

**TAMPA ELECTRIC COMPANY**

**POLK POWER STATION**

*Polk County, Florida*

**SITE CERTIFICATION  
APPLICATION**

**VOLUME 7**



**July 1992**

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## LIST OF ACRONYMS

7Q10	7-day, 10-year flow rate
AADT	average annual daily trips
AAQS	ambient air quality standard
ACSR	aluminum conductor steel reinforced
Agrico	Agrico Chemical Company
AM	amplitude modulation
A/RR	Agricultural/Residential Rural
ASTM	American Society for Testing and Materials
BACT	best available control technology
BEBR	Bureau of Economic and Business Research
BLIS	BACT/LAER information system
BOCC	Board of County Commissioners
BOD	biochemical oxygen demand
Btu	British thermal unit
Btu/ft <sup>3</sup>	British thermal units per cubic foot
Btu/gal	British thermal units per gallon
Btu/lb	British thermal units per pound
°C	degree Celsius
CaCO <sub>3</sub>	calcium carbonate
CC	combined cycle
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CFRPC	Central Florida Regional Planning Council
cfs	cubic foot per second
CG	coal gasification
CGCU	cold gas cleanup
CITES	Convention on International Trade in Endangered Species
cm	centimeter
cm/sec	centimeter per second

LIST OF ACRONYMS  
(Continued, Page 2 of 8)

CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
COD	chemical oxygen demand
COS	carbonyl sulfide
CPT	cone penetration test
CR	County Road
CS <sub>2</sub>	carbon disulfide
CSM	cubic foot per second per square mile
CT	combustion turbine
CUP	Conditional Use Permit
CWA	Clean Water Act
°	degree
d	Shannon Weaver diversity index
dBA	A-weighted decibel
dbh	diameter at breast height
DO	dissolved oxygen
DOE	U.S. Department of Energy
DSM	demand-side management
ECT	Environmental Consulting & Technology, Inc.
EEL	Edison Electric Institute
EIS	environmental impact statement
EIV	Volume of Environmental Information
EMF	electromagnetic field
EMS	emergency medical services
EPA	U.S. Environmental Protection Agency
EPRI	Electric Power Research Institute
°F	degree Fahrenheit
F.A.C.	Florida Administrative Code
FCC	Federal Communications Commission

**LIST OF ACRONYMS**  
(Continued, Page 3 of 8)

FCG	Florida Electric Power Coordinating Group
FCREPA	Florida Committee on Rare and Endangered Plants and Animals
FDACS	Florida Department of Agriculture and Consumer Services
FDCA	Florida Department of Community Affairs
FDER	Florida Department of Environmental Regulation
FDER/PSES	FDER Point Source Evaluation Section
FDHR	Florida Division of Historical Resources
FDLES	Florida Department of Labor and Employment Security
FDNR	Florida Department of Natural Resources
FDOT	Florida Department of Transportation
FEECA	Florida Energy Efficiency and Conservation Act
FEMA	Federal Emergency Management Agency
FEPPSA	Florida Electrical Power Plant Siting Act
FGD	flue gas desulfurization
FGFWFC	Florida Game and Fresh Water Fish Commission
FGS	Florida Geological Survey
FGT	Florida Gas Transmission Company
FLUCCS	Florida Land Use and Cover Classification System
FLUCFS	FDOT Land Use, Cover, and Forms Classification System
FM	frequency modulation
FNAI	Florida Natural Areas Inventory
FPC	Florida Power Corporation
FPSC	Florida Public Service Commission
FR	Federal Register
F.S.	Florida Statutes
FSRI	Florida Sinkhole Research Institute
ft	foot
ft bls	foot below land surface
ft/day	foot per day



LIST OF ACRONYMS  
(Continued, Page 4 of 8)

ft <sup>2</sup> /day	square foot per day
ft <sup>3</sup> /day	cubic foot per day
ft <sup>3</sup> /day/ft <sup>3</sup>	cubic foot per day per cubic foot
ft/ft	foot per foot
ft <sup>3</sup> /hr	cubic foot per hour
ft-msl	foot above mean sea level
ft-NGVD	foot national geodetic vertical datum
FTE	full-time equivalent
GE	General Electric Company
GEESI	General Electric Environmental Systems, Inc.
gpd	gallon per day
gpm	gallon per minute
gpm/ft	gallon per minute per foot
gpm/ft <sup>2</sup>	gallon per minute per square foot
gr/scf	grains per standard cubic foot
gr/100 scf	grains per 100 standard cubic feet
H <sub>2</sub> S	hydrogen sulfide
H <sub>2</sub> SO <sub>4</sub>	sulfuric acid
HGCU	hot gas cleanup
HHV	higher heating value
HRSG	heat recovery steam generator
HUD	Housing Urban Development
IGCC	integrated coal gasification combined cycle
IWTP	industrial wastewater treatment plant
kg	kilogram
km	kilometer
kV	kilovolt
kV/m	kilovolt per meter
kw	kilowatt

LIST OF ACRONYMS  
(Continued, Page 5 of 8)

kwh	kilowatt hour
LAER	lowest achievable emission rate
lb/day	pound per day
lb/ft <sup>3</sup>	pound per cubic foot
lb/hr	pound per hour
lb/MMBtu	pound per million British thermal units
L <sub>dn</sub>	day-night sound level
L <sub>eq</sub>	equivalent noise level
L <sub>eq</sub> (24)	equivalent sound level for 24-hour periods
LHV	lower heating value
LOLP	loss of load probability
LOS	level of service
LRU	logical reclamation unit
m	meter
m <sup>2</sup>	square meter
MCR	maximum current rating
mG	milligauss
mg/L	milligram per liter
MGD	million gallons per day
mi <sup>2</sup>	square mile
mL	milliliter
mph	miles per hour
MVA	<i>megavolt amperes</i>
MW	megawatt
NAS	National Audubon Society
NEPA	National Environmental Policy Act of 1969
NESC	National Electrical Safety Code
NESHAPS	National Emission Standard for Hazardous Air Pollutants
NGVD	National Geodetic Vertical Datum

LIST OF ACRONYMS  
(Continued, Page 6 of 8)

NH <sub>3</sub>	ammonia
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NSCR	non-selective catalytic reduction
NSPS	new source performance standards
NSR	New Source Review
NTU	nephelometric turbidity unit
NWS	National Weather Service
O <sub>3</sub>	ozone
OAQPS	Office of Air Quality Planning and Standards
organisms/m <sup>2</sup>	organisms per square meter
PCB	polychlorinated biphenyl
pCi/L	picoCurie per liter
persons/mi <sub>2</sub>	persons per square mile
PHX	primary heat exchanger
PM	particulate matter
PM <sub>10</sub>	particulate matter less than or equal to 10 micrometers aerodynamic diameter
POS	plan of study
POTW	publicly owned treatment works
ppb	part per billion
ppm	part per million
ppmv	part per million volumetric
ppmvd	dry volume parts per million
PRECO	Peace River Electric Cooperative
PSD	prevention of significant deterioration
psia	pound per square inch absolute
psig	pound per square inch gauge

LIST OF ACRONYMS  
(Continued, Page 7 of 8)

Pt-Co	platinum-cobalt
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
R-1	Residence
RC	Rural Conservation
RCC	Rural-Cluster Center
R.O.	reverse osmosis
RCRA	Resource Conservation and Recovery Act
RMD	Rural Mixed-Use Development
rpm	revolutions per minute
RRD	Rural Residential
RV	recreational vehicle
SARA	Superfund Amendment and Reauthorization Act
SCA	Site Certification Application
scf	standard cubic foot
SCR	selective catalytic reduction
SCS	Soil Conservation Services
SF-1M	Single Family-Mixed
SIC	Standard Industrial Classification
SMSA	Standard Metropolitan Statistical Area
SNCR	selective non-catalytic reduction
SO <sub>2</sub>	sulfur dioxide
SO <sub>3</sub>	sulfur trioxide
SOP	standard operating procedure
SPCC	Spill Prevention, Control, and Countermeasure
SPT	standard penetration test
SR	State Road
ST	steam turbine
stpd	short-tons per day

LIST OF ACRONYMS  
(Continued, Page 8 of 8)

SUS	Saybolt Universal seconds
SWFWMD	Southwest Florida Water Management District
TCLP	toxicity characteristic leaching procedure
TDS	total dissolved solids
Texaco	Texaco, Inc.
tpd	ton per day
tpy	ton per year
TSP	total suspended particulate
TSS	total suspended solids
UE&C	United Engineers & Constructors
$\mu\text{g/L}$	microgram per liter
$\mu\text{g/m}^3$	microgram per cubic meter
$\mu\text{mhos/cm}$	micromhos per centimeter
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator
VOC	volatile organic compound
WUP	water use permit

**APPENDIX 11.11**

**ANNUAL MONITORING DATA REPORT FOR  
TAMPA ELECTRIC COMPANY  
PREVENTION OF SIGNIFICANT DETERIORATION  
NETWORK, POLK COUNTY, FLORIDA**

**APPENDIX 11.11**

**ANNUAL MONITORING DATA REPORT  
OF TAMPA ELECTRIC COMPANY  
PSD NETWORK  
POLK COUNTY, FLORIDA**

**Prepared for:**



**Tampa, Florida**

**Prepared by:**



**90-263-0302**

**July 1992**

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### 11.11.1.0 INTRODUCTION

Environmental Consulting & Technology, Inc. (ECT), under contract to Tampa Electric Company (TEC), maintained a Prevention of Significant Deterioration (PSD) ambient air monitoring network in Polk County, Florida. The network consisted of two stations: AQ-1 and AQ-2. Station AQ-1 collected data for ozone ( $O_3$ ), sulfur dioxide ( $SO_2$ ), wind direction, windspeed, ambient temperature, sigma theta, and precipitation on a continuous basis. The  $O_3$  and  $SO_2$  monitors were automatically cycled through zero, span, and precision checks once every 24 hours. All of the calibration continuous analyzer data were recorded by the data acquisition system (DAS). Site AQ-1 also collected particulate matter less than or equal to 10 micrometers aerodynamic diameter ( $PM_{10}$ ) data from a single sampler. Station AQ-2 consisted of two  $PM_{10}$  samplers; one sampler was assigned as the designated unit (AQ-2D) and the other was labeled as the collocated sampler (AQ-2C). The data comparison between the designated and the collocated sampler provided the required precision information. All three  $PM_{10}$  samplers ran in accordance with U.S. Environmental Protection Agency (EPA)-designated National 6-Day Sampling Schedule.

ECT provided all technical, audit, and data reduction services for this network. All continuous data were collected on a DAS which was polled daily. An ECT technician visited the stations at least every 6 days to perform service checks and change the  $PM_{10}$  filters.

As part of the contract with TEC, ECT submitted data reports on a quarterly basis. All quality assurance and data reporting conform with ECT's Standard Operating Procedures (SOP) Manual and Quality Assurance (QA) plan approved by the State of Florida, Florida's State Wide QA Air Program Plan and the EPA QA Handbooks, Volumes I and II. This report contains the results of the annual monitoring year 1991-1992.

## 11.11.2.0 MONITORING/SAMPLING RESULTS

### 11.11.2.1 OZONE

O<sub>3</sub> concentrations at AQ-1 for the year 1991-1992 are below the National and Florida Ambient Air Quality Standards (AAQS) given in Table 11.11.2-1. A summary of the monthly mean and 1-hour maximum concentrations is provided in Table 11.11.2-2. The highest monthly mean O<sub>3</sub> concentration of 35 parts per billion (ppb) occurred in June 1991; the maximum 1-hour concentration was 99 ppb on September 20, 1991, at 1400 hours, which is below the 1-hour standard of 125 ppb.

Precision checks for the year 1991-1992 revealed test gas concentration to analyzer reading variability to be quite low, with an average yearly percent difference of 0.3.

### 11.11.2.2 SULFUR DIOXIDE

SO<sub>2</sub> concentrations at AQ-1 are also below the National and Florida AAQS (Table 11.11.2-1). A summary of the monthly mean, and maximum 3-hour and 24-hour concentrations is given in Table 11.11.2-3. The highest monthly mean SO<sub>2</sub> concentration was 4 ppb in June, January, February and March, respectively. The maximum 3-hour concentration was 78 ppb ending on November 23, 1991, at 1700 hours; the maximum 24-hour concentration was 17 ppb ending on November 24, 1991, at 0400 hours. The 3-hour and 24-hour maximum concentrations were well below the standards of 500 and 100 ppb, respectively.

Precision checks for the year 1991-1992 reveal test gas concentration to analyzer reading variability to be low, with an average yearly percent difference of 2.7.

### 11.11.2.3 PM<sub>10</sub>

A summary of the PM<sub>10</sub> concentrations for AQ-1 and AQ-2 is given in Table 11.11.2-4. The maximum 24-hour concentration at AQ-1 was 48.3 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) on June 29, 1991; the maximum at AQ-2C was 46.9  $\mu\text{g}/\text{m}^3$  on July 29, 1991; and the maximum at AQ-2D was 43.9  $\mu\text{g}/\text{m}^3$  on July 5, 1991, and

Table 11.11.2-1. National and Florida AAQS for PM<sub>10</sub>, SO<sub>2</sub>, and O<sub>3</sub> (μg/m<sup>3</sup>)

Pollutant	Averaging Time	National AAQS		Florida AAQS
		Primary	Secondary	
PM <sub>10</sub>	Annual arithmetic mean*	50	50	50
	24-hour maximum +	150	150	150
SO <sub>2</sub>	Annual arithmetic mean	80 (0.03 ppm)	NA	60 (0.02 ppm)
	24-hour maximum**	365 (0.14 ppm)	NA	260 (0.1 ppm)
	3-hour maximum**	NA	1,300 (0.5 ppm)	1,300 (0.5 ppm)
O <sub>3</sub>	1-hour maximum +	235 (0.12 ppm)	235 (0.12 ppm)	235 (0.12 ppm)

Note: ppm = parts per million.

- \* Attained when the expected annual arithmetic mean is less than or equal to the standard.
- + Standard is attained when the expected number of days per calendar year with hourly average concentrations above the standard is equal to or less than one.
- \*\* Maximum concentration not to be exceeded more than once per year.

Sources: 40 Code of Federal Regulations (CFR) 50.  
Section 17-2.300, Florida Administrative Code (F.A.C.).

Table 11.11.2-2. Summary of Monthly Mean and 1-Hour Maximum O<sub>3</sub> Concentrations (ppb) at AQ-1 for the Monitoring Year 1991-1992, TEC, Polk County, FL

Month	Mean	Maximum 1-Hour	Date and Time
April	24	69	04/02/91 19:00
May	25	72	05/30/91 14:00
June	35	82	06/13/91 16:00
July	24	77	07/23/91 16:00
August	23	81	08/24/91 17:00
September	34	99	09/20/91 14:00
October	31	96	10/13/91 1300
November	24	67	11/08/91 1300
December	18	53	12/18/91 1500
January	21	53	01/18/92 1400
February	25	64	02/29/92 1500
March	33	75	03/28/92 1600
<b>ANNUAL MEAN 26 (ppb)</b>			
<b>.026 (ppm)</b>			

Source: ECT, 1992.

Table 11.11.2-3. Summary of Monthly Mean and Maximum 3-Hour and 24-Hour SO<sub>2</sub> Concentrations (ppb) at AQ-1 for the Monitoring Year 1991-1992, TEC, Polk County, FL

Month	Mean	Maximum 3-Hour*	Ending Date and Time	Maximum 24-Hour*	Ending Date and Time
April	2	21	04/21/91 17:00	9	04/22/91 11:00
May	3	43	05/06/91 17:00	16	05/07/91 14:00
June	4	53	06/04/91 18:00	11	06/04/91 21:00
July	3	40	07/09/91 11:00	12	07/09/91 10:00
August	2	31	08/09/91 13:00	10	08/09/91 17:00
September	2	26	09/26/91 15:00	9	09/27/91 12:00
October	3	23	10/11/91 1700	7	10/17/91 0500
November	5	78	11/23/91 1700	17	11/24/91 0400
December	3	29	12/22/91 2000	10	12/19/91 1900
January	4	48	01/06/92 1500	15	01/07/92 0700
February	4	26	02/28/92 1900	11	02/27/92 1700
March	4	76	03/07/92 2300	16	03/08/92 2000
<b>ANNUAL MEAN</b>		<b>3 (ppb)</b>			
		<b>.003 (ppm)</b>			

\*Based on a rolling average.

Source: ECT, 1992.

Table 11.11.2-4. Summary of PM<sub>10</sub> Concentrations (µg/m<sup>3</sup>) for AQ-1 and AQ-2 for the Monitoring Year 1991-1992, TEC, Polk County, FL

Date	PM <sub>10</sub> Concentration by Site		
	AQ-1	AQ-2C	AQ-2D
03/31/91	23.3	28.3	26.9
04/06/91	17.6	Electrical problems	Electrical problems
04/12/91	18.9	18.1	18.7
04/18/91	14.3	Electrical problems	Electrical problems
04/24/91	19.7	Electrical problems	Electrical problems
04/30/91	18.2	Electrical problems	Electrical problems
05/06/91	20.5	17.3	19.8
05/12/91	22.5	26.4	22.4
05/18/91	15.4	17.6	16.5
05/24/91	13.8	14.6	14.1
05/30/91	29.3	30.0	33.5
06/05/91	20.9	22.7	21.2
06/11/91	16.4	16.3	15.8
06/17/91	13.3	18.2	12.9
06/23/91	20.6	20.4	21.1
06/29/91	48.3	17.1	29.6
07/05/91	23.4	43.5	Invalid
07/11/91	Invalid	29.6	12.0
07/17/91	45.4	16.7	23.6
07/23/91	29.9	18.8	29.9
07/29/91	42.4	46.9	Invalid
08/04/91	14.6	15.1	13.8
08/10/91	12.3	11.0	Invalid

Table 11.11.2-4. Summary of PM<sub>10</sub> Concentrations (µg/m<sup>3</sup>) for AQ-1 and AQ-2 for the Monitoring Year 1991-1992, TEC, Polk County, FL (Continued, Page 2 of 3)

Date	PM <sub>10</sub> Concentration by Site		
	AQ-1	AQ-2C	AQ-2D
08/16/91	25.1	27.0	26.5
08/22/91	16.2	9.4	9.4
08/28/91	9.9	8.4	Invalid
09/03/91	14.0	14.5	14.9
09/09/91	10.9	10.5	10.1
09/15/91	16.6	16.8	16.7
09/21/91	16.2	16.4	14.0
09/27/91	25.1	25.0	30.8
10/03/91	26.9	22.5	Invalid
10/09/91	26.3	Invalid	Invalid
10/15/91	23.5	20.0	19.5
10/21/91	10.8	14.4	13.3
10/27/91	11.6	12.1	10.5
11/02/91	14.6	12.6	12.1
11/08/91	45.1	42.7	43.9
11/14/91	19.5	22.4	24.0
11/20/91	7.5	7.2	6.8
11/26/91	24.4	20.7	22.7
12/02/91	7.9	8.5	8.7
12/08/91	8.1	8.5	7.4
12/14/91	7.1	8.7	9.0
12/20/91	16.8	17.6	18.3
12/26/91	13.7	14.1	14.0
01/01/92	12.3	11.7	11.6
01/07/92	19.2	19.1	19.3



Table 11.11.2-4. Summary of PM<sub>10</sub> Concentrations (μg/m<sup>3</sup>) for AQ-1 and AQ-2 for the Monitoring Year 1991-1992, TEC, Polk County, FL (Continued, Page 3 of 3)

Date	PM <sub>10</sub> Concentration by Site		
	AQ-1	AQ-2C	AQ-2D
01/13/92	9.9	10.6	11.4
01/19/92	7.6	8.8	8.3
01/25/92	14.8	16.5	15.8
01/31/92	10.2	11.6	12.1
02/06/92	7.7	7.6	8.2
02/12/92	25.5	27.6	28.1
02/18/92	11.8	11.4	9.0
02/24/92	7.1	8.6	10.0
03/01/92	19.3	19.1	17.6
03/07/92	8.1	7.3	7.7
03/13/92	12.2	12.4	13.6
03/19/92	30.2	18.7	19.6
03/25/92	15.0	14.8	14.9
03/31/92	14.4	12.5	13.4
<b>ANNUAL</b>	<b>18.4</b>	<b>17.7</b>	<b>17.0</b>

Source: ECT, 1992.

November 8, 1991, respectively. These concentrations are well below the PM<sub>10</sub> 24-hour standard of 150.0  $\mu\text{g}/\text{m}^3$  and the annual standard of 60  $\mu\text{g}/\text{m}^3$ .

Precision checks for the PM<sub>10</sub> samplers produced an average yearly percent difference of -5.6, for sample pairs having concentrations greater than 20  $\mu\text{g}/\text{m}^3$  for both samples.

#### **11.11.2.4 PRECIPITATION**

Total precipitation at AQ-1 for the year was 34.65 inches. Monthly totals for the year are given in Table 11.11.2-5, respectively.

For the period January 2, 1992, through February 25, 1992, the precipitation collector malfunctioned. All hourly values recorded for these months were 0.00. In order to validate some of the zero values, the National Daily Weather maps were used. The approach used to determine which hourly values were valid was that if no rain was recorded in Florida for a certain day, then that day of zeros would remain as valid data.

#### **11.11.2.5 TEMPERATURE**

A summary of the monthly mean, and maximum and minimum 1-hour average temperatures are given in Table 11.11.2-6. The highest monthly mean temperature was 26.5 degrees Celsius ( $^{\circ}\text{C}$ ) in August. The maximum 1-hour average was 34.3 $^{\circ}\text{C}$  on June 28, 1991, at 1500 hours; the minimum was 0.1 $^{\circ}\text{C}$  on January 17, 1992, at 0600 hours.

#### **11.11.2.6 WIND DIRECTION, WINDSPEED, AND SIGMA THETA**

A summary of the monthly mean wind direction, monthly mean, maximum and minimum 1-hour windspeeds, and monthly mean sigma theta are provided in Table 11.11.2-7. Windspeeds measured below the threshold of the instrument [0.9 miles per hour (mph)] are considered to be valid. The manufacturer specifies

Table 11.11.2-5. Summary of Monthly Precipitation, Hourly Averages (inches)  
at AQ-1 for the PPS Site (April 1991 through March 1992)

Date	Amount	Monthly Total
04/01/91	0.01	
04/06/91	1.84	
04/07/91	0.29	
04/08/91	0.01	
04/17/91	0.18	
04/18/91	0.57	
04/19/91	0.01	
04/20/91	0.62	
04/23/91	0.05	
04/25/91	0.66	
04/91 total		4.24
05/07/91	0.13	
05/09/91	0.16	
05/13/91	0.12	
05/14/91	0.05	
05/16/91	0.12	
05/17/91	0.01	
05/18/91	0.03	
05/19/91	0.13	
05/20/91	0.31	
05/21/91	0.02	
05/22/91	0.80	
05/23/91	0.18	
05/24/91	0.85	
05/26/91	2.04	
05/27/91	0.06	
05/28/91	0.01	
05/30/91	0.35	
05/91 total		5.37
06/05/91	2.03	
06/06/91	0.01	
06/17/91	0.55	
06/18/91	0.03	
06/19/91	0.02	
06/20/91	0.75	
06/21/91	0.01	

Table 11.11.2-5. Summary of Monthly Precipitation, Hourly Averages (inches)  
 at AQ-1 for the PPS Site (April 1991 through March 1992)  
 (Continued, Page 2 of 4)

Date	Amount	Monthly Total
06/22/91	0.57	
06/23/91	0.14	
06/24/91	0.02	
06/25/91	0.60	
06/26/91	0.01	
06/29/91	0.52	
06/30/91	0.61	
06/91 total		5.87
07/01/91	0.87	
07/02/91	0.34	
07/03/91	2.01	
07/04/91	0.01	
07/05/91	0.16	
07/06/91	0.17	
07/07/91	1.52	
07/09/91	0.47	
07/24/91	0.11	
07/25/91	0.03	
07/26/91	0.84	
07/28/91	0.24	
07/29/91	0.01	
07/30/91	0.28	
07/31/91	0.67	
07/91 total		7.73
08/01/91	0.12	
08/02/91	0.02	
08/06/91	0.01	
08/07/91	0.18	
08/09/91	0.94	
08/15/91	0.01	
08/16/91	0.01	
08/17/91	0.01	
08/18/91	0.11	
08/19/91	0.08	
08/20/91	0.19	

Table 11.11.2-5. Summary of Monthly Precipitation, Hourly Averages (inches)  
 at AQ-1 for the PPS Site (April 1991 through March 1992)  
 (Continued, Page 3 of 4)

Date	Amount	Monthly Total
08/21/91	0.37	
08/23/91	0.05	
08/24/91	1.89	
08/27/91	0.08	
08/28/91	0.03	
08/30/91	1.20	
08/31/91	0.01	
08/91 total		5.31
09/03/91	0.07	
09/06/91	0.43	
09/07/91	0.48	
09/08/91	0.76	
09/24/91	0.07	
09/25/91	0.35	
09/26/91	0.34	
09/29/91	0.04	
09/30/91	0.01	
09/91 total		2.55
10/01/91	0.08	
10/02/91	0.22	
10/04/91	0.01	
10/05/91	0.09	
10/06/91	0.17	
10/07/91	0.01	
10/10/91	0.01	
10/23/91	0.02	
10/25/91	0.08	
10/30/91	0.01	
10/91 total		0.70
11/03/91	0.02	
11/09/91	0.04	
11/20/91	0.05	
11/91 total		0.11

Table 11.11.2-5. Summary of Monthly Precipitation, Hourly Averages (inches)  
 at AQ-1 for the PPS Site (April 1991 through March 1992)  
 (Continued, Page 4 of 4)

Date	Amount	Monthly Total
12/02/91	0.24	
12/03/91	0.19	
12/04/91	0.29	
12/24/91	0.01	
12/27/91	0.03	
12/91 total		0.76
01/01/92	0.06	
01/92 total		0.06
02/26/92	0.02	
02/27/92	0.14	
02/92 total		0.16
03/01/92	0.07	
03/02/92	0.06	
03/03/92	0.04	
03/04/92	0.15	
03/05/92	0.01	
03/08/92	0.05	
03/10/92	0.09	
03/11/92	0.01	
03/12/92	0.12	
03/13/92	0.06	
03/16/92	0.01	
03/17/92	0.05	
03/21/92	0.04	
03/22/92	0.46	
03/23/92	0.28	
03/30/92	0.27	
03/31/92	0.02	
03/92 total		1.79
<b>Yearly Total</b>		<b>34.65</b>

Source: ECT, 1992.

Table 11.11.2-6. Summary of Monthly Mean, Maximum, and Minimum 1-Hour Temperatures (°C) for the Monitoring Year 1991-1992, TEC, Polk County, FL

Month	Mean	Maximum 1-Hour	Date and Time	Minimum 1-Hour	Date and Time
April	22.8	32.4	04/29/91 15:00	10.1	04/02/91 04:00
May	25.2	32.8	05/16/91 13:00	19.3	05/31/91 04:00
June	25.7	34.3	06/28/91 15:00	17.4	06/11/91 05:00
July	25.9	33.6	07/07/91 15:00	21.5	07/12/91 02:00
August	26.5	33.4	08/17/91 14:00	21.1	08/30/91 17:00
September	26.2	34.2	09/06/91 16:00	15.7	09/27/91 05:00
October	22.9	31.4	10/05/91 1300	8.9	10/17/91 0600
November	17.8	28.5	11/30/91 1500	3.1	11/26/91 0000
December	17.5	29.2	12/02/91 1500	3.4	12/05/91 0600
January	14.5	27.4	01/29/92 1400	0.1	01/17/92 0600
February	17.0	29.0	02/17/92 1400	3.8	02/02/92 0300
March	18.0	28.9	03/09/92 1600	5.5	03/12/92 0100
<b>ANNUAL MEAN</b>		<b>21.7°C</b>			

Source: ECT, 1992.

Table 11.11.2-7. Summary of Monthly Mean, Maximum, and Minimum 1-Hour Windspeeds; Monthly Mean Wind Direction; and Monthly Mean Sigma Theta for the Monitoring Year 1991-1992, TEC, Polk County, FL

Month	Speed					Direction Mean (degrees true)	Sigma Theta Mean (degrees)
	Mean (mph)	Maximum 1-Hour (mph)	Date and Time	Minimum 1-Hour (mph)	Date and Time		
April	5.6	17.0	04/23/91 14:00	0.3	04/22/91 01:00	150	17.3*
May	5.6	16.3	05/22/91 08:00	0.5	05/15/91 00:00	126	18.1
June	4.2	12.3	06/04/91 13:00	0.3	06/25/91 02:00	160	23.7
July	3.8	15.3	07/24/91 14:00	0.4	07/08/91 23:00	182	13.8*
August	3.6	11.5	08/23/91 16:00	0.4	08/09/91 02:00	168	23.6
September	4.2	11.1	09/18/91 14:00	0.4	09/13/91 03:00	97	20.3
October	4.8	13.5	10/25/91 1100	0.1	10/12/91 0500	98	17.2
November	4.9	15.9	11/29/91 1200	0.3	11/11/91 0700	115	16.2
December	4.5	17.2	12/20/91 1300	0.2	12/10/91 0400	127	16.4
January	5.0	15.7	01/23/92 1300	0.5	01/06/92 0500	166	16.5
February	5.4	16.3	02/26/92 1500	0.7	02/13/92 0200	171	16.3*
March	5.3	17.0	03/19/92 1400	0.5	03/24/92 0000	191	18.0
<b>ANNUAL MEAN (mph)</b>	<b>4.7</b>						

Source: ECT, 1992.

\*Data capture for April was 58.8%, July was 62.6%, and February was 62.5%

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a threshold that the instrument is guaranteed to measure. However, the instrument is capable of measuring windspeeds below the threshold.

#### **11.11.2.7 SHELTER TEMPERATURE**

A summary of the monthly mean, and maximum and minimum 1-hour average shelter temperatures is given in Table 11.11.2-8. The highest monthly mean shelter temperature was 25.3°C in December. The maximum 1-hour average was 35.6°C on January 1, 1992, at 1400; the minimum was 8.4°C on January 6, 1992, at 0700 hours.

On several occasions the shelter temperature was outside the desired temperature range of 19.5 to 30.4°C. The shelter air conditioner began to malfunction on December 30, 1991; this occurred on and off through January 6, 1992. The unit was repaired on January 7, 1992. O<sub>3</sub> and SO<sub>2</sub> data for the hours when the shelter temperature was out of range were invalidated.

