0	28
S	0	0	0	0	0	1	5	2	1	1	0	0	0	0	10
SSW	0	0	0	0	1	2	3	6	4	0	0	0	0	0	16
SW	0	0	0	0	1	1	10	13	9	2	0	0	0	0	36
WSW	0	0	1	0	3	3	5	16	4	1	0	0	0	0	33
W	0	0	0	0	1	1	6	9	1	0	0	0	0	0	18
WNW	0	0	0	0	0	2	5	11	8	2	0	0	0	0	28
NW	0	0	0	0	1	2	5	17	6	5	2	0	0	0	38
NNW	0	0	0	0	0	2	5	7	1	0	0	0	0	0	15
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	2	20	46	137	137	51	13	2	0	0	0	409

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 3

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	1	5	2	20	12	7	2	0	0	0	0	49
NNE	0	0	0	1	2	4	12	10	2	0	0	0	0	0	31
NE	0	0	0	0	3	8	9	13	8	0	0	0	0	0	41
ENE	0	0	0	0	1	4	15	2	2	1	0	0	0	0	25
E	0	0	1	0	2	6	7	1	0	0	0	0	0	0	17
ESE	0	0	0	1	0	4	0	0	0	0	0	0	0	0	5
SE	0	0	0	0	3	3	5	3	0	0	0	0	0	0	14
SSE	0	0	0	1	0	1	8	14	5	0	0	0	0	0	29
S	0	0	0	0	1	3	4	4	1	0	0	0	0	0	13
SSW	0	0	0	0	1	4	4	10	0	1	0	0	0	0	20
SW	0	0	0	0	3	5	12	20	6	3	0	0	0	0	49
WSW	0	0	0	0	0	8	15	11	9	1	0	0	0	0	44
W	0	0	0	1	0	2	6	12	3	1	0	0	0	0	25
WNW	0	0	0	0	1	1	8	11	2	2	0	0	0	0	25
NW	0	0	0	0	1	3	6	13	5	3	0	0	0	0	31
NNW	0	0	0	0	0	3	1	9	4	0	0	0	0	0	17
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	5	23	61	132	145	54	14	0	0	0	0	435

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	3	1	13	21	41	118	58	8	0	0	0	0	263
NNE	1	2	2	4	24	26	39	96	33	2	0	0	0	0	230
NE	2	0	0	5	12	12	31	128	63	10	0	0	0	4	267
ENE	0	0	2	4	11	22	65	81	27	5	0	0	0	1	218
E	0	2	1	1	14	20	50	29	0	0	0	0	0	0	117
ESE	0	2	0	8	16	17	29	8	0	0	0	0	0	0	80
SE	0	0	3	2	3	14	30	25	5	0	0	0	0	0	82
SSE	0	0	0	1	9	17	51	85	21	2	0	0	0	0	186
S	0	2	1	8	10	11	34	35	11	1	0	0	0	0	113
SSW	1	2	1	0	8	11	29	52	24	6	0	0	0	0	134
SW	0	2	2	3	6	18	47	96	49	5	0	0	0	0	228
WSW	0	2	3	4	6	11	26	55	20	1	0	0	0	0	128
W	0	0	0	4	8	18	24	33	5	1	0	0	0	0	93
WNW	0	2	1	4	11	14	33	51	24	6	1	0	0	0	147
NW	2	2	1	6	11	21	53	119	56	21	0	0	0	0	292
NNW	0	1	1	4	8	18	55	94	16	2	0	0	0	0	199
999	0	0	0	0	0	0	1	0	0	0	0	0	0	2	3
	6	19	21	59	170	271	638	1105	412	70	1	0	0	8	2780

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	3	17	17	34	42	6	1	0	0	0	0	120
NNE	2	0	3	5	22	17	21	19	0	0	0	0	0	0	89
NE	1	1	2	1	9	6	13	18	0	0	0	0	0	0	51
ENE	0	1	0	4	6	5	16	4	0	0	0	0	0	1	37
E	0	1	2	6	13	10	12	0	0	0	0	0	0	4	48
ESE	0	1	5	9	12	9	7	1	0	0	0	0	0	9	53
SE	0	5	2	7	13	7	13	4	1	0	0	0	0	1	53
SSE	1	0	2	4	8	25	29	18	1	0	0	0	0	0	88
S	1	0	4	5	13	29	87	54	0	0	0	0	0	0	193
SSW	0	4	2	1	19	26	84	92	21	0	0	0	0	0	249
SW	2	0	3	9	21	19	94	166	40	0	0	0	0	0	354
WSW	1	3	4	8	16	24	51	40	14	0	0	0	0	0	161
W	0	4	5	10	21	18	41	38	0	0	0	0	0	0	137
WNW	1	5	1	9	21	34	49	60	4	1	0	0	0	0	185
NW	1	0	2	11	18	44	68	89	9	0	0	0	0	0	242
NNW	0	0	3	6	11	32	55	35	0	0	0	0	0	0	142
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10	25	40	98	240	322	674	680	96	2	0	0	0	15	2202

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	1	1	9	1	6	0	0	0	0	0	0	0	19
NNE	0	0	0	2	5	6	1	0	0	0	0	0	0	0	14
NE	0	0	0	3	2	2	2	4	0	0	0	0	0	0	13
ENE	0	1	0	0	0	4	0	0	0	0	0	0	0	0	5
E	0	0	2	2	0	1	2	2	0	0	0	0	0	0	9
ESE	1	1	0	3	2	0	0	0	0	0	0	0	0	0	7
SE	0	3	5	2	7	5	1	0	0	0	0	0	0	0	23
SSE	0	4	4	5	20	10	5	0	0	0	0	0	0	0	48
S	0	4	5	5	7	21	27	3	0	0	0	0	0	0	72
SSW	3	5	2	6	27	51	58	8	0	0	0	0	0	0	160
SW	4	0	5	4	30	31	101	17	0	0	0	0	0	1	193
WSW	2	3	0	2	15	25	28	1	0	0	0	0	0	0	76
W	1	3	5	7	13	18	12	1	0	0	0	0	0	0	60
WNW	0	4	3	5	11	14	24	0	0	0	0	0	0	0	61
NW	0	2	4	5	14	24	25	6	0	0	0	0	0	0	80
NNW	1	1	1	1	7	6	0	0	0	0	0	0	0	0	17
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12	32	37	53	169	219	292	42	0	0	0	0	0	1	857

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NE	1	0	1	0	2	0	0	0	0	0	0	0	0	0	4
ENE	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3
SSE	1	1	1	2	6	1	1	0	0	0	0	0	0	0	13
S	1	2	2	12	15	16	1	0	0	0	0	0	0	0	49
SSW	1	1	2	9	35	36	39	2	0	0	0	0	0	0	125
SW	2	2	6	12	41	71	71	4	0	0	0	0	0	0	209
WSW	1	3	4	16	38	28	31	1	0	0	0	0	0	0	122
W	1	4	6	14	24	14	6	0	0	0	0	0	0	0	69
WNW	2	3	2	7	17	15	6	0	0	0	0	0	0	0	52
NW	1	2	1	0	2	10	12	0	0	0	0	0	0	0	28
NNW	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11	19	25	77	184	191	167	7	0	0	0	0	0	0	681

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	1	0	1	4	2	0	0	0	0	0	0	1	9
ENE	0	0	0	0	1	1	2	0	0	0	0	0	0	1	5
E	0	0	0	0	0	0	2	0	0	0	0	0	0	3	5
ESE	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
SE	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
SSE	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3
S	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
SSW	0	0	0	1	1	2	0	0	0	0	0	0	0	0	4
SW	0	0	0	0	0	5	2	0	0	0	0	0	0	0	7
WSW	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
W	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
WNW	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
NW	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
NNW	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
999	0	0	0	0	0	0	0	2	0	0	0	0	0	17	19
	0	0	1	4	7	14	14	4	0	0	0	0	0	23	67

cc1997.met

JOINT FREQUENCY TABLE FOR 10M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	1	4	6	50	49	166	280	90	17	0	0	0	0	663
NNE	3	2	5	13	55	78	164	206	49	2	0	0	0	1	578
NE	4	1	4	10	32	45	125	201	78	11	0	0	0	5	516
ENE	0	2	2	9	26	50	125	92	29	7	0	0	0	3	345
E	1	3	6	11	32	55	100	35	0	0	0	0	0	7	250
ESE	1	4	5	22	33	40	62	15	0	0	0	0	0	9	191
SE	1	9	10	12	31	32	73	56	7	0	0	0	0	2	233
SSE	2	6	7	15	44	57	132	183	42	2	0	0	0	0	490
S	2	8	12	30	47	86	173	112	15	2	0	0	0	0	487
SSW	5	12	7	17	93	139	245	197	59	8	0	0	0	0	782
SW	8	4	16	28	104	163	373	379	140	14	0	0	0	1	1230
WSW	4	11	12	31	79	103	188	166	58	5	0	0	0	0	657
W	2	12	16	36	68	80	111	124	15	4	0	0	0	0	468
WNW	3	14	7	26	62	83	141	175	77	15	1	0	0	0	604
NW	4	6	8	22	47	104	178	283	134	35	3	0	0	0	824
NNW	1	2	5	14	27	64	124	156	25	2	0	0	0	0	420
999	0	0	0	0	0	0	1	2	0	0	0	0	0	19	22
	41	97	126	302	830	1228	2481	2662	818	124	4	0	0	47	8760

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 1

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	1	5	33	85	37	5	2	0	0	3
NNE	0	0	0	0	4	16	56	85	18	7	1	0	0	4
NE	0	0	0	2	4	11	36	17	1	0	0	0	0	71
ENE	0	0	0	1	2	8	25	7	0	0	0	0	0	43
E	0	0	1	1	4	12	45	11	1	0	0	0	0	75
ESE	0	0	0	0	1	2	14	14	0	0	0	0	0	2
SE	0	0	0	0	0	0	6	21	11	1	0	0	0	40
SSE	0	0	0	0	0	0	3	22	18	3	0	0	0	50
S	0	0	0	0	0	1	1	9	3	2	0	0	0	16
SSW	0	0	0	0	0	1	0	12	11	3	0	0	0	30
SW	0	0	0	0	1	0	0	25	18	8	1	0	0	53
WSW	0	0	0	0	0	1	1	21	7	1	2	0	0	3
W	0	0	0	0	0	0	1	4	9	2	0	0	0	18
WNW	0	0	0	0	0	0	0	0	7	1	0	0	0	8
NW	0	0	0	0	1	0	0	3	7	3	0	0	0	15
NNW	0	0	0	0	0	0	2	12	15	5	0	0	0	36
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	4	18	57	223	348	163	41	6	0	0	25

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 2

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	2	3	17	22	10	3	0	0	0	57
NNE	0	0	0	0	1	3	9	18	4	4	1	0	0	40
NE	0	0	1	0	1	2	9	8	0	0	0	0	0	21
ENE	0	0	0	0	0	3	2	2	0	0	0	0	0	7
E	0	0	0	0	1	2	9	2	0	0	0	0	0	14
ESE	0	0	0	1	2	2	8	8	0	0	0	0	0	22
SE	0	0	0	0	1	1	2	13	2	0	0	0	0	19
SSE	0	0	0	0	0	0	1	16	8	1	0	0	0	27
S	0	0	0	0	0	0	1	3	2	1	0	0	0	8
SSW	0	1	0	0	0	0	2	6	4	8	0	0	0	21
SW	0	0	0	0	0	0	4	8	10	5	0	0	0	28
WSW	0	0	0	0	0	1	0	5	5	0	0	0	0	12
W	0	0	0	0	0	0	0	3	2	0	0	0	0	5
WNW	0	0	0	0	0	0	0	3	6	8	0	0	0	19
NW	0	0	0	0	0	0	0	4	10	0	0	0	0	14
NNW	0	0	0	0	0	0	3	4	12	1	0	0	0	21
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	1	1	8	17	67	125	75	31	1	0	0	8

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 3

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	1	3	6	18	6	7	0	0	0	42
NNE	0	0	0	0	1	5	9	7	4	4	0	0	0	32
NE	0	0	0	1	1	4	7	7	2	2	0	0	0	24
ENE	0	0	0	0	0	2	10	4	0	0	0	0	0	16
E	0	1	0	0	1	4	6	4	1	0	0	0	0	17
ESE	0	0	0	1	0	1	4	2	0	0	0	0	0	8
SE	0	0	0	0	0	1	8	8	2	0	0	0	0	19
SSE	0	0	0	1	0	0	4	15	8	1	0	0	0	30
S	0	0	0	0	0	0	5	7	0	0	0	0	0	13
SSW	0	0	0	0	0	0	2	8	8	4	0	0	0	22
SW	0	0	0	0	0	2	4	16	20	3	0	0	0	46
WSW	0	0	0	0	1	0	4	19	3	1	0	0	0	28
W	0	0	0	0	0	0	0	6	8	1	0	0	0	16
WNW	0	0	0	0	0	0	1	3	10	4	0	0	0	19
NW	0	0	0	0	0	0	3	5	16	1	1	0	0	28
NNW	0	0	0	0	1	1	3	11	4	4	0	0	0	25
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	3	6	23	76	140	92	32	1	0	0	11

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	1	4	11	30	50	57	67	28	7	0	1	256
NNE	0	0	0	1	10	10	22	51	69	96	38	6	0	1	304
NE	0	0	1	2	8	8	20	49	50	36	8	1	0	0	183
ENE	0	1	1	1	8	12	21	55	9	1	0	0	0	0	109
E	0	0	1	2	9	13	22	59	7	1	0	0	0	0	114
ESE	0	1	0	2	2	9	21	64	13	2	2	0	0	0	116
SE	0	0	0	1	8	7	22	72	22	6	0	0	0	0	138
SSE	0	1	0	1	3	3	27	76	45	15	0	0	0	6	177
S	0	0	1	0	7	8	16	43	19	7	2	0	0	0	103
SSW	0	0	0	0	1	6	22	36	41	26	5	0	0	0	137
SW	0	0	2	1	3	9	33	71	32	29	1	0	0	1	182
WSW	0	0	0	0	3	10	29	69	25	4	0	0	0	5	145
W	0	0	0	2	7	7	24	58	30	7	1	0	0	0	136
WNW	1	0	1	2	6	5	16	56	58	28	2	0	0	1	176
NW	0	0	0	1	3	7	14	64	62	22	5	2	0	3	183
NNW	0	1	1	2	3	4	18	64	59	36	1	0	0	0	189
999	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15
	1	4	8	19	85	129	357	937	598	383	93	16	0	33	2663

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	1	2	4	17	47	30	7	4	0	0	1	113
NNE	0	0	0	0	2	7	5	39	46	16	3	4	0	1	123
NE	0	0	1	3	2	3	12	43	18	5	1	2	0	1	91
ENE	0	0	0	0	2	4	16	52	17	2	0	0	0	0	93
E	0	0	1	1	5	5	20	41	7	2	1	0	0	0	83
ESE	0	0	0	1	0	2	15	35	1	2	0	0	0	0	56
SE	0	0	0	0	2	2	14	59	13	6	3	0	0	0	99
SSE	0	0	0	1	4	8	14	90	71	22	2	0	0	2	214
S	0	0	1	0	5	2	23	81	88	22	1	0	0	12	235
SSW	0	0	2	3	0	0	7	60	138	77	4	0	0	5	296
SW	0	0	1	1	2	7	14	53	110	74	3	0	0	1	266
WSW	0	0	0	0	3	4	18	37	61	9	0	0	0	2	134
W	0	0	1	0	1	0	10	51	42	3	0	0	0	4	112
WNW	0	1	0	2	2	5	7	68	86	21	0	0	0	0	192
NW	0	0	0	1	4	4	17	108	89	27	6	0	0	3	259
NNW	0	0	1	0	4	2	15	102	90	20	1	0	0	3	238
999	0	0	0	1	0	1	1	0	0	0	0	0	0	27	30
	0	1	8	15	40	60	225	966	907	315	29	6	0	62	2634

