

EFFLUENT AND WASTE DISPOSAL SEMI ANNUAL REPORT
July 1, 1980 - December 31, 1980
SUPPLEMENTAL INFORMATION

FACILITY TMI-Unit-II/Eplicor II LICENSEE DPR-73-320

1. Regulatory Limits

- a. Fission and activation gases:
 - b. Iodines:
 - c. Particulates, half-lives > 8 days:
 - d. Liquid effluents:
- Environmental Tech Specs,
Article 2.3

2. Maximum Permissible Concentrations

Provide the MPCs used in determining allowable release rates or concentrations.

- a. Fission and activation gases:
 - b. Iodines:
 - c. Particulates, half-lives 8 days:
 - d. Liquid effluents:
- 10 CFR, Part 20, Appendix B

3. Average Energy

Provide the average energy ($\bar{E}$) of the radionuclide mixture in releases of fission and activation gases, if applicable 0.253 MeV.

4. Measurements and Approximations of Total Radioactivity

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

- a. Fission and activation gases: Ge(Li) Spectrometry, Liquid Scintillation
- b. Iodines: Ge(Li) Spectrometry
- c. Particulates: Ge(Li) Spectrometry, Gas Flow Proportional
- d. Liquid effluents: Ge(Li) Spectrometry, Liquid Scintillation

5. Batch Releases

Provide the following information relating to batch releases of radioactive materials in liquid and gaseous effluents.

A. Liquid

- 1. Number of batch releases: None
- 2. Total time period for batch release: N/A
- 3. Maximum time period for a batch release: N/A
- 4. Average time period for batch releases: N/A
- 5. Minimum time period for a batch release: N/A
- 6. Average stream flow during periods of N/A release of effluent into flowing stream: N/A

5. Batch Releases (cont.)

B. Gaseous

1. Number of batch releases: None
- = 2. Total time period for batch releases: N/A
3. Maximum time period for a batch release: N/A
- = 4. Average time period for batch release: N/A
5. Minimum time period for a batch release: N/A

6. Abnormal Releases

A. Liquid

1. Number of releases: None
2. Total activity released: N/A

B. Gaseous

1. Number of releases: None
2. Total activity released: N/A

TABLE 1A
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	UNIT Epicor-II	3rd QUARTER 1980	4th QUARTER 1980	EST. TOTAL ERROR, %
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A. Fission & activation gases

1. Total release	Ci	8.91E-2	4.03E-1	2.5 E1
2. Average release rate for period	μCi/sec.	1.12E-2	5.07E-2	Tech Spec Limit = 20% of 2.4 E4 m ³ /sec
3. Percent of Tech Spec limit	%	7.78E-4	3.52E-3	= 4.8 E3 m ³ /sec 1.44 E3 μCi/sec for Kr-85

B. Iodines

1. Total Iodine-131	μCi/cc	< 2E-14	< 2E-14	2.5 E1
2. Average release rate for period	μCi/sec.	N/A	N/A	Tech Spec Limit = 20% of 0.024 μCi/sec
3. Percent of Tech Spec limit	%	N/A	N/A	= 0.0048 μCi/sec

C. Particulates

1. Particulates with half-lives > 8 Days	Ci	4.21 E-6	3.36 E-7	2.5 E1
2. Average release rate for period	μCi/sec.	5.30 E-7	4.23 E-8	Tech Spec Limit = 20% of 0.024 μCi/sec
3. Percent of Tech Spec limit	%	1.10 E-2	8.81 E-4	= 0.0048 μCi/sec
4. Gross alpha radioactivity	Ci	8.11 E-8	4.86 E-8	

D. Tritium

1. Total release	Ci	2.91 E-1	< 1E-6 μCi/cc	2.5 E1
2. Average release rate for period	μCi/sec.	3.66 E-2	N/A	Tech Spec Limit = 20% of 2.4E4 m ³ /sec
3. Percent of Tech Spec limit	%	3.81 E-3	N/A	= 4.8 E3 m ³ /sec = 9.6 E2 μCi/sec

TABLE 1C
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
GASEOUS EFFLUENTS-GROUND LEVEL RELEASE

Nuclides Released	UNIT Epicor-II	Continuous Mode		Batch Mode	
		1980 3rd QUARTER	1980 4th QUARTER	1980 3rd QUARTER	1980 4th QUARTER

1. Fission gases

No Batch Releases in
second half of 1980

krypton-85	C1	8.91E-2	4.03E-1		
krypton-85m	u C1/cc	< LLD	< LLD		
krypton-87	u C1/cc	< LLD	< LLD		
krypton-88	u C1/cc	< LLD	< LLD		
xenon-133	u C1/cc	< LLD	< LLD		
xenon-135	u C1/cc	< LLD	< LLD		
xenon-135m	u C1/cc	< LLD	< LLD		
xenon-138	u C1/cc	< LLD	< LLD		
Others (specify)	C1				
	C1				
	C1				
	C1				
	C1				
Unidentified	C1				
Total for period	C1	8.91E-2	4.03E-1		

2. Iodines

iodine-131	u C1/cc	< LLD	< LLD		
iodine-133	u C1/cc	< LLD	< LLD		
iodine-135	u C1/cc	< LLD	< LLD		
Total for period	C1	N/A	N/A		

See Table 4 for Typical gaseous effluent LLD Values.

TABLE 1C (cont.)
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
GASEOUS EFFLUENTS-GROUND LEVEL RELEASES

		Continuous Mode		Batch Mode	
Nuclides Released	UNIT Epicor-II	3rd QUARTER	4th QUARTER	3rd QUARTER	4th QUARTER
		1980	1980	1980	1980
3. Particulates		No Batch Releases in Second half of 1980.			
strontium-89	C1	1.83 E-8	1.41E-9		
strontium-90	C1	2.49 E-7	3.82 E-8		
cesium-134	C1	< LLD	< LLD		
cesium-137	C1	3.72 E-6	2.27 E-8		
barium-lanthanum-140	C1	< LLD	< LLD		
Others (specify)					
Unidentified		2.04 E-7	2.74 E-7		

See Table 4 for Typical gaseous effluent LLD Values.

TABLE 2A
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

No Liquid Releases from Epicor-II in second half of 1980.	UNIT Epicor-II	3rd 1980 QUARTER	4th 1980 QUARTER	EST. TOTAL ERROR %
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A-- Fission and activation products

1. Total releases (not including tritium, gases, alpha)	Ci	N/A	N/A	2.5 E1
2. Average diluted concentration during period	µCi/ml	N/A	N/A	
3. Percent of applicable limit	%	N/A	N/A	

B. Tritium

1. Total release	Ci	N/A	N/A	2.5 E1
2. Average diluted concentration during period	µCi/ml	N/A	N/A	
3. Percent of applicable limit	%	N/A	N/A	

C. Dissolved and entrained gases

1. Total release	Ci	N/A	N/A	2.5 E1
2. Average diluted concentration during period	µCi/ml	N/A	N/A	
3. Percent of applicable limit	%	N/A	N/A	

D. Gross alpha radioactivity

1. Total release	Ci	N/A	N/A	2.5 E1
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E. Volume of waste released (prior to dilution)	liters	N/A	N/A	1.0 E1
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F. Volume of dilution water used during period	liters	N/A	N/A	1.0 E1
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TABLE 2B
EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT
LIQUID EFFLUENTS

No. Liquid Releases from Epicor-II in Second half of 1980.