Table 11.11.2-8. Summary of Monthly Mean, Maximum, and Minimum 1-Hour Shelter Temperatures (°C) for the Monitoring Year 1991-1992, TEC, Polk County, FL

Month	Mean	Maximum 1-Hour	Date and Time	Minimum 1-Hour	Date and Time
April	23.9	26.1	04/29/91 13:00	21.4	04/02/91 06:00
May	24.1	26.2	05/21/91 11:00	22.1	05/03/91 11:00
June	23.8	25.4	06/03/91 14:00	22.9	06/25/91 01:00
July	24.1	25.7	07/03/91 14:00	22.9	07/19/91 08:00
August	23.8	30.9	08/13/91 12:00	18.1	08/13/91 19:00
September	24.0	35.3	09/24/91 14:00	9.2	09/24/91 06:00
October	24.1	25.8	10/23/91 1400	20.1	10/31/91 0500
November	24.8	26.2	11/26/91 0300	20.4	11/05/91 0800
December	25.3	34.7	12/31/91 1500	15.2	12/30/91 1200
January	24.9	35.6	01/01/92 1400	8.4	01/06/92 0700
February	24.5	25.6	02/13/92 1300	23.7	02/05/92 1700
March	25.0	25.8	03/31/92 2200	23.2	03/12/92 0100
<b>ANNUAL MEAN</b>	<b>24.4</b>				

Source: ECT, 1992.

### 11.11.3.0 SUMMARY

ECT operated a two-station ambient air monitoring network for TEC in Polk County, Florida, from April 1, 1991, through March 31, 1992. Data collected at monitoring station AQ-1 included ambient O<sub>3</sub>, SO<sub>2</sub>, and PM<sub>10</sub>. Data collected at monitoring station AQ-2 included ambient PM<sub>10</sub>. The meteorological data collected at monitoring station AQ-1 included precipitation, temperature, windspeed, wind direction, and sigma theta.

The measured ambient concentrations of O<sub>3</sub>, SO<sub>2</sub>, and PM<sub>10</sub> at both stations are within the applicable national and Florida AAQS. The percent data recovery for each parameter, presented in Table 11.11.3-1, is also in compliance with EPA guidelines.

Table 11.11.3-1. Monthly and Annual Percent Data Capture for Each Parameter for the Monitoring Year 1991-1992, TEC, Polk County, FL

Month	O <sub>3</sub>	SO <sub>2</sub>	Precipitation	Wind-speed	Wind Direction	Sigma Theta	Temperature	Shelter Temperature	AQ-1 PM <sub>10</sub>	AQ-2 PM <sub>10</sub>	Monthly Average
April	83.6	87.6	85.7	87.9	87.9	58.8	86.1	84.0	100.0	33.3	79.5
May	94.0	94.5	99.2	99.6	99.6	99.6	99.9	99.6	100.0	100.0	98.6
June	92.2	92.9	97.8	97.8	97.8	97.6	97.8	97.8	100.0	100.0	97.2
July	68.3	68.4	62.5	99.7	99.7	62.6	99.7	61.3	80.0	100.0	80.2
August	94.1	86.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.1
September	94.0	94.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.8
October	92.7	93.0	98.9	98.1	98.1	98.1	98.1	98.9	100.0	80.0	95.6
November	95.4	95.4	100.0	99.4	99.4	99.4	99.9	100.0	100.0	100.0	98.9
December	91.8	91.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.4
January	87.6	88.8	61.3	99.9	99.7	99.7	99.7	100.0	100.0	100.0	93.7
February	79.0	78.9	61.6	99.6	99.6	62.5	99.6	62.8	100.0	100.0	84.4
March	95.3	95.4	99.9	99.7	99.7	99.7	99.9	99.9	100.0	100.0	99.0
<b>ANNUAL AVERAGE</b>	<b>89.0</b>	<b>89.0</b>	<b>88.9</b>	<b>98.5</b>	<b>98.5</b>	<b>89.8</b>	<b>98.4</b>	<b>92.1</b>	<b>98.3</b>	<b>92.8</b>	<b>93.5</b>

Source: ECT, 1992.

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**APPENDIX A  
EQUIPMENT LISTING**

EQUIPMENT LISTING

STATION AQ-1

<u>Continuous Monitors</u>		<u>Serial Number</u>
O <sub>3</sub>	Thermo Environmental 49/103	32794-243
SO <sub>2</sub>	Thermo Environmental 43A	43A-32759-242
DAS	Odessa DSM-3260	103735
Recorder	EA MS-412C (2 Channel)	3000076

Meteorological Monitors

WS/WD	R. M. Young Wind Monitor - AQ	09352
Temperature	T. M. Young Aspirated 43347	---
Precipitation	Climatronics 100508	---
Recorder	EA - 413C (3 Channel)	30000940

Particulate Sampler

PM <sub>10</sub>	Anderson - SAUV - 15H	1129
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STATION AQ-2

Particulate Sampler

PM <sub>10</sub>	Anderson SAUV - 15H (Designated)	1131
PM <sub>10</sub>	Anderson SAUV - 15H (Collocated)	1130

**APPENDIX B  
FIRST, SECOND, AND THIRD QUARTERLY AUDIT REPORTS;  
AND FOURTH QUARTER FDER, EPA AUDIT REPORTS  
AND SHUTDOWN AUDIT**

## FIRST QUARTER SUMMARY

All instruments reflected accuracy well within the accepted QA limits, except for the wind direction. The misalignment problem with the wind direction sensor was noted shortly after the site was installed, but was not realigned until the audit in order to document the exact amount of variance. All systems were fully functional at the conclusion of the audit. Audit results and QA criteria are summarized in the following table:

<u>Parameter</u>	<u>Audit Value</u>	<u>QA Criteria</u>
<u>O<sub>3</sub></u>		
Mean deviation (percent)	-4.497	>-10 and <10
Slope	0.95830	>0.85 and <1.15
Intercept (ppb)	-0.17415	>-30 and <30
Correlation coefficient	0.9999967	>0.995
<u>SO<sub>2</sub></u>		
Mean deviation (percent)	5.47	>-10 and <10
Slope	1.0787	>0.85 and <1.15
Intercept (ppb)	-2.785	>-15 and <15
Correlation coefficient	0.99987	>0.995
<u>Wind direction</u>		
Maximum deviation (°)	3	>-3 and <3
<u>Windspeed</u>		
Maximum deviation (mph)	0.2	>-0.5 and <0.5
<u>Temperature</u>		
Maximum deviation (°C)	0.2	>-0.5 and <0.5
<u>Precipitation</u>		
Maximum deviation (percent)	0.0	>-10 and <10
<u>PM<sub>10</sub>--Station AQ-1</u>		
Flow rate deviation (percent)	-1.2	>-7 and <7
<u>PM<sub>10</sub>--Station AQ-2</u>		
Flow rate deviation (percent)	-0.52	>-7 and <7



## SECOND QUARTER SUMMARY

Performance audits of the O<sub>3</sub>, SO<sub>2</sub>, and PM<sub>10</sub> monitors were performed by FDER personnel on August 13, 1991. All monitors were found to be within acceptable QA accuracy limits. Audit results and QA criteria are summarized as follows:

Site Number	Pollutant	Audit Parameter	Audit Value	QA Criteria
AQ-1	O <sub>3</sub>	Mean deviation (%)	13.2	± 15
		Slope	1.13	>0.85 and <1.15
		Intercept (ppb)	0.175	± 30
		Correlation coefficient	0.9999	>0.995
AQ-1	SO <sub>2</sub>	Mean deviation (%)	7.5	± 15
		Slope	1.07	>0.85 and <1.15
		Intercept (ppb)	1.25	± 30
		Correlation coefficient	0.9995	>0.995
AQ-1	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	-1.0	± 7
		Design	3.4	± 7
AQ-2D	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	-0.6	± 7
		Design	2.7	± 7
AQ-2C	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	-1.0	± 7
		Design	2.9	± 7

### THIRD QUARTER SUMMARY

Performance audits of the O<sub>3</sub>, SO<sub>2</sub>, and PM<sub>10</sub> monitors were performed by FDER personnel on December 3, 1991. All monitors were found to be within acceptable QA accuracy limits. Audit results and QA criteria are summarized as follows:

Site No.	Pollutant	Audit Parameter	Audit Value	QA Criteria
AQ-2	O <sub>3</sub>	Mean deviation (%)	1.0	± 15
		Slope	1.13	>0.85 and <1.15
		Intercept (ppb)	0.175	± 30
		Correlation coefficient	0.9999	>0.995
AQ-1	SO <sub>2</sub>	Mean deviation (%)	4.1	± 15
		Slope	1.04	>0.85 and <1.15
		Intercept (ppb)	0.14	± 30
		Correlation coefficient	0.9999	>0.995
AQ-1	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	0.5	± 7
		Design	3.3	± 7
AQ-2D	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	0.5	± 7
		Design	1.8	± 7
AQ-2C	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	2.8	± 7
		Design	-1.0	± 7

#### FOURTH QUARTER SUMMARY

Performance audits of the O<sub>3</sub>, SO<sub>2</sub>, and PM<sub>10</sub> monitors were performed by FDER personnel on February 19, 1992. All monitors were found to be within acceptable QA accuracy limits. Audit results and QA criteria are summarized as follows:

Site No.	Pollutant	Audit Parameter	Audit Value	QA Criteria
AQ-1	O <sub>3</sub>	Mean deviation (%)	5.0	± 15
		Slope	1.03	>0.85 and <1.15
		Intercept (ppb)	2.629	± 30
		Correlation coefficient	0.9999	>0.995
AQ-1	SO <sub>2</sub>	Mean deviation (%)	-1.5	± 15
		Slope	0.98	>0.85 and <1.15
		Intercept (ppb)	1.08	± 30
		Correlation coefficient	0.9999	>0.995
AQ-1	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	0.3	± 7
		Design	2.9	± 7
AQ-2D	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	-0.7	± 7
		Design	3.5	± 7
AQ-2C	PM <sub>10</sub>	Flow rate deviation (%)		
		Actual	0.4	± 7
		Design	2.2	± 7

As required by FDER and the PSD monitoring regulations, ECT submitted a request to EPA Region IV dated October 4, 1991, to participate in the EPA National Performance Audit Program. The request was approved by EPA's Atmospheric Research and Exposure Assessment Laboratory (AREAL) on November 14, 1991. The EPA National Performance Audit Program is implemented by an EPA contractor, ManTech Environmental.

The first audit device received from ManTech Environmental addressed PM<sub>10</sub> flow rate measurements. The PM<sub>10</sub> audits were conducted by ECT using the EPA audit device on January 16, 1992. The audit results are summarized as follows:

PM <sub>10</sub> Monitor	EPA Value (m <sup>3</sup> /min)	Reported Value (m <sup>3</sup> /min)	Difference (%)
AQ-1	1.165	1.119	-4.0
AQ-2D	1.147	1.107	-3.5
AQ-2C	1.138	1.106	-2.8

Differences of  $\pm 10$  percent or less are considered acceptable.

Audits for SO<sub>2</sub> and O<sub>3</sub> using EPA audit devices were conducted by ECT on February 13, 1992. The audit results are summarized as follows:

Analyzer	Accuracy (Avg. % Diff.)	Regression Line Slope
O <sub>3</sub>	4.2	1.0345
SO <sub>2</sub>	-7.6	0.9549

Average differences within  $\pm 15$  percent and slopes between 0.90 and 1.10 are considered acceptable.

## SHUTDOWN AUDIT RESULTS

All instruments reflected accuracy well within the accepted QA limits. All systems were fully functional at the conclusion of the audit on March 31, 1992. On April 1, 1992, ECT personnel shut down all equipment, concluding the Tampa Electric 1991-1992 monitoring year. Audit results for meteorological instrumentation, data acquisition system by channel, and chart recorder by channel are as follows:

### Meteorological Instrumentation

<u>Parameter</u>	<u>Audit Value</u>	<u>QA Criteria</u>
<b>Wind Direction</b>		
Maximum deviation	2.52	>-3 and <3
<b>Windspeed</b>		
Maximum deviation	-0.27	>-0.5 and <0.5
<b>Temperature</b>		
Maximum deviation	0.2	>-0.5 and <0.5
<b>Indoor Temperature</b>		
Maximum deviation	0.0	>-0.5 and <0.5
<b>Precipitation</b>		
Maximum deviation	0.0	>-10 and <10

### Data Acquisition System

<u>Parameter</u>	<u>Average % Deviation</u>		<u>QA Criteria</u>
	<u>VDC</u>	<u>Deg</u>	
Wind direction	0.04	0.01	± 1%
Windspeed	0.17	0.13	± 1%
Temperature	0.38	-0.17	± 0.25°C

<u>Parameter</u>	<u>VDC</u>	<u>ppb</u>	<u>QA Criteria</u>
Ozone	0.46	0.46	± 1%
Sulfur dioxide	-0.13	-0.50	± 1%

<u>Parameter</u>	<u>VDC</u>	<u>mph</u>	<u>QA Criteria</u>
Windspeed	0.17	0.13	± 1%

**Chart Recorder**

<u>Parameter</u>	<u>Average % Deviation</u>	<u>QA Criteria</u>
Wind direction	-0.3	± 1%
Windspeed	0.7	± 1%
Ozone	0.3	± 1%
Temperature	-0.17	± 1%
Sulfur dioxide	-0.3	± 1%

**APPENDIX C**  
**MONTHLY PARAMETER REPORTS OF HOURLY AVERAGES**

**HOURLY AVERAGES FOR PRECIPITATION (INCHES)**



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

		APRIL, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOTAL
DAY	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.14	0.00	0.00	0.12	0.00
	8	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Qal	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	0.01
	9	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	11	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Miss	Miss	PwrF	PwrF	PwrF	PwrF	PwrF	0.00
	17	PwrF	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	PwrF	0.00	0.00	0.00	0.00	PwrF	0.00	0.00	0.00	0.00	0.00	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	20	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.40	0.21	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.05
	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.46	0.11	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TOTAL HOURS 720 TOTAL GOOD HOURS 617 DATA CAPTURE 85.7%

MONTHLY TOTAL 4.07 ARITHMETIC MEAN 0.01 STANDARD DEV. 0.06

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-35

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

		MAY, 1991																								
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	DAILY TOTAL
DAY	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06	0.01	0.00	0.00	0.00	0.16	
	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.07	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.08	0.00	0.01	0.02	0.00	0.00	0.13	
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Down	Down	Down	Down	Down	Down	Down	0.00	0.00	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.22	0.05	0.01	0.01	0.01	0.02	0.07	0.14	0.01	0.00	0.00	0.00	0.00	0.00	0.80
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.01	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.18
	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	1.38	0.17	0.14	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04
	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.35
	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TOTAL HOURS 744 TOTAL GOOD HOURS 738 DATA CAPTURE 99.2%

MONTHLY TOTAL 5.55 ARITHMETIC MEAN 0.01 STANDARD DEV. 0.06

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-36

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

		JUNE, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOTAL
DAY																										
1		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5		0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	1.13	0.03	0.02
6		0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
7		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.41	0.06	0.00	Pwrf	Pwrf	0.00	0.00	0.00	0.00	0.00	0.00	0.48
18		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
19		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02
20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.66	0.00	0.03	Pwrf	Pwrf	Pwrf	Pwrf	Pwrf	0.75
21		Pwrf	Pwrf	Pwrf	Pwrf	Pwrf	Pwrf	Pwrf	Pwrf	Pwrf	Pwrf	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
22		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.10	0.00	0.00	0.00	0.31	0.04	0.00	0.00	0.00	0.00	0.00	0.57
23		0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.11	0.00	0.00	0.00	0.01	0.14	
24		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
25		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.35	0.04	0.00	0.00	0.00	0.00	0.60
26		0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
27		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.14	0.03	0.08	0.03	0.00	0.00	0.00	0.52
30		0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.24	0.04	0.09	0.01	0.00	0.01	0.00	0.00	0.00	0.61

TOTAL HOURS 720 TOTAL GOOD HOURS 704 DATA CAPTURE 97.8%

MONTHLY TOTAL 5.80 ARITHMETIC MEAN 0.01 STANDARD DEV. 0.07

KEY FOR MISSING CODES

Badc - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, Pwrf - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-37

TAMPA ELECTRIC COMPANY AIR MONITORING SITE Aq-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

		JULY, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOTAL
DAY																										
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.34	0.10	0.78	0.78	0.00	0.00	0.00	0.00	0.00	2.01
4	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.41	1.52
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	0.00
12	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
13	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
14	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
15	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
16	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
17	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
18	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	0.00
21	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
22	0.00	0.00	0.00	0.00	0.00	0.00	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	0.00
23	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.84
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.24
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
30	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.06	0.02	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.01	0.00	0.00	0.67

TOTAL HOURS 744 TOTAL GOOD HOURS 465 DATA CAPTURE 62.5%

MONTHLY TOTAL 7.73 ARITHMETIC MEAN 0.02 STANDARD DEV. 0.10

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

10-29-91

11.11-38

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

AUGUST, 1991

DAY	HOUR (EST)	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	DAILY TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.20	0.01	0.01	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.94
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.35	0.01	0.37
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	0.32	0.00	0.00	0.00	0.00	0.00	0.01	1.89
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
28	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
31	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%

MONTHLY TOTAL 5.31 ARITHMETIC MEAN 0.01 STANDARD DEV. 0.08

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qaf - Data questionable external influence, Purg - Analyzer in Purge

10-21-91

11.11-39

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

DAY	SEPTEMBER, 1991																								DAILY TOTAL	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.14	0.00	0.00	0.43
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.70	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
25	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.14	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.35
26	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.04
30	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

TOTAL HOURS 720 TOTAL GOOD HOURS 720 DATA CAPTURE 100.0%

MONTHLY TOTAL 2.55 ARITHMETIC MEAN 0.00 STANDARD DEV. 0.03

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

OCTOBER, 1991

DAY	HOUR (EST)																									DAILY TOTAL
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
2	0.00	0.01	0.02	0.04	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.01	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.09
6	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	Bad<	0.00	0.00	0.00	0.00	0.00	0.00	0.02
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	PwrF	PwrF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
31	PwrF	PwrF	PwrF	PwrF	PwrF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TOTAL HOURS 744 TOTAL GOOD HOURS 736 DATA CAPTURE 98.9%

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

02/17/91

11.11-41

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

		NOVEMBER, 1991																							DAILY		
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOTAL	
DAY																											
1		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
4		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9		0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
10		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
21		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TOTAL HOURS 720      TOTAL GOOD HOURS 720      DATA CAPTURE 100.0%

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11.11-42



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

DECEMBER, 1991

DAY	HOUR (EST)																							DAILY TOTAL	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.24
3	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.01	0.00	0.19
4	0.00	0.03	0.07	0.01	0.04	0.06	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HOURS		744	TOTAL GOOD HOURS		744	DATA CAPTURE		100.0%																	

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11.11-43

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

		JANUARY 1992																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOTAL
DAY	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.06
	2	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	3	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	7	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	15	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	24	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	28	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	29	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	30	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TOTAL HOURS 744 TOTAL GOOD HOURS 456 DATA CAPTURE 61.3%  
 MAX. 1HR AVG 0.03 01/01/92 23:00:00 2ND MAX. 1 HR AVG 0.03 01/01/92 22:00:00  
 MIN. 1HR AVG 0.00 01/01/92 00:00:00 ARITHMETIC MEAN 0.00 STANDARD DEV. 0.00

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11.44

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

		FEBRUARY 1992																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TOTAL
DAY																										
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
6	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
7	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
8	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
9	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
20	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
23	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
24	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	PwrF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	PwrF	PwrF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

11.11-45

TOTAL HOURS 696      TOTAL GOOD HOURS 429      DATA CAPTURE 61.6X  
 MAX. 1HR AVG 0.14 02/27/92 16:00:00      2ND MAX. 1 HR AVG 0.02 02/26/92 09:00:00  
 MIN. 1HR AVG 0.00 02/01/92 00:00:00      ARITHMETIC MEAN 0.00      STANDARD DEV. 0.01

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY TOTALS FOR PRECIPITATION IN INCHES

DAY	MARCH 1992																								DAILY TOTAL
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.06
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.05	0.01	0.00	0.01	0.03	0.01	0.00	0.15
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.06
11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.10	0.12
13	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
22	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.04	0.05	0.03	0.06	0.08	0.01	0.01	0.00	0.12	0.46
23	0.07	0.18	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.07	0.13	0.00	0.00	0.00	0.00	0.27
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	Cal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02

TOTAL HOURS 744    TOTAL GOOD HOURS 743    DATA CAPTURE 99.9%

MAX. 1HR AVG 0.18    03/23/92 01:00:00    2ND MAX. 1 HR AVG 0.13    03/30/92 19:00:00

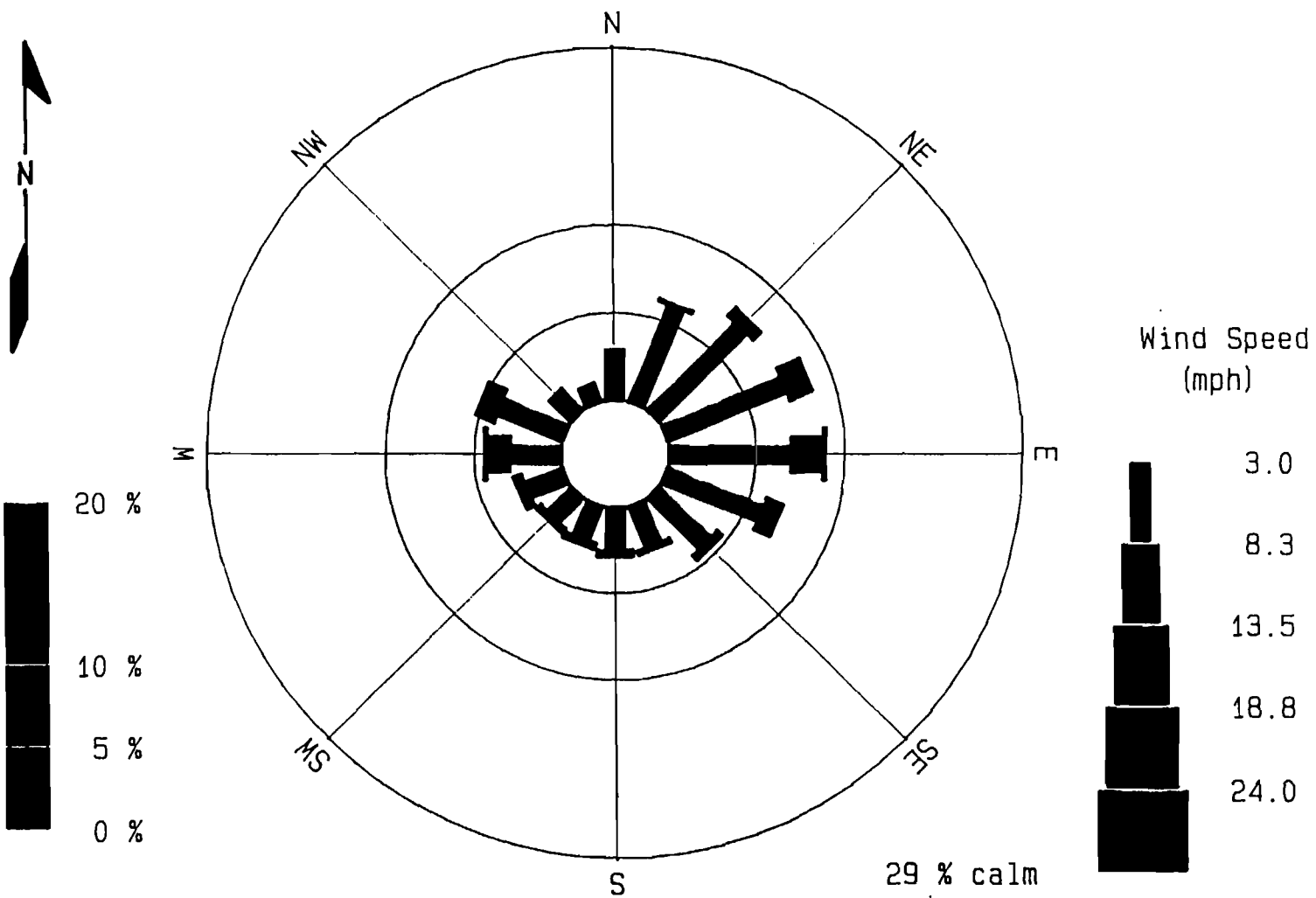
MIN. 1HR AVG 0.00    03/01/92 00:00:00    ARITHMETIC MEAN 0.00    STANDARD DEV. 0.01

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-46

**HOURLY AVERAGES FOR WIND DIRECTION (DEGREES TRUE)**

WIND ROSE ANALYSIS FOR 04/01/91 TO 03/31/92



Tampa Electric Station AQ-1

Averaging Time: 3600 sec

11.11-48

Average Frequency Distribution of Wind Direction and Windspeed  
for the Polk Power Station Site (April 1991 through March 1992)

Direction	Frequency Distribution Speed (mph)				
	3.0 - 8.3	8.3 - 13.5	13.5 - 18.8	18.8 - 24.0	>24.0
N	2.8	0.0	0.0	0.0	0.0
NNE	5.9	0.2	0.0	0.0	0.0
NE	7.0	0.6	0.0	0.0	0.0
ENE	7.2	1.4	0.1	0.0	0.0
E	6.9	1.8	0.2	0.0	0.0
ESE	5.8	1.1	0.0	0.0	0.0
SE	4.0	0.4	0.0	0.0	0.0
SSE	2.5	0.3	0.0	0.0	0.0
S	2.4	0.4	0.0	0.0	0.0
SSW	2.0	0.4	0.0	0.0	0.0
SW	1.9	0.4	0.1	0.0	0.0
WSW	2.3	0.6	0.0	0.0	0.0
W	2.9	1.3	0.2	0.0	0.0
WNW	3.9	1.1	0.0	0.0	0.0
NW	1.8	0.0	0.0	0.0	0.0
NNW	1.2	0.0	0.0	0.0	0.0
Total	60.5	10.0	0.6	0.0	0.0

Note: Calms = 30.9 percent.

Source: ECT, 1992.

TAMPA ELECTRIC COMPANY AIR MONITORING AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES-TRUE

APRIL, 1991

DAY	HOUR (EST)																							DAILY AVG			
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23		
1	1	10	352	339	357	355	12	13	26	34	41	40	37	44	44	44	47	58	57	70	71	65	58	54	93		
2	49	35	36	29	32	28	23	29	40	49	62	67	71	70	76	76	80	80	81	76	70	64	64	54	56		
3	44	26	20	14	18	27	37	48	67	88	84	88	86	81	79	88	77	75	73	82	71	74	78	86	63		
4	36	43	73	65	75	61	48	58	73	92	95	84	80	78	79	80	92	94	78	72	78	87	86	83	75		
5	66	51	55	68	72	67	72	80	87	111	118	124	105	121	133	119	110	108	109	119	123	96	111	81	96		
6	94	99	72	67	84	75	60	101	127	110	114	114	110	114	98	73	70	47	130	146	87	154	52	78	95		
7	72	63	80	78	91	100	108	120	128	128	147	142	144	141	119	166	185	251	213	195	20	6	41	22	115		
8	59	80	90	84	79	78	80	80	83	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<	
9	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
11	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	79	79	108	85	95	97	107	105	82	Bad<
12	100	112	79	96	78	70	74	91	102	93	107	111	107	95	91	78	81	78	80	84	90	91	90	93	91		
13	90	86	87	87	97	96	90	96	110	115	124	125	127	129	129	137	138	130	128	96	97	93	97	104	109		
14	112	104	95	94	85	79	87	100	116	125	128	118	124	111	104	110	107	119	118	100	115	111	107	117	108		
15	114	97	105	113	114	107	73	108	141	155	162	154	162	186	148	162	151	168	240	284	284	360	22	268	161		
16	216	160	156	148	166	138	141	145	168	168	179	170	166	141	139	220	291	294	4	PwrF	PwrF	PwrF	PwrF	PwrF	169		
17	PwrF	Miss	199	177	161	155	150	112	112	139	155	177	188	PwrF	42	167	223	278	PwrF	320	320	48	115	137	169		
18	127	192	357	177	179	195	204	200	213	229	244	254	270	269	265	275	263	260	268	268	246	258	307	255	241		
19	273	243	257	267	264	260	279	137	139	340	218	234	294	28	281	266	262	256	251	244	246	247	242	241	240		
20	267	267	288	248	186	55	17	11	25	17	27	283	338	359	330	331	299	280	273	279	288	287	300	267	222		
21	278	274	264	272	269	269	284	290	289	280	281	279	276	278	278	275	283	280	284	276	282	283	277	249	277		
22	282	290	293	301	294	308	261	124	76	75	127	103	90	162	195	205	211	233	238	265	267	275	212	172	211		
23	162	166	155	157	162	152	150	169	186	183	197	213	219	220	225	229	236	229	211	214	35	107	150	265	183		
24	237	187	201	194	200	200	195	204	224	236	249	255	256	265	274	264	267	268	266	275	277	273	284	280	243		
25	272	308	24	360	62	72	80	85	102	93	89	80	62	43	262	268	335	21	36	96	127	102	135	137	136		
26	190	193	8	40	131	54	147	112	88	90	114	122	137	117	118	64	146	349	12	36	359	240	163	151	133		
27	127	115	131	104	100	115	116	115	121	141	179	172	181	170	187	185	219	226	294	292	286	249	205	213	177		
28	202	178	127	170	138	124	132	155	159	179	171	172	169	169	172	190	198	219	277	272	271	82	19	75	167		
29	119	137	144	145	152	147	149	156	146	152	155	162	156	141	138	138	144	138	138	115	292	332	366	135	166		
30	137	148	151	162	125	122	127	124	141	158	156	150	146	140	149	145	163	211	280	245	258	320	325	41	172		