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10															
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	2	6	1	13	22	2	1	0	0	0	1	48
NNE	0	0	0	1	1	2	2	7	3	0	0	1	0	0	17
NE	0	0	1	0	1	5	5	4	3	11	9	14	3	0	56
ENE	0	0	0	3	1	3	4	4	2	4	0	0	0	0	21
E	0	0	0	2	5	7	6	2	3	3	2	0	0	0	30
ESE	0	0	0	2	4	1	6	10	0	0	0	0	0	0	23
SE	0	0	0	2	3	0	7	16	3	0	0	0	0	1	32
SSE	0	0	0	1	1	4	9	20	29	3	0	0	0	3	70
S	0	0	0	2	1	4	17	43	42	5	0	0	0	3	117
SSW	0	0	0	1	3	0	6	36	75	14	2	0	0	1	138
SW	0	0	1	3	1	3	10	26	46	34	12	0	0	1	137
WSW	0	1	1	0	0	3	5	24	27	4	0	0	0	0	65
W	0	0	1	3	1	3	5	29	23	0	0	0	0	0	65
WNW	0	0	0	2	1	2	9	46	36	9	2	0	0	1	108
NW	0	0	0	1	3	1	5	38	53	32	19	0	0	8	160
NNW	0	0	0	1	3	2	4	36	18	1	0	0	0	3	68
999	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	0	1	4	26	35	41	113	363	365	121	46	15	3	23	1156

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND STABILITY CLASS 7

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	1	5	10	10	2	0	0	0	0	28
NNE	0	1	1	0	2	3	4	2	0	0	0	0	0	13
NE	0	1	1	0	3	2	2	0	0	1	0	0	0	10
ENE	0	0	1	0	2	5	3	3	0	0	0	0	0	14
E	0	0	0	0	4	5	2	0	1	0	0	0	0	12
ESE	0	0	0	0	4	2	2	1	0	0	0	0	0	9
SE	0	1	0	0	3	4	8	7	0	0	0	0	0	23
SSE	0	1	0	0	1	2	9	5	6	1	0	0	0	25
S	0	0	0	0	1	1	3	20	23	1	0	0	0	49
SSW	0	0	1	0	2	1	4	22	43	3	0	0	0	79
SW	0	0	0	3	2	6	10	38	19	3	0	0	0	85
WSW	0	0	0	1	3	5	10	31	16	1	0	0	0	69
W	0	1	0	1	3	3	7	26	11	1	0	0	0	56
WNW	0	0	0	1	1	2	7	18	17	1	0	0	0	55
NW	0	0	1	0	1	2	5	26	23	3	0	0	0	64
NNW	0	1	0	0	0	2	7	15	5	0	0	0	0	30
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	6	5	6	33	50	93	224	166	15	0	0	0	621

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND NO STABILITY CLASS

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	0	0	0	0	1	0	0	0	0	0	1
NNE	0	0	0	0	0	1	0	0	0	0	0	0	0	1
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	1	0	0	0	0	0	1
E	0	0	0	0	0	0	0	1	0	0	0	0	0	3
ESE	0	0	0	0	0	1	0	1	0	0	0	0	0	5
SE	0	0	0	0	0	1	0	0	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	1	3	0	0	0	0	0	0	5
SW	0	0	0	0	0	2	2	0	0	0	0	0	0	4
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	0	0	0	1	1	3	1	0	0	0	0	53	59
	0	0	0	0	1	7	8	5	0	0	0	0	59	80

cc1998.met

JOINT FREQUENCY TABLE FOR 60M AND ALL STABILITY CLASSES

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	0	4	17	32	126	255	144	90	34	7	0	716
NNE	0	1	1	2	21	47	107	209	144	127	43	11	0	721
NE	0	1	5	8	20	35	91	128	74	55	18	17	3	456
ENE	0	1	2	5	15	37	81	128	28	7	0	0	0	304
E	0	1	3	6	29	48	110	120	20	6	3	0	0	348
ESE	0	1	0	7	13	20	70	135	14	4	2	0	0	272
SE	0	1	0	3	17	16	67	196	53	13	3	0	0	371
SSE	0	2	0	4	9	17	67	244	185	46	2	0	0	593
S	0	0	2	2	14	16	66	206	177	38	3	0	0	541
SSW	0	1	3	4	6	9	46	180	320	135	11	0	0	728
SW	0	0	4	8	9	29	77	237	255	156	17	0	0	801
WSW	0	1	1	1	10	24	67	206	144	20	2	0	0	489
W	0	1	2	6	12	13	47	177	125	14	1	0	0	408
WNW	1	1	1	7	10	14	40	194	220	72	4	0	0	577
NW	0	0	1	3	12	14	44	248	260	88	31	2	0	723
NNW	0	2	2	3	11	11	52	244	203	67	2	0	0	607
999	0	0	0	1	1	2	4	1	0	0	0	0	0	105
	1	14	27	74	226	384	1162	3108	2366	938	176	37	3	8760

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 1
MAXIMUM VELOCITY TIMES 10

DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	1	4	47	81	7	3	0	0	0	2	145
NNE	0	1	0	0	6	18	73	55	4	0	0	0	0	1	158
NE	0	0	0	0	2	25	68	38	0	0	0	0	0	0	133
ENE	0	0	0	0	5	11	44	4	0	0	0	0	0	0	64
E	0	0	0	1	3	12	43	8	0	0	0	0	0	0	67
ESE	0	0	0	0	1	8	16	1	0	0	0	0	0	2	28
SE	0	0	0	0	0	4	15	29	1	0	0	0	0	0	49
SSE	0	0	0	0	0	1	8	27	6	0	0	0	0	0	42
S	0	0	0	0	0	0	5	12	1	0	0	0	0	0	18
SSW	0	0	0	0	2	2	6	22	1	0	0	0	0	0	33
SW	0	0	0	1	1	0	8	27	9	0	0	0	0	0	46
WSW	0	0	0	0	0	2	7	26	3	3	0	0	0	0	41
W	0	0	0	0	0	1	2	12	3	0	0	0	0	0	18
WNW	0	0	0	0	0	0	0	7	3	0	0	0	0	0	10
NW	0	0	0	0	0	0	1	8	1	0	0	0	0	0	10
NNW	0	0	0	2	0	1	5	15	1	0	0	0	0	0	24
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	4	21	89	348	372	40	6	0	0	0	5	886

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 2
MAXIMUM VELOCITY TIMES 10

DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	1	0	0	1	1	3	21	21	2	0	0	0	0	0	50
NNE	0	0	0	0	2	2	24	9	3	0	0	0	0	0	40
NE	0	0	0	0	0	5	16	10	0	0	0	0	0	0	31
ENE	0	0	0	0	1	3	9	1	0	0	0	0	0	0	14
E	0	0	0	0	1	3	8	1	0	0	0	0	0	0	13
ESE	0	0	0	0	3	5	5	5	0	0	0	0	0	0	18
SE	0	0	0	0	2	2	6	10	0	0	0	0	0	0	20
SSE	0	0	0	0	0	0	7	19	2	0	0	0	0	0	28
S	0	0	0	0	0	1	2	4	1	0	0	0	0	0	8
SSW	0	0	0	0	0	1	6	3	5	0	0	0	0	0	15
SW	0	0	0	0	0	2	5	15	6	0	0	0	0	0	28
WSW	0	1	0	0	0	0	5	8	1	0	0	0	0	0	15
W	0	0	0	0	1	0	2	4	0	0	0	0	0	0	7
WNW	0	0	0	0	0	0	3	7	6	0	0	0	0	0	16
NW	0	0	0	0	0	1	1	16	1	0	0	0	0	0	19
NNW	0	0	0	0	0	1	3	9	0	0	0	0	0	0	13
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	1	0	1	11	29	123	142	27	0	0	0	0	0	335

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 3
MAXIMUM VELOCITY TIMES 10

DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	2	5	12	21	7	0	0	0	0	0	47
NNE	0	0	0	0	2	5	11	5	1	0	0	0	0	0	24
NE	0	0	0	0	0	5	11	8	1	0	0	0	0	0	25
ENE	0	0	0	0	5	7	12	4	0	0	0	0	0	0	28
E	0	0	0	0	2	4	7	2	0	0	0	0	0	0	15
ESE	0	0	0	0	1	4	2	0	0	0	0	0	0	0	7
SE	0	0	0	0	2	3	9	7	0	0	0	0	0	0	21
SSE	0	0	0	1	0	2	9	18	1	0	0	0	0	0	31
S	0	0	0	0	0	2	6	3	0	0	0	0	0	0	11
SSW	0	0	0	0	0	1	7	11	3	0	0	0	0	0	22
SW	0	0	0	0	2	3	11	22	4	0	0	0	0	0	42
WSW	0	0	0	0	1	1	10	18	1	0	0	0	0	0	31
W	0	0	0	0	0	1	3	12	1	0	0	0	0	0	17
WNW	0	0	0	0	0	0	3	11	4	0	0	0	0	0	18
NW	0	0	0	0	0	0	5	17	3	1	0	0	0	0	26
NNW	0	0	0	0	1	3	4	8	4	0	0	0	0	0	20
999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	1	18	46	122	167	30	1	0	0	0	0	385

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 4

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	0	1	2	11	27	60	96	54	16	2	0	0	2 271
NNE	0	0	1	9	13	16	52	91	50	4	1	0	0	0 237
NE	0	0	2	3	15	15	44	109	49	4	0	0	0	0 241
ENE	0	1	1	1	9	20	57	43	3	0	0	0	0	0 135
E	1	3	3	5	18	19	43	11	0	0	0	0	0	0 103
ESE	0	2	1	4	19	27	44	16	2	0	0	0	0	0 115
SE	0	2	3	5	8	17	67	29	2	1	0	0	0	0 134
SSE	1	1	0	3	9	25	52	85	14	0	0	0	0	0 190
S	0	1	1	6	9	19	32	38	3	0	0	0	0	0 109
SSW	0	2	0	1	16	10	25	37	20	5	0	0	0	0 116
SW	0	0	0	3	10	25	62	69	25	4	0	0	0	0 198
WSW	1	1	0	5	13	20	55	55	3	0	0	0	0	0 153
W	0	1	1	2	10	25	43	51	7	1	0	0	0	0 141
WNW	0	1	2	3	14	16	42	63	30	0	0	0	0	0 171
NW	0	1	2	2	10	12	48	86	17	4	0	0	0	0 182
NNW	0	0	0	1	4	12	38	78	17	3	0	0	0	1 154
999	0	0	0	0	0	0	0	0	0	0	0	0	0	13 13
	3	16	18	55	188	305	764	957	296	42	3	0	0	16 2663

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 5

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	1	2	10	18	12	29	20	8	3	0	0	0	0 103
NNE	1	0	1	4	9	15	36	26	1	1	0	0	0	0 94
NE	0	2	2	5	4	6	28	36	10	6	1	0	0	0 100
ENE	0	1	2	2	12	12	36	32	2	0	0	0	0	0 99
E	0	2	3	5	19	20	21	12	1	0	0	0	0	0 83
ESE	1	2	3	4	7	18	13	1	2	0	0	0	0	0 51
SE	1	5	2	9	18	27	17	8	2	1	0	0	0	0 90
SSE	0	3	4	5	31	20	45	35	10	2	0	0	0	0 155
S	2	5	4	9	28	40	85	65	10	0	0	0	0	0 248
SSW	0	9	3	12	24	46	81	110	24	0	0	0	0	0 309
SW	0	2	0	13	35	32	79	137	31	4	0	0	0	0 333
WSW	0	1	4	11	14	22	66	47	2	1	0	0	0	0 168
W	0	4	4	8	23	26	45	32	1	0	0	0	0	0 143
WNW	0	1	3	10	17	30	60	40	8	1	0	0	0	0 170
NW	0	0	2	7	25	52	99	63	16	7	0	0	0	2 273
NNW	0	1	2	0	22	31	64	61	6	0	0	0	0	0 187
999	0	0	0	1	0	1	1	0	0	0	0	0	0	25 28
	5	39	41	115	306	410	805	725	134	26	1	0	0	27 2634

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 6

MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999
N	0	1	1	1	10	5	3	2	1	0	0	0	0	0 24
NNE	0	0	0	3	1	2	5	0	0	0	0	0	0	0 11
NE	0	0	1	5	1	0	2	5	8	15	8	0	0	0 45
ENE	0	1	0	5	2	1	1	5	5	2	0	0	0	0 22
E	0	1	2	2	2	1	1	5	3	0	0	0	0	0 17
ESE	1	1	1	1	4	2	1	0	0	0	0	0	0	0 11
SE	1	2	3	9	12	4	0	1	0	0	0	0	0	0 32
SSE	3	3	4	2	18	12	5	0	0	0	0	0	0	0 47
S	1	5	6	18	16	23	25	4	1	0	0	0	0	0 99
SSW	2	5	3	13	34	44	50	11	2	0	0	0	0	0 164
SW	3	8	5	10	30	36	66	32	15	12	0	0	0	1 218
WSW	4	1	5	4	22	26	28	1	0	0	0	0	0	0 91
W	2	2	6	9	28	22	26	0	0	0	0	0	0	1 96
WNW	0	2	2	3	30	31	30	7	2	1	0	0	0	0 108
NW	0	2	3	2	20	26	23	32	24	19	0	0	0	0 151
NNW	0	0	1	4	6	6	2	0	0	0	0	0	0	0 19
999	0	0	0	0	0	0	0	0	0	0	0	0	0	1 1
	17	34	43	91	236	241	268	105	61	49	8	0	0	3 1156

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND STABILITY CLASS 7

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	1	0	1	1	0	0	0	0	0	0	0	0	3
NNE	0	0	1	1	0	1	0	0	0	0	0	0	0	0	3
NE	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
ENE	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
E	0	3	0	0	0	1	0	1	0	0	0	0	0	0	5
ESE	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
SE	0	4	0	2	1	0	0	0	0	0	0	0	0	0	7
SSE	1	1	0	1	6	2	0	0	0	0	0	0	0	0	11
S	0	0	2	9	20	9	7	0	0	0	0	0	0	0	47
SSW	0	0	2	6	19	39	28	1	0	0	0	0	0	0	95
SW	2	4	4	9	54	58	43	0	0	0	0	0	0	0	174
WSW	1	3	6	11	30	31	11	0	0	0	0	0	0	0	93
W	0	2	4	10	38	31	9	0	0	0	0	0	0	0	94
WNW	1	2	1	4	19	16	3	0	0	0	0	0	0	0	46
NW	0	0	3	0	7	3	14	3	0	0	0	0	0	0	30
NNW	0	1	1	0	3	1	0	0	0	0	0	0	0	0	6
999	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	5	23	26	54	199	193	115	5	1	0	0	0	0	0	621

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND NO STABILITY CLASS

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
E	0	0	0	0	0	0	1	1	0	0	0	0	0	2	4
ESE	0	0	0	0	1	0	0	0	0	0	0	0	0	3	4
SE	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
SW	0	0	0	0	2	1	1	0	0	0	0	0	0	0	4
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999	0	0	0	0	1	2	4	1	0	0	0	0	0	52	60
	0	0	0	0	4	7	8	4	0	0	0	0	0	57	80

cc1998.met

JOINT FREQUENCY TABLE FOR 10M AND ALL STABILITY CLASSES

	MAXIMUM VELOCITY TIMES 10														
DIR	2	5	7	10	15	20	30	50	70	100	130	180	9998	9999	
N	1	2	5	14	44	57	172	241	79	22	2	0	0	4	643
NNE	1	1	3	17	33	60	201	186	59	5	1	0	0	1	568
NE	0	2	5	13	23	56	169	206	69	25	9	0	0	0	577
ENE	0	3	3	9	34	54	159	91	10	2	0	0	0	0	365
E	1	9	8	13	45	60	124	41	4	0	0	0	0	2	307
ESE	2	7	5	9	36	64	81	23	4	0	0	0	0	5	236
SE	2	13	8	25	43	58	114	84	5	2	0	0	0	0	354
SSE	5	8	8	12	64	62	126	184	33	2	0	0	0	0	504
S	3	11	13	42	73	94	162	126	16	0	0	0	0	0	540
SSW	2	16	8	32	95	145	204	195	55	5	0	0	0	0	757
SW	5	14	9	36	134	157	275	302	90	20	0	0	0	1	1043
WSW	6	7	15	31	80	102	182	155	10	4	0	0	0	0	592
W	2	9	15	29	100	106	130	111	12	1	0	0	0	1	516
WNW	1	6	8	20	80	93	142	135	53	2	0	0	0	0	540
NW	0	3	10	11	62	94	191	225	62	31	0	0	0	2	691
NNW	0	2	4	7	36	55	116	171	28	3	0	0	0	1	423
999	0	1	1	1	1	3	5	1	0	0	0	0	0	91	104
	31	114	128	321	983	1320	2553	2477	589	124	12	0	0	108	8760