Nuclides Released	UNIT Epicor-II	Continuous Mode		Batch Mode	
		3rd 1980 QUARTER	4th 1980 QUARTER	3rd 1980 QUARTER	4th 1980 QUARTER
strontium-89	C1				
strontium-90	C1				
cesium-134	C1				
cesium-137	C1				
iodine-131	C1				
cobalt-58	C1				
cobalt-60	C1				
iron-59	C1				
zinc-65	C1				
manganese-54	C1				
chromium-51	C1				
zirconium-niobium-95	C1				
molybdenum-99	C1				
technetium-99m	C1				
barium-lanthanum-140	C1				
cerium-141	C1				
Other (specify)	C1				
	C1				
	C1				
	C1				
	C1				
	C1				
	C1				
	C1				
Unidentified	C1				
Total for period	C1				
xenon-133	C1				
xenon-135	C1				

TABLE 3A
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
 No waste shipped from Epicor II during second half of 1980 (7/1/80 thru 12/31/80)

A. Solid waste shipped off-site for burial or disposal (not irradiated fuel)

1. Type of waste	UNIT	Epicor II	6 month period	EST. TOTAL ERROR %
a. Spent resins, filter sludges, evaporator bottoms, etc.	m ³	C1		
b. Dry compressible waste, contaminated equipment, etc.	m ³	C1		
c. Irradiated components, control rods, etc.	m ³	C1		
d. Other (describe)	m ³	C1		

2. Estimate of major nuclide composition (by type of waste)		
a.	2	
	2	
	2	
b.	2	
	2	
	2	
	2	
	2	
c.	2	
	2	
	2	
	2	
d.	2	
	2	
	2	
	2	
	2	

3. Solid Waste Disposition	Mode of Transportation	Destination
Number of Shipments		

B. Irradiated Fuel Shipments (Disposition)

Number of Shipments	Mode of Transportation	Destination

TYPICAL GASEOUS EFFLUENT LLD (Lower Limit of Detection) VALUES

ASSUMPTIONS:	Sample Volume (Marinelli)	1640 cc
	Sample Volume (Particulate and Charcoal Filters)	5.7E8 cc
	Sampling Rate	2 cfm or 5.66E4 cc/min
	Sampling Time	1 week or 1E4 min
	Sample Volume (Tritium bubbled thru water)	7.56E5 cc
	Sampling Rate	75 cc/min
	Sampling Time	1E4 min
	Sample Counting Time: α & ^3H	α = 20min; β = 10min; γ = 1000 min
	Sample Counters: γ emitters	25% Ge(Li)
	α or β	Proportional Counter
	^3H	Liquid Scintillation Counter

ISOTOPE		UCI/cc LLD	TYPE SAMPLE
Gross Alpha	α	1E-15	Particulate Filter Paper
Gross Beta	β	1E-14	"
Tritium	^3H	1E-6	Air bubbled thru water by a fritted disc or Fisher Milligan gas washer
Krypton-85	^{85}Kr	2E-5	Marinelli
Krypton-85m	$^{85\text{m}}\text{Kr}$	4E-8	"
Krypton-87	^{87}Kr	4E-8	"
Krypton-88	^{88}Kr	2E-7	"
Xenon-133	^{133}Xe	1E-7	"
Xenon-133m	$^{133\text{m}}\text{Xe}$	6E-8	"
Xenon-135	^{135}Xe	3E-8	"
Xenon-135m	$^{135\text{m}}\text{Xe}$	4E-7	"
Xenon-138	^{138}Xe	4E-7	"
Iodine-131	^{131}I	3E-8	"
Iodine-133	^{133}I	3E-8	"
Iodine-135	^{135}I	2E-7	"
Iodine-131	^{131}I	2E-14	Charcoal Filter
Iodine-133	^{133}I	1E-13	"
Iodine-135	^{135}I	1E-12	"
Manganese-54	^{54}Mn	2E-14	Particulate Filter Paper
Iron-59	^{59}Fe	2E-14	"
Cobalt-58	^{58}Co	2E-14	"
Cobalt-60	^{60}Co	2E-14	"
Zinc-65	^{65}Zn	5E-14	"
Strontium-89	^{89}Sr	2E-14	"
Strontium-90	^{90}Sr	2E-14	"
Molybdenum-99	^{99}Mo	7E-15	"
Ruthenium-103	^{103}Ru	1E-13	"
Silver-110m	$^{110\text{m}}\text{Ag}$	1E-13	"
Cesium-134	^{134}Cs	2E-14	"
Cesium-137	^{137}Cs	2E-14	"
Cerium-141	^{141}Ce	1E-14	"
Cerium-144	^{144}Ce	6E-14	"

Attachment 1 Three Mile Island Joint Frequency Tables Third Quarter 1980

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 80 7 1 1-80 93024
STABILITY CLASS: A
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	12	10	3	2	0	0	27
NNE	8	1	0	0	0	0	9
N	3	1	0	0	0	0	4
ENE	2	4	0	0	0	0	6
E	5	7	3	0	0	0	15
ESE	9	17	1	0	0	0	27
SE	10	8	6	0	0	0	24
SSE	4	13	4	0	0	0	21
S	9	9	4	0	0	0	22
SSU	13	42	10	0	0	0	65
SU	16	43	5	0	0	0	64
USU	24	23	3	0	0	0	50
U	18	27	8	1	0	0	54
UNU	22	51	16	0	0	0	89
NU	26	46	24	7	0	0	103
MNU	22	36	17	20	0	0	95
VARIABLE	51	0	0	0	0	0	51
TOTAL	675						
PERIODS OF CALM(HOURS):	0						0
HOURS OF MISSING DATA:	242						242

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 80 7 1 1-80 93024
STABILITY CLASS: B
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	0	1	0	0	0	0	1
NNE	0	1	0	0	0	0	1
N	1	0	0	0	0	0	1
ENE	1	1	0	0	0	0	2
E	0	2	0	0	0	0	2
ESE	0	2	0	0	0	0	2
SE	0	2	3	0	0	0	5
SSE	1	1	0	0	0	0	2
S	3	2	2	0	0	0	7
SSU	4	2	1	0	0	0	7
SU	0	0	0	0	0	0	0
USU	1	2	0	0	0	0	3
U	1	2	0	0	0	0	3
UNU	0	0	0	0	0	0	0
NU	1	0	1	0	0	0	2
MNU	0	1	1	1	0	0	3
VARIABLE	2	0	0	0	0	0	2
TOTAL	41						
PERIODS OF CALM(HOURS):	0						0
HOURS OF MISSING DATA:	242						242