TOTAL HOURS 720 TOTAL GOOD HOURS 633 DATA CAPTURE 87.9%

ARITHMETIC MEAN 150 STANDARD DEV. 85

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

11.11-50



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES-TRUE

DAY	MAY, 1991																							DAILY AVG	
	HOUR (EST)	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21		22
1	176	22	338	25	75	137	144	162	165	165	132	110	108	115	134	152	182	211	277	329	342	341	33	17	162
2	13	26	72	71	16	31	62	49	65	80	47	42	47	49	43	44	49	36	40	26	58	91	96	100	52
3	95	101	97	83	86	102	96	102	93	101	110	103	118	122	112	134	103	101	97	93	89	95	100	107	102
4	114	115	106	103	112	110	98	114	136	144	121	124	122	118	98	166	135	152	58	138	118	114	213	135	124
5	131	141	145	147	137	145	148	148	159	158	175	145	122	148	154	155	146	166	136	119	182	179	171	142	150
6	122	141	156	191	134	116	138	158	158	171	183	169	157	160	155	311	278	312	17	45	74	97	121	74	152
7	7	24	76	79	103	79	98	106	122	128	113	121	121	103	92	76	91	110	107	102	99	102	100	86	94
8	92	95	94	101	97	86	93	100	114	124	118	115	113	112	110	112	118	111	101	93	97	99	102	105	104
9	102	96	94	91	90	94	94	104	120	128	126	129	119	110	128	132	132	87	76	87	100	101	113	103	107
10	100	112	124	131	112	104	107	104	122	132	124	117	119	114	108	112	112	113	111	113	95	85	92	102	111
11	94	95	88	100	85	67	85	94	104	107	94	88	74	83	84	76	76	81	86	87	92	90	98	89	88
12	86	86	84	81	79	78	68	90	104	104	122	128	129	138	117	117	127	107	107	131	128	121	104	98	106
13	84	97	114	149	136	119	139	172	186	216	256	248	223	202	197	265	306	23	76	101	129	154	165	176	164
14	188	205	198	193	182	162	182	198	217	246	226	242	235	237	257	236	128	250	256	259	225	242	253	182	217
15	118	165	219	107	73	166	151	152	164	187	205	226	245	255	253	253	263	279	276	284	282	262	255	304	214
16	195	233	231	206	234	4	46	155	185	165	122	253	125	108	251	213	117	158	144	48	18	83	70	255	151
17	71	31	59	104	104	95	91	110	127	138	148	129	105	117	112	131	122	85	213	4	301	293	311	349	140
18	43	334	45	353	73	64	64	102	122	121	128	96	121	107	95	76	104	105	110	93	101	125	105	102	116
19	94	96	100	96	92	90	95	103	110	124	121	118	121	138	159	88	80	97	113	121	121	87	86	91	106
20	93	89	94	88	89	91	93	97	115	114	108	121	153	134	127	111	108	100	91	79	79	85	81	88	101
21	89	86	84	87	91	90	92	97	96	98	99	Down	Down	Down	95	91	87	87	81	82	80	81	84	87	89
22	88	91	92	91	86	83	84	85	92	98	111	108	91	89	94	96	95	86	89	89	89	90	87	84	91
23	88	88	88	82	94	121	122	114	125	123	121	101	82	77	78	87	85	92	98	84	94	83	87	92	96
24	98	104	104	113	115	106	107	94	111	137	121	127	140	137	88	49	3	312	359	10	82	93	102	102	117
25	103	97	89	84	79	77	83	95	99	101	104	97	104	103	106	98	94	97	94	83	136	115	84	81	96
26	80	99	125	127	142	133	156	157	156	169	154	115	135	155	181	162	130	95	89	123	119	104	108	96	130
27	91	101	107	117	119	113	121	128	130	135	133	144	154	168	169	244	322	302	49	30	47	51	70	91	131
28	100	111	112	109	107	101	107	122	130	126	131	126	121	119	122	105	124	109	112	101	94	100	98	105	112
29	118	116	157	185	27	174	150	125	115	109	130	66	57	60	51	82	63	76	67	41	305	1	4	20	96
30	46	46	21	98	68	150	162	174	200	97	338	334	356	326	324	288	22	55	142	322	201	18	65	0	160
31	249	286	313	322	80	315	263	315	26	98	84	313	314	312	338	288	312	342	16	0	7	150	158	342	218

TOTAL HOURS 744 TOTAL GOOD HOURS 741 DATA CAPTURE 99.6%

ARITHMETIC MEAN 126 STANDARD DEV. 67

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-51

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES-TRUE

		JUNE, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		301	309	331	305	292	315	301	289	303	308	274	246	255	289	33	98	142	199	240	228	250	266	277	274	255
2		279	251	239	251	242	265	261	229	237	258	258	259	274	288	285	329	289	275	270	261	258	252	250	244	263
3		243	253	243	248	250	253	255	264	272	280	279	277	274	266	276	274	271	272	261	264	257	243	243	248	261
4		257	255	243	236	215	249	225	236	256	244	245	259	277	268	270	279	272	281	282	265	257	252	263	265	256
5		234	259	240	303	204	196	223	227	245	270	270	266	282	289	288	282	276	288	15	102	94	43	169	158	218
6		149	196	226	300	17	36	26	27	26	29	36	49	54	49	49	59	68	78	69	34	21	31	28	29	70
7		30	25	17	18	8	359	15	28	43	45	60	35	21	25	356	0	14	38	48	56	58	55	58	43	60
8		58	56	52	41	35	31	36	50	61	69	66	69	74	72	67	62	66	77	78	73	69	69	61	65	61
9		70	60	58	55	57	54	63	73	73	73	80	74	72	60	64	76	80	77	77	75	72	66	68	64	68
10		59	57	61	54	46	40	39	51	72	87	81	75	73	75	72	74	72	68	86	76	75	69	60	51	65
11		45	25	30	36	19	32	51	66	82	89	86	86	80	81	74	72	71	66	77	74	83	84	82	83	66
12		76	70	61	59	59	60	78	85	88	110	96	55	52	49	37	44	21	15	29	21	79	86	83	80	62
13		71	81	87	103	121	121	123	128	121	86	49	58	27	29	33	40	28	32	11	8	53	99	111	103	72
14		118	137	145	133	31	23	11	100	119	124	118	106	140	139	114	169	168	262	296	315	295	306	319	333	168
15		65	159	147	156	160	173	171	179	184	188	175	128	129	273	313	325	304	336	347	310	343	64	110	227	207
16		339	74	218	306	326	163	187	232	318	295	270	307	281	295	296	284	293	260	163	183	151	175	178	209	242
17		215	197	152	165	220	218	161	232	288	247	305	254	180	2	171	195	137	PwrF	PwrF	356	300	155	205	217	208
18		209	211	211	188	223	193	169	182	220	214	284	344	320	200	259	258	259	308	126	158	171	182	233	200	222
19		187	174	180	161	178	197	151	184	212	221	240	225	281	305	306	270	288	285	17	85	111	169	224	176	201
20		207	168	209	215	46	158	147	169	125	122	127	117	94	134	157	133	328	310	175	185	PwrF	PwrF	PwrF	PwrF	166
21		PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	79	118	113	165	190	197	245	333	32	112	189	192	242	353	Bad<
22		177	1	353	9	48	63	112	116	144	190	219	188	254	320	295	287	287	301	274	345	39	149	149	251	190
23		309	244	233	168	243	240	216	198	208	264	215	271	298	288	306	279	252	241	71	133	180	179	209	262	230
24		326	9	336	286	304	224	22	83	14	11	24	57	65	32	279	157	185	134	231	140	4	41	21	49	126
25		24	18	131	352	12	49	67	70	69	88	94	95	135	108	66	355	325	35	64	311	152	308	267	308	146
26		12	336	3	351	70	307	330	47	75	42	4	7	108	191	205	263	284	291	72	64	81	45	95	149	
27		132	122	111	109	106	112	108	117	97	117	109	359	22	231	231	269	260	277	254	189	359	343	293	315	193
28		6	56	18	355	339	14	42	47	53	53	63	53	26	320	326	350	323	312	335	285	3	92	77	29	149
29		55	94	120	332	144	19	288	109	150	101	65	25	41	34	103	313	260	17	31	126	33	131	238	158	124
30		145	94	298	291	343	11	46	59	89	113	60	149	136	17	7	36	151	218	267	121	269	284	110	162	145

TOTAL HOURS 720 TOTAL GOOD HOURS 704 DATA CAPTURE 97.8%

ARITHMETIC MEAN 160 STANDARD DEV. 104

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-52

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

DAY	JULY, 1991																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	142	127	135	161	171	197	174	180	134	241	234	234	204	196	239	268	280	271	243	209	180	169	175	200	199
2	206	207	205	200	213	243	298	229	234	254	316	268	266	221	237	246	253	250	254	235	225	216	202	129	234
3	167	175	152	136	152	162	158	185	194	223	235	228	215	207	200	174	207	58	64	189	139	173	149	147	170
4	170	167	130	142	169	199	209	215	231	225	248	255	236	239	235	327	308	319	322	247	97	145	157	190	216
5	172	137	150	153	167	157	186	177	179	175	166	223	245	191	252	301	305	312	37	68	28	134	131	137	174
6	148	152	165	172	151	160	175	234	250	245	187	214	197	159	156	223	252	87	357	16	355	122	113	150	185
7	202	140	349	328	312	185	195	69	76	90	75	105	106	107	343	281	313	315	307	282	220	120	2	32	190
8	113	68	315	327	266	3	271	194	30	25	61	100	358	15	262	276	270	294	258	252	255	277	346	220	202
9	246	323	303	236	262	207	198	176	160	227	238	249	353	311	308	306	275	265	251	238	223	240	250	200	252
10	204	154	210	198	180	195	212	228	236	255	256	256	140	145	200	157	178	178	189	211	189	211	221	232	202
11	200	217	234	298	216	241	300	242	250	265	254	259	318	PwrF	232	232	265	297	319	297	211	157	238	225	251
12	225	297	2	167	243	67	297	200	216	259	297	319	254	254	232	2	329	324	297	265	243	216	221	216	227
13	238	211	211	238	248	211	221	270	297	221	189	340	324	297	275	243	Miss	254	265	297	319	259	167	232	253
14	211	221	167	167	140	162	189	221	67	131	157	173	211	211	270	297	275	130	151	211	184	184	297	67	187
15	110	243	275	67	99	121	121	131	167	173	162	178	232	157	88	72	88	110	99	121	110	126	151	162	140
16	124	146	146	135	135	135	146	151	157	178	194	189	205	243	351	34	115	146	162	130	124	119	119	140	155
17	184	124	108	119	119	108	119	140	157	167	173	178	167	173	189	135	265	275	162	157	45	50	135	178	151
18	94	286	130	113	119	140	135	135	146	157	135	135	124	97	119	115	110	81	56	297	184	200	232	119	144
19	16	40	72	87	74	77	67	91	120	122	123	94	297	286	351	135	157	146	113	119	92	270	137	131	134
20	114	77	76	72	67	61	43	61	77	99	297	77	67	88	121	243	40	326	275	340	45	67	67	40	118
21	34	56	61	67	56	34	50	67	45	72	67	50	83	72	50	61	270	167	167	243	45	77	99	121	88
22	129	138	125	132	124	356	13	83	77	254	50	61	61	67	61	45	88	45	162	194	211	205	275	297	136
23	329	99	319	167	178	146	243	189	113	113	135	319	221	243	178	275	288	296	4	23	216	11	338	326	199
24	346	1	271	299	288	135	221	224	223	224	281	151	316	267	267	279	141	3	293	104	140	121	173	222	208
25	180	185	183	188	207	231	159	161	195	185	164	200	231	249	187	199	182	119	63	20	328	61	118	167	173
26	209	235	199	189	172	140	126	163	178	190	232	254	238	347	104	89	108	90	48	77	113	147	146	168	165
27	159	200	204	170	204	200	168	204	226	279	36	3	322	113	337	297	263	204	168	161	195	145	150	155	190
28	195	134	154	217	187	146	164	181	176	178	167	198	207	178	200	250	263	249	249	308	10	133	120	130	183
29	162	184	142	135	160	182	144	146	161	169	161	170	174	223	238	220	333	234	270	263	116	130	108	123	181
30	143	177	140	134	141	133	141	152	164	169	176	181	213	204	240	227	200	192	139	131	137	133	127	137	164
31	142	142	142	177	157	148	125	148	155	160	165	180	232	193	189	182	189	205	229	190	174	175	161	162	172

TOTAL HOURS 744 TOTAL GOOD HOURS 742 DATA CAPTURE 99.7X

ARITHMETIC MEAN 182 STANDARD DEV. 78

KEY FOR MISSING CODES

Badc - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

10-29-91

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

		AUGUST, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1	165	151	151	162	170	173	172	174	181	193	206	202	356	316	188	213	242	236	170	145	125	145	125	134	187	
2	124	140	129	116	131	128	141	161	177	175	196	205	221	235	294	295	36	126	9	174	166	178	164	148	161	
3	155	144	149	161	128	78	28	74	121	101	103	359	34	296	49	288	305	296	289	301	299	336	83	110	179	
4	213	160	197	223	285	5	249	264	347	1	299	285	297	289	284	285	295	297	289	279	275	281	274	285	248	
5	281	299	277	171	206	349	329	194	25	281	332	188	116	14	27	292	207	280	284	161	160	196	251	239	215	
6	177	160	189	113	224	149	121	116	114	117	137	120	119	135	162	179	106	31	353	302	281	342	340	21	171	
7	22	22	30	47	65	77	81	89	107	117	105	106	114	83	128	82	296	134	119	108	89	98	81	101	96	
8	107	106	113	121	54	75	94	128	123	137	101	89	136	183	9	169	95	261	308	305	32	105	174	217	135	
9	183	205	49	144	211	242	271	310	282	311	312	302	324	50	200	89	83	70	87	97	146	190	257	229	194	
10	241	200	193	127	126	141	149	167	204	229	236	237	214	231	249	252	271	263	268	273	243	236	234	229	217	
11	231	209	228	233	177	215	206	204	246	289	258	240	177	220	233	231	253	274	276	281	271	273	242	264	239	
12	167	224	124	168	152	185	167	195	208	207	246	246	239	266	294	284	286	282	259	131	112	128	52	154	199	
13	194	218	220	236	170	160	173	191	194	181	191	201	217	182	161	210	291	274	308	21	37	149	156	132	186	
14	112	181	124	163	175	152	158	166	169	168	170	190	189	182	279	291	278	290	275	288	281	23	155	123	191	
15	77	151	181	177	158	154	164	192	202	217	253	254	281	199	231	291	285	296	37	73	82	126	141	194	184	
16	218	187	335	300	5	37	50	330	344	13	356	357	24	12	13	22	322	284	16	42	15	33	72	315	154	
17	291	325	328	322	330	343	20	359	0	322	330	320	330	305	326	308	315	303	281	284	284	276	284	281	286	
18	282	276	278	274	267	254	274	272	282	295	271	299	298	319	258	215	204	195	216	206	230	249	234	202	256	
19	194	190	187	312	215	191	198	185	191	227	284	265	227	262	265	204	131	75	121	112	142	157	161	164	194	
20	159	193	189	188	189	229	198	236	216	264	252	291	300	299	281	267	262	310	101	206	209	170	136	123	220	
21	119	114	159	160	154	177	238	207	242	233	233	254	253	232	277	271	276	277	267	248	257	308	77	108	214	
22	139	156	137	214	246	37	22	94	88	92	101	89	82	122	271	25	123	145	88	104	104	93	76	97	114	
23	115	112	102	97	97	102	96	114	132	127	119	119	109	116	168	49	88	94	104	114	98	105	115	96	108	
24	83	88	112	129	148	130	114	133	151	147	162	160	233	175	354	346	66	328	11	37	96	126	132	126	149	
25	130	136	139	131	128	99	65	101	124	145	165	210	258	250	262	270	289	299	107	93	93	110	140	139	162	
26	177	102	338	306	5	45	339	24	58	101	106	102	88	79	83	57	44	60	79	101	114	95	90	97	112	
27	100	112	77	89	58	49	52	63	70	75	90	96	82	76	80	99	12	36	22	52	123	85	84	81	73	
28	50	343	38	62	55	33	72	74	77	82	78	76	100	94	57	79	86	94	35	7	42	73	80	79	78	
29	84	64	35	67	72	64	62	77	75	94	98	88	72	90	80	88	73	175	69	75	78	65	66	71	78	
30	76	76	73	61	59	65	75	74	86	97	102	96	82	68	189	212	178	5	24	46	257	296	333	87	113	
31	100	126	51	38	48	116	7	67	91	83	99	109	96	130	204	21	64	119	133	191	251	91	96	110	102	

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%

ARITHMETIC MEAN 168 STANDARD DEV. 90

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

10-21-91

11.11-54

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

DAY	SEPTEMBER, 1991																							DAILY AVG	
	HOUR (EST) 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	96	107	107	100	133	114	106	146	154	119	63	54	135	116	127	159	208	246	279	43	33	87	184	92	125
2	71	41	353	35	345	21	39	61	67	50	51	60	72	76	66	63	76	64	65	66	46	35	32	29	78
3	44	48	17	18	3	16	17	34	45	61	68	74	63	70	39	59	51	48	52	43	42	22	21	5	40
4	6	11	10	18	22	21	12	22	50	69	69	79	75	80	60	68	73	69	75	73	71	76	63	56	51
5	28	43	49	52	23	23	4	25	46	69	75	59	64	29	360	14	5	301	215	272	213	170	162	152	102
6	202	301	80	339	9	330	20	51	49	46	30	20	6	24	330	8	14	353	85	137	73	43	39	294	120
7	322	16	329	360	347	343	31	34	46	47	49	44	43	45	41	50	20	79	93	72	121	105	82	52	115
8	23	26	41	58	23	30	43	55	77	91	87	78	91	109	108	88	145	178	37	26	32	27	31	38	64
9	22	23	17	21	21	45	51	58	81	79	78	73	83	79	68	84	71	85	85	76	73	67	59	55	60
10	53	61	66	56	57	48	43	53	70	79	65	77	79	79	116	108	67	73	71	87	87	75	60	73	
11	73	75	61	72	72	45	80	80	76	49	49	48	72	64	76	34	30	70	360	295	313	64	96	100	98
12	103	105	74	60	44	33	79	94	123	63	12	47	50	15	342	14	20	57	34	43	100	114	117	130	78
13	139	142	136	336	329	357	33	37	272	314	35	32	29	45	83	84	108	105	93	87	93	114	127	138	136
14	129	125	131	133	113	108	126	104	115	116	67	62	63	65	86	87	91	76	69	50	92	115	114	118	98
15	118	136	164	122	104	88	75	100	122	100	57	53	72	79	79	75	70	70	80	87	88	85	89	107	92
16	112	78	41	25	43	43	34	61	80	81	72	90	99	72	81	96	83	64	77	78	95	129	100	104	77
17	22	7	9	4	18	12	13	29	49	60	53	67	45	76	108	93	118	118	112	106	93	90	82	100	62
18	94	106	86	74	76	76	76	74	100	108	131	118	137	112	110	111	209	208	37	141	17	70	90	100	103
19	92	118	128	65	24	64	89	86	103	120	117	114	95	84	112	120	81	120	107	122	226	309	9	346	119
20	14	19	36	42	39	96	280	96	47	336	41	25	26	47	51	28	316	311	31	77	347	106	55	69	106
21	79	38	23	31	40	52	50	50	48	54	50	45	58	50	30	26	25	57	79	78	84	59	20	44	49
22	35	22	322	335	6	9	2	2	26	45	43	51	50	46	43	46	51	52	53	57	57	58	56	58	63
23	61	54	55	44	43	49	42	50	60	71	73	81	61	56	63	50	70	158	152	129	104	73	72	80	73
24	64	45	40	38	37	31	39	50	75	81	93	115	103	135	169	145	139	175	282	259	133	237	177	352	126
25	82	197	140	162	154	163	186	182	185	196	213	205	200	190	189	257	251	251	227	245	258	271	275	261	206
26	155	219	193	168	206	304	303	355	13	12	360	320	294	278	286	274	268	285	293	311	312	285	285	283	253
27	315	328	328	332	343	339	350	358	3	7	349	343	22	331	24	7	13	16	13	7	38	38	25	13	164
28	17	13	4	3	5	4	7	10	25	43	43	41	43	43	44	53	49	50	49	41	29	13	26	29	28
29	26	14	11	8	350	360	360	29	65	103	96	109	101	115	119	110	53	34	37	45	49	52	53	57	98
30	57	48	47	49	61	63	67	52	55	48	67	67	55	62	92	65	69	64	60	63	55	51	52	43	59

TOTAL HOURS 720 TOTAL GOOD HOURS 720 DATA CAPTURE 100.0X

ARITHMETIC MEAN 97 STANDARD DEV. 87

KEY FOR MISSING CODES

BadC - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

10-21-91

11.11.55

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

		OCTOBER, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		39	37	11	22	33	28	17	27	41	67	64	68	87	64	52	70	57	69	62	54	29	43	51	42	47
2		54	70	71	4	87	151	142	145	173	200	219	231	225	223	249	249	242	228	233	224	203	180	209	204	176
3		186	182	197	171	171	177	167	218	218	236	238	247	251	266	271	275	266	138	143	144	158	177	176	170	202
4		171	307	42	94	57	35	55	94	112	116	146	176	139	146	140	279	342	356	248	360	68	84	77	92	156
5		97	109	98	103	118	108	106	116	160	175	166	161	167	186	224	329	258	353	104	36	34	38	69	84	142
6		91	106	75	143	171	215	205	160	166	206	212	223	253	266	242	22	3	15	12	7	20	11	16	6	119
7		11	14	14	12	11	13	9	11	7	15	30	50	41	39	39	43	43	41	38	30	27	29	26	27	26
8		28	28	28	23	30	29	28	30	43	56	67	60	55	65	52	49	51	53	56	53	49	36	37	34	43
9		37	39	39	38	37	27	32	28	38	44	57	63	62	66	64	62	55	58	56	43	51	45	43	48	47
10		41	2	12	5	15	5	2	11	22	18	18	32	49	7	7	15	360	359	21	18	Down	Down	5	47	
11		25	14	305	352	12	37	5	347	12	18	21	21	42	49	48	249	273	284	284	301	292	308	311	327	164
12		333	38	339	315	214	213	188	156	172	175	251	257	267	284	265	271	271	274	274	238	278	265	269	231	243
13		309	288	255	277	264	292	296	256	282	315	348	18	38	45	56	56	43	45	297	313	339	336	90	101	207
14		104	112	123	142	101	96	63	71	88	114	107	115	110	118	121	130	122	145	122	120	116	102	104	76	109
15		69	68	74	68	66	54	32	46	66	55	104	124	133	83	142	335	7	21	61	80	88	106	288	270	102
16		281	279	281	222	301	338	352	351	352	1	347	331	320	325	303	305	292	290	297	292	298	322	315	336	297
17		7	2	3	14	25	58	24	28	44	50	71	75	77	73	82	122	113	43	5	31	35	66	76	72	50
18		62	52	34	37	34	38	37	54	58	68	69	61	60	68	62	72	67	67	67	70	66	57	36	31	55
19		34	30	22	17	16	13	14	22	27	43	50	47	49	34	33	39	27	28	46	59	55	54	71	56	37
20		45	29	32	35	31	31	49	39	43	46	44	42	100	65	85	79	66	60	69	70	67	65	68	61	55
21		62	45	45	63	45	40	44	41	61	77	93	106	83	68	69	65	77	65	64	83	87	75	56	50	65
22		42	47	46	34	39	35	32	41	50	65	72	58	53	43	44	55	67	58	71	72	77	65	38	39	52
23		336	19	29	27	30	26	48	57	66	81	95	80	67	89	76	89	89	Down	Bad<	Down	69	69	60	59	74
24		58	59	60	51	47	58	55	59	67	75	81	88	79	88	84	84	82	72	72	67	67	68	60	57	68
25		53	47	51	54	65	54	56	61	73	81	82	86	83	82	68	54	78	70	62	54	59	61	53	51	64
26		38	35	41	37	26	43	40	44	48	79	85	91	94	92	68	48	101	64	65	71	64	59	47	52	60
27		66	67	52	29	28	44	55	55	64	75	80	95	81	75	64	52	59	61	70	78	80	72	53	54	63
28		47	33	29	21	30	39	37	40	46	48	95	PwrF	PwrF	69	46	56	72	69	70	59	58	54	50	48	51
29		39	30	15	19	14	16	16	23	42	51	47	55	59	90	57	57	70	70	65	63	43	46	54	41	45
30		38	48	35	34	45	45	37	53	75	87	85	80	73	62	70	70	65	Down	70	72	62	52	43	39	58
31		PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	32	47	63	57	103	203	284	332	284	21	28	23	26	34	33	64	76	114	Bad<

TOTAL HOURS 744 TOTAL GOOD HOURS 730 DATA CAPTURE 98.1%

ARITHMETIC MEAN 98 STANDARD DEV. 90

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qel - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

		NOVEMBER, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		113	122	110	115	130	113	135	151	170	174	167	186	198	199	221	215	204	208	201	246	258	228	242	173	178
2		173	210	215	162	151	147	117	145	181	176	189	208	225	232	235	296	284	281	327	316	335	339	327	344	234
3		341	338	343	11	7	3	13	21	43	62	99	67	12	Down	Down	3	11	19	12	14	21	17	14	11	67
4		10	13	16	24	12	12	7	15	18	25	35	30	31	23	23	17	17	8	17	6	8	17	22	10	17
5		2	4	9	20	11	5	5	3	13	17	25	23	32	43	37	30	34	14	12	15	8	6	12	9	16
6		9	11	0	10	5	4	6	5	4	PwrF	29	52	47	13	34	24	23	10	6	11	4	17	17	24	16
7		13	23	22	20	29	28	31	27	24	27	13	8	26	33	51	38	15	10	15	14	19	43	64	36	26
8		7	4	10	29	49	3	13	340	356	2	11	351	340	Bad<	8	14	14	8	6	343	323	360	339	332	142
9		336	346	350	340	342	359	336	349	343	346	355	2	343	343	329	319	292	324	1	19	13	343	351	15	271
10		19	335	301	300	295	353	12	286	344	328	317	336	328	323	292	285	282	278	270	295	279	263	209	210	273
11		221	177	170	240	281	341	349	345	279	346	320	298	303	298	288	292	284	280	286	301	292	297	346	12	277
12		18	353	332	352	5	3	349	2	18	14	55	64	7	353	319	336	305	289	291	302	303	315	333	335	210
13		350	7	4	6	1	3	8	12	22	33	44	44	38	42	39	54	61	38	33	44	42	36	38	30	43
14		30	30	35	43	38	43	40	44	47	59	85	105	106	107	100	87	81	19	35	57	72	70	67	55	61
15		43	34	33	34	35	43	44	47	56	90	114	105	95	75	68	70	68	58	59	65	71	55	39	24	59
16		42	40	38	37	48	50	43	53	49	72	70	68	67	53	46	35	49	43	52	50	52	62	63	60	52
17		52	61	60	61	64	52	48	66	64	65	74	81	85	75	77	75	79	76	65	65	72	72	70	70	68
18		66	67	63	43	40	44	61	70	89	97	104	99	105	104	100	98	86	75	84	87	87	89	88	78	80
19		66	68	70	65	66	77	88	89	81	100	105	108	99	98	102	103	96	89	91	90	88	85	86	85	87
20		94	79	88	92	97	94	94	97	107	106	138	137	133	126	109	108	87	78	70	103	108	123	130	131	105
21		121	97	98	74	65	83	90	94	106	116	129	133	121	137	124	137	135	136	111	161	168	109	104	124	116
22		139	134	129	130	123	144	163	141	147	158	172	169	175	182	195	202	196	204	187	179	197	171	210	219	169
23		168	195	227	246	268	288	287	298	322	356	12	338	329	347	284	277	282	284	286	291	293	295	299	290	273
24		286	284	280	277	277	271	303	292	329	343	353	346	351	346	305	318	309	298	299	305	318	331	353	1	299
25		9	13	13	12	5	9	7	9	13	17	20	24	38	38	31	19	20	17	21	25	18	28	27	5	18
26		10	18	5	5	14	20	19	20	22	24	25	35	44	39	40	44	40	31	35	40	29	29	21	18	26
27		20	20	24	22	18	17	13	16	20	26	41	49	49	59	63	51	62	65	60	40	33	25	22	20	35
28		18	18	20	23	20	21	23	22	37	49	64	68	74	82	81	73	80	70	68	60	58	43	45	61	49
29		64	56	55	44	38	41	43	48	56	80	102	97	90	88	90	81	88	89	91	83	78	83	85	82	73
30		86	100	91	91	91	93	91	93	100	99	108	119	122	121	117	105	100	97	103	90	84	96	98	99	100

TOTAL HOURS 720 TOTAL GOOD HOURS 716 DATA CAPTURE 99.4%

ARITHMETIC MEAN 115 STANDARD DEV. 111

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11.11-57

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

DECEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	84	78	93	105	96	96	98	102	105	121	127	126	125	119	111	107	100	107	101	107	103	111	113	113	106
2	115	101	103	103	100	110	111	118	137	140	133	140	153	156	156	164	137	136	111	152	226	87	132	139	132
3	133	141	157	168	180	183	176	180	171	178	189	208	199	208	212	224	225	219	227	236	218	271	305	308	205
4	318	313	322	314	319	360	357	5	5	10	12	4	7	9	358	354	360	12	353	330	321	355	12	10	201
5	13	14	9	8	7	9	9	5	11	16	45	44	56	68	77	68	75	37	13	20	23	35	31	34	30
6	34	25	26	23	17	34	33	48	20	45	47	71	69	61	63	65	88	31	25	55	74	65	50	55	47
7	63	62	60	76	81	43	27	34	43	72	88	108	102	114	68	51	55	39	48	34	50	68	92	96	65
8	95	86	96	69	9	27	45	46	71	84	114	116	111	121	108	78	70	37	32	68	68	73	82	86	75
9	45	32	13	62	36	45	25	43	69	100	107	106	114	99	95	96	99	303	333	286	303	312	299	171	133
10	130	14	300	260	17	258	318	281	231	249	246	279	299	288	286	288	288	285	285	295	359	18	50	29	223
11	25	50	23	24	18	16	17	25	43	43	52	71	124	122	102	50	51	18	25	29	34	33	41	63	46
12	71	47	50	64	67	70	59	55	48	64	81	90	123	120	107	98	88	78	77	86	89	95	96	85	79
13	75	74	54	47	39	45	48	62	67	88	104	129	135	122	123	131	109	24	50	83	86	150	186	128	90
14	144	130	118	121	168	167	164	85	157	181	189	216	240	258	281	289	286	286	281	272	290	333	11	6	195
15	14	26	27	24	14	17	12	11	21	27	34	31	33	32	45	29	19	23	24	19	18	19	14	6	22
16	6	8	7	12	15	22	24	26	24	25	20	21	27	20	28	24	22	25	32	36	30	40	45	27	23
17	16	14	9	2	22	17	5	5	18	36	44	59	64	86	80	87	87	51	22	37	40	46	335	337	63
18	353	3	360	12	17	32	37	49	55	41	43	53	78	102	117	142	24	14	339	342	12	13	13	10	94
19	13	20	9	20	19	19	22	25	31	41	43	53	64	65	60	61	61	61	61	60	57	55	61	58	43
20	58	62	62	62	62	59	50	39	45	64	75	90	81	90	88	91	89	89	81	60	56	75	101	38	69
21	31	35	55	68	46	15	19	35	44	53	101	112	117	105	86	117	71	16	50	92	41	59	84	81	64
22	75	51	38	53	53	36	33	45	73	114	165	120	107	128	232	2	86	347	319	315	293	313	319	285	150
23	349	340	301	276	326	30	148	206	201	141	185	236	239	247	249	237	238	242	238	222	234	190	173	177	226
24	179	224	243	238	242	248	242	229	237	242	261	281	295	306	278	298	303	286	279	268	283	328	349	358	271
25	340	336	336	3	5	353	350	346	14	25	45	43	123	127	133	121	117	331	340	265	291	284	302	278	204
26	326	350	354	39	58	34	58	63	59	55	79	121	160	121	151	173	143	166	329	312	312	351	346	5	173
27	305	32	50	83	94	99	112	137	111	114	123	153	153	138	120	120	101	75	67	70	87	108	78	123	111
28	112	50	58	64	75	69	80	83	123	130	152	166	170	183	202	209	237	236	273	280	277	274	242	191	164
29	243	205	220	271	285	279	292	285	298	323	321	298	298	311	317	298	306	289	316	329	330	302	279	315	292
30	283	263	295	336	319	296	340	312	298	5	2	322	303	308	306	311	317	332	289	305	328	328	343	355	287
31	359	25	15	25	56	36	6	6	43	34	18	25	33	38	35	36	31	32	16	18	23	28	25	30	41