ATTACHMENT E
ARCON96 OUTPUT FILES

ADV1AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/19/2003 at 09:43:30

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.2
Building Area (m^2) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m^3/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 294
Wind direction sector width (deg) = 90
Wind direction window (deg) = 249 - 339
Distance to intake (m) = 50.2
Intake height (m) = 13.9
Terrain elevation difference (m) = .0

Output file names

ADVIAC11.out
ADVIAC11.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20
Sector averaging constant = 4.3

Initial value of sigma y = .00
Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131
Hours of missing data = 1084
Hours direction in window = 16550
Hours elevated plume w/ dir. in window = 0
Hours of calm winds = 863
Hours direction not in window or calm = 51634

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720			
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.			
IN RANGE	17413.	21199.	26270.	33346.	39246.	50556.	66266.	66553.	67247.	67747.			
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.			
ZERO	51634.	47673.	42282.	34611.	29164.	17457.	739.	60.	0.	0.			
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.			
% NON ZERO	25.22	30.78	38.32	49.07	57.37	74.33	98.90	99.91	100.00	100.00			

95th PERCENTILE X/Q VALUES

2.33E-03 2.25E-03 2.12E-03 1.94E-03 1.57E-03 1.15E-03 6.51E-04 5.56E-04 4.71E-04 4.27E-04

95% X/Q for standard averaging intervals

0 to 2 hours 2.33E-03
2 to 8 hours 1.81E-03
8 to 24 hours 7.52E-04
1 to 4 days 4.86E-04
4 to 30 days 3.92E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	3.13E-03	2.17E-04
SECTOR-AVERAGE	1.83E-03	1.26E-04

NORMAL PROGRAM COMPLETION

ADV2AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/19/2003 at 09:44:05

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 224

Wind direction sector width (deg) = 90

Wind direction window (deg) = 179 - 269

Distance to intake (m) = 18.0

Intake height (m) = 13.9

Terrain elevation difference (m) = .0

Output file names

ADV2AC11.out

ADV2AC11.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 24257

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 43927

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25120.	28860.	33733.	40464.	45882.	54876.	66077.	66570.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	43927.	40012.	34819.	27493.	22528.	13137.	928.	43.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	36.38	41.90	49.21	59.54	67.07	80.68	98.62	99.94	100.00	100.00

95th PERCENTILE X/Q VALUES

1.84E-02	1.78E-02	1.72E-02	1.64E-02	1.32E-02	9.39E-03	6.04E-03	5.22E-03	4.51E-03	4.15E-03
----------	----------	----------	----------	----------	----------	----------	----------	----------	----------

95% X/Q for standard averaging intervals

0 to 2 hours	1.84E-02
2 to 8 hours	1.57E-02
8 to 24 hours	5.91E-03
1 to 4 days	4.92E-03
4 to 30 days	3.86E-03

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.26E-02	1.69E-03
SECTOR-AVERAGE	1.32E-02	9.85E-04

NORMAL PROGRAM COMPLETION

ADV1AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/19/2003 at 09:43:40

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 326

Wind direction sector width (deg) = 90

Wind direction window (deg) = 281 - 011

Distance to intake (m) = 24.1

Intake height (m) = 16.1

Terrain elevation difference (m) = .0

Output file names

ADV1AC13.out

ADV1AC13.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18670

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 49514

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720			
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.			
IN RANGE	19533.	23316.	28424.	35287.	40868.	51362.	66190.	66502.	67247.	67747.			
BELOW RANGE	0.	0.	0.	0.	0.	0.	56.	0.	0.	0.			
ZERO	49514.	45556.	40128.	32670.	27542.	16651.	815.	55.	0.	0.			
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.			
% NON ZERO	28.29	33.85	41.46	51.93	59.74	75.52	98.78	99.92	100.00	100.00			

95th PERCENTILE X/Q VALUES

9.48E-03 9.11E-03 8.73E-03 8.06E-03 6.56E-03 4.72E-03 2.73E-03 2.40E-03 2.07E-03 1.88E-03

95% X/Q for standard averaging intervals

0 to 2 hours 9.48E-03

2 to 8 hours 7.58E-03

8 to 24 hours 3.05E-03

1 to 4 days 2.07E-03

4 to 30 days 1.75E-03

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 1.31E-02 8.58E-04

SECTOR-AVERAGE 7.66E-03 5.00E-04

NORMAL PROGRAM COMPLETION

ADV2AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/19/2003 at 09:44:11

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 123

Wind direction sector width (deg) = 90

Wind direction window (deg) = 078 - 168

Distance to intake (m) = 24.1

Intake height (m) = 16.1

Terrain elevation difference (m) = .0

Output file names

ADV2AC13.out

ADV2AC13.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 10327

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 57857

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	11190.	14363.	18795.	25640.	31533.	43744.	64440.	66178.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	56.	0.	0.	0.
ZERO	57857.	54509.	49757.	42317.	36877.	24269.	2565.	379.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	16.21	20.85	27.42	37.73	46.09	64.32	96.17	99.43	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
8.35E-03	7.54E-03	6.48E-03	5.60E-03	4.44E-03	3.03E-03	1.72E-03	1.43E-03	1.18E-03	1.02E-03

95% X/Q for standard averaging intervals

0 to 2 hours	8.35E-03
2 to 8 hours	4.68E-03
8 to 24 hours	1.74E-03
1 to 4 days	1.28E-03
4 to 30 days	9.10E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.30E-02	1.30E-03
SECTOR-AVERAGE	7.57E-03	7.57E-04

NORMAL PROGRAM COMPLETION

ADVISWGI.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/19/2003 at 09:44:19

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.2
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 171
Wind direction sector width (deg) = 90
Wind direction window (deg) = 126 - 216
Distance to intake (m) = 20.0
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
ADVISWGI.out
ADVISWGI.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18583

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 49601

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720		
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19446.	23350.	28328.	34842.	40144.	50300.	65533.	66441.	67247.	67747.		
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	49601.	45522.	40224.	33115.	28266.	17713.	1472.	172.	0.	0.		
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.		
% NON ZERO	28.16	33.90	41.32	51.27	58.68	73.96	97.80	99.74	100.00	100.00		

95th PERCENTILE X/Q VALUES

1.26E-02 1.22E-02 1.16E-02 1.06E-02 8.58E-03 6.05E-03 3.51E-03 3.00E-03 2.58E-03 2.35E-03

95% X/Q for standard averaging intervals

0 to 2 hours 1.26E-02
2 to 8 hours 1.00E-02
8 to 24 hours 3.75E-03
1 to 4 days 2.66E-03
4 to 30 days 2.18E-03

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.66E-02	1.26E-03
SECTOR-AVERAGE	9.68E-03	7.35E-04

NORMAL PROGRAM COMPLETION

ADV2SWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
e-mail: jy11@nrc.gov
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e-mail: jjh@nrc.gov
L. A. Brown Phone: (301) 415 1232
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/19/2003 at 09:48:46

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 145

Wind direction sector width (deg) = 90

Wind direction window (deg) = 100 - 190

Distance to intake (m) = 64.3

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

ADV2SWG1.out

ADV2SWG1.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 12396

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 55788

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	13259.	16467.	21011.	27884.	33776.	45575.	64853.	66396.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	55788.	52405.	47541.	40073.	34634.	22438.	2152.	217.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	19.20	23.91	30.65	41.03	49.37	67.01	96.79	99.67	100.00	100.00

95th PERCENTILE X/Q VALUES

1.36E-03 1.29E-03 1.18E-03 1.03E-03 8.08E-04 5.39E-04 3.01E-04 2.57E-04 2.10E-04 1.86E-04

95% X/Q for standard averaging intervals

0 to 2 hours 1.36E-03
2 to 8 hours 9.15E-04
8 to 24 hours 2.96E-04
1 to 4 days 2.22E-04
4 to 30 days 1.68E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.93E-03	2.04E-04
SECTOR-AVERAGE	1.12E-03	1.19E-04

NORMAL PROGRAM COMPLETION

ADV1SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/19/2003 at 09:44:24

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 304

Wind direction sector width (deg) = 90

Wind direction window (deg) = 259 - 349

Distance to intake (m) = 64.3

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

ADV1SWG2.out

ADV1SWG2.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 16461

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 51723

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	17324.	20947.	25849.	32822.	38635.	49878.	66191.	66545.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	51723.	47925.	42703.	35135.	29775.	18135.	814.	68.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	25.09	30.41	37.71	48.30	56.48	73.34	98.79	99.90	100.00	100.00

95th PERCENTILE X/Q VALUES

1.45E-03	1.39E-03	1.32E-03	1.22E-03	9.95E-04	7.23E-04	4.09E-04	3.48E-04	2.96E-04	2.68E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.45E-03
2 to 8 hours	1.15E-03
8 to 24 hours	4.73E-04
1 to 4 days	3.04E-04
4 to 30 days	2.46E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.92E-03	1.36E-04
SECTOR-AVERAGE	1.12E-03	7.95E-05

NORMAL PROGRAM COMPLETION

ADV2SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
e-mail: jy11@nrc.gov
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/19/2003 at 09:48:51

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 278

Wind direction sector width (deg) = 90

Wind direction window (deg) = 233 - 323

Distance to intake (m) = 20.0

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

ADV2SWG2.out

ADV2SWG2.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17839

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 50345

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720			
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18702.	23250.	29012.	36755.	42920.	53832.	66476.	66613.	67247.	67747.			
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.			
ZERO	50345.	45622.	39540.	31202.	25490.	14181.	529.	0.	0.	0.			
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.			
% NON ZERO	27.09	33.76	42.32	54.09	62.74	79.15	99.21	100.00	100.00	100.00			

95th PERCENTILE X/Q VALUES

1.24E-02 1.18E-02 1.09E-02 9.86E-03 7.97E-03 5.76E-03 3.31E-03 2.81E-03 2.43E-03 2.22E-03

95% X/Q for standard averaging intervals

0 to 2 hours 1.24E-02
2 to 8 hours 9.03E-03
8 to 24 hours 3.71E-03
1 to 4 days 2.49E-03
4 to 30 days 2.05E-03

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 1.66E-02 1.07E-03
SECTOR-AVERAGE 9.68E-03 6.25E-04

NORMAL PROGRAM COMPLETION

ADV1TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:07:02

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.2
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 264
Wind direction sector width (deg) = 90
Wind direction window (deg) = 219 - 309
Distance to intake (m) = 37.5
Intake height (m) = .9
Terrain elevation difference (m) = .0

Output file names
ADV1TB.out
ADV1TB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 19977

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 48207

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	20840.	25825.	31948.	40035.	46268.	56472.	66453.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	48207.	43047.	36604.	27922.	22142.	11541.	552.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	30.18	37.50	46.60	58.91	67.63	83.03	99.18	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

3.70E-03 3.55E-03 3.34E-03 3.01E-03 2.41E-03 1.69E-03 1.04E-03 8.75E-04 7.52E-04 6.85E-04

95% X/Q for standard averaging intervals

0 to 2 hours 3.70E-03

2 to 8 hours 2.78E-03

8 to 24 hours 1.03E-03

1 to 4 days 8.24E-04

4 to 30 days 6.31E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 4.70E-03 3.49E-04

SECTOR-AVERAGE 2.74E-03 2.03E-04

NORMAL PROGRAM COMPLETION

ADV2TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:07:07

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 186

Wind direction sector width (deg) = 90

Wind direction window (deg) = 141 - 231

Distance to intake (m) = 37.5

Intake height (m) = .9

Terrain elevation difference (m) = .0

Output file names

ADV2TB.out

ADV2TB.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 23334

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 44850

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	24197.	28050.	32670.	38614.	43421.	52501.	65559.	66443.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	44850.	40822.	35882.	29343.	24989.	15512.	1446.	170.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	35.04	40.73	47.66	56.82	63.47	77.19	97.84	99.74	100.00	100.00

95th PERCENTILE X/Q VALUES

3.83E-03 3.72E-03 3.59E-03 3.39E-03 2.77E-03 2.01E-03 1.25E-03 1.07E-03 9.27E-04 8.53E-04

95% X/Q for standard averaging intervals

0 to 2 hours 3.83E-03

2 to 8 hours 3.25E-03

8 to 24 hours 1.32E-03

1 to 4 days 9.92E-04

4 to 30 days 7.92E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 4.70E-03 3.76E-04

SECTOR-AVERAGE 2.74E-03 2.19E-04

NORMAL PROGRAM COMPLETION

ADVIWR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:06:50

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 023
Wind direction sector width (deg) = 90
Wind direction window (deg) = 338 - 068
Distance to intake (m) = 62.9
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names

ADVIWR.out
ADVIWR.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17720

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 50464

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18583.	21774.	26240.	32641.	38145.	48434.	65369.	66454.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	50464.	47098.	42312.	35316.	30265.	19579.	1636.	159.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	26.91	31.62	38.28	48.03	55.76	71.21	97.56	99.76	100.00	100.00

95th PERCENTILE X/Q VALUES

1.40E-03	1.36E-03	1.28E-03	1.16E-03	9.56E-04	7.03E-04	4.37E-04	3.74E-04	3.05E-04	2.70E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.40E-03
2 to 8 hours	1.08E-03
8 to 24 hours	4.73E-04
1 to 4 days	3.48E-04
4 to 30 days	2.44E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.00E-03	1.41E-04
SECTOR-AVERAGE	1.17E-03	8.21E-05

NORMAL PROGRAM COMPLETION

ADV2WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:06:55

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.2

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 067

Wind direction sector width (deg) = 90

Wind direction window (deg) = 022 - 112

Distance to intake (m) = 62.9

Intake height (m) = 9.1

Terrain elevation difference (m) = .0

Output file names

ADV2WR.out

ADV2WR.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 12158

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 56026

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	13021.	16242.	20742.	27253.	32734.	43448.	63914.	66009.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	56026.	52630.	47810.	40704.	35676.	24565.	3091.	604.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	18.86	23.58	30.26	40.10	47.85	63.88	95.39	99.09	100.00	100.00

95th PERCENTILE X/Q VALUES

1.35E-03	1.28E-03	1.17E-03	1.04E-03	8.38E-04	5.99E-04	3.39E-04	2.84E-04	2.23E-04	1.89E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.35E-03
2 to 8 hours	9.39E-04
8 to 24 hours	3.78E-04
1 to 4 days	2.52E-04
4 to 30 days	1.66E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.00E-03	1.41E-04
SECTOR-AVERAGE	1.17E-03	8.21E-05

NORMAL PROGRAM COMPLETION

COD1AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:44:47

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 2.5

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 290

Wind direction sector width (deg) = 90

Wind direction window (deg) = 245 - 335

Distance to intake (m) = 92.6

Intake height (m) = 13.9

Terrain elevation difference (m) = .0

Output file names

COD1AC11.out

COD1AC11.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 16700

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 51347

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	17700.	21716.	27008.	34310.	40353.	51627.	66455.	66583.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	51347.	47156.	41544.	33647.	28057.	16386.	550.	30.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	25.63	31.53	39.40	50.49	58.99	75.91	99.18	99.95	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
6.88E-04	6.73E-04	6.42E-04	5.89E-04	4.81E-04	3.53E-04	2.01E-04	1.72E-04	1.47E-04	1.32E-04