Attachment 1 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION							HOURS AT EACH WIND SPEED AND DIRECTION																		
PERIOD OF RECORD*		80 7 1 1-80 93024					PERIOD OF RECORD*		80 7 1 1-80 53024																
STABILITY CLASS:		C					STABILITY CLASS:		D																
ELEVATION:		SPEED:SP1000 DIRECTION:DI1000 LAPSE:DT1500					ELEVATION:		SPEED:SP1000 DIRECTION:DI1000 LAPSE:DT1500																
WIND DIRECTION		WIND SPEED(MPH)					WIND DIRECTION		WIND SPEED(MPH)																
1-3		3-4		8-12		13-18		19-24		>24 TOTAL		1-3		3-4		8-12		13-18		19-24		>24 TOTAL			
N	0	0	0	0	0	0	0	0	0	0	0	N	5	1	0	0	0	0	0	0	0	6			
NNE	1	0	0	0	0	0	0	0	0	1	0	NNE	8	3	1	0	0	0	0	0	0	12			
NE	0	0	0	0	0	0	0	0	0	0	0	NE	4	5	0	0	0	0	0	0	0	9			
ENE	0	0	3	0	0	0	0	0	0	3	0	ENE	10	5	0	0	0	0	0	0	0	15			
E	0	0	0	0	0	0	0	0	0	0	0	E	15	8	2	0	0	0	0	0	0	25			
ESE	0	0	4	0	0	0	0	0	0	4	0	ESE	8	12	2	0	0	0	0	0	0	22			
SE	1	1	1	0	0	0	0	0	0	2	0	SE	10	9	16	0	0	0	0	0	0	35			
SSE	0	0	1	0	0	0	0	0	0	1	0	SSE	4	16	8	0	0	0	0	0	0	28			
S	1	1	3	0	0	0	0	0	0	4	0	S	6	13	4	0	0	0	0	0	0	23			
SSU	3	2	0	0	0	0	0	0	0	5	0	SSU	9	17	3	0	0	0	0	0	0	29			
SU	7	1	0	0	0	0	0	0	0	1	0	SU	11	8	2	0	0	0	0	0	0	21			
USU	1	2	1	0	0	0	0	0	0	4	0	USU	8	4	1	0	0	0	0	0	0	13			
U	0	0	0	1	0	0	0	0	0	1	0	U	4	5	0	0	0	0	0	0	0	9			
UNU	0	0	1	0	0	0	0	0	0	1	0	UNU	3	6	4	0	0	0	0	0	0	13			
MU	0	0	0	1	0	0	0	0	0	1	0	MU	1	5	1	0	0	0	0	0	0	7			
MNU	1	0	0	0	0	0	0	0	0	1	0	MNU	0	5	2	0	0	0	0	0	0	7			
VARIABLE	2	0	0	0	0	0	0	0	0	2	0	VARIABLE	25	0	0	0	0	0	0	0	0	25			
TOTAL		29		274		PERIODS OF CALM(HOURS):		0		HOURS OF MISSING DATA:		242		TOTAL		274		PERIODS OF CALM(HOURS):		0		HOURS OF MISSING DATA:		242	

Attachment 1 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION							HOURS AT EACH WIND SPEED AND DIRECTION						
PERIOD OF RECORD		80 7 1 1-80 93024					PERIOD OF RECORD		80 7 1 1-80 93024				
STABILITY CLASS		E					STABILITY CLASS		F				
ELEVATION		SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A					ELEVATION		SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A				
WIND SPEED(MPH)							WIND SPEED(MPH)						
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL
N	13	18	0	0	1	0 41	N	13	6	0	0	0	0 19
NNE	13	2	0	0	0	0 15	NNE	6	0	0	0	0	0 6
NE	8	4	0	0	0	0 12	NE	4	0	0	0	0	0 4
ENE	16	9	0	0	0	0 25	ENE	11	2	0	0	0	0 13
E	21	8	0	0	0	0 29	E	16	0	0	0	0	0 16
ESE	19	12	0	0	0	0 31	ESE	20	6	0	0	0	0 26
SE	18	13	1	0	0	0 32	SE	16	1	0	0	0	0 17
SSE	22	8	0	0	0	0 30	SSE	21	2	0	0	0	0 24
S	16	16	2	0	0	0 34	S	33	8	0	0	0	0 41
SSU	27	14	3	0	0	0 44	SSU	20	2	0	0	0	0 24
SU	23	16	2	0	0	0 41	SU	13	2	1	0	0	0 16
USU	22	15	1	0	0	0 38	USU	19	3	0	0	0	0 22
U	21	18	1	1	0	0 41	U	29	15	3	0	0	0 47
UNU	13	20	7	1	0	0 41	UNU	16	10	4	0	0	0 30
MU	9	18	11	1	1	0 40	MU	8	10	1	0	0	0 19
MNU	14	6	3	3	0	0 26	MNU	12	11	1	0	0	0 24
VARIABLE	42	0	0	0	0	0 42	VARIABLE	43	0	0	0	0	0 43
TOTAL 520							TOTAL 348						
PERIODS OF CALM(HOURS): 9							PERIODS OF CALM(HOURS): 3						
HOURS OF MISSING DATA: 242							HOURS OF MISSING DATA: 242						

Attachment 1 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION													
PERIOD OF RECORD- 80 7 1 1-80 93024													
STABILITY CLASS: G													
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A													
WIND SPEED(MPH)													
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL
N	3	1	0	0	0	4	N	46	37	3	2	1	98
NNE	2	0	0	0	0	2	NNE	38	7	1	0	0	46
NE	1	0	0	0	0	1	NE	21	10	0	0	0	31
ENE	3	0	0	0	0	3	ENE	43	24	0	0	0	7
E	2	2	0	0	0	4	E	59	27	5	0	0	9
ESE	7	1	0	0	0	8	ESE	63	54	3	0	0	120
SE	2	1	0	0	0	3	SE	57	35	26	0	0	118
SSE	8	0	0	0	0	8	SSE	60	41	12	0	0	114
S	12	1	0	0	0	13	S	80	52	12	0	0	144
SSW	3	0	0	0	0	3	SSW	79	79	17	0	0	177
SU	4	0	0	0	0	4	SU	67	70	10	0	0	147
USU	5	0	0	0	0	5	USU	80	49	6	0	0	135
U	1	1	0	0	0	3	U	74	68	13	2	0	158
UNU	7	1	0	0	0	8	UNU	61	89	31	1	0	182
MU	5	0	0	0	0	5	MU	50	79	39	8	1	177
MNU	4	1	0	0	0	5	MNU	53	60	24	24	0	161
VARIABLE	11	0	0	0	0	11	VARIABLE	176	0	0	0	0	176
TOTAL 70							TOTAL 1966						
PERIODS OF CALM(HOURS): 1							PERIODS OF CALM(HOURS): 13						
HOURS OF MISSING DATA: 242							HOURS OF MISSING DATA: 242						

Attachment 2 Three Mile Island Unit 1 Joint Frequency Tables For Specific Dates During the Third Quarter 1980

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 0000-0000

STABILITY CLASS: A

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	7	6	3	2	0	0	18
NNE	4	0	0	0	0	0	4
NNE	2	1	0	0	0	0	3
ENE	2	4	0	0	0	0	6
E	4	7	3	0	0	0	14
ESE	7	16	1	0	0	0	24
SE	8	7	6	0	0	0	21
SSE	4	10	4	0	0	0	18
S	6	8	2	0	0	0	16
SSW	12	28	5	0	0	0	45
SW	11	29	3	0	0	0	43
WSW	20	16	3	0	0	0	39
W	14	19	6	1	0	0	40
WNW	17	37	14	0	0	0	68
W	22	30	16	7	0	0	75
NNW	16	24	13	10	0	0	63
VARIABLE	33	0	0	0	0	0	33
TOTAL	497						
PERIODS OF CALM(HOURS):							0
HOURS OF MISSING DATA:							227

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 0000-0000

STABILITY CLASS: B

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	0	1	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NNE	1	0	0	0	0	0	1
ENE	1	1	0	0	0	0	2
E	0	2	0	0	0	0	2
ESE	0	2	0	0	0	0	2
SE	0	2	3	0	0	0	5
SSE	1	1	0	0	0	0	2
S	3	2	2	0	0	0	7
SSW	4	1	1	0	0	0	6
SW	0	0	0	0	0	0	0
WSW	0	2	0	0	0	0	2
W	1	2	0	0	0	0	3
WNW	0	0	0	0	0	0	0
W	1	0	1	0	0	0	2
NNW	0	1	0	0	0	0	1
VARIABLE	2	0	0	0	0	0	2
TOTAL	36						
PERIODS OF CALM(HOURS):							0
HOURS OF MISSING DATA:							227