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0X

ARITHMETIC MEAN 127 STANDARD DEV. 108

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11.11-58



TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

DAY	JANUARY 1992																							DAILY AVG	
	HOUR (EST) 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	23	30	33	29	17	11	25	39	45	41	44	45	43	44	46	42	19	14	25	17	43	32	49	44	33
2	47	21	21	33	49	57	46	37	41	32	37	43	45	46	48	51	56	44	15	332	322	301	303	299	97
3	307	298	306	241	276	275	287	295	307	306	303	301	298	295	286	279	284	286	290	281	269	274	266	282	287
4	287	286	308	298	295	289	285	288	291	291	292	299	298	283	289	288	292	286	298	305	313	320	308	299	295
5	290	313	275	285	280	277	289	288	319	320	312	293	277	260	243	246	274	274	290	286	288	293	302	259	285
6	180	146	164	228	271	218	156	185	189	209	246	264	282	284	291	291	288	280	281	278	282	288	291	316	246
7	279	272	287	294	301	291	312	315	333	11	46	36	25	357	357	46	47	26	26	10	345	32	65	62	174
8	59	67	60	21	50	62	63	66	69	72	70	101	121	119	124	126	114	103	88	69	90	104	110	116	85
9	107	132	176	210	350	58	5	52	95	156	179	198	210	223	232	235	258	258	263	253	237	Cal	Cal	248	188
10	240	223	248	267	246	264	229	217	244	249	240	262	275	286	285	301	305	304	323	319	294	295	323	328	274
11	345	359	7	9	12	14	7	10	12	27	51	38	57	59	49	67	65	73	70	6	49	50	53	41	64
12	48	55	61	67	70	76	74	77	88	90	116	122	128	137	144	137	118	104	94	105	126	149	146	149	103
13	150	142	149	142	144	142	141	145	154	174	190	201	210	215	213	211	205	201	199	202	192	191	200	204	180
14	203	205	205	208	210	267	260	266	285	288	285	284	277	279	284	280	288	288	289	295	297	303	317	326	270
15	326	328	343	343	12	15	12	14	14	15	0	340	322	297	305	305	336	343	322	311	310	296	286	291	228
16	335	16	17	18	351	2	16	10	9	5	2	329	319	311	306	319	325	301	293	309	316	322	331	349	205
17	3	16	22	34	30	31	27	32	45	46	40	55	69	93	112	68	23	10	1	340	305	323	333	19	87
18	15	15	14	26	29	37	27	36	50	64	101	111	152	196	183	163	169	134	259	332	57	46	55	60	97
19	88	92	33	30	57	82	118	155	151	163	160	195	199	203	216	242	294	21	19	24	21	25	23	19	110
20	21	14	10	10	9	7	9	6	351	357	0	354	335	348	352	353	7	12	6	7	326	323	318	335	161
21	347	350	345	352	9	357	3	6	4	14	47	41	57	84	70	47	43	36	32	39	65	76	84	76	108
22	69	68	75	83	88	68	53	69	80	102	107	114	115	111	113	121	112	104	101	108	115	111	126	127	97
23	137	143	168	168	171	162	171	173	185	190	207	214	222	233	256	239	249	233	221	230	232	241	275	286	209
24	280	284	286	285	292	308	319	329	336	318	343	343	329	311	322	317	326	305	305	305	288	308	325	349	313
25	10	17	18	21	22	30	30	27	31	42	39	43	44	66	63	35	60	11	15	6	343	333	353	24	70
26	26	31	19	0	16	17	22	16	15	31	48	44	46	71	88	96	83	70	38	34	41	38	54	55	42
27	41	42	47	57	44	50	37	44	60	88	108	109	108	103	125	135	128	136	119	120	77	65	70	76	83
28	90	82	76	80	90	90	94	101	99	123	141	155	156	157	173	173	136	137	142	82	39	46	57	74	108
29	78	95	100	104	102	126	91	110	154	150	113	194	227	250	247	267	288	287	292	330	34	48	65	66	159
30	68	74	46	103	87	173	305	109	156	193	222	226	209	221	224	227	233	229	233	250	281	279	284	271	196
31	276	282	281	284	286	295	296	305	311	286	295	302	308	300	297	309	286	281	274	277	284	285	278	277	290

TOTAL HOURS 744 TOTAL GOOD HOURS 742 DATA CAPTURE 99.7%  
 MAX. 1HR AVG 359 01/11/92 01:00:00 2ND MAX. 1 HR AVG 357 01/21/92 05:00:00  
 MIN. 1HR AVG 0 01/15/92 10:00:00 ARITHMETIC MEAN 166 STANDARD DEV. 116

KEY FOR MISSING CODES

Badc - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-59

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

DAY	FEBRUARY 1992																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	281	281	284	283	290	288	288	279	290	315	335	335	315	298	296	298	295	291	284	298	303	302	313	329	299
2	39	12	333	336	21	34	24	17	26	48	50	58	57	51	63	69	55	35	38	47	60	59	60	53	68
3	49	61	59	44	18	31	53	55	45	63	74	108	109	125	40	73	35	50	30	38	77	93	86	82	62
4	80	78	96	147	140	107	96	78	87	104	127	135	136	137	152	151	152	151	123	114	123	116	124	136	120
5	131	141	142	135	139	256	230	133	118	116	155	180	196	192	195	206	213	214	191	208	227	223	203	215	182
6	197	201	216	201	218	214	235	253	251	268	277	278	280	279	281	285	288	288	290	296	291	292	301	291	261
7	290	294	297	299	296	297	302	305	292	301	305	312	332	257	277	280	272	276	279	278	320	311	251	286	292
8	279	284	276	274	263	240	268	269	300	319	308	292	281	292	287	280	285	281	285	290	290	303	314	334	287
9	346	347	8	17	9	24	24	29	31	40	48	63	64	58	43	33	20	14	7	18	26	36	36	16	56
10	17	25	21	19	17	24	32	43	42	45	63	74	74	79	69	70	55	46	36	36	43	42	32	33	43
11	26	25	25	20	23	29	23	30	26	38	27	25	20	25	30	33	46	46	36	35	33	45	77	80	34
12	73	77	49	49	41	36	31	32	44	41	44	52	50	49	60	59	34	28	8	356	34	353	63	21	70
13	84	46	217	150	137	53	67	55	84	91	85	111	97	252	284	277	276	288	296	302	326	315	34	39	165
14	357	24	352	23	38	40	56	56	56	77	99	50	40	189	243	264	254	275	286	297	323	324	45	297	169
15	178	199	189	232	56	99	121	121	160	162	167	167	189	189	211	221	243	254	233	211	200	216	232	243	187
16	232	221	200	243	221	189	211	200	189	204	184	209	232	243	248	265	243	263	263	254	297	99	56	34	208
17	264	297	178	157	157	130	130	151	167	189	189	184	189	211	211	220	221	248	297	351	12	99	189	189	193
18	189	184	204	204	297	185	243	121	189	206	200	178	189	194	194	204	232	258	243	209	232	232	209	208	208
19	223	221	232	227	200	209	205	240	232	238	238	235	243	292	286	286	281	297	301	329	45	307	297	275	247
20	243	65	240	319	351	11	13	16	29	34	45	40	45	40	56	65	56	61	65	61	67	67	56	50	87
21	60	56	45	55	45	40	43	45	45	60	65	65	64	67	65	61	61	60	60	59	65	60	61	59	57
22	60	50	45	56	56	53	59	70	88	99	115	119	106	101	97	66	48	60	50	243	45	56	99	268	88
23	136	119	189	151	101	135	140	145	147	155	155	185	204	204	232	211	238	243	248	264	277	243	235	189	189
24	155	120	160	135	135	157	115	96	140	81	99	101	81	101	105	81	60	228	297	322	317	297	55	70	146
25	86	94	136	104	109	98	92	105	PwrF	142	161	171	162	193	198	243	242	208	198	206	231	261	257	204	170
26	197	194	211	206	226	227	223	241	278	273	270	274	PwrF	PwrF	274	270	281	276	279	281	282	284	277	284	255
27	283	285	286	291	295	289	295	289	292	293	290	287	283	281	278	281	284	281	284	284	284	259	196	266	281
28	292	257	278	292	290	301	319	295	330	336	305	292	293	286	279	267	276	275	279	269	258	263	264	237	285
29	270	249	264	264	223	228	217	223	254	288	284	291	289	284	291	280	281	278	278	281	281	286	262	249	266

TOTAL HOURS 696    TOTAL GOOD HOURS 693    DATA CAPTURE 99.6%

MAX. 1HR AVG 357 02/14/92 00:00:00    2ND MAX. 1 HR AVG 356 02/12/92 19:00:00

MIN. 1HR AVG 7 02/09/92 18:00:00    ARITHMETIC MEAN 171    STANDARD DEV. 104

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-60

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND DIRECTION IN DEGREES TRUE

DAY	MARCH 1992																								DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	242	259	279	261	303	346	29	26	333	9	46	43	114	132	142	108	110	37	343	312	291	271	318	315	194
2	316	302	355	31	358	355	9	14	42	44	57	80	120	145	126	147	125	52	20	299	301	339	52	73	157
3	79	72	80	66	65	61	73	85	75	114	120	125	94	91	94	87	97	97	101	102	97	95	96	93	90
4	80	78	52	68	57	58	69	37	29	73	96	137	137	132	163	175	155	139	110	113	89	76	84	85	95
5	97	91	92	91	95	94	95	103	109	112	118	124	114	101	114	113	113	131	112	99	101	94	97	103	105
6	99	94	97	90	87	93	99	93	109	134	154	170	179	176	199	221	240	245	249	267	268	267	235	235	171
7	232	185	139	155	206	212	208	226	218	225	235	255	265	272	276	268	275	284	276	265	268	281	286	289	242
8	289	298	293	302	302	340	346	312	306	301	339	0	34	353	329	347	0	12	286	279	281	275	274	312	259
9	343	9	349	348	19	35	56	70	75	104	128	134	134	130	141	155	189	247	308	349	20	7	110	130	150
10	124	126	148	161	162	154	160	165	176	196	208	202	208	207	214	215	215	220	219	221	238	312	320	279	202
11	204	221	248	263	268	295	299	306	313	317	318	329	312	298	295	301	295	278	285	303	331	322	308	295	292
12	294	317	357	11	7	14	4	9	23	47	83	116	120	340	346	346	43	306	306	307	318	316	355	186	190
13	244	151	316	291	246	261	254	287	281	308	311	323	306	302	294	285	285	291	285	284	280	301	299	312	283
14	308	309	329	308	352	326	328	2	21	29	42	43	353	296	335	295	289	284	281	282	291	291	284	291	249
15	296	288	295	285	278	284	277	279	291	303	303	298	303	302	286	280	277	276	281	282	282	276	272	274	286
16	271	271	281	265	261	278	351	18	32	44	42	48	46	44	58	43	31	35	67	75	75	73	73	67	119
17	76	69	72	73	79	79	71	76	89	114	124	116	106	92	96	95	101	95	100	108	178	141	141	127	101
18	116	123	136	142	143	130	122	117	140	153	161	156	156	178	184	203	235	223	226	227	235	215	201	155	170
19	158	181	188	202	215	210	204	208	220	231	246	246	260	266	274	274	281	275	274	264	266	264	278	277	240
20	272	274	272	267	267	273	277	279	291	292	288	282	285	280	284	285	279	280	282	289	298	292	286	282	282
21	306	8	12	9	325	353	5	15	27	48	43	48	41	64	52	25	27	3	12	345	326	354	27	3	103
22	16	7	14	40	19	24	22	71	92	103	130	170	182	207	206	242	252	262	163	171	132	149	163	179	126
23	185	180	183	165	173	175	175	207	244	266	282	286	284	286	288	289	288	288	309	291	300	300	284	291	251
24	231	330	19	14	16	15	24	29	33	33	42	43	48	58	69	63	54	47	58	65	65	61	59	66	64
25	71	68	69	74	76	74	73	78	90	102	110	111	117	116	114	105	117	142	147	181	208	261	282	292	128
26	284	298	5	323	277	281	294	282	293	305	316	308	301	295	291	291	291	296	285	281	281	281	271	302	280
27	262	302	279	269	292	326	295	346	346	353	331	340	298	342	284	277	280	282	287	289	288	284	316	288	302
28	308	295	284	286	321	332	14	43	53	64	62	75	62	50	49	34	32	28	11	7	11	43	64	80	109
29	74	66	68	70	73	67	70	72	87	112	188	242	265	257	242	255	252	265	324	332	335	353	39	77	174
30	72	343	292	243	201	173	149	105	128	183	210	212	233	248	252	253	262	286	232	177	165	178	184	203	208
31	225	247	248	261	255	270	277	282	284	287	Cal	Cal	264	274	326	281	282	280	281	277	282	279	283	305	275

TOTAL HOURS 744      TOTAL GOOD HOURS 742      DATA CAPTURE 99.7%  
 MAX. 1HR AVG 358 03/02/92 04:00:00      2ND MAX. 1 HR AVG 357 03/12/92 02:00:00  
 MIN. 1HR AVG 0 03/08/92 11:00:00      ARITHMETIC MEAN 190      STANDARD DEV. 106

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-61

**HOURLY AVERAGES FOR WINDSPEED (MILES PER HOUR)**

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WINDSPEED IN MILES/HOUR

APRIL, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	3.1	2.6	2.0	2.5	4.2	4.1	4.2	7.0	6.9	9.4	9.4	9.0	8.9	8.2	7.7	6.9	6.4	6.3	4.6	4.7	6.3	4.7	4.5	4.4	5.7
2	4.8	3.9	4.2	3.6	2.9	3.3	2.5	4.0	6.6	9.7	10.8	10.8	10.7	11.3	11.9	11.9	12.1	11.9	10.1	7.4	5.4	4.6	4.5	3.8	7.2
3	3.5	3.2	3.5	3.1	3.0	3.6	3.8	6.1	8.6	13.0	14.1	14.4	14.2	13.0	13.4	15.1	13.2	12.5	11.4	10.8	7.6	9.0	7.8	6.4	8.9
4	2.9	3.2	4.8	5.4	6.5	4.2	2.8	4.0	6.2	12.6	15.7	14.9	13.6	13.2	13.3	13.2	14.4	13.7	6.9	6.1	7.3	8.1	7.7	5.7	8.6
5	4.7	3.6	3.6	4.6	4.1	4.0	5.5	6.8	12.2	10.7	10.2	9.5	8.8	9.8	10.1	9.7	10.1	11.0	9.1	7.2	3.9	3.2	3.3	2.6	7.0
6	2.3	3.9	3.5	3.7	2.3	2.0	2.5	2.9	3.5	5.9	5.8	4.6	5.6	4.7	4.7	5.4	4.9	3.5	8.7	5.2	1.7	4.3	2.2	3.1	4.0
7	4.6	4.6	5.0	4.7	4.4	4.5	5.1	6.0	7.0	8.8	7.8	6.8	5.8	4.4	4.6	5.5	4.3	5.5	6.0	4.4	1.2	1.3	2.2	1.6	4.8
8	1.3	3.0	3.7	3.7	3.6	4.2	6.1	5.7	7.8	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
9	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
11	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
12	4.3	3.9	3.6	4.3	3.6	2.2	5.7	9.1	10.5	11.2	11.4	10.9	10.7	10.3	9.6	9.6	9.7	9.2	8.2	9.1	10.2	8.9	6.8	5.8	7.8
13	5.2	4.7	5.5	5.9	6.6	6.2	5.6	6.9	8.2	9.9	10.9	10.1	9.4	7.9	7.5	7.8	7.5	6.0	5.1	6.2	5.3	5.2	6.6	6.0	6.9
14	5.4	5.4	5.4	5.3	4.3	3.5	4.3	6.6	8.8	9.4	8.5	7.7	8.4	10.9	12.5	11.1	11.6	9.7	7.3	4.6	5.4	6.5	7.4	6.1	7.3
15	5.3	5.2	4.4	4.7	4.8	4.1	2.6	5.3	5.3	7.9	7.0	5.6	5.7	4.6	4.2	4.7	3.8	1.9	2.3	3.2	4.6	2.9	1.8	1.6	4.3
16	1.2	2.3	3.1	2.9	2.4	1.8	2.0	3.3	6.6	7.9	7.0	6.9	5.4	5.6	4.6	3.4	6.9	7.0	6.0	PwrF	PwrF	PwrF	PwrF	PwrF	4.5
17	PwrF	Miss	2.0	3.0	4.0	4.0	3.0	4.0	4.0	4.5	3.0	4.0	6.0	PwrF	5.2	6.0	5.6	5.4	PwrF	2.5	1.5	1.4	4.1	4.6	3.9
18	3.3	1.8	0.7	1.7	2.9	2.9	3.6	3.2	5.1	6.2	7.0	6.6	9.4	9.7	9.1	9.6	10.6	10.3	6.3	3.9	2.3	2.6	1.8	1.4	5.1
19	1.6	2.8	2.5	1.5	1.6	1.7	1.0	1.2	1.4	0.9	4.2	2.9	2.7	3.3	5.8	9.5	9.6	9.1	7.3	4.8	5.7	3.1	2.8	3.1	3.7
20	2.7	3.7	2.3	2.4	3.3	1.4	1.1	3.0	5.0	4.9	3.9	3.0	3.9	4.4	5.8	5.5	4.6	6.3	9.4	7.4	4.2	3.0	1.5	2.0	3.9
21	2.9	4.6	3.7	3.2	5.3	4.4	1.8	2.4	6.1	10.9	11.1	11.7	12.0	11.5	12.7	11.9	10.3	9.5	7.5	4.7	4.0	4.0	3.5	0.7	6.7
22	0.8	0.3	0.4	0.9	1.0	1.4	1.0	1.4	3.8	3.8	4.7	5.5	4.8	5.5	7.1	7.6	7.2	9.3	6.7	4.2	2.8	0.7	1.4	3.2	3.5
23	3.0	2.4	2.7	3.8	4.5	4.9	4.4	6.3	6.8	6.7	5.9	10.3	13.3	16.7	17.0	13.7	9.9	7.8	3.7	1.4	4.0	5.4	10.9	6.3	7.1
24	1.9	2.9	3.0	2.6	2.5	2.1	2.0	3.3	7.7	9.8	11.8	12.7	10.2	10.4	9.1	9.2	8.1	6.7	4.5	3.9	4.0	3.2	2.1	1.5	5.6
25	1.3	1.7	2.0	1.2	1.3	2.3	2.3	2.7	3.9	5.3	5.2	3.9	3.7	2.3	2.3	12.2	9.2	8.4	7.2	6.6	7.1	6.5	4.2	4.0	4.4
26	2.4	7.2	4.8	3.1	4.2	6.0	2.3	5.4	7.6	6.4	6.1	4.6	4.8	3.9	2.7	2.3	1.2	0.7	1.1	2.0	2.7	3.1	1.8	2.8	3.7
27	3.6	4.7	3.5	2.2	3.3	3.7	4.7	5.1	6.1	7.1	8.3	8.3	6.5	6.1	4.9	3.4	3.5	3.9	3.2	2.9	2.7	2.0	1.9	2.7	4.3
28	2.5	2.5	2.6	3.7	3.5	4.4	5.7	7.9	9.4	9.2	8.7	8.0	8.7	7.4	6.6	5.5	4.1	2.8	5.0	3.7	3.2	1.2	0.8	2.0	4.9
29	4.3	5.9	5.2	5.5	6.7	5.7	5.3	12.0	9.8	10.7	10.0	9.0	6.9	5.6	6.0	6.1	6.0	3.5	2.6	2.8	2.8	1.9	2.6	6.0	5.9
30	4.5	6.1	5.1	3.1	4.6	3.4	3.7	5.3	6.7	7.3	8.0	6.9	6.5	5.5	5.8	6.0	5.3	5.3	5.4	4.5	2.8	1.9	1.4	2.6	4.9

TOTAL HOURS 720      TOTAL GOOD HOURS 633      DATA CAPTURE 87.9%

MAX. 1HR AVG 17.0    04/23/91 14:00:00      2ND MAX. 1 HR AVG 16.7    04/23/91 13:00:00

MIN. 1HR AVG 0.3    04/22/91 01:00:00      ARITHMETIC MEAN 5.6    STANDARD DEV. 3.2

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-63

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND SPEED IN MILES PER HOUR

MAY, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	1.4	1.4	1.5	1.3	2.3	2.2	2.8	4.9	6.0	5.3	4.2	4.9	3.9	4.4	4.8	4.3	4.4	4.3	6.4	4.1	2.6	1.3	1.9	2.5	3.4
2	2.3	1.8	2.2	2.9	1.9	2.2	2.4	3.9	3.1	3.0	5.3	7.1	7.6	6.1	6.7	6.3	5.6	4.9	3.2	2.2	3.4	7.7	6.7	6.7	4.4
3	7.1	6.0	4.5	3.9	4.1	3.5	3.9	5.2	6.4	7.4	8.4	8.7	7.2	6.8	5.9	5.1	4.7	4.8	8.1	6.6	8.4	8.7	8.2	6.0	6.2
4	5.5	5.7	5.6	5.6	4.8	4.5	5.0	6.2	7.0	7.0	6.1	4.4	5.0	4.2	3.0	3.5	2.9	2.4	1.1	3.2	4.9	7.1	2.0	3.1	4.5
5	4.2	2.8	3.4	2.8	2.6	3.1	4.5	4.3	5.2	7.7	6.2	4.7	5.1	5.5	5.5	5.2	5.3	4.6	3.6	4.8	3.7	5.8	5.2	3.4	4.5
6	6.2	6.3	3.8	1.5	2.2	2.8	2.7	4.1	7.9	9.0	7.1	8.5	7.5	6.0	3.4	4.7	7.4	6.9	9.1	6.7	7.9	5.2	4.1	3.0	5.6
7	2.4	2.2	2.9	4.6	5.1	4.3	5.7	5.6	5.9	7.4	5.7	6.1	6.4	8.0	6.3	6.6	8.0	8.2	9.1	9.3	9.0	8.1	8.1	5.4	6.2
8	5.7	6.5	7.5	6.5	6.7	6.3	7.8	9.3	10.1	10.5	11.0	9.9	9.5	8.8	9.4	9.5	9.6	9.0	10.6	10.7	10.7	8.9	7.7	7.2	8.7
9	6.8	7.2	7.7	5.6	5.2	5.1	6.0	7.4	8.2	8.3	7.9	7.7	8.1	6.6	6.4	4.6	5.0	7.0	8.5	10.4	10.9	7.0	7.4	7.1	7.1
10	6.4	7.2	5.4	3.6	4.9	4.6	5.9	5.9	7.1	8.0	6.5	6.0	4.6	5.8	7.6	6.7	8.5	7.2	8.1	5.8	6.2	5.9	5.9	5.6	6.2
11	4.9	6.1	5.2	6.6	4.8	3.1	4.2	5.1	7.7	8.0	7.1	6.8	7.1	8.4	7.9	7.9	7.7	8.8	8.7	7.2	8.5	7.4	7.5	5.9	6.7
12	4.7	3.5	2.9	3.6	3.9	3.9	3.1	5.4	5.8	6.3	5.5	4.5	4.3	4.2	4.5	4.4	3.7	4.7	3.9	5.4	6.2	7.6	8.0	6.8	4.8
13	4.5	6.3	4.6	2.8	3.2	4.2	4.0	4.5	6.0	6.0	5.7	5.3	6.2	3.7	4.4	6.8	2.6	3.1	1.6	3.2	3.0	2.4	2.8	3.8	4.2
14	3.5	3.3	2.4	2.5	1.8	1.5	2.8	3.5	3.8	6.0	2.4	8.5	6.8	6.4	7.7	5.2	2.1	4.8	5.3	4.2	1.8	1.7	1.2	1.2	3.7
15	0.5	2.6	1.4	1.0	0.8	1.2	2.0	3.9	5.0	5.7	5.4	6.1	5.2	6.6	7.3	7.6	5.7	7.1	5.3	3.9	3.9	2.3	1.3	1.1	3.8
16	1.4	0.9	1.0	2.2	2.1	0.8	1.2	2.6	4.1	3.5	3.8	2.5	5.4	4.1	11.2	7.4	6.8	5.0	2.1	2.6	2.8	2.7	1.1	1.3	3.3
17	1.7	1.5	1.4	1.4	2.8	4.6	4.2	5.7	5.8	6.3	5.9	5.4	4.3	5.5	4.7	5.7	5.0	8.6	8.0	2.2	1.8	1.9	2.0	1.9	4.1
18	1.7	1.7	2.5	1.5	3.2	2.5	2.0	4.4	5.6	5.7	5.8	5.9	5.6	4.9	4.7	10.2	3.5	6.5	7.1	5.4	5.7	4.8	5.7	5.2	4.6
19	4.9	4.0	5.1	4.9	5.4	5.8	5.9	7.9	8.5	8.0	8.3	7.2	6.3	5.9	5.6	10.2	11.8	11.5	7.0	3.9	3.5	1.7	5.7	7.3	6.5
20	7.6	4.9	6.2	6.7	6.8	6.5	7.1	8.1	9.0	11.0	11.8	10.8	7.7	6.1	7.7	8.6	9.5	9.3	7.1	5.1	5.8	8.0	6.3	8.6	7.7
21	8.2	7.4	7.7	8.4	9.5	9.0	10.5	11.3	12.1	12.2	13.1	Down	Down	Down	12.5	12.0	10.0	10.6	9.3	10.6	10.0	11.3	11.9	11.6	10.4
22	11.6	11.5	11.6	13.9	11.8	11.0	11.2	12.4	16.3	14.7	12.6	11.6	14.9	14.8	15.4	12.1	11.8	10.1	12.1	11.5	11.8	9.1	9.9	9.5	12.2
23	8.0	5.3	4.8	7.2	9.1	5.2	4.0	6.1	6.6	6.4	6.8	7.0	6.0	7.3	11.3	9.6	7.4	5.5	5.0	4.4	5.2	5.3	6.0	6.0	6.4
24	5.8	6.1	6.4	5.8	5.5	4.7	4.5	5.6	6.0	5.8	7.9	7.5	6.8	5.0	8.1	9.3	4.4	3.3	2.1	1.3	3.8	6.0	8.2	8.9	5.8
25	7.9	6.0	5.8	6.0	5.7	5.5	7.8	10.3	11.0	11.0	10.4	10.8	9.3	9.0	9.5	8.5	9.1	8.9	8.6	5.4	4.4	1.9	2.8	3.2	7.4
26	3.3	3.8	4.2	4.4	4.4	5.7	4.7	5.0	7.3	7.3	7.3	7.6	7.0	10.5	4.1	2.4	2.6	4.1	5.7	5.1	3.8	4.5	4.2	5.9	5.2
27	5.7	4.6	5.6	5.4	5.7	5.2	5.1	7.8	6.9	8.1	8.1	7.9	6.8	4.8	5.3	3.8	3.1	2.5	2.4	1.9	2.0	2.5	2.9	4.8	4.9
28	5.4	4.9	4.6	4.8	5.3	5.6	6.5	7.9	8.9	8.5	7.2	7.2	7.8	7.4	7.4	7.4	5.6	5.1	3.6	3.5	2.2	6.3	5.9	5.9	6.0
29	5.7	2.8	2.4	0.9	1.4	1.0	2.7	2.5	3.4	3.8	3.6	3.6	4.3	4.1	3.9	4.8	4.7	4.2	2.2	1.0	2.6	2.8	2.2	2.1	3.0
30	1.7	1.5	1.1	0.8	1.3	1.6	2.0	2.6	3.3	3.0	3.5	3.2	3.1	2.9	3.2	7.9	10.5	5.3	4.2	2.9	3.5	2.8	3.4	1.6	3.2
31	1.7	2.1	1.7	0.9	1.1	2.8	2.0	1.5	1.3	3.4	3.7	3.9	5.2	5.1	3.0	4.3	3.2	4.2	4.3	2.2	2.3	3.0	1.0	1.0	2.7

TOTAL HOURS 744 TOTAL GOOD HOURS 741 DATA CAPTURE 99.6%

MAX. 1HR AVG 16.3 05/22/91 08:00:00 2ND MAX. 1 HR AVG 15.4 05/22/91 14:00:00

MIN. 1HR AVG 0.5 05/15/91 00:00:00 ARITHMETIC MEAN 5.6 STANDARD DEV. 2.8

KEY FOR MISSING CODES

Badc - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
Qad - Data questionable insufficient documentation, Qai - Date questionable external influence, Purg - Analyzer in Purge