95% X/Q for standard averaging intervals

0 to 2 hours	6.88E-04
2 to 8 hours	5.56E-04
8 to 24 hours	2.35E-04
1 to 4 days	1.50E-04
4 to 30 days	1.21E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	9.56E-04	7.84E-05
SECTOR-AVERAGE	5.57E-04	4.57E-05

NORMAL PROGRAM COMPLETION

COD2AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:45:13

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 2.5
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 181
Wind direction sector width (deg) = 90
Wind direction window (deg) = 136 - 226
Distance to intake (m) = 54.0
Intake height (m) = 13.9
Terrain elevation difference (m) = .0

Output file names
COD2AC11.out
COD2AC11.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 21981

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 46066

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	22981.	26854.	31581.	37668.	42642.	52044.	65690.	66453.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	46066.	42018.	36971.	30289.	25768.	15969.	1315.	160.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	33.28	38.99	46.07	55.43	62.33	76.52	98.04	99.76	100.00	100.00

95th PERCENTILE X/Q VALUES

2.01E-03 1.97E-03 1.92E-03 1.81E-03 1.48E-03 1.07E-03 6.45E-04 5.57E-04 4.78E-04 4.35E-04

95% X/Q for standard averaging intervals

0 to 2 hours 2.01E-03

2 to 8 hours 1.74E-03

8 to 24 hours 7.04E-04

1 to 4 days 5.03E-04

4 to 30 days 4.03E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 2.62E-03 2.41E-04

SECTOR-AVERAGE 1.53E-03 1.40E-04

NORMAL PROGRAM COMPLETION

COD1AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:45:01

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 2.5
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 300
Wind direction sector width (deg) = 90
Wind direction window (deg) = 255 - 345
Distance to intake (m) = 62.7
Intake height (m) = 16.1
Terrain elevation difference (m) = .0

Output file names
COD1AC13.out
COD1AC13.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 16446

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 51601

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	17446.	21164.	26121.	33102.	38935.	50173.	66311.	66578.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	51601.	47708.	42431.	34855.	29475.	17840.	694.	35.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	25.27	30.73	38.10	48.71	56.91	73.77	98.96	99.95	100.00	100.00

95th PERCENTILE X/Q VALUES

1.41E-03 1.37E-03 1.31E-03 1.21E-03 9.88E-04 7.24E-04 4.08E-04 3.49E-04 2.96E-04 2.67E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.41E-03
2 to 8 hours	1.15E-03
8 to 24 hours	4.81E-04
1 to 4 days	3.03E-04
4 to 30 days	2.46E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.96E-03	1.56E-04
SECTOR-AVERAGE	1.14E-03	9.07E-05

NORMAL PROGRAM COMPLETION

COD2AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:45:08

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 2.5
Building Area (m^2) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m^3/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 150
Wind direction sector width (deg) = 90
Wind direction window (deg) = 105 - 195
Distance to intake (m) = 62.7
Intake height (m) = 16.1
Terrain elevation difference (m) = .0

Output file names
COD2AC13.out
COD2AC13.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 13143

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 54904

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	14143.	17482.	22144.	29095.	34963.	46505.	65190.	66462.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	54904.	51390.	46408.	38862.	33447.	21508.	1815.	151.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	20.48	25.38	32.30	42.81	51.11	68.38	97.29	99.77	100.00	100.00

95th PERCENTILE X/Q VALUES

1.36E-03	1.30E-03	1.21E-03	1.07E-03	8.45E-04	5.68E-04	3.13E-04	2.72E-04	2.21E-04	1.95E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.36E-03
2 to 8 hours	9.74E-04
8 to 24 hours	3.17E-04
1 to 4 days	2.28E-04
4 to 30 days	1.77E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.94E-03	2.14E-04
SECTOR-AVERAGE	1.13E-03	1.25E-04

NORMAL PROGRAM COMPLETION

CODISWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:45:22

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 2.5
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 257
Wind direction sector width (deg) = 90
Wind direction window (deg) = 212 - 302
Distance to intake (m) = 39.1
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
CODISWG1.out
CODISWG1.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 21165

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 46882

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	22165.	26989.	32971.	40791.	46921.	56597.	66304.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	46882.	41883.	35581.	27166.	21489.	11416.	701.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	32.10	39.19	48.10	60.02	68.59	83.21	98.95	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

3.74E-03 3.65E-03 3.48E-03 3.17E-03 2.54E-03 1.79E-03 1.11E-03 9.42E-04 8.09E-04 7.36E-04

95% X/Q for standard averaging intervals

0 to 2 hours 3.74E-03

2 to 8 hours 2.98E-03

8 to 24 hours 1.11E-03

1 to 4 days 8.88E-04

4 to 30 days 6.77E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 4.96E-03 4.14E-04

SECTOR-AVERAGE 2.89E-03 2.41E-04

NORMAL PROGRAM COMPLETION

COD2SWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:45:38

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 2.5
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 153
Wind direction sector width (deg) = 90
Wind direction window (deg) = 108 - 198
Distance to intake (m) = 105.5
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
COD2SWG1.out
COD2SWG1.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 13726

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 54321

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	14726.	18163.	22905.	29865.	35678.	47066.	65243.	66466.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	54321.	50709.	45647.	38092.	32732.	20947.	1762.	147.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	21.33	26.37	33.41	43.95	52.15	69.20	97.37	99.78	100.00	100.00

95th PERCENTILE X/Q VALUES

5.36E-04 5.15E-04 4.85E-04 4.32E-04 3.43E-04 2.31E-04 1.27E-04 1.11E-04 9.05E-05 8.09E-05

95% X/Q for standard averaging intervals

0 to 2 hours	5.36E-04
2 to 8 hours	3.97E-04
8 to 24 hours	1.30E-04
1 to 4 days	9.31E-05
4 to 30 days	7.38E-05

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	7.48E-04	8.60E-05
SECTOR-AVERAGE	4.36E-04	5.01E-05

NORMAL PROGRAM COMPLETION

CODISWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:45:27

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 2.5
Building Area (m^2) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m^3/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 297
Wind direction sector width (deg) = 90
Wind direction window (deg) = 252 - 342
Distance to intake (m) = 105.5
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
CODISWG2.out
CODISWG2.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 16435

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 51612

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	17435.	21203.	26232.	33257.	39130.	50425.	66262.	66553.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	35.	0.	0.	0.
ZERO	51612.	47669.	42320.	34700.	29280.	17588.	743.	25.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	25.25	30.79	38.27	48.94	57.20	74.14	98.89	99.96	100.00	100.00

95th PERCENTILE X/Q VALUES

5.51E-04 5.31E-04 5.09E-04 4.73E-04 3.86E-04 2.83E-04 1.60E-04 1.38E-04 1.17E-04 1.06E-04

95% X/Q for standard averaging intervals

0 to 2 hours	5.51E-04
2 to 8 hours	4.48E-04
8 to 24 hours	1.88E-04
1 to 4 days	1.19E-04
4 to 30 days	9.73E-05

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	7.53E-04	6.23E-05
SECTOR-AVERAGE	4.39E-04	3.63E-05

NORMAL PROGRAM COMPLETION

COD2SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:45:33

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 2.5
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 192
Wind direction sector width (deg) = 90
Wind direction window (deg) = -147 - 237
Distance to intake (m) = 39.1
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
COD2SWG2.out
COD2SWG2.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 24472

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 43575

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25472.	29370.	33879.	39626.	44321.	53183.	65681.	66456.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	43575.	39502.	34673.	28331.	24089.	14830.	1324.	157.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	36.89	42.64	49.42	58.31	64.79	78.20	98.02	99.76	100.00	100.00

95th PERCENTILE X/Q VALUES

3.82E-03	3.77E-03	3.70E-03	3.52E-03	2.90E-03	2.12E-03	1.31E-03	1.14E-03	9.91E-04	9.04E-04
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95% X/Q for standard averaging intervals

0 to 2 hours 3.82E-03

2 to 8 hours 3.42E-03

8 to 24 hours 1.42E-03

1 to 4 days 1.04E-03

4 to 30 days 8.41E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	4.96E-03	4.44E-04
SECTOR-AVERAGE	2.89E-03	2.59E-04

NORMAL PROGRAM COMPLETION

COD1TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:25:33

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 2.5
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 275
Wind direction sector width (deg) = 90
Wind direction window (deg) = 230 - 320
Distance to intake (m) = 78.7
Intake height (m) = .9
Terrain elevation difference (m) = .0

Output file names
COD1TB.out
COD1TB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18115

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 49932

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19115.	23776.	29711.	37664.	43958.	54776.	66470.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	49932.	45096.	38841.	30293.	24452.	13237.	535.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	27.68	34.52	43.34	55.42	64.26	80.54	99.20	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

9.83E-04 9.37E-04 8.78E-04 7.99E-04 6.48E-04 4.69E-04 2.72E-04 2.31E-04 2.00E-04 1.81E-04

95% X/Q for standard averaging intervals

0 to 2 hours	9.83E-04
2 to 8 hours	7.38E-04
8 to 24 hours	3.04E-04
1 to 4 days	2.07E-04
4 to 30 days	1.67E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.32E-03	1.06E-04
SECTOR-AVERAGE	7.71E-04	6.20E-05

NORMAL PROGRAM COMPLETION

COD2TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331.Rev. 1

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Program Run 8/11/2003 at 16:25:38

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 2.5

Building Area (m^2) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m^3/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 175

Wind direction sector width (deg) = 90

Wind direction window (deg) = 130 - 220

Distance to intake (m) = 78.7

Intake height (m) = .9

Terrain elevation difference (m) = .0

Output file names

COD2TB.out

COD2TB.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 20007

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 48040

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720				
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	21007.	24954.	29881.	36229.	41393.	51237.	65766.	66524.	67247.	67747.				
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
ZERO	48040.	43918.	38671.	31728.	27017.	16776.	1239.	89.	0.	0.				
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.				
% NON ZERO	30.42	36.23	43.59	53.31	60.51	75.33	98.15	99.87	100.00	100.00				

95th PERCENTILE X/Q VALUES

1.02E-03 9.87E-04 9.53E-04 8.90E-04 7.26E-04 5.20E-04 3.03E-04 2.61E-04 2.26E-04 2.05E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.02E-03
2 to 8 hours	8.48E-04
8 to 24 hours	3.34E-04
1 to 4 days	2.31E-04
4 to 30 days	1.90E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 1.32E-03 1.24E-04

SECTOR-AVERAGE 7.70E-04 7.25E-05

NORMAL PROGRAM COMPLETION

COD1WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:25:21

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 2.5

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 347

Wind direction sector width (deg) = 90

Wind direction window (deg) = 302 - 032

Distance to intake (m) = 71.1

Intake height (m) = 9.1

Terrain elevation difference (m) = .0

Output file names

COD1WR.out

COD1WR.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 19574

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 48473

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	20574.	24582.	29712.	36479.	42063.	52206.	66245.	66580.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	48473.	44290.	38840.	31478.	26347.	15807.	760.	33.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	29.80	35.69	43.34	53.68	61.49	76.76	98.87	99.95	100.00	100.00

95th PERCENTILE X/Q VALUES

1.16E-03	1.12E-03	1.07E-03	1.00E-03	8.16E-04	5.94E-04	3.51E-04	3.14E-04	2.71E-04	2.51E-04
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95% X/Q for standard averaging intervals

0 to 2 hours 1.16E-03

2 to 8 hours 9.49E-04

8 to 24 hours 3.90E-04

1 to 4 days 2.70E-04

4 to 30 days 2.36E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
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CENTERLINE	1.59E-03	1.28E-04
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SECTOR-AVERAGE	9.29E-04	7.48E-05
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NORMAL PROGRAM COMPLETION

COD2WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:25:26

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 2.5

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 103

Wind direction sector width (deg) = 90

Wind direction window (deg) = 058 - 148

Distance to intake (m) = 71.1

Intake height (m) = 9.1

Terrain elevation difference (m) = .0

Output file names

COD2WR.out

COD2WR.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 8956

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1000

Hours direction not in window or calm = 59091

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	9956.	13074.	17536.	24277.	30012.	42110.	63909.	66092.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	13.	0.	0.	0.
ZERO	59091.	55798.	51016.	43680.	38398.	25903.	3096.	508.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	14.42	18.98	25.58	35.72	43.87	61.91	95.38	99.24	100.00	100.00

95th PERCENTILE X/Q VALUES

9.90E-04	8.83E-04	7.73E-04	6.61E-04	5.27E-04	3.67E-04	2.06E-04	1.73E-04	1.36E-04	1.17E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	9.90E-04
2 to 8 hours	5.51E-04
8 to 24 hours	2.20E-04
1 to 4 days	1.53E-04
4 to 30 days	1.03E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.52E-03	1.80E-04
SECTOR-AVERAGE	8.89E-04	1.05E-04

NORMAL PROGRAM COMPLETION

CTMTIAC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/15/2003 at 08:50:28

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 283
Wind direction sector width (deg) = 90
Wind direction window (deg) = 238 - 328
Distance to intake (m) = 53.2
Intake height (m) = 13.9
Terrain elevation difference (m) = .0

Output file names
CTMTIAC11.out
CTMTIAC11.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17292

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 50892

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720			
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18155.	22535.	28126.	35749.	41910.	53005.	66497.	66583.	67247.	67747.			
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.			
ZERO	50892.	46337.	40426.	32208.	26500.	15008.	508.	30.	0.	0.			
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.			
% NON ZERO	26.29	32.72	41.03	52.61	61.26	77.93	99.24	99.95	100.00	100.00			

95th PERCENTILE X/Q VALUES

9.19E-04 8.67E-04 7.83E-04 6.94E-04 5.56E-04 3.94E-04 2.33E-04 2.01E-04 1.73E-04 1.61E-04

95% X/Q for standard averaging intervals

0 to 2 hours 9.19E-04
2 to 8 hours 6.19E-04
8 to 24 hours 2.44E-04
1 to 4 days 1.80E-04
4 to 30 days 1.50E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 1.08E-03 8.84E-05

SECTOR-AVERAGE 6.32E-04 5.15E-05

NORMAL PROGRAM COMPLETION

CTMT2AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/15/2003 at 08:50:40

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 202
Wind direction sector width (deg) = 90
Wind direction window (deg) = 157 - 247
Distance to intake (m) = 21.5
Intake height (m) = 13.9
Terrain elevation difference (m) = .0

Output file names
CTMT2AC11.out
CTMT2AC11.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 25057

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 43127

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25920.	29826.	34518.	40372.	45098.	53784.	65641.	66445.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	43127.	39046.	34034.	27585.	23312.	14229.	1364.	168.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	37.54	43.31	50.35	59.41	65.92	79.08	97.96	99.75	100.00	100.00

95th PERCENTILE X/Q VALUES

1.98E-03	1.84E-03	1.68E-03	1.54E-03	1.24E-03	8.93E-04	5.90E-04	5.22E-04	4.70E-04	4.37E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.98E-03
2 to 8 hours	1.39E-03
8 to 24 hours	5.71E-04
1 to 4 days	4.90E-04
4 to 30 days	4.13E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
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CENTERLINE	2.41E-03	2.36E-04
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SECTOR-AVERAGE	1.41E-03	1.37E-04
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NORMAL PROGRAM COMPLETION

CTMTIAC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/15/2003 at 08:50:50

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 29.7

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 292

Wind direction sector width (deg) = 90

Wind direction window (deg) = 247 - 337

Distance to intake (m) = 21.9

Intake height (m) = 16.1

Terrain elevation difference (m) = .0

Output file names

CTMTIAC13.out

CTMTIAC13.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 16638

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 51546

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	17501.	21355.	26486.	33630.	39572.	50859.	66400.	66583.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	51546.	47517.	42066.	34327.	28838.	17154.	605.	30.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	25.35	31.01	38.64	49.49	57.85	74.78	99.10	99.95	100.00	100.00

95th PERCENTILE X/Q VALUES

1.93E-03	1.78E-03	1.57E-03	1.39E-03	1.11E-03	7.90E-04	4.68E-04	4.05E-04	3.46E-04	3.21E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.93E-03
2 to 8 hours	1.21E-03
8 to 24 hours	4.91E-04
1 to 4 days	3.61E-04
4 to 30 days	2.98E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.51E-03	2.13E-04
SECTOR-AVERAGE	1.46E-03	1.24E-04