Attachment 2 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION													
PERIOD OF RECORD+ 0000-0000													
STABILITY CLASS: C													
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A													
WIND SPEED(MPH)													
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL
N	0	0	0	0	0	0	N	4	0	0	0	0	4
NNE	0	0	0	0	0	0	NNE	5	2	1	0	0	8
NE	0	0	0	0	0	0	NE	3	4	0	0	0	7
ENE	0	3	0	0	0	3	ENE	8	5	0	0	0	13
E	0	0	0	0	0	0	E	14	7	2	0	0	23
ESE	0	3	0	0	0	3	ESE	8	12	2	0	0	22
SE	1	1	0	0	0	2	SE	8	7	15	0	0	30
SSE	0	1	0	0	0	1	SSE	3	14	8	0	0	25
S	1	3	0	0	0	4	S	4	9	4	0	0	17
SSW	2	2	0	0	0	4	SSW	8	10	3	0	0	21
SW	0	1	0	0	0	1	SW	10	8	0	0	0	18
WSW	1	1	0	0	0	2	WSW	7	3	1	0	0	11
W	0	0	1	0	0	1	W	4	2	0	0	0	6
WNW	0	0	0	0	0	0	WNW	3	4	2	0	0	9
W	0	0	1	0	0	1	W	1	4	1	0	0	6
WNW	0	0	0	0	0	0	WNW	0	3	2	0	0	5
VARIABLE	0	0	0	0	0	0	VARIABLE	23	0	0	0	0	23
TOTAL	22	22	22	22	22	22	TOTAL	225	225	225	225	225	225
PERIODS OF CALM(HOURS):	0						PERIODS OF CALM(HOURS):	0					
HOURS OF MISSING DATA:	227						HOURS OF MISSING DATA:	227					

Attachment 2 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD 0 0 0 0 0 0 0 0

STABILITY CLASS E

ELEVATION SPEED 1000 DIRECTION 1000 LAPSE 101500

WIND SPEED (MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24 TOTAL
N	10	11	0	0	0	21
NNE	10	0	0	0	0	10
NE	5	2	0	0	0	7
ENE	14	8	0	0	0	22
E	17	7	0	0	0	24
ESE	17	10	0	0	0	27
SE	16	10	1	0	0	27
SSE	15	3	0	0	0	18
S	14	6	2	0	0	22
SSW	20	9	2	0	0	31
SW	18	10	2	0	0	30
WSW	17	11	1	0	0	29
W	16	7	1	0	0	24
WNW	13	13	1	0	0	27
NW	9	8	3	1	1	22
NNW	13	6	3	1	0	23
VARIABLE	32	0	0	0	0	32
TOTAL	369					
PERIODS OF CALM (HOURS)	0					
HOURS OF MISSING DATA	227					

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD 0 0 0 0 0 0 0 0

STABILITY CLASS F

ELEVATION SPEED 1000 DIRECTION 1000 LAPSE 101500

WIND SPEED (MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24 TOTAL
N	10	2	0	0	0	12
NNE	3	0	0	0	0	3
NE	3	0	0	0	0	3
ENE	9	1	0	0	0	10
E	12	0	0	0	0	12
ESE	16	5	0	0	0	21
SE	13	1	0	0	0	14
SSE	20	1	0	0	0	22
S	30	8	0	0	0	38
SSW	16	1	0	0	0	19
SW	12	2	1	0	0	15
WSW	13	2	0	0	0	15
W	25	12	0	0	0	37
WNW	14	5	2	0	0	21
NW	5	6	1	0	0	12
NNW	7	8	1	0	0	16
VARIABLE	28	0	0	0	0	28
TOTAL	270					
PERIODS OF CALM (HOURS)	3					
HOURS OF MISSING DATA	227					

Attachment 2 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION				HOURS AT EACH WIND SPEED AND DIRECTION			
PERIOD OF RECORD- 0000-0000				PERIOD OF RECORD- 0000-0000			
STABILITY CLASS: C				STABILITY CLASS: ALL			
ELEVATION: SPEEDDISP100A DIRECTIONDI100A LAPSEIDT150A				ELEVATION: SPEEDDISP100A DIRECTIONDI100A LAPSEIDT150A			
WIND SPEED(MPH)				WIND SPEED(MPH)			
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	3	0	0	0	0	0	3
NNE	1	0	0	0	0	0	1
NE	1	0	0	0	0	0	1
ENE	1	0	0	0	0	0	1
E	2	1	0	0	0	0	3
ESE	5	1	0	0	0	0	6
SE	1	1	0	0	0	0	2
SSE	7	0	0	0	0	0	7
S	2	0	0	0	0	0	12
SSW	2	0	0	0	0	0	2
SW	4	0	0	0	0	0	4
WSW	2	0	0	0	0	0	2
W	1	1	0	0	0	0	3
WNW	4	0	0	0	0	0	4
NW	2	0	0	0	0	0	2
NNW	2	1	0	0	0	0	3
VARIABLE	7	0	0	0	0	0	7
TOTAL	55	2	1	0	0	0	58
PERIODS OF CALM(HOURS):	1			4			5
HOURS OF MISSING DATA:	227			227			227

Attachment 3 Three Mile Island Unit 2 Joint Frequency Tables For Specific Dates During the Third Quarter 1980

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 0000-0000

STABILITY CLASS: A

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	10	8	3	2	0	0	23
NNE	5	0	0	0	0	0	5
NE	2	1	0	0	0	0	3
ENE	2	4	0	0	0	0	6
E	5	7	3	0	0	0	15
ESE	7	16	1	0	0	0	24
SE	10	7	6	0	0	0	23
SSE	4	10	4	0	0	0	18
S	8	9	3	0	0	0	20
SSW	13	33	6	0	0	0	52
SW	15	31	3	0	0	0	49
WSW	20	20	3	0	0	0	43
W	17	23	7	1	0	0	48
WNW	19	43	14	0	0	0	76
NW	24	35	16	7	0	0	82
NNW	19	32	15	20	0	0	86
VARIABLE	43	0	0	0	0	0	43
TOTAL	573						
PERIODS OF CALM(HOURS):							230
HOURS OF MISSING DATA:							230

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 0000-0000

STABILITY CLASS: B

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	0	1	0	0	0	0	1
NNE	0	1	0	0	0	0	1
NE	1	0	0	0	0	0	1
ENE	1	1	0	0	0	0	2
E	0	2	0	0	0	0	2
ESE	0	2	0	0	0	0	2
SE	0	2	3	0	0	0	5
SSE	1	1	0	0	0	0	2
S	3	2	2	0	0	0	7
SSW	4	1	1	0	0	0	6
SW	0	0	0	0	0	0	0
WSW	1	1	0	0	0	0	2
W	1	2	0	0	0	0	3
WNW	0	0	0	0	0	0	0
NW	1	0	1	0	0	0	2
NNW	0	1	0	1	0	0	2
VARIABLE	2	0	0	0	0	0	2
TOTAL	38						
PERIODS OF CALM(HOURS):							230
HOURS OF MISSING DATA:							230

HOURS AT EACH WIND SPEED AND DIRECTION		HOURS AT EACH WIND SPEED AND DIRECTION	
PERIOD OF RECORD-	0 0 0 0 - 0 0 0 0	PERIOD OF RECORD-	0 0 0 0 - 0 0 0 0
STABILITY CLASS:	C	STABILITY CLASS:	D
ELEVATION:	SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A WIND SPEED:MPH)	ELEVATION:	SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A WIND SPEED:MPH)