11.11-64

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND SPEED IN MILES/HOUR

		JUNE, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		0.8	1.0	0.8	1.2	1.7	3.0	2.2	3.0	3.8	4.2	4.9	5.6	5.2	5.0	7.3	6.2	5.7	3.6	3.5	1.2	1.9	3.6	3.1	3.0	3.4
2		1.5	1.1	1.4	1.6	1.2	1.0	2.3	3.3	5.3	7.2	8.2	8.7	8.0	8.1	9.0	6.1	8.1	8.5	8.1	5.9	5.1	3.5	2.5	3.4	4.9
3		3.5	3.0	3.3	3.3	3.7	5.0	4.8	6.3	9.3	9.4	10.3	9.9	11.0	10.1	10.5	10.2	10.6	9.4	8.5	5.6	3.8	3.5	2.9	3.3	6.7
4		4.0	3.7	2.8	2.3	1.6	4.2	2.9	6.8	8.4	8.3	8.0	9.9	11.7	12.3	11.3	8.6	5.6	7.1	6.4	4.8	3.7	4.5	5.6	3.9	6.2
5		2.8	3.7	3.0	3.6	3.0	4.9	2.7	4.4	9.2	7.7	9.6	10.9	9.9	7.5	8.9	9.7	7.6	5.6	4.9	4.5	7.0	5.4	3.7	2.8	5.9
6		3.6	2.4	2.4	1.2	2.0	2.0	2.0	2.8	3.3	4.6	6.7	9.2	9.1	10.4	10.5	10.1	12.2	9.1	5.3	4.5	6.9	7.9	8.0	6.7	5.9
7		6.7	5.0	4.5	4.8	3.4	3.1	4.4	5.7	6.8	6.6	4.8	4.0	4.1	4.4	4.5	5.0	6.2	10.0	8.5	8.5	9.4	8.2	7.9	6.1	5.9
8		6.2	6.0	4.8	4.3	4.4	3.9	3.9	7.3	9.4	10.1	10.5	9.9	11.5	11.1	11.1	10.4	10.4	11.2	9.4	6.1	5.2	4.7	5.1	5.9	7.6
9		5.6	4.9	5.1	4.7	4.6	4.8	6.2	9.1	9.4	9.7	10.6	9.9	9.5	9.5	8.8	8.8	9.5	9.8	8.2	7.2	6.3	5.7	4.6	4.6	7.4
10		4.6	4.3	4.1	4.0	3.7	3.2	3.9	5.7	7.6	9.2	9.3	9.1	8.5	9.0	9.4	10.0	10.6	9.9	11.6	8.3	5.2	3.8	3.3	2.6	6.7
11		2.3	1.6	2.0	1.8	1.4	2.4	2.6	4.9	8.6	9.7	8.9	7.5	7.1	7.6	6.8	7.1	8.1	7.1	7.5	5.2	7.3	8.0	6.5	4.9	5.7
12		3.8	3.5	2.5	2.5	2.9	2.6	3.7	5.2	5.0	4.1	4.6	4.8	4.6	4.3	4.4	4.0	4.1	3.6	3.4	1.9	6.3	8.6	6.1	5.6	4.2
13		4.1	4.6	4.3	4.4	3.5	3.4	3.5	4.0	3.6	4.2	5.7	5.1	5.2	5.3	4.5	4.9	4.3	4.7	3.0	3.1	4.3	5.1	5.5	4.2	4.3
14		3.1	3.0	2.7	2.1	1.0	1.8	0.9	3.2	5.2	5.5	5.2	6.0	5.1	4.6	3.5	4.2	2.4	5.4	3.6	1.9	1.3	1.1	1.5	1.4	3.1
15		1.8	1.6	2.6	2.5	3.5	2.3	2.2	5.5	6.5	4.4	3.0	4.5	5.2	7.8	4.2	3.8	4.4	3.5	2.7	1.9	1.9	3.4	1.8	0.7	3.4
16		0.7	1.3	1.0	1.2	1.7	1.8	1.7	1.6	2.5	2.9	3.2	3.2	4.7	4.2	4.9	7.6	4.6	4.2	4.8	3.4	2.8	2.7	1.7	2.0	2.9
17		2.3	1.9	1.9	1.4	0.8	0.9	1.0	2.0	3.3	2.1	4.1	3.8	7.0	3.3	5.0	6.4	4.6	PwrF	PwrF	1.8	1.0	1.0	1.6	1.5	2.6
18		1.8	0.9	1.1	0.7	0.8	0.9	1.1	1.7	3.4	4.5	6.6	3.3	2.8	5.9	6.9	5.1	1.4	1.2	1.5	1.9	2.5	2.2	2.0	1.8	2.6
19		2.1	2.0	2.3	2.2	1.8	1.1	1.3	3.0	3.0	4.4	5.1	4.0	7.4	6.6	5.6	8.4	6.1	3.9	1.6	8.4	6.4	2.6	2.4	1.8	3.9
20		1.1	1.2	0.8	1.6	0.7	1.1	1.7	2.5	4.1	3.3	4.0	4.8	3.6	2.6	3.1	2.6	5.4	6.6	4.1	2.6	PwrF	PwrF	PwrF	PwrF	2.8
21		PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	4.5	4.3	3.9	3.2	3.6	3.6	3.6	7.1	6.8	8.7	2.9	2.8	1.9	1.4	Bad<
22		1.9	1.6	1.5	1.8	0.9	1.2	1.7	2.9	3.4	3.3	4.2	3.8	2.9	4.6	3.9	4.3	3.9	3.3	5.2	2.4	1.9	2.0	2.7	0.4	2.7
23		0.8	0.9	1.1	1.9	1.5	1.1	1.8	2.5	2.6	2.9	3.3	3.3	3.1	4.1	4.5	6.1	4.6	6.1	8.4	6.5	3.8	3.7	3.0	1.0	3.3
24		1.2	1.2	1.8	0.9	1.7	0.7	1.2	1.8	2.0	3.7	3.5	4.4	3.9	7.5	8.7	4.0	5.4	5.2	3.6	2.5	2.8	2.8	1.6	1.8	3.0
25		1.3	1.5	0.3	0.9	0.9	2.4	2.4	4.7	3.7	4.4	4.0	4.0	3.7	3.7	2.8	2.2	2.6	5.7	6.5	4.0	3.0	1.6	1.5	1.0	2.8
26		1.0	0.8	0.9	0.7	0.7	0.9	0.7	2.2	2.3	2.3	2.7	2.6	2.9	4.4	4.1	8.6	7.7	5.7	2.9	2.5	4.3	3.4	2.1	3.4	2.9
27		3.1	5.0	4.0	3.5	3.6	3.4	4.1	4.4	3.7	4.0	3.1	2.1	2.8	7.9	4.5	3.5	5.0	3.6	1.1	0.9	1.2	1.4	1.2	0.6	3.2
28		2.2	1.9	1.1	0.6	1.3	1.2	1.8	3.7	5.3	4.8	4.4	3.7	3.2	3.2	4.1	4.1	4.0	4.6	5.3	2.4	3.4	6.5	3.6	1.8	3.2
29		2.6	1.9	1.2	0.9	0.4	1.0	0.6	1.9	3.5	3.5	2.9	2.9	2.9	3.3	2.3	2.2	7.5	8.2	4.5	5.0	2.8	4.0	2.2	2.6	2.9
30		2.2	3.2	1.6	0.9	0.6	0.6	1.5	3.4	4.9	3.6	2.9	3.0	2.9	3.6	4.2	5.0	6.8	4.7	2.4	1.0	1.2	1.1	1.1	2.2	2.7

TOTAL HOURS 720      TOTAL GOOD HOURS 704      DATA CAPTURE 97.8%

MAX. 1HR AVG 12.3    06/04/91 13:00:00      2ND MAX. 1 HR AVG 12.2    06/06/91 16:00:00

MIN. 1HR AVG 0.3    06/25/91 02:00:00      ARITHMETIC MEAN    4.2    STANDARD DEV.    2.7

KEY FOR MISSING CODES  
 Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11-11-65

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WINDSPEED IN MILES/HOUR

JULY, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	3.5	4.2	3.5	3.5	3.8	3.4	2.5	2.2	3.0	4.2	4.4	5.0	3.9	4.9	6.8	8.4	7.8	5.1	4.9	3.7	2.6	1.4	3.2	3.4	4.1
2	3.7	4.0	3.2	3.1	2.7	3.2	2.2	2.8	4.2	8.8	4.5	4.9	5.7	5.3	4.3	8.0	7.7	7.8	5.9	4.5	3.0	3.2	2.2	0.8	4.4
3	1.5	1.5	2.0	2.7	2.6	2.3	2.2	4.1	5.4	6.2	5.8	5.8	6.8	6.4	6.0	5.8	5.4	5.3	7.0	6.0	1.6	0.9	1.7	1.8	4.0
4	2.2	2.1	2.3	3.2	3.5	4.2	3.4	4.5	6.1	6.7	5.7	6.8	7.3	9.0	6.1	3.9	4.1	3.0	1.1	2.4	2.8	2.7	3.1	1.9	4.1
5	1.4	2.5	2.6	2.1	1.4	1.6	2.6	4.1	4.2	5.0	4.4	3.7	3.2	2.7	12.6	5.0	2.7	1.7	1.7	3.4	0.9	1.5	4.3	3.5	3.3
6	3.4	3.8	6.1	3.4	3.0	2.5	3.9	2.9	3.1	3.0	3.4	4.1	3.3	4.3	3.7	7.3	9.0	3.9	3.1	2.3	2.1	3.3	1.8	1.1	3.6
7	0.8	1.4	0.8	1.8	1.1	2.1	1.2	2.0	3.7	4.5	3.3	3.8	3.7	3.5	2.5	2.8	2.1	2.7	3.9	2.8	4.8	10.1	2.4	1.4	2.9
8	2.0	1.1	1.5	1.6	1.2	0.5	0.9	1.7	3.1	3.0	2.9	2.0	3.2	2.4	3.5	3.0	5.2	4.8	3.8	4.2	3.0	2.0	0.9	0.4	2.4
9	0.5	0.5	0.5	0.6	1.0	0.7	0.9	2.4	2.6	3.3	5.8	8.1	4.1	1.6	1.3	2.0	3.0	4.4	4.6	2.7	2.2	2.2	1.6	1.4	2.4
10	1.1	1.2	1.8	1.4	2.7	2.0	2.3	3.6	6.0	7.9	7.6	7.6	5.0	5.0	6.0	3.0	3.0	4.0	3.0	2.0	2.0	2.0	2.0	2.0	3.5
11	1.5	2.4	2.3	2.3	3.2	1.8	1.2	3.2	4.6	6.0	6.0	6.0	5.0	PwrF	3.0	3.0	4.0	4.0	3.0	3.0	3.0	4.0	4.0	3.0	3.4
12	1.5	1.5	1.0	1.0	3.0	1.5	1.5	2.0	4.0	5.0	6.0	4.0	6.0	5.0	5.0	5.0	4.0	3.5	3.5	5.0	3.0	3.0	2.0	3.0	3.3
13	2.0	3.0	3.0	3.5	4.0	3.0	3.0	7.0	5.0	4.0	4.0	4.0	4.0	4.0	8.0	6.0	Miss	6.0	5.0	5.0	2.0	3.0	3.5	2.0	4.1
14	2.0	2.0	2.0	2.0	2.0	3.0	4.0	4.0	3.5	4.0	6.0	8.0	7.0	5.5	13.0	9.0	5.0	3.5	4.0	2.0	3.0	3.0	1.5	2.0	4.2
15	3.0	2.0	2.0	2.0	2.0	3.5	5.0	5.0	6.0	8.0	8.0	8.0	8.0	4.0	5.0	4.0	5.0	5.0	5.0	5.0	6.0	6.0	3.0	2.0	4.7
16	5.0	5.0	3.0	3.0	4.0	4.0	5.0	5.0	7.0	6.0	7.0	7.0	7.0	7.0	6.0	2.0	4.0	6.0	7.0	4.0	3.0	5.0	5.0	3.0	5.0
17	2.0	2.0	2.0	3.5	3.0	4.0	4.0	5.0	6.0	6.0	8.0	8.0	7.0	7.0	6.0	5.0	5.0	7.0	11.0	4.0	4.0	3.0	7.0	4.0	5.1
18	3.0	4.0	4.0	4.0	4.0	2.5	3.0	4.0	5.0	6.0	6.5	6.0	5.0	5.0	4.0	4.0	4.0	4.0	3.0	9.0	10.0	5.0	3.0	4.0	4.7
19	1.3	1.5	2.2	2.2	2.7	3.1	2.4	4.4	5.5	5.5	4.0	4.2	4.0	4.0	5.0	13.0	5.0	5.0	6.0	6.0	4.0	4.0	3.0	2.0	4.2
20	2.8	3.0	3.4	3.3	2.9	2.4	2.1	3.4	4.7	6.0	5.0	4.0	13.0	6.0	6.0	7.0	5.0	3.0	5.0	2.0	2.0	3.0	2.0	2.0	4.1
21	3.0	3.0	3.0	3.0	3.0	2.0	2.0	3.0	4.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	10.0	5.0	2.0	5.0	4.0	4.0	4.0	5.0	4.3
22	2.7	1.1	3.1	2.7	1.4	1.6	2.0	3.0	4.0	4.0	5.0	5.0	6.0	6.0	5.0	5.0	7.0	10.0	7.0	3.0	3.0	2.0	2.0	2.0	4.0
23	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0	3.0	3.0	4.0	4.0	9.2	7.6	4.7	3.4	2.2	1.9	1.0	1.8	1.9	3.1
24	1.6	1.6	0.9	0.8	0.9	1.2	2.3	4.1	3.1	2.7	2.3	2.6	2.1	2.4	15.3	3.3	6.5	3.6	3.1	3.4	4.0	2.4	2.3	1.7	3.1
25	2.1	2.8	3.1	2.9	2.9	2.0	2.1	3.2	3.3	4.8	4.8	2.8	3.5	5.0	6.1	5.9	4.0	4.7	2.7	2.4	2.4	2.0	4.8	1.5	3.4
26	1.3	0.9	1.2	2.0	2.4	1.4	1.6	3.5	4.7	4.5	3.9	4.9	5.1	6.8	2.4	1.9	2.8	3.6	3.9	1.8	2.0	3.2	3.8	2.6	3.0
27	2.7	2.6	1.3	1.0	1.2	0.6	1.2	2.3	1.5	1.4	1.9	2.6	2.6	3.2	4.4	2.2	3.2	2.6	3.0	3.3	1.9	2.4	3.7	2.5	2.3
28	1.1	1.8	0.8	1.7	1.9	2.2	2.6	3.4	4.8	5.1	5.1	5.0	6.3	5.0	4.3	6.0	9.6	8.9	2.8	1.3	0.6	2.0	3.6	2.8	3.7
29	2.2	2.5	3.1	3.7	1.8	1.6	2.3	4.0	5.5	6.7	7.0	6.7	7.4	7.1	7.9	5.5	1.6	1.5	2.5	3.0	2.1	3.3	6.1	5.2	4.2
30	3.7	2.2	2.9	4.1	2.9	3.9	4.0	5.2	6.7	7.7	6.8	6.8	8.6	4.8	5.8	6.1	4.3	3.3	4.6	2.3	3.0	4.2	6.1	5.2	4.8
31	4.5	3.4	4.4	3.8	3.0	3.1	4.6	5.7	6.1	7.5	8.3	10.7	13.1	5.2	5.6	5.9	6.8	7.6	8.1	3.7	3.2	3.2	5.7	4.1	5.7

TOTAL HOURS 744 TOTAL GOOD HOURS 742 DATA CAPTURE 99.7%  
 MAX. 1HR AVG 15.3 07/24/91 14:00:00 2ND MAX. 1 HR AVG 13.1 07/31/91 12:00:00  
 MIN. 1HR AVG 0.4 07/08/91 23:00:00 ARITHMETIC MEAN 3.8 STANDARD DEV. 2.1

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge



TAMPA ELECTRIC COMPANY AIR MONITORING SITE Aq-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WINDSPEED IN MILES/HOUR

AUGUST, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	3.5	4.6	4.8	4.3	3.9	4.1	3.6	4.5	5.2	6.2	6.2	6.2	3.7	3.4	5.0	2.6	6.4	3.8	2.7	2.3	1.7	1.9	3.7	3.1	4.0
2	2.7	2.9	2.4	1.8	2.6	4.2	3.4	2.9	5.4	6.6	6.3	5.9	6.6	6.2	5.3	10.2	2.6	2.4	1.0	2.2	2.5	1.2	1.2	1.6	3.7
3	2.0	2.4	1.9	0.9	1.7	1.1	1.0	1.7	3.7	3.5	2.8	2.8	2.8	4.7	3.1	4.9	4.4	5.0	5.0	2.9	1.8	1.3	2.2	4.1	2.8
4	1.8	2.8	2.8	1.3	1.5	0.8	0.9	1.0	3.0	3.3	3.5	3.9	4.4	5.4	5.6	6.2	5.5	4.2	4.3	4.2	3.6	2.9	1.6	2.0	3.2
5	1.1	2.1	1.6	1.2	0.9	0.6	0.5	1.0	1.8	2.3	1.7	3.0	3.7	3.7	4.9	8.9	5.5	4.7	2.8	1.0	4.4	2.5	1.5	1.9	2.6
6	1.2	0.8	1.5	0.9	1.3	2.4	3.1	2.1	3.2	4.8	5.5	5.8	5.8	6.3	6.1	4.8	5.3	2.3	1.9	3.2	3.8	1.1	2.4	2.0	3.2
7	2.0	1.6	2.4	2.2	2.5	3.5	3.7	5.4	7.0	8.0	8.0	7.5	6.3	7.2	5.0	6.5	4.2	4.8	6.4	3.7	3.0	3.5	3.0	3.9	4.6
8	3.9	3.9	3.3	2.3	1.1	3.1	2.5	4.1	4.1	3.9	3.7	4.3	3.8	3.3	2.0	1.9	2.2	1.5	2.5	2.5	1.9	2.9	3.8	2.5	2.9
9	2.4	2.0	0.4	0.6	0.9	1.2	1.2	1.4	2.4	2.9	3.4	3.0	3.8	3.2	11.5	4.6	2.9	5.5	4.6	6.8	5.6	3.0	1.6	2.9	3.2
10	1.9	2.5	1.9	0.9	2.3	1.7	1.2	2.8	3.2	3.4	4.5	4.5	6.4	7.0	8.5	8.5	7.6	7.5	6.7	4.7	3.4	2.0	2.1	1.1	4.0
11	1.4	2.3	1.8	0.7	0.7	1.2	1.1	1.1	3.5	2.8	3.1	3.5	3.3	7.5	5.8	5.8	9.0	6.4	7.3	4.9	5.2	3.4	1.2	1.1	3.5
12	0.6	1.1	1.9	1.8	3.0	1.6	1.7	2.9	2.8	4.5	4.8	5.1	4.7	5.9	6.0	6.9	7.9	6.6	3.2	2.1	3.2	4.1	3.3	4.4	3.7
13	3.0	2.8	1.1	1.9	2.3	2.0	1.1	2.8	2.7	4.3	4.6	2.9	3.8	4.4	5.7	8.2	6.7	5.7	2.9	1.7	2.1	4.1	2.2	3.4	3.4
14	1.9	1.6	1.1	1.8	2.1	2.5	1.5	3.4	5.9	7.1	6.7	6.4	5.9	7.0	9.0	3.7	3.9	2.0	1.9	1.9	1.7	0.7	0.5	0.5	3.3
15	4.0	4.1	2.0	2.0	1.9	1.5	1.5	1.7	3.0	3.0	3.4	3.4	6.7	5.7	1.5	3.9	3.8	1.7	1.5	2.1	6.2	3.1	2.3	1.7	3.0
16	2.0	1.7	1.0	1.1	1.4	1.0	1.6	1.2	2.0	3.5	3.2	3.2	4.1	3.9	3.3	3.8	5.1	3.8	2.9	1.7	1.8	3.9	4.6	1.3	2.6
17	1.0	0.7	0.8	1.8	1.0	1.9	1.4	1.7	3.6	3.3	4.2	4.7	4.0	5.1	4.8	4.5	3.5	3.6	6.0	5.1	3.4	3.5	2.3	4.0	3.1
18	2.9	3.8	3.1	2.2	1.0	1.2	2.2	3.2	4.9	5.8	6.6	6.8	3.5	6.4	5.1	2.9	4.1	4.1	2.9	2.7	3.1	2.6	2.5	1.6	3.5
19	2.5	2.1	1.6	1.6	1.4	1.8	1.6	2.4	3.7	4.4	5.9	7.4	9.0	4.1	6.3	7.3	2.2	2.6	3.6	1.9	2.1	2.3	2.5	2.0	3.4
20	2.7	2.6	2.9	2.6	2.4	6.0	3.0	3.2	2.2	5.4	2.6	1.8	2.5	3.6	6.6	5.9	5.6	1.8	2.0	1.7	2.2	2.2	1.9	2.0	3.1
21	1.2	1.3	1.5	2.3	1.9	2.8	2.6	1.5	1.8	4.4	5.2	7.4	7.8	7.3	10.2	9.7	8.6	8.3	5.5	3.4	4.2	3.1	3.5	6.1	4.6
22	7.6	3.6	3.8	2.5	1.9	1.5	2.2	4.6	4.1	2.8	2.9	5.1	6.2	6.0	5.4	2.7	5.2	5.1	4.9	5.3	5.1	3.9	3.7	4.6	4.2
23	3.6	4.0	4.1	2.9	4.0	4.4	4.9	5.8	5.7	6.9	6.7	6.8	6.7	6.4	5.6	3.5	11.5	9.3	7.3	6.1	5.1	2.6	1.2	3.8	5.3
24	3.3	2.9	3.1	3.3	1.4	2.2	2.4	5.3	6.1	5.7	5.9	7.4	6.7	3.3	1.9	2.3	2.4	6.5	3.2	2.8	1.9	2.7	3.8	4.7	3.8
25	4.0	3.9	3.7	3.9	3.3	2.1	2.2	4.6	5.3	5.7	5.4	8.0	9.2	9.2	9.1	8.5	6.9	2.3	2.4	7.1	10.2	7.4	4.2	2.9	5.5
26	2.6	0.9	0.7	0.7	0.5	0.7	0.6	1.8	3.1	3.6	3.9	3.1	3.7	3.5	3.3	4.0	4.2	4.3	5.4	4.2	2.6	4.3	4.5	4.7	2.9
27	3.6	1.5	2.1	2.7	2.2	1.7	1.7	3.4	4.7	4.3	4.9	6.7	6.4	6.6	5.6	7.0	3.6	4.8	2.7	1.7	1.8	3.0	3.1	4.3	3.7
28	2.5	1.1	1.1	2.3	2.6	1.6	2.5	4.4	4.9	4.7	4.2	3.8	4.4	8.4	6.2	6.4	5.6	5.5	2.4	2.3	1.0	2.8	4.8	3.2	3.7
29	3.7	2.6	1.3	2.6	2.9	2.9	3.1	5.0	5.5	7.1	6.1	6.1	6.7	8.0	7.7	6.0	6.1	4.1	5.2	5.3	4.6	3.6	2.9	3.3	4.7
30	3.4	4.0	3.7	2.9	2.8	3.2	3.5	4.6	5.8	6.9	6.7	6.3	5.7	5.5	5.8	3.4	9.8	5.2	2.3	2.7	1.5	2.3	1.6	3.5	4.3
31	4.1	2.4	1.4	2.6	2.4	1.5	1.5	2.5	4.5	5.0	4.7	4.5	3.5	2.9	2.8	1.8	1.5	2.5	3.3	2.1	0.9	2.0	3.9	3.7	2.8

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%  
 MAX. 1HR AVG 11.5 08/23/91 16:00:00 2ND MAX. 1 HR AVG 11.5 08/09/91 14:00:00  
 MIN. 1HR AVG 0.4 08/09/91 02:00:00 ARITHMETIC MEAN 3.6 STANDARD DEV. 2.0

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qed - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

11.11-67

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WINDSPEED IN MILES/HOUR

DAY	SEPTEMBER, 1991																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	3.1	3.5	2.0	1.3	1.7	1.8	1.9	1.9	2.6	2.0	2.6	3.8	3.7	3.5	3.8	3.9	10.2	8.2	5.1	2.8	2.2	3.5	3.2	1.3	3.3
2	1.5	0.8	0.9	2.0	1.1	1.3	1.3	2.7	3.8	4.9	6.2	6.7	6.4	6.5	5.6	5.9	6.1	5.1	5.0	3.8	4.6	2.5	2.7	2.6	3.7
3	2.3	2.3	1.5	2.2	2.1	2.4	2.0	3.4	4.9	6.6	6.8	7.5	8.7	9.3	6.8	8.6	8.4	7.7	5.8	3.8	4.0	3.6	3.4	2.1	4.8
4	3.1	3.0	3.5	3.4	2.9	2.8	2.2	4.1	6.2	8.4	7.9	9.5	8.9	9.6	9.4	8.4	9.4	7.3	5.3	4.7	4.6	3.6	2.7	3.3	5.6
5	3.1	2.9	2.7	2.7	1.9	2.4	1.5	3.3	4.4	5.4	5.9	4.6	4.0	2.8	3.1	3.0	2.7	1.3	5.2	5.4	2.7	2.5	2.6	2.4	3.2
6	1.5	1.1	1.2	1.0	1.6	1.5	2.9	2.4	4.2	4.0	3.8	3.5	3.6	4.5	4.8	4.4	3.9	2.7	6.2	3.2	5.3	2.2	1.9	1.5	3.0
7	1.4	2.5	1.8	2.5	2.2	2.4	2.2	3.4	4.9	5.6	6.2	5.4	5.3	5.4	5.0	4.7	6.3	6.8	3.8	2.6	3.2	3.4	3.5	2.0	3.8
8	1.9	1.7	3.1	2.8	2.3	2.0	3.5	5.1	7.6	7.8	6.7	9.6	11.0	9.3	9.3	9.9	4.8	2.0	1.8	3.0	3.5	3.2	3.7	3.5	4.9
9	1.9	2.5	2.6	3.2	3.7	5.3	6.1	6.0	9.5	7.9	8.8	9.2	10.9	9.2	8.4	8.4	7.9	7.7	8.1	6.1	5.3	3.3	3.7	4.2	6.2
10	4.6	5.0	4.6	3.5	3.1	2.7	2.6	4.1	5.3	6.1	4.9	4.6	3.7	6.8	5.3	8.3	4.8	6.5	5.9	4.6	4.0	4.9	4.4	3.0	4.7
11	2.6	2.7	2.6	2.7	2.9	2.4	3.1	4.6	5.7	4.9	4.9	4.3	3.7	3.8	3.9	4.1	3.5	3.8	2.5	3.3	2.4	1.3	4.6	4.6	3.5
12	3.0	2.7	1.6	2.2	1.6	1.4	2.5	3.1	2.3	2.3	3.1	3.9	3.2	3.1	2.8	3.6	3.2	3.3	0.7	0.8	4.3	6.3	5.7	4.7	3.0
13	2.8	2.1	0.5	0.4	0.9	0.9	0.6	0.8	1.6	1.9	3.4	4.0	4.3	4.0	4.2	4.2	3.5	4.0	3.2	2.6	3.9	5.3	4.9	3.9	2.8
14	3.2	1.9	2.2	2.9	1.3	1.5	1.7	1.6	2.1	2.2	3.8	5.0	5.7	5.1	5.6	5.1	4.6	3.2	1.0	1.2	4.5	6.2	6.3	4.7	3.4
15	4.1	2.7	1.1	1.3	1.3	1.6	3.0	3.5	3.3	2.9	4.2	5.7	6.3	5.9	5.4	6.1	5.0	5.3	5.9	7.6	6.4	5.2	4.6	4.0	4.2
16	3.8	2.6	1.8	1.7	2.0	1.7	2.0	2.9	5.6	5.4	5.1	5.6	5.5	6.6	5.8	5.7	6.3	4.7	5.7	5.0	5.6	3.2	2.9	1.5	4.1
17	0.8	1.2	1.0	1.4	1.6	1.6	1.8	3.1	4.8	5.0	5.0	5.3	4.0	4.0	4.9	4.2	5.2	6.1	4.8	4.6	2.9	2.9	2.6	3.1	3.4
18	3.7	4.1	4.1	1.9	2.5	3.6	2.7	3.4	4.7	4.9	5.2	4.9	4.9	6.9	11.1	9.4	3.4	2.6	1.7	2.3	1.0	2.5	3.6	4.0	4.1
19	4.1	5.2	3.0	1.3	2.2	2.8	3.7	4.9	5.3	5.5	5.4	3.5	4.4	3.7	3.1	3.2	3.3	6.3	4.3	4.0	3.1	1.9	1.4	1.1	3.6
20	1.0	1.3	0.9	2.1	1.2	1.3	0.4	0.7	2.2	2.2	3.4	3.6	3.0	3.1	3.2	3.0	2.8	4.1	4.0	7.0	2.0	2.5	1.3	3.0	2.5
21	2.6	2.4	1.6	4.3	4.2	4.4	4.0	5.5	5.9	7.0	7.0	6.1	5.4	4.7	4.3	5.3	4.6	7.8	8.3	6.9	4.3	2.7	1.2	2.6	4.7
22	2.9	2.6	1.7	1.9	2.4	3.2	3.4	2.9	4.6	6.1	7.1	7.2	7.1	7.3	8.5	10.2	9.7	8.1	7.5	5.8	6.5	5.5	5.6	4.8	5.5
23	4.9	3.6	2.8	3.2	3.8	3.3	3.0	4.3	6.5	6.9	6.5	6.3	6.3	6.3	6.4	5.9	7.4	6.6	4.1	4.2	4.4	2.9	2.7	2.5	4.8
24	2.5	1.6	2.4	3.2	2.4	3.0	2.9	4.3	6.0	6.0	5.4	5.1	4.7	5.0	4.2	3.5	3.9	2.9	3.0	3.9	5.8	2.7	1.6	0.6	3.6
25	0.6	1.1	2.6	2.3	2.3	3.2	2.8	4.4	7.1	7.8	8.5	6.1	3.3	5.9	4.9	8.1	8.7	7.2	3.6	1.8	3.1	2.3	3.1	0.8	4.2
26	0.8	0.9	1.2	1.2	1.8	1.4	3.6	1.2	3.9	5.2	4.5	4.9	6.3	6.9	7.3	8.2	7.7	5.9	4.0	2.4	1.9	1.8	1.7	1.1	3.6
27	1.6	2.4	2.3	2.7	2.4	1.8	2.7	2.8	3.6	3.8	3.9	4.1	3.7	3.5	4.8	4.5	3.9	3.3	3.2	2.9	2.7	2.5	1.7	1.5	3.0
28	2.6	3.2	3.2	3.9	3.4	3.5	4.1	4.3	6.4	9.7	9.8	9.1	8.7	8.5	9.1	10.0	10.4	8.4	5.9	6.1	6.7	3.7	4.9	5.5	6.3
29	4.6	3.3	3.1	3.2	2.2	3.1	3.5	4.6	6.2	7.0	8.2	7.4	5.9	5.7	5.0	4.2	8.8	4.8	5.8	6.2	7.5	7.0	8.1	7.4	5.5
30	5.0	5.3	5.2	5.3	5.8	6.9	6.7	6.4	5.6	8.0	10.4	9.8	8.1	9.8	6.7	9.2	9.9	8.1	8.3	8.7	5.3	5.9	5.9	4.5	7.1