NORMAL PROGRAM COMPLETION

CTMT2AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/15/2003 at 08:50:59

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 29.7

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 157

Wind direction sector width (deg) = 90

Wind direction window (deg) = 112 - 202

Distance to intake (m) = 21.9

Intake height (m) = 16.1

Terrain elevation difference (m) = .0

Output file names

CTMT2AC13.out

CTMT2AC13.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 14619

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 53565

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	15482.	19014.	23837.	30803.	36572.	47841.	65256.	66458.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	53565.	49858.	44715.	37154.	31838.	20172.	1749.	155.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	22.42	27.61	34.77	45.33	53.46	70.34	97.39	99.77	100.00	100.00

95th PERCENTILE X/Q VALUES

1.88E-03 1.72E-03 1.52E-03 1.32E-03 1.05E-03 7.33E-04 4.25E-04 3.67E-04 3.07E-04 2.88E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.88E-03
2 to 8 hours	1.14E-03
8 to 24 hours	4.38E-04
1 to 4 days	3.22E-04
4 to 30 days	2.67E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.51E-03	2.82E-04
SECTOR-AVERAGE	1.46E-03	1.64E-04

NORMAL PROGRAM COMPLETION

CTMTISWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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J. J. Hayes Phone: (301) 415 3167
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/15/2003 at 08:51:12

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 225
Wind direction sector width (deg) = 90
Wind direction window (deg) = 180 - 270
Distance to intake (m) = 12.1
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
CTMTISWG1.out
CTMTISWG1.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 24200

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 43984

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25063.	28796.	33670.	40423.	45902.	54962.	66078.	66570.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	43984.	40076.	34882.	27534.	22508.	13051.	927.	43.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	36.30	41.81	49.12	59.48	67.10	80.81	98.62	99.94	100.00	100.00

95th PERCENTILE X/Q VALUES

2.21E-03	2.04E-03	1.83E-03	1.66E-03	1.33E-03	9.39E-04	6.27E-04	5.63E-04	5.07E-04	4.70E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	2.21E-03
2 to 8 hours	1.47E-03
8 to 24 hours	5.79E-04
1 to 4 days	5.23E-04
4 to 30 days	4.46E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.76E-03	2.64E-04
SECTOR-AVERAGE	1.61E-03	1.54E-04

NORMAL PROGRAM COMPLETION

CTMT2SWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/15/2003 at 08:51:27

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 157
Wind direction sector width (deg) = 90
Wind direction window (deg) = 112 - 202
Distance to intake (m) = 64.9
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
CTMT2SWG1.out
CTMT2SWG1.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 14619

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 53565

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	15482.	19014.	23837.	30803.	36572.	47841.	65256.	66458.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	53.	0.	0.	0.
ZERO	53565.	49858.	44715.	37154.	31838.	20172.	1749.	102.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	22.42	27.61	34.77	45.33	53.46	70.34	97.39	99.85	100.00	100.00

95th PERCENTILE X/Q VALUES

6.89E-04 6.42E-04 5.85E-04 5.19E-04 4.13E-04 2.85E-04 1.63E-04 1.41E-04 1.18E-04 1.10E-04

95% X/Q for standard averaging intervals

0 to 2 hours 6.89E-04

2 to 8 hours 4.62E-04

8 to 24 hours 1.68E-04

1 to 4 days 1.22E-04

4 to 30 days 1.01E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 8.53E-04 1.14E-04

SECTOR-AVERAGE 4.97E-04 6.66E-05

NORMAL PROGRAM COMPLETION

CTMT1SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/15/2003 at 08:51:18

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 292
Wind direction sector width (deg) = 90
Wind direction window (deg) = 247 - 337
Distance to intake (m) = 64.9
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
CTMT1SWG2.out
CTMT1SWG2.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 16638

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 51546

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	17501.	21355.	26486.	33630.	39572.	50859.	66400.	66583.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	51546.	47517.	42066.	34327.	28838.	17154.	605.	30.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	25.35	31.01	38.64	49.49	57.85	74.78	99.10	99.95	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
7.18E-04	6.73E-04	6.13E-04	5.48E-04	4.38E-04	3.19E-04	1.86E-04	1.59E-04	1.37E-04	1.26E-04

95% X/Q for standard averaging intervals

0 to 2 hours	7.18E-04
2 to 8 hours	4.91E-04
8 to 24 hours	2.05E-04
1 to 4 days	1.42E-04
4 to 30 days	1.16E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	8.53E-04	8.21E-05
SECTOR-AVERAGE	4.97E-04	4.79E-05

NORMAL PROGRAM COMPLETION

CTMT2SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/15/2003 at 08:51:35

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 29.7

Building Area (m^2) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m^3/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 225

Wind direction sector width (deg) = 90

Wind direction window (deg) = 180 - 270

Distance to intake (m) = 12.1

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

CTMT2SWG2.out

CTMT2SWG2.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 24200

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 43984

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25063.	28796.	33670.	40423.	45902.	54962.	66078.	66570.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	43984.	40076.	34882.	27534.	22508.	13051.	927.	43.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	36.30	41.81	49.12	59.48	67.10	80.81	98.62	99.94	100.00	100.00

95th PERCENTILE X/Q VALUES

2.21E-03 2.04E-03 1.83E-03 1.66E-03 1.33E-03 9.39E-04 6.27E-04 5.63E-04 5.07E-04 4.70E-04

95% X/Q for standard averaging intervals

0 to 2 hours	2.21E-03
2 to 8 hours	1.47E-03
8 to 24 hours	5.79E-04
1 to 4 days	5.23E-04
4 to 30 days	4.46E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.76E-03	2.64E-04
SECTOR-AVERAGE	1.61E-03	1.54E-04

NORMAL PROGRAM COMPLETION

CTMTITB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 14:13:53

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 29.7

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 263

Wind direction sector width (deg) = 90

Wind direction window (deg) = 218 - 308

Distance to intake (m) = 43.1

Intake height (m) = .9

Terrain elevation difference (m) = .0

Output file names

CTMTITB.out

CTMTITB.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 20196

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 47988

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	21059.	26031.	32123.	40171.	46365.	56455.	66444.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	47988.	42841.	36429.	27786.	22045.	11558.	561.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	30.50	37.80	46.86	59.11	67.78	83.01	99.16	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

1.02E-03	9.71E-04	8.84E-04	7.87E-04	6.25E-04	4.34E-04	2.72E-04	2.39E-04	2.09E-04	1.90E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.02E-03
2 to 8 hours	7.10E-04
8 to 24 hours	2.57E-04
1 to 4 days	2.19E-04
4 to 30 days	1.77E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.17E-03	1.05E-04
SECTOR-AVERAGE	6.84E-04	6.09E-05

NORMAL PROGRAM COMPLETION

CTMT2TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 14:14:01

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 187
Wind direction sector width (deg) = 90
Wind direction window (deg) = 142 - 232
Distance to intake (m) = 43.1
Intake height (m) = .9
Terrain elevation difference (m) = .0

Output file names
CTMT2TB.out
CTMT2TB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 23558

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 44626

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	24421.	28287.	32921.	38849.	43630.	52637.	65558.	66443.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	44626.	40585.	35631.	29108.	24780.	15376.	1447.	170.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	35.37	41.07	48.02	57.17	63.78	77.39	97.84	99.74	100.00	100.00

95th PERCENTILE X/Q VALUES

1.02E-03 9.82E-04 9.31E-04 8.53E-04 6.87E-04 4.97E-04 3.17E-04 2.74E-04 2.43E-04 2.28E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.02E-03
2 to 8 hours	7.98E-04
8 to 24 hours	3.19E-04
1 to 4 days	2.56E-04
4 to 30 days	2.14E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.17E-03	1.12E-04
SECTOR-AVERAGE	6.84E-04	6.52E-05

NORMAL PROGRAM COMPLETION

CTMTIWR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 14:13:02

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 358
Wind direction sector width (deg) = 90
Wind direction window (deg) = 313 - 043
Distance to intake (m) = 33.4
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
CTMTIWR.out
CTMTIWR.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 19377

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 48807

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	20240.	24125.	29070.	35744.	41353.	51447.	66031.	66557.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	48807.	44747.	39482.	32213.	27057.	16566.	974.	56.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	29.31	35.03	42.41	52.60	60.45	75.64	98.55	99.92	100.00	100.00

95th PERCENTILE X/Q VALUES

1.20E-03	1.09E-03	9.80E-04	8.83E-04	7.19E-04	5.20E-04	3.20E-04	2.85E-04	2.48E-04	2.26E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.20E-03
2 to 8 hours	7.78E-04
8 to 24 hours	3.38E-04
1 to 4 days	2.53E-04
4 to 30 days	2.11E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.60E-03	1.51E-04
SECTOR-AVERAGE	9.34E-04	8.79E-05

NORMAL PROGRAM COMPLETION

CTMT2WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 14:13:43

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 092
Wind direction sector width (deg) = 90
Wind direction window (deg) = 047 - 137
Distance to intake (m) = 33.4
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
CTMT2WR.out
CTMT2WR.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 9011

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 59173

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	9874.	12872.	17255.	23861.	29420.	41034.	63371.	65772.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	59173.	56000.	51297.	44096.	38990.	26979.	3634.	841.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	14.30	18.69	25.17	35.11	43.01	60.33	94.58	98.74	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
1.12E-03	9.86E-04	8.80E-04	7.57E-04	5.97E-04	4.16E-04	2.37E-04	1.97E-04	1.57E-04	1.37E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.12E-03
2 to 8 hours	6.37E-04
8 to 24 hours	2.46E-04
1 to 4 days	1.77E-04
4 to 30 days	1.22E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.60E-03	1.33E-04
SECTOR-AVERAGE	9.34E-04	7.73E-05

NORMAL PROGRAM COMPLETION

MSG1AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:46:01

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.1

Building Area (m^2) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m^3/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 291

Wind direction sector width (deg) = 90

Wind direction window (deg) = 246 - 336

Distance to intake (m) = 51.3

Intake height (m) = 13.9

Terrain elevation difference (m) = .0

Output file names

MSG1AC11.out

MSG1AC11.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 16687

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 51497

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	17550.	21538.	26647.	33867.	39866.	51145.	66411.	66583.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	52581.	48593.	41905.	34090.	28544.	16868.	594.	30.	0.	0.
TOTAL X/Qs	70131.	70131.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	25.02	30.71	38.87	49.84	58.28	75.20	99.11	99.95	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
2.25E-03	2.15E-03	2.03E-03	1.86E-03	1.51E-03	1.10E-03	6.22E-04	5.32E-04	4.53E-04	4.11E-04

95% X/Q for standard averaging intervals

0 to 2 hours	2.25E-03
2 to 8 hours	1.73E-03
8 to 24 hours	7.15E-04
1 to 4 days	4.65E-04
4 to 30 days	3.78E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	3.00E-03	2.08E-04
SECTOR-AVERAGE	1.75E-03	1.22E-04

NORMAL PROGRAM COMPLETION

MSG2AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:46:22

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.1

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 225

Wind direction sector width (deg) = 90

Wind direction window (deg) = 180 - 270

Distance to intake (m) = 21.1

Intake height (m) = 13.9

Terrain elevation difference (m) = .0

Output file names

MSG2AC11.out

MSG2AC11.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 24200

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 43984

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25063.	28901.	33670.	40423.	45902.	54962.	66078.	66570.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	45068.	41230.	34882.	27534.	22508.	13051.	927.	43.	0.	0.
TOTAL X/Qs	70131.	70131.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	35.74	41.21	49.12	59.48	67.10	80.81	98.62	99.94	100.00	100.00

95th PERCENTILE X/Q VALUES

1.31E-02 1.30E-02 1.28E-02 1.21E-02 9.79E-03 6.92E-03 4.45E-03 3.87E-03 3.30E-03 3.05E-03

95% X/Q for standard averaging intervals

0 to 2 hours	1.31E-02
2 to 8 hours	1.17E-02
8 to 24 hours	4.33E-03
1 to 4 days	3.63E-03
4 to 30 days	2.84E-03

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.66E-02	1.26E-03
SECTOR-AVERAGE	9.70E-03	7.37E-04

NORMAL PROGRAM COMPLETION

MSG1AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:46:12

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.1
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 319
Wind direction sector width (deg) = 90
Wind direction window (deg) = 274 - 004
Distance to intake (m) = 23.5
Intake height (m) = 16.1
Terrain elevation difference (m) = .0

Output file names
MSG1AC13.out
MSG1AC13.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17843

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 50341

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18706.	22500.	27420.	34399.	40070.	50856.	66280.	66530.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	29.	0.	0.	0.
ZERO	51425.	47631.	41132.	33558.	28340.	17157.	725.	54.	0.	0.
TOTAL X/Qs	70131.	70131.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	26.67	32.08	40.00	50.62	58.57	74.77	98.92	99.92	100.00	100.00

95th PERCENTILE X/Q VALUES

1.00E-02	9.53E-03	9.10E-03	8.50E-03	6.89E-03	4.99E-03	2.86E-03	2.47E-03	2.13E-03	1.92E-03
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95% X/Q for standard averaging intervals

0 to 2 hours	1.00E-02
2 to 8 hours	7.99E-03
8 to 24 hours	3.23E-03
1 to 4 days	2.15E-03
4 to 30 days	1.78E-03

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.38E-02	9.00E-04
SECTOR-AVERAGE	8.04E-03	5.25E-04

NORMAL PROGRAM COMPLETION

MSG2AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:46:33

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.1
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 131
Wind direction sector width (deg) = 90
Wind direction window (deg) = 086 - 176
Distance to intake (m) = 23.5
Intake height (m) = 16.1
Terrain elevation difference (m) = .0

Output file names
MSG2AC13.out
MSG2AC13.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 10913

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 57271

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	11776.	14978.	19414.	26274.	32158.	44260.	64238.	66115.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	151.	0.	0.	0.
ZERO	58355.	55153.	49138.	41683.	36252.	23753.	2767.	347.	0.	0.
TOTAL X/Qs	70131.	70131.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	16.79	21.36	28.32	38.66	47.01	65.08	95.87	99.48	100.00	100.00

95th PERCENTILE X/Q VALUES

8.72E-03 8.26E-03 7.21E-03 6.17E-03 4.87E-03 3.27E-03 1.85E-03 1.55E-03 1.27E-03 1.12E-03

95% X/Q for standard averaging intervals

0 to 2 hours 8.72E-03

2 to 8 hours 5.32E-03

8 to 24 hours 1.83E-03

1 to 4 days 1.37E-03

4 to 30 days 1.01E-03

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 1.38E-02 1.34E-03

SECTOR-AVERAGE 8.04E-03 7.81E-04

NORMAL PROGRAM COMPLETION

MSGISWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:46:42

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.1

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 178

Wind direction sector width (deg) = 90

Wind direction window (deg) = 133 - 223

Distance to intake (m) = 22.1

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

MSGISWG1.out

MSGISWG1.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 21060

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 47124

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720		
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	21923.	25871.	30605.	36807.	41886.	51500.	65698.	66513.	67247.	67747.		
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.		
ZERO	48208.	44260.	37947.	31150.	26524.	16513.	1307.	97.	0.	0.		
TOTAL X/Qs	70131.	70131.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.		
% NON ZERO	31.26	36.89	44.64	54.16	61.23	75.72	98.05	99.85	100.00	100.00		

95th PERCENTILE X/Q VALUES

	1	2	4	8	12	24	96	168	360	720
95th PERCENTILE X/Q VALUES	1.07E-02	1.05E-02	1.02E-02	9.53E-03	7.72E-03	5.54E-03	3.30E-03	2.83E-03	2.46E-03	2.25E-03

95% X/Q for standard averaging intervals

0 to 2 hours	1.07E-02
2 to 8 hours	9.16E-03
8 to 24 hours	3.54E-03
1 to 4 days	2.56E-03
4 to 30 days	2.09E-03

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.40E-02	1.07E-03
SECTOR-AVERAGE	8.15E-03	6.24E-04