WIND DIRECTION	PERIODS OF CALM(HOURS)				TOTAL 24
	1-3	3-4	8-12	13-19	
N	0	0	0	0	0
NNE	1	0	0	0	1
N E	0	0	0	0	0
E NE	0	2	0	0	2
E	0	0	0	0	0
ESE	0	4	0	0	4
SE	1	1	0	0	2
SSE	0	1	0	0	1
S	1	3	0	0	4
SSW	2	2	0	0	4
SW	0	1	0	0	1
WSW	1	2	0	0	3
W	0	0	1	0	1
WNW	0	0	0	0	0
NW	0	0	1	0	1
NNW	0	0	0	0	0
VARIABLE	1	0	0	0	1
TOTAL	6	6	1	0	13

Attachment 3 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION															
PERIOD OF RECORD- 0 0 0 0- 0 0 0 0															
STABILITY CLASS: F															
ELEVATION: SPEED: 1000A DIRECTION: 1100A LAPSE: 10150A															
WIND SPEED (MPH)															
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	12	5	0	0	0	0	17	N	12	5	0	0	0	0	17
NNE	4	0	0	0	0	0	4	NNE	4	0	0	0	0	0	4
NE	3	0	0	0	0	0	3	NE	3	0	0	0	0	0	3
ENE	9	1	0	0	0	0	10	ENE	9	1	0	0	0	0	10
E	14	0	0	0	0	0	14	E	14	0	0	0	0	0	14
ESE	16	6	0	0	0	0	22	ESE	16	6	0	0	0	0	22
SE	15	1	0	0	0	0	16	SE	15	1	0	0	0	0	16
SSE	20	2	0	0	0	0	23	SSE	20	2	0	0	0	0	23
S	30	8	0	0	0	0	38	S	30	8	0	0	0	0	38
SSW	16	2	0	0	0	0	19	SSW	16	2	0	0	0	0	19
SW	12	2	1	0	0	0	15	SW	12	2	1	0	0	0	15
WSW	15	3	0	0	0	0	18	WSW	15	3	0	0	0	0	18
W	27	13	0	0	0	0	40	W	27	13	0	0	0	0	40
WNW	15	8	3	0	0	0	26	WNW	15	8	3	0	0	0	26
NW	6	8	1	0	0	0	15	NW	6	8	1	0	0	0	15
NNW	7	10	1	0	0	0	18	NNW	7	10	1	0	0	0	18
VARIABLE	33	0	0	0	0	0	33	VARIABLE	33	0	0	0	0	0	33
TOTAL 298															
PERIODS OF CALM (HOURS): 2															
HOURS OF MISSING DATA: 230															

HOURS AT EACH WIND SPEED AND DIRECTION															
PERIOD OF RECORD- 0 0 0 0- 0 0 0 0															
STABILITY CLASS: E															
ELEVATION: SPEED: 1000A DIRECTION: 1100A LAPSE: 10150A															
WIND SPEED (MPH)															
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	13	13	0	0	0	0	35	N	13	13	0	0	0	0	35
NNE	9	1	0	0	0	0	10	NNE	9	1	0	0	0	0	10
NE	5	3	0	0	0	0	8	NE	5	3	0	0	0	0	8
ENE	14	8	0	0	0	0	22	ENE	14	8	0	0	0	0	22
E	18	7	0	0	0	0	25	E	18	7	0	0	0	0	25
ESE	17	11	0	0	0	0	28	ESE	17	11	0	0	0	0	28
SE	16	11	1	0	0	0	28	SE	16	11	1	0	0	0	28
SSE	19	7	0	0	0	0	26	SSE	19	7	0	0	0	0	26
S	15	10	2	0	0	0	27	S	15	10	2	0	0	0	27
SSW	25	11	2	0	0	0	38	SSW	25	11	2	0	0	0	38
SW	20	15	2	0	0	0	37	SW	20	15	2	0	0	0	37
WSW	20	12	1	0	0	0	33	WSW	20	12	1	0	0	0	33
W	20	15	1	1	0	0	37	W	20	15	1	1	0	0	37
WNW	13	18	5	1	0	0	37	WNW	13	18	5	1	0	0	37
NW	8	17	8	1	1	0	35	NW	8	17	8	1	1	0	35
NNW	13	6	3	2	0	0	24	NNW	13	6	3	2	0	0	24
VARIABLE	35	0	0	0	0	0	35	VARIABLE	35	0	0	0	0	0	35
TOTAL 450															
PERIODS OF CALM (HOURS): 0															
HOURS OF MISSING DATA: 230															

Attachment 3 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD= 0000-0000

STABILITY CLASS: G

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A

WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	3	1	0	0	0	0	4
NNE	2	0	0	0	0	0	2
NE	1	0	0	0	0	0	1
ENE	1	0	0	0	0	0	1
E	2	1	0	0	0	0	3
ESE	5	1	0	0	0	0	6
SE	1	1	0	0	0	0	2
SSE	7	0	0	0	0	0	7
S	12	1	0	0	0	0	13
SSW	2	0	0	0	0	0	2
SU	4	0	0	0	0	0	4
USU	3	0	0	0	0	0	3
U	1	1	0	0	0	0	2
UNU	5	0	0	0	0	0	5
NU	3	0	0	0	0	0	3
NNU	3	1	0	0	0	0	4
VARIABLE	8	0	0	0	0	0	8

TOTAL 63
PERIODS OF CALM(HOURS): 1
HOURS OF MISSING DATA: 230

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD= 0000-0000

STABILITY CLASS: ALL

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A

WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	43	28	3	2	0	0	85
NNE	26	5	1	0	0	0	32
NE	15	8	0	0	0	0	23
ENE	36	18	0	0	0	0	54
E	53	24	5	0	0	0	82
ESE	53	52	3	0	0	0	108
SE	53	30	25	0	0	0	108
SSE	54	36	12	0	0	0	102
S	74	42	11	0	0	0	127
SSW	70	64	12	0	0	0	146
SU	62	56	7	0	0	0	125
USU	67	41	5	0	0	0	113
U	70	58	9	2	0	0	140
UNU	55	75	24	1	0	0	155
NU	43	65	28	8	1	0	145
NNU	42	55	21	23	0	0	141
VARIABLE	144	0	0	0	0	0	144

TOTAL 1688
PERIODS OF CALM(HOURS): 12
HOURS OF MISSING DATA: 230

Three Mile Island Joint Frequency Tables Fourth Quarter 1980

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD- 8010 1 1-80123124
STABILITY CLASS: A
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24 TOTAL
N	1	2	0	0	0	10
NNE	0	2	0	0	0	2
NE	0	0	0	0	0	0
ENE	0	2	0	0	0	2
E	1	2	0	0	0	3
ESE	2	1	4	0	0	7
SE	1	1	0	0	0	2
SSE	2	1	0	0	0	3
S	3	5	7	0	0	15
SSW	6	9	7	0	0	22
SW	0	4	9	1	0	14
WSW	3	7	6	1	0	17
W	1	4	14	4	2	26
WNW	2	7	21	18	3	51
W	4	17	28	13	14	76
WNW	2	18	13	6	1	40
VARIABLE	9	0	0	0	0	9
TOTAL	29	29	29	29	29	29
PERIODS OF CALM(HOURS):	0					
HOURS OF MISSING DATA:	118					