TOTAL HOURS 720      TOTAL GOOD HOURS 720      DATA CAPTURE 100.0%

MAX. 1HR AVG 11.1 09/18/91 14:00:00      2ND MAX. 1 HR AVG 11.0 09/08/91 12:00:00

MIN. 1HR AVG 0.4 09/13/91 03:00:00      ARITHMETIC MEAN 4.2      STANDARD DEV. 2.2

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-68

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND SPEED IN MILES/HOUR

OCTOBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	4.8	4.3	3.2	4.0	5.2	4.7	4.8	4.5	6.8	9.7	8.3	9.5	8.9	5.3	4.8	8.7	5.9	6.8	5.1	4.0	2.3	3.0	3.0	2.4	5.4
2	2.1	2.2	2.2	1.7	1.4	1.4	3.3	2.7	5.5	5.6	7.2	9.8	7.3	9.2	13.2	12.7	11.0	7.5	5.3	3.3	2.0	2.7	2.6	2.5	5.2
3	1.4	2.9	2.1	1.7	1.1	1.3	2.2	2.7	3.9	5.3	6.1	5.5	6.2	6.2	6.1	6.9	3.7	5.2	3.9	3.6	4.4	2.3	3.8	3.7	3.8
4	3.0	1.4	1.4	0.4	1.3	1.5	2.1	3.2	3.7	4.2	4.6	5.3	5.6	5.3	2.6	5.1	3.6	2.2	2.2	2.0	2.9	3.9	2.9	3.0	3.0
5	4.0	3.2	3.4	2.4	2.0	3.6	2.8	3.8	2.8	6.1	6.0	5.4	5.6	4.9	6.4	1.5	5.7	2.1	1.4	1.1	2.6	1.8	1.6	1.9	3.4
6	1.1	2.9	1.7	1.6	2.6	1.1	1.0	0.5	3.0	4.2	4.1	4.7	6.9	6.4	3.7	1.8	0.7	2.5	2.9	2.4	4.8	7.0	5.6	3.7	3.2
7	4.9	4.7	5.0	5.4	4.5	4.2	4.5	4.2	5.3	5.4	6.7	6.9	7.2	7.7	7.3	6.6	9.7	9.3	9.3	7.4	6.7	6.7	7.2	7.6	6.4
8	6.9	6.7	7.1	5.8	6.5	5.9	5.8	6.3	7.7	10.0	11.6	10.1	9.2	10.4	9.4	8.8	9.6	7.9	5.7	4.7	5.1	4.7	5.9	4.8	7.3
9	4.3	4.9	4.9	4.5	4.9	3.6	4.1	4.9	6.2	7.4	8.9	9.1	9.0	9.7	9.1	8.4	6.9	5.1	3.7	4.4	6.7	5.9	5.0	4.5	6.1
10	4.2	3.1	3.9	3.0	3.6	3.4	4.1	5.4	5.5	5.7	5.0	4.1	3.9	3.2	3.1	3.5	3.3	2.0	Down	Bad<	1.4	2.1	2.2	1.3	3.5
11	1.2	1.2	0.8	0.9	1.1	1.1	1.5	1.5	3.8	4.1	4.6	4.3	4.1	2.9	3.6	4.3	4.7	5.4	4.7	1.9	2.0	1.3	1.7	1.9	2.7
12	2.1	1.0	0.5	0.3	0.5	0.1	0.6	1.3	2.7	2.8	5.4	6.9	7.4	6.4	9.9	10.8	10.1	6.2	3.2	1.6	1.9	1.5	1.3	1.4	3.6
13	1.6	1.4	0.9	1.3	0.8	0.4	0.5	1.5	2.3	3.8	4.9	3.7	3.7	4.2	3.7	2.8	2.1	0.4	1.4	2.4	2.2	2.1	3.9	3.0	2.3
14	4.3	5.4	4.2	3.6	3.6	2.5	2.2	3.3	3.6	5.9	7.6	7.7	8.2	6.2	6.5	5.4	2.6	1.2	2.3	4.5	4.3	4.0	4.2	3.8	4.4
15	3.3	2.8	3.2	3.3	2.8	2.6	2.2	2.6	3.4	2.9	5.8	5.5	5.3	6.0	5.0	5.5	4.6	4.2	3.5	4.4	2.3	1.6	2.0	2.0	3.6
16	2.7	3.1	2.8	1.0	4.3	5.3	5.0	3.8	5.7	6.7	6.3	6.3	6.6	6.3	6.1	6.1	5.3	3.4	2.3	2.5	2.3	1.7	1.5	2.1	4.1
17	2.6	4.3	3.9	2.5	2.8	1.2	1.3	1.9	4.2	5.9	6.6	5.7	5.7	5.3	4.9	4.5	4.2	1.8	1.7	2.1	2.1	3.4	4.3	4.2	3.6
18	3.3	2.2	2.8	2.3	3.1	3.7	3.5	4.0	7.0	8.3	9.0	8.6	8.5	8.8	7.4	7.5	7.1	6.6	5.2	5.6	5.2	4.2	3.9	4.1	5.5
19	3.7	3.5	3.2	3.4	3.6	3.9	4.3	4.3	6.7	7.4	6.9	6.2	4.9	5.2	5.8	5.1	4.5	2.5	2.4	2.9	3.7	4.4	4.5	3.5	4.4
20	3.6	4.4	3.6	3.6	4.7	4.4	3.8	4.6	6.3	6.3	5.0	3.6	4.2	3.7	4.6	6.3	4.1	3.5	3.9	4.6	4.6	6.0	5.8	4.1	4.5
21	5.2	4.4	3.7	3.5	3.0	3.7	3.6	3.5	5.2	6.7	7.2	6.3	6.0	5.0	4.3	5.1	5.5	5.2	6.3	6.8	7.6	5.5	2.9	3.0	4.9
22	3.5	4.7	4.2	4.0	3.5	4.3	3.8	4.1	5.3	7.1	8.6	6.9	6.8	6.5	6.9	6.6	5.7	4.3	4.0	4.2	4.4	2.6	1.8	1.5	4.8
23	0.8	1.4	2.4	3.1	3.2	2.8	2.4	3.7	6.3	9.6	10.7	10.1	8.7	10.9	9.6	12.6	13.1	Down	Bad<	Down	5.4	6.0	4.2	4.9	6.3
24	4.8	5.1	5.4	4.3	3.9	5.0	4.8	6.3	8.1	10.3	11.9	12.1	12.4	13.5	12.3	11.1	10.7	9.1	8.2	7.2	8.0	7.4	5.3	4.4	8.0
25	4.3	3.5	4.2	4.3	5.7	4.5	4.6	6.2	8.0	10.4	12.5	13.5	12.6	12.3	11.7	8.7	7.4	4.4	5.0	3.7	5.2	6.1	4.3	4.9	7.0
26	4.1	4.4	4.0	4.0	3.3	4.7	4.6	4.9	6.3	8.6	10.1	12.3	13.1	11.0	9.2	6.9	5.8	2.3	4.3	7.6	5.6	4.6	3.7	3.5	6.2
27	4.8	4.8	4.4	3.5	3.4	3.7	3.4	4.1	6.1	8.0	8.7	10.1	7.9	7.5	7.0	7.9	7.5	4.6	4.3	4.6	4.1	4.4	3.4	3.3	5.4
28	3.6	3.2	3.2	2.6	2.6	2.1	2.3	2.5	5.1	4.6	5.4	PwrF	PwrF	6.1	6.5	6.9	6.5	4.4	4.1	5.1	5.7	4.7	5.2	4.7	4.4
29	4.2	3.2	1.8	2.5	2.2	2.5	2.7	2.9	5.1	5.9	8.6	10.3	9.7	6.3	4.1	8.8	10.7	10.0	8.6	6.8	4.1	5.2	5.0	3.6	5.6
30	4.1	4.3	4.5	4.1	4.6	4.0	4.5	5.2	9.5	11.7	13.1	13.1	9.6	9.2	9.7	9.5	8.0	Down	5.5	6.2	6.5	5.6	4.2	3.6	6.9
31	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	2.1	2.4	3.7	3.1	4.0	3.8	3.1	3.2	3.8	3.0	3.3	2.4	1.9	1.9	1.4	2.2	2.7	3.6	Bad<

TOTAL HOURS 744      TOTAL GOOD HOURS 730      DATA CAPTURE 98.1%

MAX. 1HR AVG 13.5 10/25/91 11:00:00      2ND MAX. 1 HR AVG 13.5 10/24/91 13:00:00

MIN. 1HR AVG 0.1 10/12/91 05:00:00      ARITHMETIC MEAN 4.8      STANDARD DEV. 2.6

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11-11-69

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND SPEED IN MILES/HOUR

DAY	NOVEMBER, 1991																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	3.5	2.7	1.4	2.4	2.0	2.3	2.9	2.1	4.6	7.0	8.2	7.5	6.9	6.0	5.1	4.6	3.8	2.6	3.5	1.9	2.9	1.8	2.3	2.1	3.7
2	2.4	3.5	1.9	1.6	1.9	2.5	2.1	2.1	4.8	6.7	8.1	8.0	6.3	5.4	6.3	4.1	4.5	1.9	1.1	1.4	1.6	1.2	1.9	1.8	3.4
3	2.4	2.5	3.2	3.5	3.2	2.7	2.9	2.7	4.4	5.6	5.4	2.8	3.5	Down	Down	6.1	6.3	6.6	4.9	5.4	6.5	5.8	5.0	5.5	4.4
4	5.3	5.3	4.5	4.5	5.3	6.6	6.0	5.5	5.8	7.6	8.0	7.8	7.3	6.7	5.8	4.7	5.1	4.2	5.4	4.5	5.0	4.9	4.5	5.4	5.6
5	4.9	5.2	5.5	5.2	3.9	3.9	4.4	5.6	6.9	7.1	6.4	6.0	5.7	6.2	5.9	5.6	4.6	3.3	3.2	3.4	2.6	3.2	3.8	3.8	4.8
6	3.4	3.1	2.6	4.2	3.3	3.7	4.0	3.2	3.7	PwrF	5.3	5.9	5.1	4.4	4.6	5.8	3.9	3.0	3.2	3.7	3.4	3.6	3.6	4.3	3.9
7	3.1	4.3	4.9	4.7	4.3	4.3	5.0	4.3	3.9	4.8	4.8	6.3	6.0	5.0	5.0	4.3	3.8	2.8	3.6	3.4	4.2	6.1	6.5	3.9	4.5
8	3.0	2.9	3.8	4.4	4.6	3.5	2.9	3.6	4.2	5.4	6.9	5.9	6.3	BadC	6.7	6.0	4.6	3.1	2.9	2.4	2.5	3.4	2.6	3.4	4.1
9	4.0	5.4	4.5	4.2	4.7	4.1	3.1	3.7	3.4	5.3	6.2	6.6	5.8	6.4	5.9	4.5	7.7	8.1	4.1	4.9	3.3	1.8	2.0	3.1	4.7
10	3.1	2.3	1.0	0.9	1.6	2.6	3.4	1.5	2.9	4.6	5.1	5.7	4.9	5.0	7.4	8.4	7.6	4.7	1.4	1.1	0.5	0.6	0.6	1.6	3.2
11	0.7	0.4	0.5	0.7	1.7	1.0	0.8	0.3	2.4	3.8	4.6	7.0	6.1	5.7	7.0	7.3	6.9	5.1	3.6	2.3	1.9	1.7	1.3	1.3	3.1
12	1.7	1.6	2.2	2.9	3.1	3.6	2.5	2.8	3.4	3.8	4.7	3.5	3.5	4.0	4.5	3.6	4.5	5.6	3.8	2.3	2.3	2.4	2.3	2.9	3.2
13	2.9	3.9	4.8	4.4	3.4	3.1	3.4	4.0	5.3	7.2	7.6	6.8	7.1	7.5	8.1	5.9	5.6	2.5	3.6	4.3	4.0	4.2	4.4	3.7	4.9
14	3.9	4.1	3.1	4.4	3.4	3.5	4.1	4.5	4.7	6.6	8.8	8.7	6.4	4.8	5.6	5.7	3.7	1.7	2.8	3.8	4.4	3.8	3.9	3.1	4.5
15	2.2	1.7	2.7	2.8	2.7	2.2	2.5	3.1	3.4	4.9	6.3	7.9	7.8	7.7	6.9	7.3	5.7	2.6	3.0	3.3	3.7	2.3	2.6	2.7	4.1
16	2.4	2.7	3.0	3.1	3.1	2.7	3.2	2.6	3.2	6.4	7.3	6.8	8.4	8.0	7.8	7.4	5.9	4.1	3.5	3.0	2.1	2.6	3.5	5.0	4.5
17	4.2	4.1	3.2	2.6	2.7	2.4	2.9	3.6	5.6	6.7	7.8	9.4	9.7	9.0	8.5	9.5	8.4	5.7	5.1	4.3	4.1	3.6	3.6	2.7	5.4
18	2.8	2.6	2.6	2.5	2.7	3.1	2.9	2.6	4.4	5.8	8.4	8.9	9.0	8.2	8.0	6.5	5.9	4.1	5.9	7.2	6.2	5.2	4.4	4.3	5.1
19	3.5	3.8	4.2	3.4	3.7	4.4	5.9	4.9	5.9	9.6	10.5	10.0	10.7	10.1	9.4	8.8	9.3	7.5	8.0	4.5	5.4	5.3	5.0	4.5	6.6
20	3.3	2.8	4.5	5.9	5.3	6.0	7.0	7.1	7.8	8.2	5.9	8.1	9.5	8.3	6.5	6.8	4.1	4.7	4.5	7.8	6.9	7.4	6.5	5.1	6.2
21	3.2	3.4	3.7	2.9	3.4	3.8	3.8	4.1	5.5	6.6	8.2	9.6	10.1	10.6	9.8	8.8	5.9	3.4	2.6	4.4	2.5	2.8	2.8	3.8	5.2
22	3.0	3.3	2.9	4.0	5.0	4.3	4.3	3.6	4.8	8.1	11.0	9.8	8.7	8.0	7.2	6.9	6.7	3.4	1.8	1.4	2.5	2.3	2.0	3.4	4.9
23	2.5	2.2	2.4	2.1	2.9	2.7	3.8	3.9	3.2	3.3	3.9	3.2	3.2	2.5	4.9	7.7	7.1	6.1	6.2	5.7	5.6	3.3	3.1	2.3	3.9
24	2.9	2.7	2.3	1.9	2.9	1.6	1.5	1.6	1.9	5.0	6.1	6.2	6.1	5.3	7.1	6.6	5.4	4.1	3.2	1.8	1.8	2.7	3.5	3.2	3.6
25	3.5	5.9	5.2	5.1	4.5	4.9	5.0	4.8	5.7	9.3	9.4	8.1	8.1	7.4	6.7	5.8	4.3	2.9	4.1	3.6	3.2	2.6	3.5	2.0	5.2
26	2.8	3.1	3.2	2.9	4.2	5.9	6.0	6.7	6.4	8.0	8.2	9.4	9.0	8.4	8.5	7.0	6.4	5.0	4.5	6.0	5.8	6.7	5.6	5.6	6.0
27	5.3	5.7	6.3	5.6	5.1	3.9	4.1	4.5	4.7	6.1	7.2	7.7	8.2	7.9	8.5	7.6	6.5	6.0	4.1	4.9	7.1	6.3	6.2	5.8	6.0
28	5.6	5.7	5.9	4.9	4.5	4.6	4.0	5.0	6.4	6.7	8.0	10.0	10.7	12.1	11.9	10.2	11.0	7.2	6.6	4.9	4.3	4.1	4.0	4.3	6.8
29	4.1	3.7	3.3	3.8	3.1	2.9	3.6	4.3	5.2	7.9	11.3	14.3	15.9	13.2	12.8	10.5	9.6	7.5	6.6	4.4	5.1	6.0	5.3	5.9	7.1
30	3.7	5.3	4.8	5.1	5.3	7.6	5.8	6.5	6.7	8.5	9.3	9.6	9.6	9.1	7.6	9.3	9.7	7.6	6.2	5.0	5.0	6.9	5.6	5.2	6.8

TOTAL HOURS 720      TOTAL GOOD HOURS 716      DATA CAPTURE 99.4%

MAX. 1HR AVG 15.9 11/29/91 12:00:00      2ND MAX. 1 HR AVG 14.3 11/29/91 11:00:00

MIN. 1HR AVG 0.3 11/11/91 07:00:00      ARITHMETIC MEAN 4.9      STANDARD DEV. 2.3

KEY FOR MISSING CODES

BadC - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qed - Data questionable insufficient documentation, Qel - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11-11-70

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND SPEED IN MILES/HOUR

		DECEMBER, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		3.9	3.3	5.1	6.0	4.6	4.7	5.2	6.2	5.5	7.2	8.1	8.2	7.1	7.6	6.8	6.1	4.4	3.5	3.3	3.3	3.8	3.9	4.8	3.7	5.2
2		2.7	2.8	3.1	4.1	4.6	4.5	5.0	5.1	5.5	8.2	10.7	10.3	10.4	9.9	8.3	7.9	6.4	4.4	1.7	3.4	2.7	1.0	3.5	4.3	5.4
3		4.0	5.9	6.0	7.0	5.7	6.1	5.3	7.6	8.9	9.9	10.1	10.6	12.2	11.7	12.0	11.7	10.2	8.4	7.7	7.0	4.4	7.1	6.3	4.8	7.9
4		5.9	5.0	3.9	5.1	6.0	7.5	6.0	5.5	5.1	5.5	4.4	5.2	6.8	6.0	4.8	4.4	4.9	2.5	1.5	1.9	1.9	3.2	4.4	3.5	4.6
5		3.5	4.0	4.1	4.6	5.0	6.1	4.6	4.6	5.5	7.0	7.0	6.9	7.3	7.8	7.9	7.0	5.6	3.0	3.1	3.6	3.4	3.0	3.2	3.7	5.0
6		3.6	4.7	5.6	5.0	3.3	4.5	3.7	3.0	3.4	5.9	5.2	6.6	6.1	6.4	5.7	5.2	4.0	1.4	2.0	3.9	6.3	3.6	2.8	3.8	4.4
7		4.1	3.5	3.5	4.3	4.3	2.6	1.9	2.4	3.0	3.2	4.5	5.8	6.0	6.5	6.2	4.7	3.3	2.1	2.2	2.0	2.5	3.1	3.3	5.5	3.7
8		6.4	4.6	6.0	2.6	2.1	3.8	3.1	2.6	3.9	6.4	8.3	8.4	6.7	4.9	4.0	5.1	5.2	2.6	2.9	3.5	3.7	4.4	3.7	3.5	4.5
9		2.2	1.5	1.2	2.1	1.8	1.7	1.5	1.5	1.7	2.2	4.1	4.8	4.7	4.1	3.9	2.2	0.7	0.6	1.1	3.9	2.0	2.0	1.2	0.6	2.2
10		0.3	0.5	0.5	0.4	0.2	0.8	1.0	1.1	1.7	4.1	5.8	7.4	6.8	6.6	7.2	7.1	6.0	5.9	4.8	3.3	1.7	1.6	1.3	3.4	3.3
11		2.8	3.3	1.7	2.3	3.0	2.4	2.4	3.4	4.1	4.0	4.3	4.3	4.6	4.2	3.4	4.1	2.9	1.9	1.9	2.1	3.1	3.8	3.7	3.6	3.2
12		3.6	3.1	5.0	5.0	4.4	4.4	3.8	3.7	4.0	5.1	5.2	5.1	7.8	7.2	5.9	8.1	7.8	5.6	4.1	4.2	5.3	6.1	5.6	4.1	5.2
13		3.3	2.7	2.8	2.7	2.5	2.4	2.4	3.1	3.5	5.0	6.0	7.2	6.8	6.5	5.3	3.9	3.3	0.5	1.2	2.2	2.4	1.9	2.0	4.0	3.5
14		3.1	2.4	2.7	2.1	2.2	1.5	1.5	0.7	2.1	5.3	7.1	6.4	7.7	7.6	7.1	7.7	7.2	5.2	3.5	2.3	2.0	2.2	2.9	2.4	3.9
15		4.1	5.0	5.0	3.7	3.4	4.7	4.1	4.7	7.0	9.0	9.3	8.4	9.0	8.9	8.1	7.8	7.5	6.9	6.5	5.4	5.8	6.0	5.8	3.9	6.2
16		4.9	5.2	4.7	5.1	6.6	7.2	7.0	7.8	8.5	7.8	7.8	8.5	8.3	8.0	7.8	6.8	4.9	4.2	4.2	4.1	4.2	4.6	4.9	4.5	6.1
17		4.2	4.8	4.4	3.4	5.3	5.2	3.5	3.6	5.1	6.0	6.4	7.1	7.7	7.3	7.1	6.9	5.3	2.2	2.1	2.4	2.3	2.5	2.9	3.8	4.6
18		3.3	4.5	4.2	4.2	4.3	4.4	4.3	3.7	3.0	4.2	5.4	5.1	4.1	4.0	4.3	3.1	2.7	2.0	2.5	2.7	3.3	3.8	4.5	3.4	3.8
19		3.1	4.3	4.9	6.1	5.6	6.1	7.3	6.5	8.6	9.2	9.7	12.3	14.8	14.7	15.2	15.3	13.7	11.6	11.8	12.4	11.3	10.5	10.6	9.6	9.8
20		8.0	6.8	5.9	6.3	5.9	5.6	3.8	4.3	4.9	7.3	12.2	16.9	16.5	17.2	16.8	12.6	11.8	9.7	6.4	3.9	4.4	4.7	2.9	1.7	8.2
21		2.5	2.6	2.4	2.8	2.8	2.0	2.0	2.1	3.3	4.5	6.6	4.9	4.4	4.5	3.6	2.3	2.3	1.2	1.8	1.8	1.7	2.9	3.8	3.4	3.0
22		2.7	2.6	2.3	2.5	2.1	2.2	1.9	1.4	1.2	1.6	2.4	3.8	4.5	4.7	3.4	3.7	3.5	1.6	2.6	2.2	1.9	1.4	1.7	1.5	2.4
23		1.6	1.1	1.3	1.2	0.9	0.4	1.1	0.9	0.9	2.4	4.5	8.0	8.9	9.5	8.9	9.4	8.4	5.3	2.8	2.3	2.2	1.8	2.3	2.8	3.7
24		5.3	5.3	4.0	3.4	4.5	3.8	2.7	1.4	3.7	6.4	6.7	6.4	6.4	5.7	6.4	4.8	3.3	3.4	3.1	2.9	4.1	3.8	3.8	2.9	4.3
25		2.4	2.5	2.5	2.3	2.2	2.1	2.2	2.0	3.2	3.3	5.2	3.0	3.0	2.1	3.0	2.7	1.8	0.7	0.9	1.2	1.6	2.5	2.3	2.8	2.4
26		2.2	1.6	2.5	2.7	3.0	2.6	3.5	4.8	4.2	4.0	5.4	4.9	5.4	6.0	6.7	5.6	3.3	1.7	2.1	3.4	3.1	2.5	1.5	0.9	3.5
27		1.2	1.4	2.4	2.5	2.7	2.3	3.8	3.0	2.8	4.3	6.3	8.0	7.6	5.9	6.1	5.1	3.4	1.8	2.2	2.7	4.3	1.5	0.9	1.2	3.5
28		0.4	1.9	3.0	2.4	3.6	3.3	2.3	2.1	2.4	2.9	4.2	6.0	7.2	8.1	6.7	5.6	6.8	3.9	4.7	4.7	2.8	2.1	1.3	1.6	3.7
29		1.6	1.4	1.5	2.9	4.6	1.9	2.4	1.5	2.7	4.6	5.5	6.7	8.2	7.0	5.2	6.5	4.9	3.1	1.6	1.6	2.2	1.3	1.0	0.9	3.3
30		0.8	1.3	0.9	0.4	0.9	0.8	1.6	1.7	1.5	3.5	4.3	5.2	6.5	6.5	6.0	5.2	3.5	2.7	3.9	2.8	2.1	3.0	3.0	2.4	2.9
31		2.8	3.9	3.0	3.5	4.2	3.5	2.8	3.0	3.9	3.4	4.5	5.7	6.4	7.3	6.6	6.0	5.4	5.6	4.2	5.5	6.6	5.6	6.5	5.9	4.8

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%

MAX. 1HR AVG 17.2 12/20/91 13:00:00 2ND MAX. 1 HR AVG 16.9 12/20/91 11:00:00

MIN. 1HR AVG 0.2 12/10/91 04:00:00 ARITHMETIC MEAN 4.5 STANDARD DEV. 2.7

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11.11-71

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND SPEED IN MILES/HOUR

		JANUARY 1992																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		4.8	5.1	5.3	3.9	3.7	3.5	4.0	6.0	6.3	7.2	6.9	8.0	7.2	6.9	6.6	5.8	3.9	5.0	5.8	4.9	4.8	4.3	3.2	3.4	5.2
2		3.2	4.6	5.1	4.8	4.4	5.5	4.7	4.0	3.8	5.4	6.9	7.0	7.1	7.8	6.5	6.3	6.9	5.0	2.2	1.8	2.1	3.7	3.4	3.2	4.8
3		3.1	2.7	2.7	1.8	2.3	5.0	4.9	5.7	4.3	5.6	7.7	9.3	10.2	9.8	11.4	13.5	12.2	9.0	5.8	3.1	1.2	1.6	2.9	3.7	5.8
4		3.6	3.6	4.2	6.7	7.8	7.0	5.1	5.2	7.8	11.1	10.8	10.3	9.6	13.0	11.7	12.6	10.4	8.6	6.8	5.5	4.1	4.2	3.4	1.6	7.2
5		2.1	2.1	2.6	2.1	2.1	2.2	1.8	1.7	1.7	3.6	4.0	5.3	4.7	5.2	6.2	4.6	5.8	5.7	4.2	3.6	2.9	2.0	1.4	0.8	3.2
6		0.6	1.4	1.4	0.8	1.0	0.5	0.7	1.8	2.4	4.7	6.9	8.9	8.9	8.5	8.9	8.9	8.3	6.5	4.9	5.0	4.1	3.0	2.3	1.6	4.2
7		1.8	2.5	2.1	2.4	2.3	2.2	1.6	1.9	2.3	3.7	3.7	3.9	3.3	3.3	3.1	4.3	2.9	1.6	1.6	2.0	1.5	2.2	3.8	4.4	2.7
8		3.7	3.7	1.9	1.6	3.4	4.3	4.3	5.2	5.5	5.0	5.8	8.0	7.2	6.6	6.7	7.3	5.9	3.9	2.1	2.1	5.1	5.0	5.1	3.6	4.7
9		3.9	3.0	0.9	1.6	1.1	1.3	1.1	0.7	2.0	4.1	7.4	8.4	8.9	9.2	9.1	8.5	9.3	5.9	3.2	2.9	Cal	2.6	3.1	3.2	4.4
10		3.0	3.1	3.6	3.5	2.8	3.6	3.1	3.4	4.1	5.0	6.3	8.0	9.5	9.7	9.3	7.7	6.7	4.7	4.7	4.8	2.7	3.1	3.4	2.4	4.9
11		4.4	5.8	5.5	4.8	4.2	3.4	2.8	3.1	4.7	4.8	5.9	6.4	4.9	6.3	6.4	6.0	5.1	3.1	1.7	0.7	2.2	2.2	2.1	2.9	4.1
12		3.6	3.7	4.9	5.7	4.7	5.8	6.0	5.9	6.4	7.2	9.4	10.1	8.6	8.2	7.9	6.2	4.9	4.3	3.6	4.5	5.1	7.6	6.1	5.3	6.0
13		3.7	3.4	2.9	4.8	4.3	3.3	4.0	3.9	5.8	9.1	10.9	11.1	12.1	10.3	11.5	12.3	12.0	9.5	7.2	6.8	6.0	6.0	6.2	6.1	7.2
14		7.3	7.9	8.1	8.9	10.9	11.6	7.3	6.9	7.9	8.4	10.3	10.4	13.5	13.4	13.5	12.0	10.8	8.6	8.1	5.4	3.7	1.3	1.5	1.3	8.3
15		1.5	1.4	1.5	2.5	4.0	4.8	3.7	3.6	5.5	6.5	5.1	4.1	4.9	6.6	6.2	5.1	5.0	3.5	1.9	2.2	1.8	1.1	1.3	1.6	3.5
16		2.0	2.4	3.2	3.8	2.5	3.5	4.9	4.5	5.9	7.3	7.0	7.3	7.9	8.1	8.6	6.4	5.4	3.2	2.8	2.1	2.0	1.9	2.7	2.3	4.5
17		3.7	3.8	3.8	3.6	3.6	4.0	3.2	3.5	4.3	5.3	4.3	4.1	4.2	4.6	3.2	2.9	2.8	2.3	1.9	3.0	3.1	3.1	3.9	3.2	3.5
18		2.9	3.9	3.1	2.6	2.8	2.1	2.0	2.4	3.4	4.4	5.2	5.5	4.8	5.3	4.8	4.9	3.2	1.2	1.3	0.6	1.8	1.6	1.4	3.0	3.1
19		2.2	2.0	1.5	1.9	2.8	3.8	4.4	4.8	4.1	5.0	4.8	3.8	4.8	7.9	7.0	5.7	5.1	7.1	7.1	6.2	6.8	7.0	7.1	6.4	4.9
20		7.6	6.4	6.1	6.5	6.3	5.5	5.2	4.1	4.5	4.9	5.8	5.4	5.9	6.3	6.5	5.5	5.9	4.3	2.9	3.7	3.1	3.0	2.9	3.1	5.0
21		2.9	3.0	2.2	2.5	3.8	3.3	4.2	3.3	2.8	4.3	6.0	5.6	5.0	5.7	4.3	5.0	4.5	2.7	2.7	2.1	4.0	4.6	5.1	4.0	3.9
22		4.2	4.3	4.3	4.7	4.6	4.2	3.4	4.6	5.2	7.5	9.3	10.2	9.9	8.7	8.4	7.7	7.3	5.4	5.4	6.3	7.9	8.5	7.4	7.1	6.5
23		7.3	7.7	4.7	3.6	6.8	9.0	10.3	10.5	10.1	11.6	12.0	13.0	15.3	15.7	14.3	8.6	8.9	6.1	4.2	4.4	4.7	5.0	8.1	6.1	8.6
24		4.1	4.8	5.0	5.0	4.4	4.5	4.5	4.1	5.5	5.4	4.5	4.4	4.9	5.4	7.8	7.7	5.6	3.7	1.9	2.1	2.0	1.5	2.0	2.1	4.3
25		2.7	4.2	3.8	3.6	4.7	3.2	3.0	3.2	3.4	5.4	7.3	7.0	6.8	5.6	3.8	2.6	2.7	2.9	3.5	3.4	3.7	3.1	2.9	3.3	4.0
26		3.6	2.4	1.8	5.1	3.9	3.7	1.6	3.3	4.3	4.7	5.5	7.0	8.0	9.0	9.9	9.3	6.6	4.6	2.7	2.5	2.9	2.9	3.7	3.8	4.7
27		4.5	4.7	5.2	4.8	3.6	3.5	3.9	3.5	4.2	7.0	7.8	11.6	10.1	10.8	8.6	8.0	5.4	4.5	4.8	3.1	2.9	3.1	3.5	3.8	5.5
28		4.7	3.6	3.8	3.5	4.0	4.1	3.9	4.2	3.3	4.3	6.7	7.6	7.0	5.8	7.2	4.4	3.8	3.2	4.7	4.2	2.6	2.1	3.0	2.8	4.3
29		2.7	2.5	2.0	2.0	2.7	1.8	2.3	2.6	2.1	1.9	2.3	2.0	3.7	4.9	5.2	4.0	6.1	5.3	3.8	2.7	4.0	4.4	5.1	4.4	3.3
30		2.8	3.9	2.1	2.0	2.2	3.3	2.4	2.4	3.9	2.9	5.9	7.7	6.9	8.9	11.0	12.0	13.1	12.0	9.3	8.4	8.7	7.2	7.3	7.1	6.4
31		7.5	7.8	9.1	8.9	7.5	5.1	6.0	4.3	4.5	7.4	8.0	8.5	8.3	9.1	9.2	7.9	9.6	9.5	7.9	6.6	4.3	3.7	3.5	3.8	7.0