NORMAL PROGRAM COMPLETION

MSG2SWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:47:03

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.1

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 148

Wind direction sector width (deg) = 90

Wind direction window (deg) = 103 - 193

Distance to intake (m) = 64.8

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

MSG2SWG1.out

MSG2SWG1.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 12850

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 55334

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	13713.	17031.	21559.	28447.	34316.	45967.	65133.	66435.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	56418.	53100.	46993.	39510.	34094.	22046.	1872.	178.	0.	0.
TOTAL X/Qs	70131.	70131.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	19.55	24.28	31.45	41.86	50.16	67.59	97.21	99.73	100.00	100.00

95th PERCENTILE X/Q VALUES

1.31E-03	1.27E-03	1.19E-03	1.04E-03	8.21E-04	5.51E-04	3.04E-04	2.63E-04	2.15E-04	1.90E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.31E-03
2 to 8 hours	9.52E-04
8 to 24 hours	3.05E-04
1 to 4 days	2.22E-04
4 to 30 days	1.72E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.90E-03	2.01E-04
SECTOR-AVERAGE	1.11E-03	1.17E-04

NORMAL PROGRAM COMPLETION

MSG1SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:46:48

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.1

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 302

Wind direction sector width (deg) = 90

Wind direction window (deg) = 257 - 347

Distance to intake (m) = 64.8

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

MSG1SWG2.out

MSG1SWG2.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 16442

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 51742

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	17305.	21046.	25867.	32817.	38623.	49841.	66196.	66551.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	52826.	49085.	42685.	35140.	29787.	18172.	809.	62.	0.	0.
TOTAL X/Qs	70131.	70131.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	24.68	30.01	37.73	48.29	56.46	73.28	98.79	99.91	100.00	100.00

95th PERCENTILE X/Q VALUES

1.41E-03 1.36E-03 1.30E-03 1.20E-03 9.76E-04 7.11E-04 4.00E-04 3.43E-04 2.91E-04 2.64E-04

95% X/Q for standard averaging intervals

0 to 2 hours 1.41E-03

2 to 8 hours 1.13E-03

8 to 24 hours 4.65E-04

1 to 4 days 2.96E-04

4 to 30 days 2.43E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 1.90E-03 1.34E-04

SECTOR-AVERAGE 1.11E-03 7.84E-05

NORMAL PROGRAM COMPLETION

MSG2SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/21/2003 at 10:47:07

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.1
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 272
Wind direction sector width (deg) = 90
Wind direction window (deg) = 227 - 317
Distance to intake (m) = 22.1
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
MSG2SWG2.out
MSG2SWG2.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18586

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 49598

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
LOW LIM.	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19449.	24289.	30278.	38337.	44662.	55376.	66593.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	50682.	45842.	38274.	29620.	23748.	12637.	412.	0.	0.	0.
TOTAL X/Qs	70131.	70131.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	27.73	34.63	44.17	56.41	65.29	81.42	99.39	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

1.04E-02 1.01E-02 9.46E-03 8.48E-03 6.84E-03 4.89E-03 2.87E-03 2.43E-03 2.10E-03 1.90E-03

95% X/Q for standard averaging intervals

0 to 2 hours	1.04E-02
2 to 8 hours	7.84E-03
8 to 24 hours	3.10E-03
1 to 4 days	2.20E-03
4 to 30 days	1.75E-03

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.40E-02	9.10E-04
SECTOR-AVERAGE	8.15E-03	5.31E-04

NORMAL PROGRAM COMPLETION

MSG1TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:18:01

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.1
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 261
Wind direction sector width (deg) = 90
Wind direction window (deg) = 216 - 306
Distance to intake (m) = 39.9
Intake height (m) = .9
Terrain elevation difference (m) = .0

Output file names
MSG1TB.out
MSG1TB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 20577

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 47607

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	21440.	26360.	32431.	40384.	46549.	56447.	66387.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	47607.	42512.	36121.	27573.	21861.	11566.	618.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	31.05	38.27	47.31	59.43	68.04	82.99	99.08	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

3.38E-03	3.24E-03	3.07E-03	2.76E-03	2.22E-03	1.55E-03	9.67E-04	8.15E-04	7.01E-04	6.41E-04
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95% X/Q for standard averaging intervals

0 to 2 hours 3.38E-03

2 to 8 hours 2.56E-03

8 to 24 hours 9.45E-04

1 to 4 days 7.73E-04

4 to 30 days 5.91E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	4.24E-03	3.17E-04
SECTOR-AVERAGE	2.47E-03	1.85E-04

NORMAL PROGRAM COMPLETION

MSG2TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:18:06

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 17.1

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 189

Wind direction sector width (deg) = 90

Wind direction window (deg) = 144 - 234

Distance to intake (m) = 39.9

Intake height (m) = .9

Terrain elevation difference (m) = .0

Output file names

MSG2TB.out

MSG2TB.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 23986

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 44198

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	24849.	28709.	33297.	39105.	43804.	52725.	65572.	66443.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	44198.	40163.	35255.	28852.	24606.	15288.	1433.	170.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	35.99	41.68	48.57	57.54	64.03	77.52	97.86	99.74	100.00	100.00

95th PERCENTILE X/Q VALUES

3.48E-03 3.38E-03 3.26E-03 3.10E-03 2.53E-03 1.84E-03 1.15E-03 9.92E-04 8.68E-04 7.96E-04

95% X/Q for standard averaging intervals

0 to 2 hours	3.48E-03
2 to 8 hours	2.97E-03
8 to 24 hours	1.21E-03
1 to 4 days	9.22E-04
4 to 30 days	7.41E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	4.24E-03	3.42E-04
SECTOR-AVERAGE	2.47E-03	1.99E-04

NORMAL PROGRAM COMPLETION

MSG1WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:17:48

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.1
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 022
Wind direction sector width (deg) = 90
Wind direction window (deg) = 337 - 067
Distance to intake (m) = 60.0
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
MSG1WR.out
MSG1WR.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17743

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 50441

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18606.	21816.	26323.	32743.	38243.	48545.	65396.	66454.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	50441.	47056.	42229.	35214.	30167.	19468.	1609.	159.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	26.95	31.68	38.40	48.18	55.90	71.38	97.60	99.76	100.00	100.00

95th PERCENTILE X/Q VALUES

1.54E-03	1.49E-03	1.40E-03	1.27E-03	1.04E-03	7.68E-04	4.78E-04	4.08E-04	3.32E-04	2.95E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.54E-03
2 to 8 hours	1.19E-03
8 to 24 hours	5.15E-04
1 to 4 days	3.81E-04
4 to 30 days	2.67E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.20E-03	1.55E-04
SECTOR-AVERAGE	1.28E-03	9.01E-05

NORMAL PROGRAM COMPLETION

MSG2WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 16:17:54

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 17.1
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 068
Wind direction sector width (deg) = 90
Wind direction window (deg) = 023 - 113
Distance to intake (m) = 60.0
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
MSG2WR.out
MSG2WR.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 12035

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 56149

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	12898.	16084.	20584.	27095.	32581.	43342.	63818.	65970.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	56149.	52788.	47968.	40862.	35829.	24671.	3187.	643.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	18.68	23.35	30.03	39.87	47.63	63.73	95.24	99.03	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
1.48E-03	1.40E-03	1.28E-03	1.13E-03	9.14E-04	6.52E-04	3.68E-04	3.09E-04	2.44E-04	2.06E-04

95% X/Q for standard averaging intervals

0 to 2 hours 1.48E-03

2 to 8 hours 1.02E-03

8 to 24 hours 4.11E-04

1 to 4 days 2.73E-04

4 to 30 days 1.81E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.19E-03	1.55E-04
SECTOR-AVERAGE	1.28E-03	9.01E-05

NORMAL PROGRAM COMPLETION

RWTIAC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 9/2/2003 at 08:24:51

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 270
Wind direction sector width (deg) = 90
Wind direction window (deg) = 225 - 315
Distance to intake (m) = 97.9
Intake height (m) = 13.9
Terrain elevation difference (m) = .0

Output file names
RWTIAC11.out
RWTIAC11.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18925

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 49259

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19788.	24643.	30753.	38888.	45248.	55820.	66561.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	49259.	44229.	37799.	29069.	23162.	12193.	444.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	28.66	35.78	44.86	57.22	66.14	82.07	99.34	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
6.86E-04	6.57E-04	6.17E-04	5.55E-04	4.48E-04	3.19E-04	1.89E-04	1.59E-04	1.39E-04	1.26E-04

95% X/Q for standard averaging intervals

0 to 2 hours	6.86E-04
2 to 8 hours	5.12E-04
8 to 24 hours	2.01E-04
1 to 4 days	1.46E-04
4 to 30 days	1.17E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	8.72E-04	6.48E-05
SECTOR-AVERAGE	5.09E-04	3.78E-05

NORMAL PROGRAM COMPLETION

RWT2AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 9/2/2003 at 08:25:11

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m^2) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m^3/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 207
Wind direction sector width (deg) = 90
Wind direction window (deg) = 162 - 252
Distance to intake (m) = 72.6
Intake height (m) = 13.9
Terrain elevation difference (m) = .0

Output file names
RWT2AC11.out
RWT2AC11.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 24907

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 43277

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25770.	29676.	34490.	40673.	45559.	54141.	65714.	66461.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	43277.	39196.	34062.	27284.	22851.	13872.	1291.	152.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	37.32	43.09	50.31	59.85	66.60	79.60	98.07	99.77	100.00	100.00

95th PERCENTILE X/Q VALUES

1.27E-03 1.26E-03 1.22E-03 1.16E-03 9.54E-04 6.88E-04 4.37E-04 3.79E-04 3.29E-04 3.01E-04

95% X/Q for standard averaging intervals

0 to 2 hours 1.27E-03
2 to 8 hours 1.12E-03
8 to 24 hours 4.51E-04
1 to 4 days 3.53E-04
4 to 30 days 2.80E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.54E-03	1.33E-04
SECTOR-AVERAGE	9.00E-04	7.75E-05

NORMAL PROGRAM COMPLETION

RWTIAC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 9/2/2003 at 08:25:20

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 270
Wind direction sector width (deg) = 90
Wind direction window (deg) = 225 - 315
Distance to intake (m) = 65.2
Intake height (m) = 16.1
Terrain elevation difference (m) = .0

Output file names
RWTIAC13.out
RWTIAC13.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18925

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 49259

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19788.	24643.	30753.	38888.	45248.	55820.	66561.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	49259.	44229.	37799.	29069.	23162.	12193.	444.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	28.66	35.78	44.86	57.22	66.14	82.07	99.34	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

1.48E-03	1.41E-03	1.32E-03	1.19E-03	9.60E-04	6.82E-04	4.04E-04	3.41E-04	2.96E-04	2.69E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.48E-03
2 to 8 hours	1.09E-03
8 to 24 hours	4.29E-04
1 to 4 days	3.11E-04
4 to 30 days	2.48E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.90E-03	1.38E-04
SECTOR-AVERAGE	1.11E-03	8.03E-05

NORMAL PROGRAM COMPLETION

RWT2AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 9/2/2003 at 08:25:25

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 180
Wind direction sector width (deg) = 90
Wind direction window (deg) = 135 - 225
Distance to intake (m) = 65.2
Intake height (m) = 16.1
Terrain elevation difference (m) = .0

Output file names
RWT2AC13.out
RWT2AC13.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 21707

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 46477

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	22570.	26459.	31208.	37328.	42336.	51818.	65637.	66443.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	46477.	42413.	37344.	30629.	26074.	16195.	1368.	170.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	32.69	38.42	45.52	54.93	61.89	76.19	97.96	99.74	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
1.51E-03	1.48E-03	1.43E-03	1.34E-03	1.09E-03	7.91E-04	4.75E-04	4.10E-04	3.56E-04	3.24E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.51E-03
2 to 8 hours	1.28E-03
8 to 24 hours	5.17E-04
1 to 4 days	3.69E-04
4 to 30 days	3.00E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.90E-03	1.62E-04
SECTOR-AVERAGE	1.11E-03	9.46E-05

NORMAL PROGRAM COMPLETION

RWT1SWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 9/2/2003 at 08:25:33

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 14.7

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 231

Wind direction sector width (deg) = 90

Wind direction window (deg) = 186 - 276

Distance to intake (m) = 63.1

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

RWT1SWG1.out

RWT1SWG1.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 23875

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 44309

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	24738.	28548.	33540.	40432.	46069.	55251.	66138.	66571.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	44309.	40324.	35012.	27525.	22341.	12762.	867.	42.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	35.83	41.45	48.93	59.50	67.34	81.24	98.71	99.94	100.00	100.00

95th PERCENTILE X/Q VALUES

1	2	4	8	12	24	96	168	360	720
1.66E-03	1.62E-03	1.56E-03	1.48E-03	1.20E-03	8.55E-04	5.46E-04	4.72E-04	4.07E-04	3.74E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.66E-03
2 to 8 hours	1.42E-03
8 to 24 hours	5.42E-04
1 to 4 days	4.44E-04
4 to 30 days	3.47E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.01E-03	1.72E-04
SECTOR-AVERAGE	1.17E-03	1.00E-04

NORMAL PROGRAM COMPLETION

RWT2SWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 9/2/2003 at 08:25:43

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 171
Wind direction sector width (deg) = 90
Wind direction window (deg) = 126 - 216
Distance to intake (m) = 106.4
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
RWT2SWG1.out
RWT2SWG1.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18583

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 49601

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19446.	23350.	28328.	34842.	40144.	50300.	65533.	66441.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	49601.	45522.	40224.	33115.	28266.	17713.	1472.	172.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	28.16	33.90	41.32	51.27	58.68	73.96	97.80	99.74	100.00	100.00

95th PERCENTILE X/Q VALUES

5.88E-04	5.67E-04	5.42E-04	5.01E-04	4.05E-04	2.86E-04	1.66E-04	1.43E-04	1.23E-04	1.12E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	5.88E-04
2 to 8 hours	4.72E-04
8 to 24 hours	1.79E-04
1 to 4 days	1.26E-04
4 to 30 days	1.03E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	7.44E-04	6.62E-05
SECTOR-AVERAGE	4.34E-04	3.86E-05

NORMAL PROGRAM COMPLETION

RWT1SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 9/2/2003 at 08:25:37

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 279
Wind direction sector width (deg) = 90
Wind direction window (deg) = 234 - 324
Distance to intake (m) = 106.4
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
RWT1SWG2.out
RWT1SWG2.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17704

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 50480

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18567.	23096.	28822.	36526.	42695.	53653.	66491.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	50480.	45776.	39730.	31431.	25715.	14360.	514.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	26.89	33.53	42.04	53.75	62.41	78.89	99.23	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

5.74E-04 5.46E-04 5.11E-04 4.62E-04 3.75E-04 2.74E-04 1.57E-04 1.33E-04 1.16E-04 1.06E-04

95% X/Q for standard averaging intervals

0 to 2 hours 5.74E-04

2 to 8 hours 4.25E-04

8 to 24 hours 1.79E-04

1 to 4 days 1.18E-04

4 to 30 days 9.78E-05

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 7.44E-04 5.62E-05

SECTOR-AVERAGE 4.34E-04 3.27E-05

NORMAL PROGRAM COMPLETION

RWT2SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 9/2/2003 at 08:25:48

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 219
Wind direction sector width (deg) = 90
Wind direction window (deg) = 174 - 264
Distance to intake (m) = 63.1
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
RWT2SWG2.out
RWT2SWG2.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 24452

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 43732

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25315.	29052.	33893.	40454.	45706.	54565.	66062.	66568.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	43732.	39820.	34659.	27503.	22704.	13448.	943.	45.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	36.66	42.18	49.44	59.53	66.81	80.23	98.59	99.93	100.00	100.00

95th PERCENTILE X/Q VALUES

1.66E-03	1.63E-03	1.58E-03	1.50E-03	1.22E-03	8.75E-04	5.58E-04	4.81E-04	4.20E-04	3.85E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.66E-03
2 to 8 hours	1.44E-03
8 to 24 hours	5.63E-04
1 to 4 days	4.52E-04
4 to 30 days	3.59E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.01E-03	1.72E-04
SECTOR-AVERAGE	1.17E-03	1.00E-04