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD- 8010 1 1-80123124
STABILITY CLASS: B
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24 TOTAL
N	1	2	0	0	0	3
NNE	1	1	0	0	0	2
NE	0	0	0	0	0	0
ENE	0	0	0	0	0	0
E	0	2	0	0	0	2
ESE	1	1	1	0	0	3
SE	0	1	1	0	0	2
SSE	0	2	0	0	0	2
S	0	1	1	0	0	2
SSW	0	1	0	0	0	1
SW	0	0	0	0	0	0
WSW	1	1	2	2	0	6
W	0	0	4	2	0	6
WNW	1	1	3	3	2	11
W	0	1	4	6	3	16
WNW	2	0	1	2	1	6
VARIABLE	3	0	0	0	0	3
TOTAL	52	52	52	52	52	52
PERIODS OF CALM(HOURS):	0					
HOURS OF MISSING DATA:	118					

Attachment 4 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION				HOURS AT EACH WIND SPEED AND DIRECTION			
PERIOD OF RECORD		8010 1 1-80123124		PERIOD OF RECORD		8010 1 1-80123124	
STABILITY CLASS		C		STABILITY CLASS		C	
ELEVATION		SPEED:SP100A		ELEVATION		SPEED:SP100A	
		DIRECTION:DI100A				DIRECTION:DI100A	
		LAPSE:DT100A				LAPSE:DT100A	
		WIND SPEED(MPH)				WIND SPEED(MPH)	

WIND DIRECTION	WIND DIRECTION					WIND DIRECTION	WIND DIRECTION					WIND DIRECTION		
	1-3	3-4	8-12	13-18	19-24		24 TOTAL	1-3	3-4	8-12	13-18		19-24	24 TOTAL
N	0	1	0	1	0	2	N	10	10	3	0	0	8	40
NNE	2	0	0	0	0	2	NNE	4	11	1	0	0	0	16
NE	0	0	0	0	0	0	NE	12	13	0	1	0	0	26
ENE	0	0	0	0	0	0	ENE	8	16	4	3	0	0	31
E	1	0	1	0	0	2	E	11	17	8	1	0	0	37
ESE	2	2	1	0	0	5	ESE	12	13	4	0	0	0	29
SE	1	2	1	0	0	4	SE	6	8	2	0	0	0	16
SSE	1	0	2	0	0	3	SSE	7	11	5	0	0	0	23
S	0	1	2	0	0	3	S	5	20	8	0	0	0	33
SSW	1	3	0	0	0	4	SSW	4	10	0	1	0	0	33
SW	0	0	0	2	0	2	SW	2	13	15	2	0	0	32
WSW	1	1	1	1	0	4	WSW	2	6	8	7	3	0	26
W	1	0	2	2	0	5	W	6	20	40	22	6	1	95
WNW	1	1	1	2	0	6	WNW	8	16	51	28	12	6	115
NW	0	1	5	3	2	12	NW	3	17	56	52	44	8	180
NNW	1	2	2	5	0	10	NNW	5	23	11	12	1	0	52
VARIABLE	4	0	0	0	0	4	VARIABLE	30	0	0	0	0	0	30

TOTAL	64	784	PERIODS OF CALM(HOURS):	0
HOURS OF MISSING DATA:	118	118	HOURS OF MISSING DATA:	118

Attachment 4 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 8010 1 1-80123124

STABILITY CLASS: E

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A

WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	6	16	5	0	0	10	46
NNE	10	6	0	0	0	0	16
NNE	3	6	0	0	0	0	9
ENE	7	3	0	0	0	0	10
E	21	3	0	0	0	0	24
ESE	16	7	0	0	0	0	23
SE	11	11	1	0	0	0	23
SSE	6	3	0	0	0	0	9
S	7	13	7	1	0	0	28
SSW	16	18	13	2	0	0	49
SW	6	26	6	0	0	0	38
WSW	14	25	5	1	0	0	45
W	11	23	18	4	0	0	56
WNW	10	16	17	5	0	0	48
W	5	10	27	8	1	1	52
NNW	11	13	6	1	0	0	31
VARIABLE	42	0	0	0	0	3	45

TOTAL 597
PERIODS OF CALM(HOURS): 0
HOURS OF MISSING DATA: 118

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 8010 1 1-80123124

STABILITY CLASS: F

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A

WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL
N	4	0	0	0	0	0	4
NNE	2	1	0	0	0	0	3
NNE	6	0	0	0	0	0	6
ENE	5	0	0	0	0	0	5
E	13	1	0	0	0	0	14
ESE	13	5	0	0	0	0	18
SE	10	2	0	0	0	0	12
SSE	18	0	0	0	0	0	18
S	17	6	0	0	0	0	23
SSW	21	4	1	0	0	0	26
SW	16	8	1	0	0	0	25
WSW	11	6	3	0	0	0	20
W	10	6	4	0	0	0	20
WNW	3	3	1	0	0	0	7
W	5	6	3	0	0	0	14
NNW	10	4	1	0	0	0	15
VARIABLE	33	0	0	0	0	0	33

TOTAL 230
PERIODS OF CALM(HOURS): 0
HOURS OF MISSING DATA: 118

Attachment 4 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION															
PERIOD OF RECORD=		8010 1 1-80123124													
STABILITY CLASS=		ALL													
ELEVATION=		SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A													
		WIND SPEED(MPH)													
		1-3	3-4	8-12	13-18	19-24	24 TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL	
N	6	1	0	0	0	0	22	N	28	48	8	1	0	40	
NNE	1	0	0	0	0	0	0	NNE	20	21	1	0	0	42	
NE	4	1	0	0	0	0	5	NE	25	20	0	1	0	46	
ENE	6	1	0	0	0	0	7	ENE	26	22	4	3	0	55	
E	2	2	0	0	0	0	4	E	40	27	0	1	0	86	
ESE	5	1	0	0	0	0	6	ESE	51	30	10	0	0	91	
SE	9	0	0	0	0	0	0	SE	38	25	5	0	0	68	
SSE	15	1	0	0	0	0	16	SSE	40	18	7	0	0	74	
S	13	2	0	0	0	0	15	S	45	48	25	1	0	110	
SSW	14	1	0	0	0	0	15	SSW	62	55	30	3	0	150	
SW	11	3	0	0	0	0	14	SW	35	54	31	5	0	125	
WSW	5	2	0	0	0	0	7	WSW	37	48	25	12	3	125	
W	6	1	1	0	0	0	3	W	35	54	83	3	8	216	
WNW	2	3	0	0	0	0	5	WNW	21	47	94	56	17	243	
NW	1	0	0	0	0	0	1	NW	18	52	123	82	64	351	
NNW	6	3	2	0	0	0	11	NNW	37	63	36	26	3	165	
VARIABLE	23	0	0	0	0	0	23	VARIABLE	153	0	0	0	0	3	
TOTAL		153						TOTAL 2000		0					
PERIODS OF CALM(HOURS):		118						PERIODS OF CALM(HOURS):		118					
HOURS OF MISSING DATA:		118						HOURS OF MISSING DATA:		118					

Attachment 5
 Three Mile Island Unit 1 Joint Frequency Tables
 For Specific Dates During the Fourth Quarter 1980