TOTAL HOURS 744      TOTAL GOOD HOURS 743      DATA CAPTURE 99.9%

MAX. 1HR AVG 15.7 01/23/92 13:00:00      2ND MAX. 1 HR AVG 15.3 01/23/92 12:00:00

MIN. 1HR AVG 0.5 01/06/92 05:00:00      ARITHMETIC MEAN 5.0      STANDARD DEV. 2.7

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11.72

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND SPEED IN MILES/HOUR

		FEBRUARY 1992																							DAILY	
HOURLY (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		4.0	4.3	3.1	3.1	2.8	2.6	2.6	2.0	2.2	3.9	5.4	7.0	7.2	8.0	9.1	9.3	9.1	7.0	5.3	3.3	2.4	2.6	2.1	1.9	4.6
2		2.5	1.5	1.4	2.3	3.3	3.1	1.7	1.8	2.2	5.6	7.4	7.0	5.2	5.9	6.6	6.2	5.3	4.5	4.0	5.3	6.2	6.7	6.0	6.2	4.5
3		5.9	5.1	4.6	3.8	2.6	3.0	3.3	3.4	5.5	6.7	5.7	6.2	4.2	4.8	4.1	4.4	5.6	3.9	1.9	3.0	5.2	5.0	3.8	4.0	4.4
4		4.5	4.3	4.0	1.9	2.1	1.9	2.8	3.5	4.9	7.4	8.6	8.8	8.2	8.8	8.2	8.4	6.5	3.9	2.5	4.1	4.5	5.0	5.5	6.2	5.3
5		7.8	7.3	7.6	9.7	8.1	8.0	1.8	4.1	7.2	9.0	8.3	10.9	10.8	10.3	10.8	11.3	10.0	9.7	8.9	6.5	7.4	5.2	3.7	5.8	7.9
6		4.6	4.5	4.7	4.1	5.3	4.4	4.8	5.7	5.5	10.3	12.9	13.2	14.5	16.0	15.9	12.9	11.4	9.6	7.8	7.6	7.5	8.2	7.5	7.6	8.6
7		7.6	6.9	6.8	6.0	6.0	5.6	5.9	4.5	5.8	4.6	6.0	5.7	4.7	7.1	11.7	10.3	9.3	8.8	6.1	5.9	5.0	3.9	2.4	3.5	6.2
8		5.1	3.7	3.6	2.5	2.8	2.5	1.4	1.3	2.1	4.1	5.6	6.7	9.6	9.3	8.8	10.6	9.0	6.3	5.6	5.4	2.8	2.8	2.5	1.8	4.8
9		2.3	2.8	3.1	3.9	4.0	3.8	4.4	3.9	5.5	8.8	7.7	6.4	6.3	5.1	5.4	5.4	4.8	3.8	3.2	3.7	4.3	5.5	5.9	5.1	4.8
10		5.7	5.6	4.8	4.8	4.6	4.3	4.3	4.7	5.7	5.9	7.3	8.4	9.7	8.4	8.3	7.1	6.9	5.5	3.9	4.2	3.7	3.8	3.2	5.2	5.6
11		4.6	4.0	5.2	4.9	4.8	4.9	4.7	4.0	5.0	4.9	4.9	4.4	4.6	5.1	6.1	5.0	5.0	3.6	3.0	3.0	3.2	3.7	6.9	4.0	4.5
12		3.0	3.0	2.7	2.7	4.9	5.0	4.2	4.7	4.8	5.7	5.0	5.9	6.8	6.2	5.9	4.2	3.7	2.2	1.0	1.3	1.5	1.1	2.0	1.5	3.7
13		1.9	1.3	0.7	1.3	1.6	0.9	1.7	2.0	3.4	3.6	3.5	4.7	3.4	5.1	4.3	4.1	5.2	4.6	2.7	1.8	2.1	1.1	0.8	0.9	2.6
14		1.0	1.8	1.1	1.5	2.4	2.7	2.6	2.2	2.4	4.0	5.6	5.4	5.0	5.2	3.6	2.4	6.0	3.2	2.6	2.6	2.4	3.2	1.0	2.6	3.0
15		2.6	2.6	2.5	2.0	2.0	2.4	2.8	2.4	2.8	7.0	11.0	9.6	9.0	9.0	9.6	10.4	10.8	10.6	7.6	2.6	2.8	3.8	3.8	4.4	5.6
16		3.2	3.0	2.4	2.0	2.4	2.6	2.4	2.7	4.8	4.4	5.0	6.8	9.6	9.0	9.0	6.0	9.0	7.0	2.6	2.6	2.4	2.0	2.0	2.2	4.4
17		1.4	1.0	1.6	3.0	2.4	2.0	4.0	5.0	7.0	7.6	11.0	11.0	9.2	9.2	9.6	9.0	7.0	6.6	3.0	7.0	3.6	2.0	2.6	5.2	5.5
18		3.6	5.0	4.0	3.0	2.8	3.6	2.8	2.4	5.0	7.0	7.6	8.0	7.0	7.0	7.0	6.4	5.6	7.6	6.0	5.0	3.0	3.0	5.0	5.0	5.2
19		4.0	3.6	4.2	4.2	6.0	6.0	7.4	7.2	8.0	7.0	8.4	9.6	9.6	9.8	9.8	9.6	5.0	3.0	1.4	1.6	2.2	2.2	1.0	1.0	5.5
20		1.0	1.4	1.4	3.2	3.0	3.0	4.2	8.0	10.0	10.0	10.0	9.2	8.2	8.2	7.0	7.0	6.0	6.4	7.4	7.6	7.4	6.0	6.0	7.0	6.2
21		5.0	5.0	5.0	6.0	6.0	5.6	6.0	5.7	7.0	7.4	9.0	11.0	8.4	8.0	8.0	9.0	9.2	10.0	7.0	7.0	7.2	7.2	7.6	8.0	7.3
22		8.0	5.0	4.2	4.6	5.0	3.0	5.0	5.2	5.6	9.0	9.0	8.0	8.0	7.2	7.6	5.0	5.0	7.0	5.2	3.3	3.0	3.0	3.0	1.8	5.4
23		2.0	4.0	2.2	2.2	1.6	3.0	5.6	5.8	5.8	7.0	9.0	9.0	8.0	7.8	7.8	8.4	9.0	8.0	6.0	3.6	3.0	3.0	1.4	1.4	5.2
24		1.6	2.4	2.0	2.0	3.4	3.0	2.4	3.0	4.8	4.0	6.0	6.0	5.0	5.0	7.0	5.0	5.6	7.0	5.0	3.0	2.8	3.0	6.0	6.4	4.2
25		7.9	3.1	2.5	5.6	6.4	6.4	5.8	4.6	PwrF	7.2	8.1	8.4	4.9	6.1	7.2	12.1	11.1	5.1	4.2	6.2	9.2	8.1	3.5	2.4	6.3
26		2.6	3.6	3.4	5.4	5.8	5.2	5.1	7.4	8.5	7.7	11.3	14.7	PwrF	PwrF	16.1	16.3	14.5	12.7	12.5	9.6	9.7	7.7	7.9	8.3	8.9
27		9.2	7.3	5.9	6.2	5.0	5.1	4.5	4.7	4.0	4.6	8.2	10.5	10.0	9.2	11.1	11.0	10.1	9.0	5.9	3.1	3.2	1.6	1.1	1.3	6.3
28		1.5	1.6	2.7	2.6	3.1	1.1	0.9	1.3	3.2	4.9	6.2	10.1	10.0	10.8	11.5	12.1	11.4	9.9	6.3	4.7	4.6	4.8	4.3	2.9	5.5
29		3.9	3.0	5.2	5.5	3.2	2.1	2.2	2.5	5.2	7.6	12.4	10.2	9.1	8.1	8.6	9.4	9.7	9.2	6.0	4.5	4.5	3.5	2.2	2.1	5.8

TOTAL HOURS 696 TOTAL GOOD HOURS 693 DATA CAPTURE 99.6X  
 MAX. 1HR AVG 16.3 02/26/92 15:00:00 2ND MAX. 1 HR AVG 16.1 02/26/92 14:00:00  
 MIN. 1HR AVG 0.7 02/13/92 02:00:00 ARITHMETIC MEAN 5.4 STANDARD DEV. 2.9

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-73

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR WIND SPEED IN MILES/HOUR

DAY	MARCH 1992																							DAILY AVG	
	HOUR (EST) 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	2.7	2.4	3.0	2.6	2.1	1.5	1.9	1.7	1.8	2.8	3.7	4.1	4.5	4.9	4.6	3.6	2.6	1.7	2.2	3.7	2.6	2.3	1.9	1.8	2.8
2	2.1	2.4	2.7	2.4	3.3	3.2	3.0	2.8	3.4	5.3	5.4	5.6	6.0	5.2	4.2	3.6	3.4	2.7	1.6	1.2	3.0	3.3	3.6	4.0	3.4
3	4.1	3.8	3.1	3.0	3.1	2.5	3.2	1.5	2.2	4.1	4.5	6.6	5.4	6.5	6.0	6.3	4.9	2.9	4.8	6.9	7.4	6.1	5.6	4.3	4.5
4	4.1	3.2	2.9	3.1	2.7	2.9	2.7	2.7	3.0	5.4	10.1	9.5	7.3	6.7	5.2	5.4	6.0	6.2	5.9	5.2	3.1	5.4	6.7	7.8	5.1
5	8.1	7.2	6.8	6.7	6.2	6.3	5.8	5.7	7.5	9.5	10.3	10.4	9.7	10.4	9.0	8.4	7.4	5.0	5.2	7.8	7.7	6.3	6.3	6.2	7.5
6	6.5	5.8	6.1	5.0	4.0	4.2	4.0	4.9	7.4	9.1	9.8	7.9	8.7	8.0	6.1	8.4	11.2	10.2	7.8	5.6	4.5	2.6	1.8	2.0	6.3
7	2.6	1.4	2.5	2.1	3.3	3.4	3.8	4.0	4.2	4.6	6.1	6.7	9.5	10.8	11.2	11.7	10.0	8.3	7.1	5.9	4.9	6.1	5.7	5.5	5.9
8	4.7	4.8	4.8	3.4	2.8	2.8	2.3	1.2	2.5	3.0	3.7	3.7	4.6	4.9	3.1	4.5	3.4	3.0	5.9	3.7	3.2	2.5	2.8	2.9	3.5
9	2.2	2.5	3.0	2.5	1.8	2.1	3.1	3.5	4.2	5.7	8.0	8.5	8.7	8.5	7.9	7.5	5.3	7.0	4.2	1.7	2.6	1.6	1.0	3.1	4.4
10	2.8	3.2	2.9	2.0	2.8	2.8	3.9	5.1	7.4	8.9	9.7	10.9	12.0	12.3	13.2	13.5	12.5	12.5	10.7	9.2	8.4	4.7	3.2	3.9	7.4
11	3.2	4.3	6.4	5.9	5.8	7.0	6.2	6.5	6.8	6.2	5.8	5.1	4.7	6.5	6.4	5.4	5.4	8.0	6.6	4.0	2.4	1.6	1.4	2.4	5.1
12	2.0	2.3	3.4	4.1	2.7	2.9	3.4	3.1	3.1	4.5	4.9	3.5	2.2	3.4	3.4	2.7	2.0	1.7	1.8	2.4	2.5	2.1	1.8	2.9	2.9
13	1.4	1.5	1.3	1.9	1.4	1.3	1.4	1.2	2.4	3.9	4.7	5.4	6.2	6.3	6.3	8.2	8.6	7.0	5.7	4.8	3.6	1.7	2.2	1.9	3.7
14	2.5	1.8	1.5	2.0	0.9	1.3	1.5	2.7	4.3	4.5	3.7	4.7	4.4	4.9	4.5	4.5	6.4	6.7	5.5	5.2	4.7	3.0	2.3	2.9	3.6
15	3.4	3.0	2.9	3.0	2.9	2.3	2.2	3.2	5.0	7.1	7.8	7.8	6.9	7.2	8.4	11.2	11.1	10.2	7.4	6.2	5.3	4.3	4.9	5.5	5.8
16	5.8	5.8	4.9	4.1	3.1	2.9	1.9	4.5	7.1	8.9	8.2	7.4	7.3	6.8	6.2	5.8	5.5	4.6	5.0	7.6	7.3	8.2	6.7	5.0	5.8
17	4.8	4.1	4.2	4.2	4.8	5.7	4.1	4.9	6.9	8.4	8.1	6.3	5.7	5.3	5.0	3.8	4.1	3.0	3.8	4.3	3.0	4.9	3.4	3.1	4.8
18	4.2	4.8	4.3	3.6	4.2	2.6	3.1	5.1	7.0	9.9	10.6	9.6	10.1	9.3	7.7	6.6	8.4	8.2	7.0	3.2	3.3	3.6	3.2	2.0	5.9
19	2.6	4.4	5.0	4.6	2.8	3.9	5.0	5.0	8.1	12.7	16.6	15.8	16.5	15.3	17.0	15.2	12.9	12.5	9.4	7.1	6.9	6.1	7.6	8.3	9.2
20	8.4	10.1	8.2	6.0	5.6	6.4	6.7	7.3	7.7	10.6	13.3	15.7	15.2	15.4	14.1	12.3	12.8	12.6	9.6	5.6	4.7	4.3	3.6	3.8	9.1
21	1.6	3.9	3.4	3.8	1.7	2.2	3.3	4.7	5.1	6.1	7.0	5.7	4.8	5.3	4.4	3.1	2.5	2.0	2.5	3.0	3.1	2.8	2.3	2.0	3.6
22	2.7	2.6	1.9	3.1	2.9	1.5	2.2	3.3	4.9	5.5	6.4	8.1	9.0	8.1	5.9	3.8	3.7	1.8	1.4	2.4	4.2	4.1	4.8	5.2	4.1
23	4.1	5.5	5.3	7.0	6.2	4.9	4.4	4.0	8.4	11.9	12.3	11.8	12.3	12.1	12.3	11.0	11.0	7.6	4.2	2.9	3.0	3.4	4.2	2.8	7.2
24	0.5	1.4	3.0	3.7	5.7	4.8	4.6	5.9	7.4	8.0	8.4	8.5	8.3	7.7	7.3	8.0	9.4	9.2	9.8	10.6	9.3	7.3	6.4	6.3	6.7
25	6.4	7.1	6.7	5.6	5.1	5.2	4.8	6.1	10.7	12.8	13.2	13.3	12.8	13.0	12.5	12.7	11.2	11.3	9.1	5.2	4.5	3.0	2.5	2.4	8.2
26	3.8	3.0	2.8	1.3	1.7	2.3	2.2	2.0	4.4	6.1	6.8	7.5	8.4	8.0	9.4	9.2	8.5	6.6	5.7	3.3	3.7	2.2	1.8	2.6	4.7
27	1.1	1.8	2.1	1.7	2.2	1.7	2.2	0.6	3.0	4.1	4.1	4.2	4.2	4.6	5.0	7.0	7.2	7.5	6.3	5.8	4.9	3.5	1.6	2.0	3.7
28	1.5	2.3	2.4	2.1	1.6	1.8	4.1	4.1	6.7	7.6	7.1	6.6	4.8	5.1	5.1	4.6	4.1	3.4	2.6	3.0	3.3	3.0	3.8	4.9	4.0
29	5.1	4.5	4.5	5.4	4.6	4.1	4.6	5.8	5.7	5.2	5.8	5.9	6.7	6.9	5.4	5.7	6.4	3.9	1.3	1.9	2.0	1.5	1.7	3.6	4.5
30	3.7	1.3	2.0	2.4	4.4	2.2	1.8	2.8	4.2	5.4	7.6	7.6	8.5	10.3	10.7	12.2	9.6	4.8	6.5	7.7	5.7	6.0	5.3	5.7	5.7
31	6.4	5.3	5.7	6.6	5.9	5.0	4.9	6.6	8.2	9.4	Cal	Cal	11.2	11.7	10.5	10.5	10.4	10.4	8.0	5.7	5.0	2.4	2.6	1.4	7.0

TOTAL HOURS 744 TOTAL GOOD HOURS 742 DATA CAPTURE 99.7%

MAX. 1HR AVG 17.0 03/19/92 14:00:00 2ND MAX. 1 HR AVG 16.6 03/19/92 10:00:00

MIN. 1HR AVG 0.5 03/24/92 00:00:00 ARITHMETIC MEAN 5.3 STANDARD DEV. 3.1

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

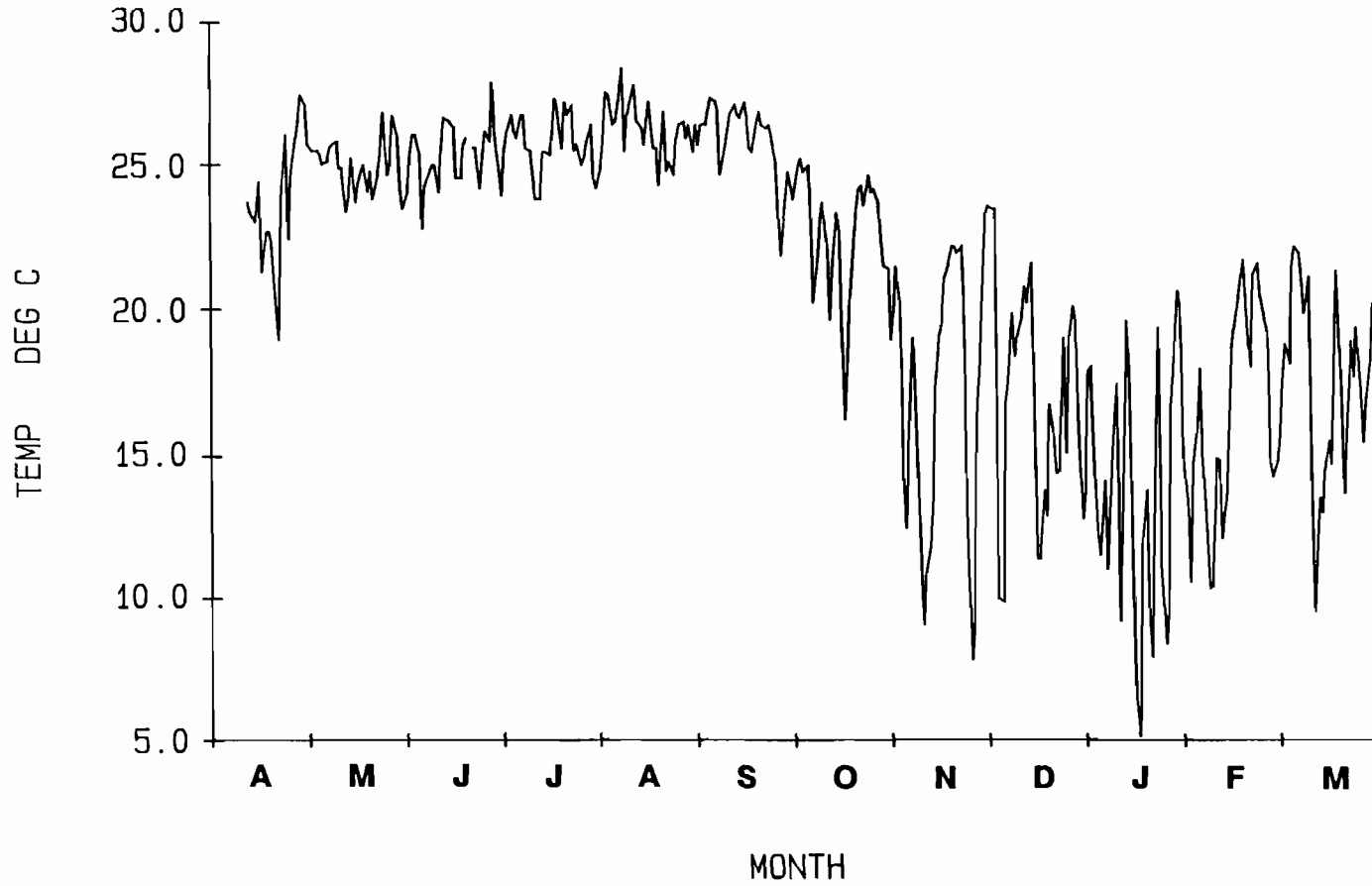
11.11-74



**HOURLY AVERAGES FOR TEMPERATURE (DEGREES CELSIUS)**

11.11-76

TIME PLOT FOR 04/01/91 00: 00: 00 TO 03/31/92 00: 00: 00

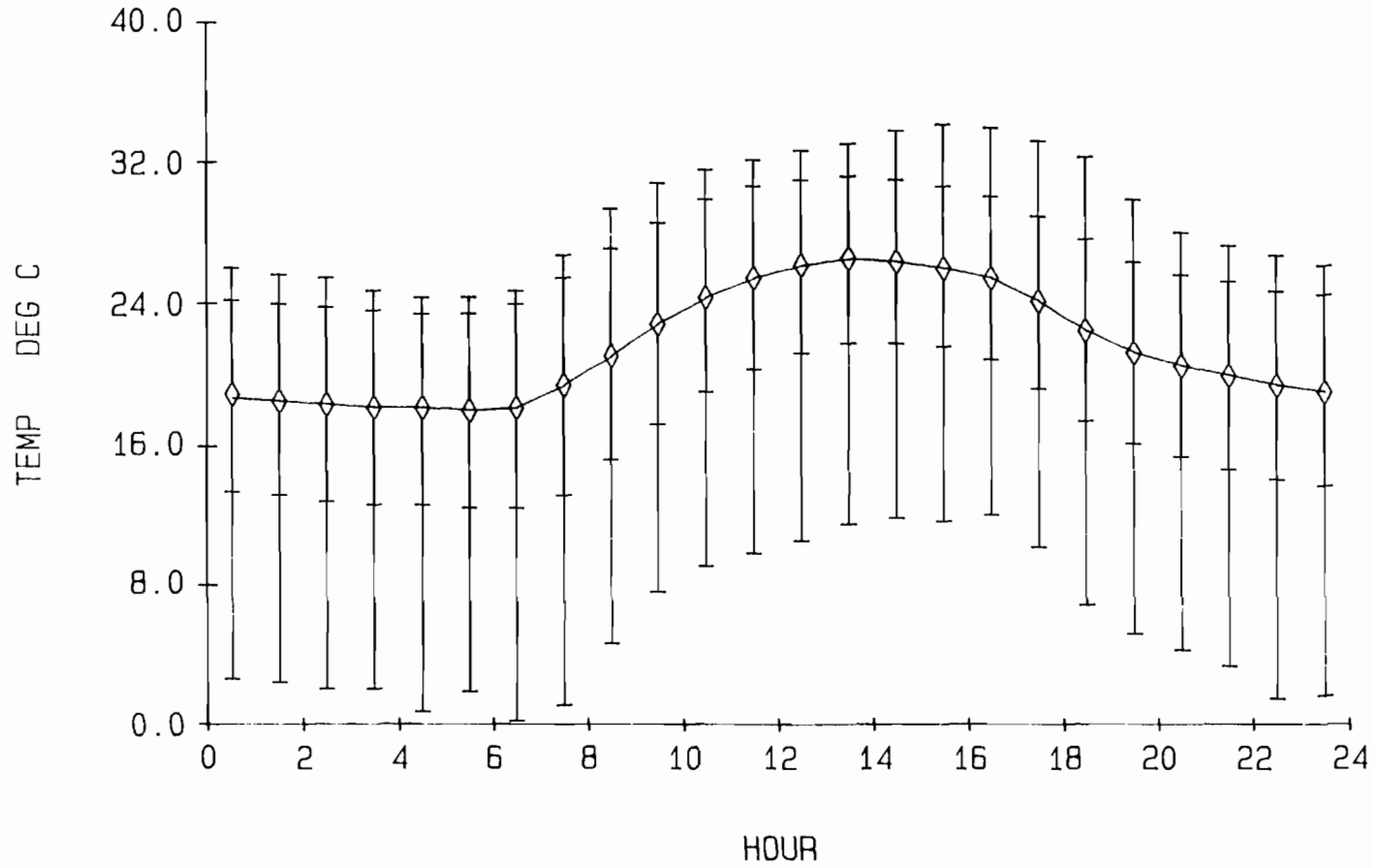


Tampa Electric Station AQ-1

Averaging Time: 24 Hour

11.11-77

DIURNAL PLOT 04/01/91 TO 03/31/92



Tampa Electric Station AQ-1

Averaging Time:

3600 sec

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

APRIL, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	15.1	13.8	12.6	12.3	12.3	12.6	12.7	15.3	16.7	18.7	20.3	21.6	22.7	23.4	23.9	23.9	23.8	22.9	21.2	19.1	18.0	16.8	15.9	15.1	17.9
2	14.2	13.1	12.7	12.0	10.1	11.0	10.2	14.7	18.6	20.7	22.5	23.4	24.4	24.4	24.6	24.4	24.0	22.9	21.2	19.5	18.3	17.3	16.8	15.9	18.2
3	15.1	13.7	13.6	13.0	12.7	12.9	13.9	17.1	20.1	22.3	23.6	24.8	25.5	25.6	25.8	25.6	25.0	23.8	22.2	20.9	20.0	19.7	19.4	18.9	19.8
4	17.3	17.2	18.6	19.3	19.6	19.1	18.6	19.5	20.7	22.8	24.1	23.7	24.9	25.2	25.6	24.8	23.8	21.3	20.7	20.8	20.7	20.4	20.1	19.8	21.2
5	19.4	19.3	19.2	19.1	19.1	19.0	19.1	20.2	24.5	24.2	25.4	26.1	26.8	27.6	26.3	27.1	25.6	25.0	23.4	22.5	22.2	21.8	21.6	21.4	22.7
6	20.6	20.3	20.1	20.5	20.6	20.6	20.7	21.5	23.3	24.5	25.6	27.2	28.1	28.6	29.3	29.4	29.4	28.3	23.0	21.6	21.5	20.9	20.7	20.9	23.6
7	20.5	19.9	20.0	20.1	20.3	20.2	20.4	20.9	21.9	24.6	26.0	26.9	27.6	28.3	28.7	29.2	28.4	26.9	23.2	21.5	Qal	Qal	Qal	Qal	23.8
8	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
9	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
11	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
12	20.4	20.3	19.8	19.3	19.5	19.1	20.2	22.2	24.5	23.4	27.3	28.2	29.1	29.5	29.9	29.3	29.0	27.8	26.1	24.5	23.5	22.5	21.7	21.0	24.1
13	20.6	20.2	20.0	19.9	20.0	19.8	19.5	21.0	22.6	24.2	25.8	27.0	27.8	28.5	28.1	28.4	28.4	27.8	26.0	24.6	23.2	22.2	21.7	21.1	23.7
14	20.6	20.1	19.6	19.4	19.0	18.7	19.1	20.9	23.2	24.9	26.3	27.1	28.2	28.5	26.9	26.1	26.4	25.5	24.9	23.8	23.1	22.6	22.1	21.4	23.2
15	20.7	20.1	19.8	19.8	19.6	19.5	19.8	21.8	23.3	25.3	26.6	27.3	28.4	28.7	29.2	29.5	29.3	28.3	25.8	23.3	22.8	22.2	21.2	20.3	23.8
16	20.0	20.3	21.3	20.6	20.1	19.6	20.0	22.3	24.9	26.3	27.5	28.6	29.3	29.8	29.6	29.5	28.5	28.0	26.0	PwrF	PwrF	PwrF	PwrF	PwrF	24.8
17	PwrF	Miss	19.0	19.0	19.5	20.0	20.0	20.0	20.0	20.0	20.0	21.0	23.0	PwrF	21.4	23.5	25.3	26.7	PwrF	23.2	22.4	21.8	21.9	21.3	21.4
18	20.9	19.8	19.5	19.0	19.3	19.1	19.9	20.9	23.7	25.5	22.7	25.0	27.7	28.2	28.4	28.3	27.5	26.3	24.4	22.5	21.4	21.0	20.4	19.8	23.0
19	19.6	20.1	20.2	19.8	19.3	19.0	19.8	20.9	22.0	23.1	22.7	23.5	25.4	26.6	27.9	28.1	27.9	26.8	25.2	23.9	23.2	21.9	21.1	21.4	22.9
20	21.7	21.5	20.8	20.6	20.5	20.6	20.6	20.7	19.9	19.6	21.1	23.4	26.0	27.0	28.0	28.1	27.5	26.3	24.2	22.4	21.1	20.1	18.9	17.9	22.4
21	18.5	19.0	18.7	18.1	18.8	18.7	18.7	20.2	22.1	23.5	23.9	24.4	24.7	24.5	24.1	23.7	23.0	21.8	20.3	18.5	16.9	16.2	15.3	13.4	20.3
22	12.9	12.7	12.7	12.6	12.8	13.3	13.9	17.9	20.5	21.4	22.4	23.7	25.0	26.3	27.2	27.6	26.9	26.2	24.0	21.6	19.9	18.1	17.4	18.2	19.8
23	18.8	18.9	18.9	19.0	19.6	19.9	19.8	21.2	23.5	25.0	26.0	27.8	29.4	29.9	30.1	29.4	28.2	27.5	26.4	25.6	23.7	22.1	22.4	23.9	24.0
24	24.1	23.7	23.1	22.8	22.6	22.5	22.5	24.3	26.7	28.3	29.9	30.6	31.3	31.0	31.0	31.0	30.3	29.3	27.6	25.6	24.5	24.0	23.2	22.6	26.3
25	22.2	22.2	22.3	22.1	21.0	21.9	22.6	23.6	24.3	25.6	26.8	27.8	28.0	27.5	25.4	20.6	19.8	19.7	20.1	20.3	20.2	20.2	20.0	20.0	22.7
26	19.7	19.8	20.4	20.3	20.3	20.2	20.0	21.2	23.3	25.9	27.7	28.6	29.5	30.4	30.7	31.0	30.4	29.5	27.2	25.6	25.5	25.0	23.7	23.5	25.0
27	23.3	23.1	22.4	21.5	21.2	21.6	22.1	23.4	24.6	26.4	28.4	29.8	30.5	30.9	31.6	31.1	31.9	31.2	29.4	27.0	25.7	24.5	23.8	23.7	26.2
28	23.7	23.5	23.2	23.2	23.0	22.9	23.0	24.2	26.1	27.2	29.0	29.7	30.9	31.6	32.1	32.1	32.3	31.6	29.5	27.2	25.8	24.1	23.4	23.2	26.7
29	24.7	24.0	23.8	23.9	23.6	23.4	23.5	26.6	26.6	27.9	29.5	30.4	31.0	31.6	32.0	32.4	32.1	31.1	29.6	28.7	27.9	26.8	26.4	26.4	27.6
30	25.5	24.7	24.0	23.6	23.6	23.4	23.7	24.9	26.5	27.7	29.0	30.1	30.8	31.4	32.1	32.2	32.3	31.2	28.9	27.2	26.6	26.0	25.5	25.4	27.3