NORMAL PROGRAM COMPLETION

RWTITB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 15:09:39

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 255
Wind direction sector width (deg) = 90
Wind direction window (deg) = 210 - 300
Distance to intake (m) = 92.4
Intake height (m) = .9
Terrain elevation difference (m) = .0

Output file names
RWTITB.out
RWTITB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 21537

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 46647

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	22400.	27125.	32942.	40688.	46730.	56257.	66310.	66613.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	46647.	41747.	35610.	27269.	21680.	11756.	695.	0.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	32.44	39.38	48.05	59.87	68.31	82.72	98.96	100.00	100.00	100.00

95th PERCENTILE X/Q VALUES

7.72E-04 7.49E-04 7.18E-04 6.56E-04 5.26E-04 3.70E-04 2.33E-04 1.99E-04 1.71E-04 1.57E-04

95% X/Q for standard averaging intervals

0 to 2 hours 7.72E-04

2 to 8 hours 6.18E-04

8 to 24 hours 2.26E-04

1 to 4 days 1.87E-04

4 to 30 days 1.45E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 9.54E-04 7.72E-05

SECTOR-AVERAGE 5.56E-04 4.50E-05

NORMAL PROGRAM COMPLETION

RWT2TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 15:09:44

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 195
Wind direction sector width (deg) = 90
Wind direction window (deg) = 150 - 240
Distance to intake (m) = 92.4
Intake height (m) = .9
Terrain elevation difference (m) = .0

Output file names
RWT2TB.out
RWT2TB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 24862

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 43322

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	25725.	29605.	34105.	39889.	44613.	53474.	65674.	66442.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	1066.	95.	0.	0.
ZERO	43322.	39267.	34447.	28068.	23797.	14539.	265.	76.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	37.26	42.99	49.75	58.70	65.21	78.62	99.60	99.89	100.00	100.00

95th PERCENTILE X/Q VALUES

7.90E-04	7.72E-04	7.49E-04	7.16E-04	5.89E-04	4.30E-04	2.73E-04	2.36E-04	2.07E-04	1.89E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	7.90E-04
2 to 8 hours	6.92E-04
8 to 24 hours	2.86E-04
1 to 4 days	2.21E-04
4 to 30 days	1.76E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	9.54E-04	8.32E-05
SECTOR-AVERAGE	5.56E-04	4.85E-05

NORMAL PROGRAM COMPLETION

RWT1WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
e-mail: jy11@nrc.gov
J. J. Hayes Phone: (301) 415 3167
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L. A. Brown Phone: (301) 415 1232
e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 15:09:27

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 14.7

Building Area (m^2) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m^3/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 324

Wind direction sector width (deg) = 90

Wind direction window (deg) = 279 - 009

Distance to intake (m) = 46.9

Intake height (m) = 9.1

Terrain elevation difference (m) = .0

Output file names

RWT1WR.out

RWT1WR.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18468

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 49716

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19331.	23084.	28162.	35057.	40689.	51300.	66253.	66558.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	49716.	45788.	40390.	32900.	27721.	16713.	752.	55.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	28.00	33.52	41.08	51.59	59.48	75.43	98.88	99.92	100.00	100.00

95th PERCENTILE X/Q VALUES

2.57E-03	2.50E-03	2.41E-03	2.24E-03	1.83E-03	1.31E-03	7.57E-04	6.68E-04	5.73E-04	5.21E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	2.57E-03
2 to 8 hours	2.13E-03
8 to 24 hours	8.50E-04
1 to 4 days	5.71E-04
4 to 30 days	4.85E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
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CENTERLINE	3.54E-03	2.54E-04
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SECTOR-AVERAGE	2.07E-03	1.48E-04
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NORMAL PROGRAM COMPLETION

RWT2WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
e-mail: jy11@nrc.gov
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L. A. Brown Phone: (301) 415 1232
e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 15:09:32

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 14.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 126
Wind direction sector width (deg) = 90
Wind direction window (deg) = 081 - 171
Distance to intake (m) = 46.9
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names

RWT2WR.out
RWT2WR.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 10496

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 57688

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	11359.	14517.	18925.	25739.	31626.	43793.	64380.	66249.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	57688.	54355.	49627.	42218.	36784.	24220.	2625.	364.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	16.45	21.08	27.61	37.88	46.23	64.39	96.08	99.45	100.00	100.00

95th PERCENTILE X/Q VALUES

2.30E-03	2.10E-03	1.82E-03	1.57E-03	1.24E-03	8.47E-04	4.85E-04	3.99E-04	3.30E-04	2.85E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	2.30E-03
2 to 8 hours	1.32E-03
8 to 24 hours	4.87E-04
1 to 4 days	3.64E-04
4 to 30 days	2.55E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	3.54E-03	3.78E-04
SECTOR-AVERAGE	2.06E-03	2.20E-04

NORMAL PROGRAM COMPLETION

VSIAC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/18/2003 at 09:45:19

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 48.3
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 299
Wind direction sector width (deg) = 90
Wind direction window (deg) = 254 - 344
Distance to intake (m) = 57.7
Intake height (m) = 13.9
Terrain elevation difference (m) = .0

Output file names
VSIAC11.out
VSIAC11.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17356

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 50633

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18414.	21661.	26284.	33018.	38706.	49773.	66208.	66556.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	50633.	47211.	42268.	34939.	29704.	18240.	797.	57.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	26.67	31.45	38.34	48.59	56.58	73.18	98.81	99.91	100.00	100.00

95th PERCENTILE X/Q VALUES

1.42E-03	1.38E-03	1.31E-03	1.20E-03	9.62E-04	6.90E-04	4.00E-04	3.40E-04	2.90E-04	2.66E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.42E-03
2 to 8 hours	1.12E-03
8 to 24 hours	4.38E-04
1 to 4 days	3.03E-04
4 to 30 days	2.45E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.79E-03	8.65E-05
SECTOR-AVERAGE	1.05E-03	5.04E-05

NORMAL PROGRAM COMPLETION

VS2AC11.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
e-mail: jy11@nrc.gov
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L. A. Brown Phone: (301) 415 1232
e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/18/2003 at 09:45:29

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 48.3

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 195

Wind direction sector width (deg) = 90

Wind direction window (deg) = 150 - 240

Distance to intake (m) = 18.2

Intake height (m) = 13.9

Terrain elevation difference (m) = .0

Output file names

VS2AC11.out

VS2AC11.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 23249

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 44740

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	24307.	27669.	31947.	37537.	42169.	51253.	65398.	66433.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	44740.	41203.	36605.	30420.	26241.	16760.	1607.	180.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	35.20	40.17	46.60	55.24	61.64	75.36	97.60	99.73	100.00	100.00

95th PERCENTILE X/Q VALUES

4.34E-03 4.22E-03 4.01E-03 3.72E-03 3.01E-03 2.18E-03 1.37E-03 1.18E-03 1.02E-03 9.40E-04

95% X/Q for standard averaging intervals

0 to 2 hours 4.34E-03
2 to 8 hours 3.51E-03
8 to 24 hours 1.41E-03
1 to 4 days 1.10E-03
4 to 30 days 8.74E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	5.17E-03	3.04E-04
SECTOR-AVERAGE	3.01E-03	1.77E-04

NORMAL PROGRAM COMPLETION

VS1AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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J. J. Hayes Phone: (301) 415 3167
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L. A. Brown Phone: (301) 415 1232
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
e-mail: j_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/18/2003 at 09:45:36

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 48.3

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 327

Wind direction sector width (deg) = 90

Wind direction window (deg) = 282 - 012

Distance to intake (m) = 32.9

Intake height (m) = 16.1

Terrain elevation difference (m) = .0

Output file names

VS1AC13.out

VS1AC13.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 20846

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 47143

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720		
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.		
IN RANGE	21904.	25327.	30086.	36674.	42091.	52257.	66308.	66562.	67247.	67747.		
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.		
ZERO	47143.	43545.	38466.	31283.	26319.	15756.	697.	51.	0.	0.		
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.		
% NON ZERO	31.72	36.77	43.89	53.97	61.53	76.83	98.96	99.92	100.00	100.00		

95th PERCENTILE X/Q VALUES

2.89E-03 2.80E-03 2.66E-03 2.44E-03 1.97E-03 1.42E-03 8.29E-04 7.25E-04 6.30E-04 5.72E-04

95% X/Q for standard averaging intervals

0 to 2 hours 2.89E-03

2 to 8 hours 2.29E-03

8 to 24 hours 9.15E-04

1 to 4 days 6.32E-04

4 to 30 days 5.33E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 3.72E-03 1.42E-04

SECTOR-AVERAGE 2.17E-03 8.25E-05

NORMAL PROGRAM COMPLETION

VS2AC13.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/18/2003 at 09:45:41

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 48.3

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 122

Wind direction sector width (deg) = 90

Wind direction window (deg) = 077 - 167

Distance to intake (m) = 32.9

Intake height (m) = 16.1

Terrain elevation difference (m) = .0

Output file names

VS2AC13.out

VS2AC13.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 11787

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 56202

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	12845.	15748.	19911.	26462.	32227.	44143.	64522.	66202.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	56202.	53124.	48641.	41495.	36183.	23870.	2483.	411.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	18.60	22.87	29.05	38.94	47.11	64.90	96.29	99.38	100.00	100.00

95th PERCENTILE X/Q VALUES

2.62E-03 2.45E-03 2.22E-03 1.94E-03 1.54E-03 1.06E-03 5.79E-04 4.83E-04 3.95E-04 3.51E-04

95% X/Q for standard averaging intervals

0 to 2 hours 2.62E-03
2 to 8 hours 1.72E-03
8 to 24 hours 6.13E-04
1 to 4 days 4.20E-04
4 to 30 days 3.16E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	3.72E-03	2.72E-04
SECTOR-AVERAGE	2.17E-03	1.59E-04

NORMAL PROGRAM COMPLETION

VSISWGI.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/18/2003 at 09:45:51

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 48.3
Building Area (m^2) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m^3/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 187
Wind direction sector width (deg) = 90
Wind direction window (deg) = 142 - 232
Distance to intake (m) = 12.3
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names

VSISWGI.out
VSISWGI.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 22730

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 45259

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	23788.	27001.	31162.	36682.	41302.	50501.	65362.	66433.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	45259.	41871.	37390.	31275.	27108.	17512.	1643.	180.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	34.45	39.20	45.46	53.98	60.37	74.25	97.55	99.73	100.00	100.00

95th PERCENTILE X/Q VALUES

3.94E-03 3.84E-03 3.65E-03 3.40E-03 2.75E-03 1.99E-03 1.23E-03 1.06E-03 9.08E-04 8.43E-04

95% X/Q for standard averaging intervals

0 to 2 hours 3.94E-03

2 to 8 hours 3.21E-03

8 to 24 hours 1.28E-03

1 to 4 days 9.74E-04

4 to 30 days 7.84E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 4.73E-03 2.80E-04

SECTOR-AVERAGE 2.76E-03 1.63E-04

NORMAL PROGRAM COMPLETION

VS2SWG1.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/18/2003 at 09:51:04

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 48.3

Building Area (m²) = 2000.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 142

Wind direction sector width (deg) = 90

Wind direction window (deg) = 097 - 187

Distance to intake (m) = 72.4

Intake height (m) = 9.5

Terrain elevation difference (m) = .0

Output file names

VS2SWG1.out

VS2SWG1.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 13655

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 54334

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	14713.	17558.	21769.	28278.	33968.	45258.	64766.	66282.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	54334.	51314.	46783.	39679.	34442.	22755.	2239.	331.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	21.31	25.49	31.76	41.61	49.65	66.54	96.66	99.50	100.00	100.00

95th PERCENTILE X/Q VALUES

9.33E-04 8.97E-04 8.33E-04 7.42E-04 5.85E-04 3.95E-04 2.23E-04 1.88E-04 1.57E-04 1.40E-04

95% X/Q for standard averaging intervals

0 to 2 hours	9.33E-04
2 to 8 hours	6.78E-04
8 to 24 hours	2.21E-04
1 to 4 days	1.65E-04
4 to 30 days	1.27E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.22E-03	9.96E-05
SECTOR-AVERAGE	7.11E-04	5.81E-05

NORMAL PROGRAM COMPLETION

VSISWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/18/2003 at 09:46:08

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 48.3
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 307
Wind direction sector width (deg) = 90
Wind direction window (deg) = 262 - 352
Distance to intake (m) = 72.4
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
VSISWG2.out
VSISWG2.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18098

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 49891

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19156.	22391.	27040.	33804.	39471.	50434.	66260.	66545.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	49891.	46481.	41512.	34153.	28939.	17579.	745.	68.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	27.74	32.51	39.44	49.74	57.70	74.15	98.89	99.90	100.00	100.00

95th PERCENTILE X/Q VALUES

9.65E-04 9.43E-04 8.97E-04 8.24E-04 6.66E-04 4.79E-04 2.75E-04 2.35E-04 2.03E-04 1.84E-04

95% X/Q for standard averaging intervals

0 to 2 hours 9.65E-04

2 to 8 hours 7.78E-04

8 to 24 hours 3.06E-04

1 to 4 days 2.07E-04

4 to 30 days 1.70E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 1.22E-03 5.94E-05

SECTOR-AVERAGE 7.11E-04 3.47E-05

NORMAL PROGRAM COMPLETION

VS2SWG2.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/18/2003 at 09:51:09

***** ARCON INPUT *****

Number of Meteorological Data Files = 8.
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 48.3
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 262
Wind direction sector width (deg) = 90
Wind direction window (deg) = 217 - 307
Distance to intake (m) = 12.3
Intake height (m) = 9.5
Terrain elevation difference (m) = .0

Output file names
VS2SWG2.out
VS2SWG2.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17841

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 50148

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18899.	23007.	28560.	36324.	42440.	53400.	65893.	66514.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	50148.	45865.	39992.	31633.	25970.	14613.	1112.	99.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	27.37	33.41	41.66	53.45	62.04	78.51	98.34	99.85	100.00	100.00

95th PERCENTILE X/Q VALUES

3.82E-03 3.63E-03 3.36E-03 3.00E-03 2.40E-03 1.68E-03 9.91E-04 8.32E-04 7.10E-04 6.48E-04

95% X/Q for standard averaging intervals

0 to 2 hours 3.82E-03

2 to 8 hours 2.72E-03

8 to 24 hours 1.02E-03

1 to 4 days 7.61E-04

4 to 30 days 5.95E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 4.73E-03 2.56E-04

SECTOR-AVERAGE 2.76E-03 1.49E-04

NORMAL PROGRAM COMPLETION

VS1TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 15:36:18

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 48.3
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 275
Wind direction sector width (deg) = 90
Wind direction window (deg) = 230 - 320
Distance to intake (m) = 42.0
Intake height (m) = .9
Terrain elevation difference (m) = .0

Output file names
VS1TB.out
VS1TB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 17022

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 50967

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	18080.	21865.	27068.	34396.	40312.	51444.	65866.	66522.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	50967.	47007.	41484.	33561.	28098.	16569.	1139.	91.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	26.19	31.75	39.49	50.61	58.93	75.64	98.30	99.86	100.00	100.00

95th PERCENTILE X/Q VALUES

1.63E-03 1.55E-03 1.44E-03 1.30E-03 1.04E-03 7.40E-04 4.26E-04 3.58E-04 3.11E-04 2.83E-04

95% X/Q for standard averaging intervals

0 to 2 hours 1.63E-03

2 to 8 hours 1.19E-03

8 to 24 hours 4.61E-04

1 to 4 days 3.22E-04

4 to 30 days 2.61E-04

HOURLY VALUE RANGE

MAX X/Q MIN X/Q

CENTERLINE 2.01E-03 9.67E-05

SECTOR-AVERAGE 1.17E-03 5.64E-05

NORMAL PROGRAM COMPLETION

VS2TB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997. 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 15:36:24

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 48.3
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 175
Wind direction sector width (deg) = 90
Wind direction window (deg) = 130 - 220
Distance to intake (m) = 42.0
Intake height (m) = .9
Terrain elevation difference (m) = .0

Output file names
VS2TB.out
VS2TB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 20642

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 47347

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	21700.	24968.	29218.	34985.	39778.	49232.	65164.	66430.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	47347.	43904.	39334.	32972.	28632.	18781.	1841.	183.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	31.43	36.25	42.62	51.48	58.15	72.39	97.25	99.73	100.00	100.00

95th PERCENTILE X/Q VALUES

1.68E-03 1.62E-03 1.55E-03 1.42E-03 1.15E-03 8.17E-04 4.92E-04 4.24E-04 3.59E-04 3.36E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.68E-03
2 to 8 hours	1.34E-03
8 to 24 hours	5.14E-04
1 to 4 days	3.84E-04
4 to 30 days	3.12E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	2.01E-03	1.32E-04
SECTOR-AVERAGE	1.17E-03	7.72E-05

NORMAL PROGRAM COMPLETION

VS1WR.OUT.