HOURS AT EACH WIND SPEED AND DIRECTION													
PERIOD OF RECORD= 0000-0000													
STABILITY CLASS: A													
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A													
WIND SPEED(MPH)													
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL
N	1	5	0	0	0	6	N	1	1	0	0	0	2
NNE	0	2	0	0	0	2	NNE	1	0	0	0	0	1
NE	0	0	0	0	0	0	NE	0	0	0	0	0	0
ENE	0	2	0	0	0	2	ENE	0	0	0	0	0	0
E	0	2	0	0	0	2	E	0	1	0	0	0	1
ESE	1	1	4	0	0	6	ESE	1	0	0	0	0	1
SE	1	1	0	0	0	2	SE	0	1	0	0	0	1
SSE	1	0	0	0	0	1	SSE	0	0	0	0	0	0
S	3	4	6	0	0	13	S	0	1	0	0	0	1
SSW	5	7	4	0	0	16	SSW	0	1	0	0	0	1
SW	0	0	6	0	0	6	SW	0	0	0	0	0	0
WSW	1	7	4	0	0	12	WSW	1	1	1	1	0	4
W	0	4	12	4	1	21	W	0	0	4	1	0	5
WNW	2	7	10	15	2	45	WNW	1	0	2	3	2	8
NW	3	16	25	11	11	66	NW	0	1	3	5	2	13
NNW	2	8	12	6	1	29	NNW	2	0	0	2	1	5
VARIABLE	0	0	0	0	0	0	VARIABLE	3	0	0	0	0	3
TOTAL 229						TOTAL 43							
PERIODS OF CALM(HOURS): 0						PERIODS OF CALM(HOURS): 0							
HOURS OF MISSING DATA: 33						HOURS OF MISSING DATA: 33							

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD= 0 0 0 - 0 0 0

STABILITY CLASS C

ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A

WIND SPEED(MPH)

WIND DIRECTION	WIND DIRECTION					24 TOTAL
	1-3	3-4	8-12	13-18	19-24	
N	0	0	0	1	0	1
NNE	2	0	0	0	0	2
NE	0	0	0	0	0	0
ENE	0	0	0	0	0	0
E	1	0	1	0	0	2
ESE	1	2	0	0	0	3
SE	0	1	0	0	0	1
SSE	1	0	0	0	0	1
S	0	0	1	0	0	1
SSW	1	2	0	0	0	3
SU	0	0	0	1	0	1
WSW	1	0	1	0	0	2
W	1	0	2	1	0	4
WNW	1	1	1	2	0	5
NW	0	1	4	2	2	9
NNW	0	1	2	5	0	8
VARIABLE	3	0	0	0	0	3
TOTAL	43	0	0	0	0	0
PERIODS OF CALM(HOURS)	0	0	0	0	0	0
HOURS OF MISSING DATA	23	0	0	0	0	0

Attachment 5 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION					HOURS AT EACH WIND SPEED AND DIRECTION						
PERIOD OF RECORD= 0000-0000					PERIOD OF RECORD= 0000-0000						
STABILITY CLASS: E					STABILITY CLASS: F						
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A	WIND SPEED(MPH)				ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A	WIND SPEED(MPH)					
WIND DIRECTION	1-3	3-4	8-12	13-18 19-24	>24 TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18 19-24	>24 TOTAL
N	3	15	4	0	0 10 41	N	2	0	0	0	0 0 2
NNE	7	4	0	0	0 11	NNE	2	1	0	0	0 0 3
NE	2	4	0	0	0 6	NE	6	0	0	0	0 0 6
ENE	4	3	0	0	0 7	ENE	4	0	0	0	0 0 4
E	13	3	0	0	0 16	E	12	0	0	0	0 0 12
ESE	12	5	0	0	0 17	ESE	11	3	0	0	0 0 14
SE	6	8	0	0	0 14	SE	8	1	0	0	0 0 9
SSE	5	1	0	0	0 6	SSE	10	0	0	0	0 0 10
S	4	8	5	0	0 17	S	15	4	0	0	0 0 19
SSW	10	6	9	0	0 25	SSW	18	2	1	0	0 0 21
SW	4	8	2	0	0 14	SW	14	6	1	0	0 0 21
WSW	8	15	5	1	0 29	WSW	7	4	3	0	0 0 14
W	7	16	17	3	0 43	W	5	3	3	0	0 0 11
WNW	7	10	16	4	0 37	WNW	3	3	1	0	0 0 7
NW	4	8	23	7	1 43	NW	2	5	2	0	0 0 9
NNW	8	11	4	0	0 23	NNW	6	1	1	0	0 0 8
VARIABLE	20	0	0	0	0 32	VARIABLE	26	0	0	0	0 0 26
TOTAL	349	0	0	0	0	TOTAL	170	0	0	0	0
PERIODS OF CALM(HOURS):	0				0	PERIODS OF CALM(HOURS):	0				0
HOURS OF MISSING DATA:	33				33	HOURS OF MISSING DATA:	33				33

Attachment 5 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION									
PERIOD OF RECORD*	0 0 0 0- 0 0 0 0								
STABILITY CLASS:	G								
ELEVATION:	SPEED:SP100A	DIRECTION:DI100A		LAPSE:DT150A					
WIND SPEED(MPH)									
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL		
N	1	0	0	0	0	0	22	23	
NNE	0	0	0	0	0	0	0	0	
NE	1	1	0	0	0	0	2	2	
ENE	1	1	0	0	0	0	2	2	
E	1	2	0	0	0	0	3	3	
ESE	3	0	0	0	0	0	3	3	
SE	8	0	0	0	0	0	8	8	
SSE	10	1	0	0	0	0	11	11	
S	12	1	0	0	0	0	13	13	
SSW	9	1	0	0	0	0	10	10	
SW	6	1	0	0	0	0	7	7	
WSW	4	0	0	0	0	0	4	4	
W	4	0	0	0	0	0	4	4	
WNW	1	0	0	0	0	0	1	1	
WS	1	0	0	0	0	0	1	1	
NNW	2	0	2	0	0	0	4	4	
VARIABLE	8	0	0	0	0	0	8	8	
TOTAL	96								
PERIODS OF CALM(HOURS):	0								
HOURS OF MISSING DATA:	33								

HOURS AT EACH WIND SPEED AND DIRECTION									
PERIOD OF RECORD*	0 0 0 0- 0 0 0 0								
STABILITY CLASS:	ALL								
ELEVATION:	SPEED:SP100A	DIRECTION:DI100A		LAPSE:DT150A					
WIND SPEED(MPH)									
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24	TOTAL		
N	16	34	7	1	0	0	49	107	
NNE	15	11	1	0	0	0	27	27	
NE	16	14	0	1	0	0	31	31	
ENE	15	20	4	3	0	0	42	42	
E	31	18	6	1	0	0	56	56	
ESE	40	20	5	0	0	0	65	65	
SE	28	14	2	0	0	0	44	44	
SSE	30	10	4	0	0	0	44	44	
S	38	31	18	0	0	0	87	87	
SSW	46	30	19	1	0	0	96	96	
SW	26	24	21	3	0	0	74	74	
WSW	23	32	17	0	3	0	84	84	
W	20	30	72	25	7	1	164	164	
WNW	17	34	80	43	11	6	191	191	
WS	12	43	80	58	52	10	264	264	
NNW	23	36	31	23	3	0	116	116	
VARIABLE	105	0	0	0	0	3	108	108	
TOTAL	1492								
PERIODS OF CALM(HOURS):	0								
HOURS OF MISSING DATA:	33								

Attachment 6 Three Mile Island Unit II Joint Frequency Tables For Specific Dates During the Fourth Quarter 1980

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 0000-0000
STABILITY CLASS: A
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24 TOTAL
N	1	4	0	0	0	5
NNE	0	1	0	0	0	1
NE	0	0	0	0	0	0
ENE	0	0	0	0	0	0
E	0	0	0	0	0	0
ESE	2	1	0	0	0	3
SE	1	1	0	0	0	2
SSE	1	0	0	0	0	1
S	3	4	6	0	0	13
SSW	5	5	4	0	0	14
SU	0	0	6	0	0	6
USW	1	4	4	0	0	9
U	0	3	11	4	1	19
UNW	2	7	18	14	2	43
NW	3	14	22	10	11	60
NNW	2	8	10	6	1	27
VARIABLE	8	0	0	0	0	8
TOTAL	203					
PERIODS OF CALM(HOURS):						0
HOURS OF MISSING DATA:						31