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 15:36:03

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 48.3
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 017
Wind direction sector width (deg) = 90
Wind direction window (deg) = 332 - 062
Distance to intake (m) = 68.5
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
VS1WR.out
VS1WR.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 18810

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 49179

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	19868.	22924.	27123.	33172.	38489.	48612.	65635.	66449.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	49179.	45948.	41429.	34785.	29921.	19401.	1370.	164.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	28.77	33.28	39.57	48.81	56.26	71.47	97.96	99.75	100.00	100.00

95th PERCENTILE X/Q VALUES

9.54E-04	8.97E-04	8.35E-04	7.53E-04	6.16E-04	4.48E-04	2.72E-04	2.36E-04	1.96E-04	1.71E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	9.54E-04
2 to 8 hours	6.86E-04
8 to 24 hours	2.95E-04
1 to 4 days	2.13E-04
4 to 30 days	1.56E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.32E-03	4.35E-05
SECTOR-AVERAGE	7.68E-04	2.54E-05

NORMAL PROGRAM COMPLETION

VS2WR.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/11/2003 at 15:36:10

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 48.3
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 073
Wind direction sector width (deg) = 90
Wind direction window (deg) = 028 - 118
Distance to intake (m) = 68.5
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
VS2WR.out
VS2WR.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 10690

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 1058

Hours direction not in window or calm = 57299

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	11748.	14634.	18827.	25136.	30478.	41380.	63374.	65816.	67243.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	4.	0.	0.
ZERO	57299.	54238.	49725.	42821.	37932.	26633.	3631.	797.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	17.01	21.25	27.46	36.99	44.55	60.84	94.58	98.80	100.00	100.00

95th PERCENTILE X/Q VALUES

8.73E-04 8.30E-04 7.37E-04 6.53E-04 5.19E-04 3.59E-04 2.02E-04 1.69E-04 1.36E-04 1.16E-04

95% X/Q for standard averaging intervals

0 to 2 hours	8.73E-04
2 to 8 hours	5.79E-04
8 to 24 hours	2.12E-04
1 to 4 days	1.49E-04
4 to 30 days	1.03E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.32E-03	4.35E-05
SECTOR-AVERAGE	7.67E-04	2.54E-05

NORMAL PROGRAM COMPLETION

CTMTIWRA.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/14/2003 at 13:19:38

***** ARCON INPUT *****

Number of Meteorological Data Files = 8

Meteorological Data File Names

CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0

Height of upper wind instrument (m) = 60.0

Wind speeds entered as meters/second

Ground-level release

Release height (m) = 29.7

Building Area (m²) = 1.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m³/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 358

Wind direction sector width (deg) = 90

Wind direction window (deg) = 313 - 043

Distance to intake (m) = 33.4

Intake height (m) = 9.1

Terrain elevation difference (m) = .0

Output file names

CTMTIWRA.out

CTMTIWRA.jfd

Minimum Wind Speed (m/s) = .5

Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 19377

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 48807

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	20240.	24125.	29070.	35744.	41353.	51447.	66031.	66557.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	48807.	44747.	39482.	32213.	27057.	16566.	974.	56.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	29.31	35.03	42.41	52.60	60.45	75.64	98.55	99.92	100.00	100.00

95th PERCENTILE X/Q VALUES

1.22E-03 1.11E-03 1.00E-03 9.04E-04 7.39E-04 5.36E-04 3.30E-04 2.96E-04 2.56E-04 2.34E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.22E-03
2 to 8 hours	7.98E-04
8 to 24 hours	3.52E-04
1 to 4 days	2.61E-04
4 to 30 days	2.19E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.61E-03	1.68E-04
SECTOR-AVERAGE	9.39E-04	9.77E-05

NORMAL PROGRAM COMPLETION

CTMT1WRB.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/14/2003 at 13:19:46

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 10000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 358
Wind direction sector width (deg) = 90
Wind direction window (deg) = 313 - 043
Distance to intake (m) = 33.4
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
CTMT1WRB.out
CTMT1WRB.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 19377

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 48807

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	20240.	24125.	29070.	35744.	41353.	51447.	66031.	66557.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	48807.	44747.	39482.	32213.	27057.	16566.	974.	56.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	29.31	35.03	42.41	52.60	60.45	75.64	98.55	99.92	100.00	100.00

95th PERCENTILE X/Q VALUES

1.20E-03 1.09E-03 9.80E-04 8.82E-04 7.19E-04 5.19E-04 3.19E-04 2.84E-04 2.47E-04 2.26E-04

95% X/Q for standard averaging intervals

0 to 2 hours 1.20E-03
2 to 8 hours 7.77E-04
8 to 24 hours 3.38E-04
1 to 4 days 2.53E-04
4 to 30 days 2.11E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.60E-03	1.50E-04
SECTOR-AVERAGE	9.34E-04	8.76E-05

NORMAL PROGRAM COMPLETION

CTMTIWRC.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316
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Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 8/14/2003 at 13:27:35

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 100.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 358
Wind direction sector width (deg) = 90
Wind direction window (deg) = 313 - 043
Distance to intake (m) = 33.4
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
CTMTIWRC.out
CTMTIWRC.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 19377

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 863

Hours direction not in window or calm = 48807

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVR. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	20240.	24125.	29070.	35744.	41353.	51447.	66031.	66557.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	48807.	44747.	39482.	32213.	27057.	16566.	974.	56.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	29.31	35.03	42.41	52.60	60.45	75.64	98.55	99.92	100.00	100.00

95th PERCENTILE X/Q VALUES

1.20E-03	1.10E-03	9.84E-04	8.87E-04	7.24E-04	5.23E-04	3.22E-04	2.87E-04	2.49E-04	2.27E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.20E-03
2 to 8 hours	7.83E-04
8 to 24 hours	3.40E-04
1 to 4 days	2.55E-04
4 to 30 days	2.13E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.60E-03	1.54E-04
SECTOR-AVERAGE	9.35E-04	8.97E-05

NORMAL PROGRAM COMPLETION

CTMT1WRTS.OUT

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080
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Code Documentation: NUREG/CR-6331 Rev. 1

The program was prepared for an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibilities for any third party's use, or the results of such use, of any portion of this program or represents that its use by such third party would not infringe privately owned rights.

Program Run 8/29/2003 at 10:46:38

***** ARCON INPUT *****

Number of Meteorological Data Files = 8
Meteorological Data File Names
CC1991.MET
CC1992.MET
CC1993.MET
CC1994.MET
CC1995.MET
CC1996.MET
CC1997.MET
CC1998.MET

Height of lower wind instrument (m) = 10.0
Height of upper wind instrument (m) = 60.0
Wind speeds entered as meters/second

Ground-level release
Release height (m) = 29.7
Building Area (m²) = 2000.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 358
Wind direction sector width (deg) = 90
Wind direction window (deg) = 313 - 043
Distance to intake (m) = 36.6
Intake height (m) = 9.1
Terrain elevation difference (m) = .0

Output file names
CTMT1WRTS.out
CTMT1WRTS.jfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20

Sector averaging constant = 4.3

Initial value of sigma y = 6.99

Initial value of sigma z = 5.18

Expanded output for code testing not selected

Total number of hours of data processed = 70131

Hours of missing data = 1084

Hours direction in window = 19377

Hours elevated plume w/ dir. in window = 0.

Hours of calm winds = 863

Hours direction not in window or calm = 48807

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	20240.	24125.	29070.	35744.	41353.	51447.	66031.	66557.	67247.	67747.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	48807.	44747.	39482.	32213.	27057.	16566.	974.	56.	0.	0.
TOTAL X/Qs	69047.	68872.	68552.	67957.	68410.	68013.	67005.	66613.	67247.	67747.
% NON ZERO	29.31	35.03	42.41	52.60	60.45	75.64	98.55	99.92	100.00	100.00

95th PERCENTILE X/Q VALUES

1.11E-03 1.03E-03 9.18E-04 8.25E-04 6.74E-04 4.88E-04 2.99E-04 2.68E-04 2.32E-04 2.11E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.11E-03
2 to 8 hours	7.29E-04
8 to 24 hours	3.19E-04
1 to 4 days	2.36E-04
4 to 30 days	1.98E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.48E-03	1.39E-04
SECTOR-AVERAGE	8.65E-04	8.11E-05

NORMAL PROGRAM COMPLETION

ATTACHMENT F
ANALYSIS OF JOINT FREQUENCY DATA BY YEAR AND VELOCITY

Joint Frequency Data vs Year and Peak Velocity (m/s) at 60m													
	0.2	0.5	0.7	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0	
1991	31	46	34	104	236	348	994	2762	2655	1120	143	8	8481
1992	14	25	33	78	220	361	1120	3132	2498	1023	195	23	8722
1993	6	22	40	91	212	373	1134	3018	2414	1120	219	22	8671
1994	8	26	24	69	214	327	1018	2728	2699	1310	161	17	8601
1995	7	28	28	80	228	354	1099	3028	2573	1128	127	3	8683
1996	8	35	32	91	246	393	1019	3005	2380	1118	205	36	8568
1997	2	26	31	80	220	353	1046	2921	2605	1208	191	6	8689
1998	1	14	27	74	226	384	1162	3108	2366	938	176	37	8513
Average	9.6	27.8	31.1	83.4	225.3	361.6	1074.0	2962.8	2523.8	1120.6	177.1	19.0	
StdDev	9.5	9.4	4.9	11.3	11.4	21.2	62.6	149.3	128.3	111.1	31.6	13.0	

Joint Frequency Data vs Year and Peak Velocity (m/s) at 10m													
	0.2	0.5	0.7	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0	
1991	41	150	173	318	821	1043	2345	2887	855	75	0	0	8708
1992	61	124	143	315	856	1137	2456	2740	738	150	10	0	8730
1993	58	140	166	336	858	1178	2329	2553	872	178	5	0	8673
1994	39	111	132	346	775	977	2323	2826	900	113	6	2	8550
1995	22	96	135	323	779	1108	2454	2860	791	94	1	0	8663
1996	34	118	151	293	868	1134	2311	2387	807	213	4	0	8320
1997	41	97	126	302	830	1228	2481	2662	818	124	4	0	8713
1998	31	114	128	321	983	1320	2553	2477	589	124	12	0	8652
Average	40.9	118.8	144.3	319.3	846.3	1140.6	2406.5	2674.0	796.3	133.9	5.3	0.3	
StdDev	13.1	19.0	17.6	17.0	65.4	106.0	90.7	186.5	97.8	45.0	4.1	0.7	

Joint Frequency Data (%) vs Year and Peak Velocity (m/s) at 60m

	0.2	0.5	0.7	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0	
1991	0.37	0.54	0.40	1.23	2.78	4.10	11.72	32.57	31.31	13.21	1.69	0.09	100
1992	0.16	0.29	0.38	0.89	2.52	4.14	12.84	35.91	28.64	11.73	2.24	0.26	100
1993	0.07	0.25	0.46	1.05	2.44	4.30	13.08	34.81	27.84	12.92	2.53	0.25	100
1994	0.09	0.30	0.28	0.80	2.49	3.80	11.84	31.72	31.38	15.23	1.87	0.20	100
1995	0.08	0.32	0.32	0.92	2.63	4.08	12.66	34.87	29.63	12.99	1.46	0.03	100
1996	0.09	0.41	0.37	1.06	2.87	4.59	11.89	35.07	27.78	13.05	2.39	0.42	100
1997	0.02	0.30	0.36	0.92	2.53	4.06	12.04	33.62	29.98	13.90	2.20	0.07	100
1998	0.01	0.16	0.32	0.87	2.65	4.51	13.65	36.51	27.79	11.02	2.07	0.43	100
Average	0.11	0.32	0.36	0.97	2.62	4.20	12.46	34.38	29.29	13.01	2.06	0.22	
StdDev	0.11	0.11	0.06	0.14	0.15	0.26	0.70	1.64	1.52	1.28	0.36	0.15	

Joint Frequency Data (%) vs Year and Peak Velocity (m/s) at 10m

	0.2	0.5	0.7	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0	
1991	0.47	1.72	1.99	3.65	9.43	11.98	26.93	33.15	9.82	0.86	0.00	0.00	100
1992	0.70	1.42	1.64	3.61	9.81	13.02	28.13	31.39	8.45	1.72	0.11	0.00	100
1993	0.67	1.61	1.91	3.87	9.89	13.58	26.85	29.44	10.05	2.05	0.06	0.00	100
1994	0.46	1.30	1.54	4.05	9.06	11.43	27.17	33.05	10.53	1.32	0.07	0.02	100
1995	0.25	1.11	1.56	3.73	8.99	12.79	28.33	33.01	9.13	1.09	0.01	0.00	100
1996	0.41	1.42	1.81	3.52	10.43	13.63	27.78	28.69	9.70	2.56	0.05	0.00	100
1997	0.47	1.11	1.45	3.47	9.53	14.09	28.47	30.55	9.39	1.42	0.05	0.00	100
1998	0.36	1.32	1.48	3.71	11.36	15.26	29.51	28.63	6.81	1.43	0.14	0.00	100
Average	0.47	1.38	1.67	3.70	9.81	13.22	27.90	30.99	9.23	1.56	0.06	0.00	
StdDev	0.15	0.22	0.21	0.19	0.78	1.21	0.91	1.95	1.16	0.54	0.05	0.01	

ATTACHMENT G
ANALYSIS OF JOINT FREQUENCY DATA BY YEAR AND STABILITY CLASS

Joint Frequency Data vs Year and Stability Class at 10m and 60m

	A	B	C	D	E	F	G	
1991	1029	528	568	2705	2166	984	545	8525
1992	442	302	383	3364	2903	814	540	8748
1993	577	332	369	3096	2761	877	652	8664
1994	689	449	459	3083	2547	859	649	8735
1995	625	432	471	3376	2377	875	552	8708
1996	541	371	469	3285	2564	848	547	8625
1997	1329	409	435	2780	2202	857	681	8693
1998	886	335	385	2663	2634	1156	621	8680
Average	764.75	394.75	442.38	3044.00	2519.25	908.75	598.38	
StdDev	297.05	74.61	65.29	293.92	258.38	111.33	58.34	

Joint Frequency Data (%) vs Year and Stability Class at 10m and 60m

	A	B	C	D	E	F	G	
1991	12.07	6.19	6.66	31.73	25.41	11.54	6.39	100
1992	5.05	3.45	4.38	38.45	33.18	9.30	6.17	100
1993	6.66	3.83	4.26	35.73	31.87	10.12	7.53	100
1994	7.89	5.14	5.25	35.29	29.16	9.83	7.43	100
1995	7.18	4.96	5.41	38.77	27.30	10.05	6.34	100
1996	6.27	4.30	5.44	38.09	29.73	9.83	6.34	100
1997	15.29	4.70	5.00	31.98	25.33	9.86	7.83	100
1998	10.21	3.86	4.44	30.68	30.35	13.32	7.15	100
Average	8.83	4.56	5.11	35.09	29.04	10.48	6.90	
StdDev	3.45	0.89	0.79	3.27	2.86	1.31	0.66	