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 0000-0000
STABILITY CLASS: B
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A
WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24 TOTAL
N	1	0	0	0	0	1
NNE	1	0	0	0	0	1
NE	0	0	0	0	0	0
ENE	0	0	0	0	0	0
E	0	1	0	0	0	1
ESE	1	0	0	0	0	1
SE	0	1	0	0	0	1
SSE	0	0	0	0	0	0
S	0	1	0	0	0	1
SSW	0	1	0	0	0	1
SU	0	0	0	0	0	0
USW	1	0	1	1	0	3
U	0	0	4	1	0	5
UNW	1	1	2	3	2	9
NW	0	1	3	5	2	13
NNW	1	0	1	2	1	5
VARIABLE	3	0	0	0	0	3
TOTAL	42					
PERIODS OF CALM(HOURS):						0
HOURS OF MISSING DATA:						31

HOURS AT EACH WIND SPEED AND DIRECTION													
PERIOD OF RECORD*	0000-0000	0000-0000	0000-0000	0000-0000	0000-0000	0000-0000	0000-0000	0000-0000	0000-0000				
STABILITY CLASS:	C	C	C	C	C	C	C	C	C				
ELEVATION:	SPEED: 5100A	DIRECTION: 1100A	LAPSE: 1500A	WIND SPEED (MPH)	WIND SPEED (MPH)	WIND SPEED (MPH)	WIND SPEED (MPH)	WIND SPEED (MPH)	WIND SPEED (MPH)				
WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL	WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	24 TOTAL
N	0	0	0	1	0	1	N	8	13	3	0	0	32
NNE	2	0	0	0	0	2	NNE	3	4	1	0	0	8
NE	0	0	0	0	0	0	NE	0	11	0	0	0	17
ENE	0	0	0	0	0	0	ENE	6	14	2	0	0	22
E	1	0	1	0	0	2	E	4	8	6	0	0	18
ESE	1	2	0	0	0	3	ESE	10	8	0	0	0	18
SE	0	1	0	0	0	1	SE	5	2	2	0	0	9
SSE	1	0	0	0	0	1	SSE	2	8	4	0	0	14
S	0	0	0	0	0	0	S	4	13	6	0	0	23
SSW	1	2	0	0	0	3	SSW	2	9	6	1	0	18
SW	0	0	0	1	0	1	SW	2	9	12	2	0	25
WSW	1	0	0	0	0	1	WSW	1	3	3	3	0	13
W	1	0	2	1	0	4	W	3	11	28	15	4	62
WNW	1	1	1	2	0	5	WNW	1	13	36	18	7	81
NW	0	1	4	2	2	9	NW	2	12	35	34	36	126
NNW	0	1	2	5	0	8	NNW	2	16	9	10	1	38
VARIABLE	3	0	0	0	0	3	VARIABLE	28	0	0	0	0	28
TOTAL	41	0	0	0	0	0	TOTAL	524	0	0	0	0	0
PERIODS OF CALM (HOURS):	0	0	0	0	0	0	PERIODS OF CALM (HOURS):	0	0	0	0	0	0
HOURS OF MISSING DATA:	31	31	31	31	31	31	HOURS OF MISSING DATA:	31	31	31	31	31	31

Attachment 6 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION										HOURS AT EACH WIND SPEED AND DIRECTION									
PERIOD OF RECORD=					0 0 0 0-0 0 0 0					PERIOD OF RECORD=					0 0 0 0-0 0 0 0				
STABILITY CLASS: E										STABILITY CLASS: F									
ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A										ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT150A									
WIND SPEED(MPH)										WIND SPEED(MPH)									
WIND DIRECTION					1-3 3-4 8-12 13-18 19-24 >24 TOTAL					WIND DIRECTION					1-3 3-4 8-12 13-18 19-24 >24 TOTAL				
N	2	16	3	0	0	0	0	19	40	N	2	0	0	0	0	0	0	2	
NNE	5	3	0	0	0	0	0	0	8	NNE	2	1	0	0	0	0	0	3	
NE	2	3	0	0	0	0	0	0	5	NE	5	0	0	0	0	0	0	5	
ENE	4	1	0	0	0	0	0	0	5	ENE	4	0	0	0	0	0	0	4	
E	11	2	0	0	0	0	0	0	13	E	11	0	0	0	0	0	0	11	
ESE	9	5	0	0	0	0	0	0	14	ESE	9	3	0	0	0	0	0	12	
SE	5	6	0	0	0	0	0	0	11	SE	6	1	0	0	0	0	0	7	
SSE	4	1	0	0	0	0	0	0	5	SSE	10	0	0	0	0	0	0	10	
S	4	8	5	0	0	0	0	0	17	S	14	4	0	0	0	0	0	18	
SSW	10	6	9	0	0	0	0	0	25	SSW	18	2	1	0	0	0	0	21	
SW	4	8	2	0	0	0	0	0	14	SW	13	6	1	0	0	0	0	20	
WSW	9	15	5	1	0	0	0	0	30	WSW	6	4	3	0	0	0	0	13	
W	8	16	17	3	0	0	0	0	44	W	5	3	3	0	0	0	0	11	
WNW	6	10	16	4	0	0	0	0	36	WNW	3	3	1	0	0	0	0	7	
NW	5	8	22	7	1	1	1	44	NW	2	5	2	0	0	0	0	0	9	
NNW	8	11	3	0	0	0	0	0	22	NNW	4	1	1	0	0	0	0	6	
VARIABLE	22	0	0	0	0	0	0	3	25	VARIABLE	21	0	0	0	0	0	0	21	
TOTAL 333										TOTAL 159									
PERIODS OF CALM(HOURS): 0										PERIODS OF CALM(HOURS): 0									
HOURS OF MISSING DATA: 31										HOURS OF MISSING DATA: 31									

Attachment 6 (continued)

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD= 0 0 0 0-0 0 0 0
 STABILITY CLASS: ALL
 ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT100A
 WIND SPEED(MPH)

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD= 0 0 0 0-0 0 0 0
 STABILITY CLASS: Q
 ELEVATION: SPEED:SP100A DIRECTION:DI100A LAPSE:DT100A
 WIND SPEED(MPH)

WIND DIRECTION	1-3	3-4	8-12	13-18	19-24	>24 TOTAL
N	15	33	6	1	0	40 104
NNE	13	9	1	0	0	0 23
NE	14	15	0	0	0	0 29
ENE	15	16	2	0	0	0 33
E	27	13	7	0	0	0 47
ESE	35	19	0	0	0	0 54
SE	25	12	2	0	0	0 39
SSE	28	10	4	0	0	0 42
S	37	31	17	0	0	0 85
SSW	44	26	20	1	0	0 91
SW	25	24	21	3	0	0 73
WSW	23	26	16	5	3	0 73
W	20	33	65	24	5	1 148
WNW	15	35	74	41	11	6 182
NW	13	41	88	58	52	10 262
NNW	19	37	28	23	3	0 110
VARIABLE	90	0	0	0	0	3 93
TOTAL	1395					
PERIODS OF CALM(HOURS):	0					
HOURS OF MISSING DATA:	31					

TOTAL 93
 PERIODS OF CALM(HOURS): 0
 HOURS OF MISSING DATA: 31