TOTAL HOURS 720      TOTAL GOOD HOURS 620      DATA CAPTURE 86.1%

MAX. 1HR AVG 32.4    04/29/91 15:00:00      2ND MAX. 1 HR AVG 32.3    04/30/91 16:00:00

MIN. 1HR AVG 10.1    04/02/91 04:00:00      ARITHMETIC MEAN 23.2    STANDARD DEV. 4.4

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-78

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

MAY, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	24.1	23.2	22.8	22.1	22.0	22.5	22.9	24.6	26.4	27.5	28.5	29.5	30.3	30.9	31.2	31.5	31.3	30.0	28.2	24.8	22.8	21.9	21.7	22.8	26.0
2	22.3	22.1	21.7	21.7	20.9	21.1	21.5	23.5	25.0	26.6	28.5	29.3	29.9	30.6	31.4	31.4	31.0	30.5	28.9	25.8	24.5	25.5	24.4	23.6	25.9
3	22.8	22.1	21.5	21.1	20.8	20.4	21.3	23.2	24.8	26.6	27.9	29.1	29.6	30.6	31.0	31.2	31.2	30.6	29.0	27.1	25.8	24.6	23.9	23.2	25.8
4	22.8	22.3	21.9	21.5	21.6	21.4	21.7	23.3	25.2	26.8	27.9	28.6	29.4	30.0	30.3	30.7	30.9	30.5	28.9	26.8	26.4	25.4	23.3	22.5	25.8
5	22.7	21.8	21.2	20.5	20.1	20.0	20.9	22.8	24.5	26.4	27.7	28.4	29.2	30.0	30.5	30.6	30.6	30.2	28.5	27.3	26.6	26.6	25.4	24.0	25.7
6	23.7	22.7	22.1	21.9	21.7	21.2	22.0	24.1	26.2	27.8	29.0	29.9	30.8	30.9	31.1	30.0	29.9	28.9	24.3	22.8	22.2	21.4	21.9	21.6	25.3
7	20.6	19.8	20.0	20.8	21.4	21.4	22.1	24.3	26.3	27.6	28.5	29.6	30.4	31.4	31.3	31.8	29.7	25.5	26.3	26.1	25.6	24.9	24.2	23.3	25.5
8	22.7	22.6	22.6	22.8	22.7	22.1	22.7	24.0	25.6	27.3	27.9	28.7	29.9	30.1	30.7	30.4	29.7	28.9	27.8	25.5	24.8	23.8	23.3	23.4	25.8
9	23.1	22.8	22.7	22.4	22.0	21.8	22.1	23.9	25.7	26.9	28.1	29.3	30.3	30.5	30.5	30.3	30.7	29.9	27.2	25.2	25.1	24.4	24.5	24.1	26.0
10	23.8	23.5	23.1	22.9	22.5	22.2	22.6	24.3	25.8	27.1	28.1	28.9	29.8	30.3	30.8	30.7	30.6	29.7	28.3	26.7	25.5	24.0	23.1	22.5	26.1
11	21.7	21.6	21.2	21.1	20.8	20.2	21.0	23.3	25.3	26.6	27.2	28.5	29.2	29.9	30.2	30.2	30.1	28.8	27.7	25.9	25.1	24.3	23.3	22.3	25.2
12	21.5	20.9	20.4	20.5	20.3	20.3	21.2	23.2	24.7	26.1	27.6	28.6	29.6	30.0	30.7	30.6	30.3	29.5	28.3	27.5	26.4	23.3	22.2	21.7	25.2
13	21.4	21.5	21.9	21.6	20.8	20.8	21.4	23.0	25.3	27.5	28.8	26.1	23.1	25.2	25.9	25.9	25.9	24.6	23.8	23.3	22.7	22.2	22.0	21.9	23.6
14	21.6	21.1	20.7	20.4	20.0	19.4	20.6	23.3	25.8	26.1	23.9	27.4	27.5	28.3	29.2	27.3	28.0	29.0	27.9	25.6	23.6	22.3	21.6	21.2	24.2
15	21.1	21.3	21.1	20.3	19.9	20.2	21.3	23.4	25.9	27.3	28.4	29.8	31.1	32.0	32.5	32.5	32.0	30.9	29.0	26.3	24.6	23.0	22.2	21.7	25.7
16	21.7	21.1	20.7	20.8	20.9	20.1	21.5	24.5	26.6	28.5	29.7	30.9	31.9	32.8	28.4	25.1	23.1	22.0	22.1	21.9	21.6	21.6	21.0	20.8	24.1
17	20.7	20.7	20.1	19.9	20.3	21.2	21.7	23.6	25.5	27.1	28.3	29.4	30.2	30.9	31.4	31.7	31.3	28.1	24.3	22.5	22.3	22.2	21.7	21.4	24.8
18	21.1	21.1	21.3	20.3	20.8	21.1	21.9	24.4	26.3	27.6	28.9	29.9	30.7	31.4	32.1	27.4	24.8	25.9	25.3	24.9	24.8	23.9	23.6	23.4	25.1
19	23.2	22.8	22.8	22.9	22.8	22.8	23.2	25.0	26.6	28.2	29.1	30.2	30.4	30.5	29.9	27.3	26.6	24.8	22.8	22.9	23.2	23.0	23.0	23.1	25.3
20	23.0	23.0	23.1	22.9	23.0	23.1	23.3	23.6	25.0	26.5	27.7	27.6	24.0	25.1	24.0	24.2	24.8	24.8	24.1	23.8	23.7	23.3	23.2	23.3	24.1
21	23.3	23.2	23.1	23.2	23.3	23.3	23.7	24.3	24.6	25.2	26.1	27.2	Down	27.6	27.3	26.3	25.6	25.7	25.0	24.5	24.6	24.6	24.7	24.6	24.8
22	24.6	24.5	24.4	24.5	24.2	24.1	24.4	25.0	26.3	25.9	24.6	23.3	23.5	23.2	23.7	23.7	23.5	23.5	23.0	22.8	22.7	22.7	22.9	23.0	23.9
23	23.1	23.2	23.3	23.3	23.4	23.3	23.3	23.9	25.0	25.9	27.5	28.7	29.3	27.2	26.3	24.6	24.6	24.4	23.8	24.0	24.1	24.0	23.9	23.8	24.7
24	23.6	23.7	23.6	23.6	23.6	23.7	23.9	24.3	25.9	27.2	28.7	29.9	30.0	29.6	28.8	24.1	24.8	24.9	25.0	25.1	25.3	25.1	25.0	24.7	25.6
25	24.5	24.1	23.8	23.7	23.6	23.4	23.9	25.2	26.6	27.8	28.7	29.8	30.5	31.0	31.6	31.6	31.3	30.9	28.9	27.5	26.4	25.0	25.0	24.7	27.0
26	24.5	24.4	24.4	24.3	24.2	24.2	24.6	25.4	27.2	29.1	30.3	29.8	27.7	23.8	22.5	22.8	22.9	23.1	23.4	23.4	23.3	23.5	23.8	23.5	24.8
27	23.3	23.3	23.3	23.6	23.6	23.6	24.1	25.5	26.3	27.7	27.5	28.8	29.6	30.0	29.7	25.8	24.4	24.2	23.9	23.7	23.7	23.8	23.7	23.8	25.3
28	23.7	23.7	23.4	23.5	23.5	23.3	23.9	25.2	26.6	27.9	28.5	29.5	30.2	31.0	31.5	31.1	31.2	30.8	29.5	27.5	25.7	25.9	25.1	24.6	26.9
29	24.0	23.2	22.2	21.0	20.4	20.0	22.2	24.7	25.9	27.1	28.4	29.9	30.6	30.9	31.3	31.2	31.7	31.4	29.6	25.3	24.7	25.7	24.5	23.6	26.2
30	23.1	22.5	22.0	21.5	21.1	21.2	22.8	24.3	26.4	28.1	29.7	30.7	31.1	31.6	31.7	28.3	21.8	21.7	21.8	21.7	21.7	21.4	21.6	20.8	24.5
31	20.3	20.1	19.9	19.6	19.3	20.0	21.2	23.3	25.7	27.1	28.5	29.9	26.6	26.1	27.6	28.0	27.8	27.4	25.2	23.3	22.3	21.8	21.0	20.2	23.8

TOTAL HOURS 744 TOTAL GOOD HOURS 743 DATA CAPTURE 99.9%

MAX. 1HR AVG 32.8 05/16/91 13:00:00 2ND MAX. 1 HR AVG 32.5 05/15/91 15:00:00

MIN. 1HR AVG 19.3 05/31/91 04:00:00 ARITHMETIC MEAN 25.2 STANDARD DEV. 3.3

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-79

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

		JUNE, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1	19.8	19.4	19.3	19.2	19.0	19.8	21.1	24.3	26.6	28.0	29.0	29.8	30.4	29.5	26.7	27.7	27.3	27.0	26.6	24.7	23.4	23.6	23.3	22.4	24.5	
2	21.8	21.0	20.9	21.1	21.0	20.8	22.9	24.9	26.5	27.4	28.8	29.5	29.8	30.0	30.4	29.2	30.0	29.2	28.0	26.2	25.2	23.9	23.3	22.9	25.6	
3	22.6	22.2	22.3	22.4	22.6	23.0	23.8	25.9	27.5	28.6	29.4	30.0	30.7	30.7	31.0	30.8	30.0	29.1	27.7	26.0	24.7	24.2	23.6	23.4	26.3	
4	23.5	23.1	22.7	22.6	21.9	22.8	23.6	25.6	27.5	28.7	29.9	30.1	29.7	28.7	29.0	29.8	29.9	29.5	27.7	26.3	25.4	25.1	24.6	24.3	26.3	
5	23.8	23.8	23.4	23.7	22.1	21.7	21.9	23.7	26.2	27.1	27.6	28.7	29.8	31.1	30.9	30.3	29.8	29.9	26.8	24.5	23.0	22.1	21.7	21.8	25.6	
6	21.7	21.6	21.3	21.0	20.9	21.2	21.9	22.9	24.1	25.1	26.3	26.3	26.5	25.4	24.2	23.1	22.8	22.1	22.5	22.7	22.3	21.7	21.7	21.4	22.9	
7	21.2	20.9	20.4	20.2	19.7	19.1	20.2	22.7	24.6	26.1	27.2	28.5	29.2	29.6	30.6	30.8	30.1	26.7	25.3	24.5	24.1	23.8	23.4	22.5	24.6	
8	22.0	21.9	21.6	21.5	21.3	20.9	21.9	23.9	25.7	26.8	27.8	28.6	29.0	28.5	29.1	29.1	28.9	28.4	27.1	25.2	24.0	23.1	22.7	22.5	25.0	
9	22.1	21.8	21.7	21.6	21.4	21.3	22.2	24.2	25.8	27.1	28.2	29.0	29.6	30.1	29.7	28.9	28.7	27.9	26.9	26.0	24.7	23.6	22.8	22.5	25.3	
10	22.2	22.0	21.6	21.3	21.2	21.0	22.4	24.4	26.0	27.2	28.3	29.1	29.8	30.1	30.6	30.2	29.7	28.7	27.3	25.7	24.1	22.8	22.0	20.9	25.3	
11	20.1	18.7	18.2	17.9	17.5	17.4	20.0	23.3	25.4	26.9	27.7	28.4	29.2	29.6	30.2	30.0	29.8	29.1	27.9	26.1	25.0	24.1	23.4	22.7	24.5	
12	22.0	21.6	20.7	20.3	20.5	20.2	21.9	24.0	26.0	27.4	28.8	29.8	30.6	30.8	31.2	31.3	31.7	31.2	29.7	25.6	25.9	25.1	24.0	23.2	25.9	
13	22.8	22.4	22.2	22.4	22.2	22.0	23.3	25.2	27.1	28.9	30.0	30.4	31.7	31.9	32.1	31.9	32.1	31.1	29.3	27.0	26.2	25.8	25.0	24.5	26.9	
14	24.4	23.9	23.3	22.9	21.9	21.3	22.9	25.4	27.0	28.3	29.6	30.7	31.7	31.8	31.7	32.3	32.0	30.2	28.2	26.8	25.4	24.5	23.6	24.0	26.8	
15	24.0	23.7	23.4	23.4	23.2	23.1	24.0	25.9	27.7	29.0	29.7	30.6	31.8	29.1	25.6	28.8	29.5	30.1	29.7	27.6	26.1	25.6	24.6	24.0	26.6	
16	23.7	22.9	22.8	22.3	22.2	22.4	23.1	25.4	28.4	30.0	30.6	31.6	32.7	33.1	32.0	31.4	29.8	28.8	26.5	25.6	24.4	23.9	23.4	23.0	26.6	
17	23.0	22.6	22.5	22.5	22.0	21.9	22.6	25.3	28.0	28.8	27.0	29.4	29.7	27.8	27.1	23.1	26.3	PwrF	PwrF	23.3	22.9	23.0	23.3	23.2	24.8	
18	22.9	22.4	22.1	21.9	22.0	21.9	23.5	26.1	28.1	29.4	27.9	27.7	29.2	26.4	24.4	23.9	24.5	25.0	25.2	24.5	23.7	23.5	23.3	22.8	24.7	
19	22.7	22.7	22.6	22.5	22.5	22.2	23.2	25.6	27.7	29.1	30.2	30.9	30.5	30.8	32.1	30.5	26.7	26.2	25.4	25.1	24.5	23.9	23.7	23.4	26.0	
20	23.0	23.0	23.1	23.0	22.4	22.1	23.3	25.2	27.0	28.5	29.6	30.6	31.4	31.5	32.1	31.6	26.3	23.5	23.4	23.5	PwrF	PwrF	PwrF	PwrF	26.2	
21	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	29.5	30.5	31.1	32.0	32.2	31.7	32.1	28.5	25.2	24.5	24.0	23.5	22.9	22.6	Bad<
22	22.5	22.4	22.7	22.9	22.4	22.2	23.5	25.2	27.0	28.3	29.5	30.7	31.2	29.6	27.2	28.0	29.0	29.5	27.3	24.8	24.1	24.0	24.0	23.3	25.9	
23	22.9	22.7	22.7	23.0	22.5	22.4	23.6	25.3	27.5	29.3	30.1	31.2	31.4	31.0	30.2	30.6	30.6	29.2	24.2	23.0	22.8	22.1	21.7	21.9	25.9	
24	21.6	21.2	21.5	21.3	21.3	21.1	22.7	25.3	27.8	29.5	30.6	31.3	31.9	30.2	24.0	24.3	22.9	22.6	23.2	23.0	22.9	22.9	22.2	21.9	24.4	
25	21.7	21.7	21.3	21.6	21.5	22.1	23.4	24.6	25.8	26.8	27.5	29.0	30.2	31.0	31.7	31.9	32.6	29.9	27.0	23.4	22.2	22.3	22.3	22.1	25.5	
26	22.0	22.1	22.1	22.4	22.7	22.8	23.3	24.9	26.0	27.7	29.3	30.2	30.5	31.3	31.8	31.7	30.0	29.6	28.5	26.9	25.1	24.8	24.3	23.8	26.4	
27	23.5	23.3	23.2	23.0	23.1	22.8	23.6	25.3	27.0	28.6	30.1	31.1	31.7	27.9	26.4	27.2	27.7	28.4	27.0	26.4	25.0	24.4	24.1	23.7	26.0	
28	24.4	24.0	23.3	23.0	23.0	22.7	24.4	26.7	28.1	29.9	31.0	32.0	32.9	33.2	33.9	34.3	34.2	33.4	31.3	29.0	28.3	26.0	25.7	25.2	28.3	
29	24.9	24.7	24.1	23.6	23.1	23.0	24.1	26.6	28.3	29.3	31.1	31.5	32.2	32.9	32.8	33.4	30.5	24.2	22.9	22.7	22.5	22.5	22.3	22.4	26.5	
30	22.3	22.4	21.7	21.2	21.0	21.0	22.6	24.9	26.7	28.1	29.4	30.1	31.2	32.0	32.4	30.5	22.6	22.6	23.0	23.1	23.1	23.1	23.1	23.3	25.1	

TOTAL HOURS 720 TOTAL GOOD HOURS 704 DATA CAPTURE 97.8%  
 MAX. 1HR AVG 34.3 06/28/91 15:00:00 2ND MAX. 1 HR AVG 34.2 06/28/91 16:00:00  
 MIN. 1HR AVG 17.4 06/11/91 05:00:00 ARITHMETIC MEAN 25.7 STANDARD DEV. 3.6

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

11-11-80

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

JULY, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	23.0	23.0	22.9	22.8	22.7	22.7	23.0	23.5	24.0	23.5	23.3	23.9	24.8	25.8	27.2	27.2	24.5	25.2	25.6	25.1	23.9	23.4	23.8	23.7	24.1
2	23.4	23.6	23.6	23.6	23.9	24.1	24.7	25.9	27.9	29.3	26.9	24.2	27.4	27.1	26.3	27.1	27.8	28.4	27.8	26.7	25.6	25.2	24.6	23.6	25.8
3	23.6	23.5	23.5	23.8	23.7	23.5	24.3	26.3	28.3	29.7	30.0	30.8	31.5	31.7	31.1	31.2	28.2	26.4	24.5	23.1	23.2	23.6	24.0	24.2	26.4
4	24.3	24.2	24.5	24.4	24.2	23.7	23.7	25.4	27.1	28.4	29.5	30.5	31.1	31.4	29.9	29.3	28.1	27.9	28.0	27.7	26.9	26.0	25.6	25.1	26.9
5	24.7	24.5	24.4	24.1	23.9	23.8	24.7	26.4	28.3	29.2	30.0	30.4	31.2	31.6	28.3	24.4	25.5	26.0	25.9	25.7	25.1	25.0	24.8	24.2	26.3
6	23.8	23.6	23.5	23.2	22.4	21.6	22.6	25.0	27.9	29.5	30.4	31.2	31.8	32.3	32.8	30.6	28.4	24.0	24.6	24.4	24.0	24.4	24.1	23.8	26.2
7	23.4	23.4	23.0	22.9	23.0	22.8	23.9	26.2	27.7	29.0	30.3	31.1	31.8	32.2	33.3	33.6	33.1	30.7	28.7	27.1	26.5	24.3	21.6	22.2	27.1
8	22.7	22.7	22.4	22.0	21.8	21.7	23.2	25.8	28.1	29.6	30.4	30.7	31.8	33.0	33.0	32.2	30.1	30.2	29.5	27.6	26.4	25.7	24.8	23.9	27.0
9	23.7	23.3	23.0	22.7	22.8	22.7	23.8	26.0	28.2	29.5	30.7	30.9	24.7	24.8	26.3	27.9	28.4	28.4	27.3	26.2	25.0	24.4	24.3	23.8	25.8
10	23.8	23.6	23.5	23.4	23.4	23.6	24.3	26.2	28.3	29.8	30.5	30.5	26.0	26.0	26.0	24.0	26.0	26.0	26.0	26.0	26.0	25.0	25.0	24.0	25.6
11	24.3	24.1	24.0	24.1	24.0	23.9	24.3	26.0	27.6	29.0	30.0	31.0	26.0	PwrF	22.0	22.0	23.0	25.0	25.0	25.0	24.0	24.0	23.0	23.0	25.0
12	23.0	22.0	21.5	21.5	22.0	23.0	23.0	24.5	26.0	28.0	29.0	30.5	29.5	24.5	23.0	23.0	22.0	22.5	22.5	23.0	23.0	23.0	23.0	22.5	24.0
13	23.0	23.0	23.0	23.0	23.0	24.0	23.5	24.5	23.0	23.0	23.0	23.0	23.0	23.0	25.0	26.5	Miss	27.0	26.0	25.0	24.5	24.0	24.0	23.5	23.9
14	23.0	23.0	23.0	23.0	23.0	23.5	23.5	24.0	25.0	26.0	27.5	29.0	30.0	31.0	28.0	27.0	27.0	26.0	26.5	26.5	25.5	25.0	24.5	24.0	25.6
15	24.5	24.0	24.0	23.0	23.5	24.0	24.0	25.0	27.0	28.0	29.5	30.5	29.5	28.0	26.0	25.5	25.5	25.5	25.5	25.0	24.0	24.0	24.0	24.0	25.6
16	23.5	24.0	23.0	23.0	23.0	23.0	24.0	25.0	27.0	28.5	30.0	30.5	31.5	31.5	26.0	23.0	25.5	27.0	26.0	25.0	24.0	24.0	23.5	23.0	25.6
17	23.0	22.5	22.5	23.0	23.0	23.5	23.5	24.5	26.0	28.0	30.0	30.5	31.5	32.0	32.0	32.5	31.0	27.5	24.5	23.0	25.0	26.5	24.0	23.5	26.4
18	24.0	24.0	23.5	23.5	23.5	23.5	23.0	25.0	27.0	29.0	30.0	31.0	31.0	32.0	32.0	32.0	32.0	32.5	32.5	30.0	25.0	26.0	25.0	25.0	27.6
19	24.4	24.1	24.3	24.4	24.2	24.1	24.7	26.2	27.9	28.9	29.8	30.8	31.5	32.0	33.0	31.0	26.0	27.0	27.0	27.0	26.0	26.0	26.0	25.0	27.1
20	24.8	24.6	24.4	24.4	24.4	24.1	24.9	26.7	27.8	28.5	29.5	30.0	29.0	23.0	24.0	26.0	27.0	27.0	27.0	25.5	24.0	24.0	24.0	24.0	25.8
21	24.0	24.0	24.0	24.0	23.5	24.0	23.5	25.5	27.5	28.0	29.0	30.5	31.0	31.5	32.5	33.0	32.0	29.5	29.5	28.5	26.5	26.0	26.0	26.0	27.5
22	25.1	24.1	24.4	24.2	23.5	23.1	23.0	25.0	27.0	28.0	30.0	30.5	31.0	31.5	32.5	33.0	32.0	32.0	27.0	26.0	25.0	24.0	24.0	23.0	27.1
23	23.5	24.0	23.5	23.0	23.0	23.0	23.0	24.5	26.5	28.0	30.0	31.5	32.0	32.0	32.5	32.5	31.0	30.7	29.6	27.6	26.2	26.0	26.1	26.2	27.3
24	25.5	25.1	24.5	24.3	24.6	24.5	24.9	26.1	28.3	29.5	30.0	31.3	32.0	32.6	25.1	21.8	23.0	23.3	23.9	23.9	23.5	23.3	23.0	23.0	25.7
25	23.1	23.0	22.9	22.7	22.5	22.1	22.6	24.4	26.4	28.3	29.3	29.4	31.0	31.7	29.0	28.0	28.5	28.4	27.4	25.9	24.4	24.0	25.0	24.0	26.0
26	23.5	23.3	23.1	23.0	22.8	22.7	23.5	25.4	27.4	28.9	30.1	31.3	32.0	24.5	23.8	25.6	25.7	25.1	25.1	24.4	24.0	23.8	23.3	23.0	25.2
27	22.8	22.5	22.3	22.2	22.2	22.0	22.5	24.6	26.1	28.0	29.0	30.1	30.3	31.2	29.0	26.7	26.4	26.4	25.9	25.0	24.3	24.2	23.9	23.7	25.4
28	23.3	23.2	22.7	22.5	22.4	22.7	22.9	24.0	26.4	27.6	28.2	29.4	30.6	31.3	31.5	31.7	30.4	27.6	24.5	24.6	24.8	24.9	24.6	24.4	26.1
29	24.1	23.9	23.7	23.6	23.4	23.2	23.7	25.2	27.1	28.5	29.7	30.6	31.0	31.4	31.5	28.0	28.0	27.6	27.4	25.8	25.5	26.0	25.4	25.0	26.6
30	24.2	23.6	23.4	23.3	22.9	23.2	23.6	24.8	26.9	28.6	29.8	29.8	25.5	24.3	24.0	24.2	23.8	24.3	24.2	24.0	24.0	24.0	23.9	23.6	24.7
31	23.2	22.9	22.9	23.0	22.6	22.6	23.2	23.8	24.5	26.9	28.7	29.7	22.3	22.8	23.9	24.8	26.8	27.6	24.5	22.5	23.0	23.3	24.0	23.8	24.3

TOTAL HOURS 744      TOTAL GOOD HOURS 742      DATA CAPTURE 99.7%  
 MAX. 1HR AVG 33.6 07/07/91 15:00:00      2ND MAX. 1 HR AVG 33.3 07/07/91 14:00:00  
 MIN. 1HR AVG 21.5 07/12/91 02:00:00      ARITHMETIC MEAN 25.9      STANDARD DEV. 3.0

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

AUGUST, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	23.6	23.6	23.4	23.5	23.5	23.7	24.0	25.0	26.1	28.3	29.3	28.3	26.7	25.6	25.4	24.4	25.1	25.0	25.2	24.5	24.1	23.8	24.2	23.9	25.0
2	23.6	23.2	23.0	22.8	23.0	23.2	23.1	24.1	26.6	28.6	29.9	30.8	31.8	32.1	31.6	26.5	25.2	25.8	26.1	25.7	25.1	24.7	24.4	24.3	26.0
3	24.2	23.9	23.7	23.3	23.1	23.2	23.8	26.5	28.0	29.0	30.2	30.9	31.6	32.3	32.0	32.8	32.9	32.2	30.7	28.3	26.9	26.2	25.8	25.7	27.8
4	24.9	24.3	23.7	23.5	22.9	22.8	23.2	25.7	28.4	29.6	30.9	31.4	32.2	33.0	33.3	33.1	32.7	32.1	30.4	27.9	26.5	25.7	24.3	24.0	27.8
5	23.3	23.5	23.2	22.9	23.4	23.2	23.1	25.6	28.4	29.5	30.3	30.9	31.4	31.0	31.6	28.7	26.9	28.8	28.1	26.9	26.2	25.2	24.4	24.1	26.7
6	23.7	23.4	23.3	22.9	22.6	22.7	23.5	25.1	26.4	27.8	29.1	30.2	30.9	31.9	32.3	32.6	29.7	28.4	29.4	27.6	25.4	24.5	24.5	24.1	26.7
7	23.9	23.6	23.8	24.0	24.3	24.4	24.9	26.5	28.2	29.5	30.5	31.3	32.1	32.7	32.2	29.8	25.7	27.8	28.6	27.4	26.4	26.5	26.5	26.2	27.3
8	26.1	25.8	25.5	24.8	24.1	24.4	24.9	26.4	28.1	29.5	30.5	31.5	32.1	32.4	32.3	33.2	33.3	33.1	31.5	28.6	28.0	27.4	26.8	26.1	28.6
9	25.4	24.9	24.6	24.3	24.2	24.3	24.4	26.9	29.4	30.9	31.8	32.2	32.4	31.7	25.8	22.5	23.1	23.3	23.1	23.2	22.8	22.7	22.7	22.6	25.8
10	22.9	22.9	22.7	22.8	22.8	22.8	23.4	25.1	27.5	29.2	30.5	31.4	28.2	29.5	31.8	32.3	32.2	31.7	30.1	28.1	26.9	25.6	25.0	24.5	27.1
11	24.1	24.0	23.7	23.4	23.1	23.4	23.9	26.3	28.6	30.2	30.8	31.4	32.5	32.2	32.7	32.8	31.7	31.1	29.9	28.2	27.1	26.5	25.2	24.8	27.8
12	24.4	24.3	24.3	24.1	24.3	24.1	24.0	26.1	28.4	29.9	30.9	31.9	32.5	33.3	32.7	33.1	32.6	31.9	29.5	27.7	26.8	26.2	25.3	24.7	28.0
13	24.4	24.3	24.3	24.1	23.6	23.2	23.5	25.4	27.8	29.4	30.4	31.7	32.1	33.1	33.4	30.9	26.2	25.8	25.4	24.7	24.3	24.7	24.7	24.7	26.7
14	24.0	23.6	22.9	23.1	22.9	22.7	23.1	24.8	27.4	29.1	30.2	30.8	31.7	32.1	27.2	28.4	29.6	29.6	28.7	26.9	25.1	24.7	24.0	23.9	26.5
15	24.3	23.8	23.4	23.0	22.7	22.4	22.7	24.9	27.2	29.2	30.5	31.1	28.4	24.6	26.8	28.4	28.1	28.4	28.0	26.1	25.4	24.4	23.5	23.2	25.8
16	22.5	22.2	21.9	21.7	21.9	21.6	22.5	25.3	27.8	29.6	30.6	31.4	32.1	32.9	32.9	33.0	29.7	28.1	28.7	27.0	26.3	26.2	24.6	24.0	26.8
17	23.6	23.5	23.3	23.2	23.1	23.6	23.9	25.9	27.4	29.1	30.4	31.0	32.4	32.8	33.4	32.7	32.7	30.9	29.7	28.0	26.4	25.2	24.4	24.6	27.5
18	24.0	23.9	23.5	23.1	22.3	21.8	23.2	26.2	28.5	30.1	30.7	29.1	27.6	30.0	24.7	25.6	27.0	27.5	26.6	25.4	25.0	24.6	24.3	23.8	25.7
19	23.5	23.5	23.4	23.5	23.4	23.2	23.7	25.4	27.6	29.0	28.0	30.1	28.4	28.1	30.2	26.1	25.8	27.2	26.4	25.2	24.5	24.1	24.1	24.2	25.7
20	24.1	24.0	23.9	24.0	23.9	23.8	23.6	24.3	24.7	24.7	24.8	24.9	24.6	24.7	25.2	25.1	25.4	25.7	25.5	24.5	24.0	23.4	23.8	23.9	24.4
21	23.8	23.2	23.7	23.9	23.9	23.9	24.1	24.8	26.7	28.2	29.6	29.8	31.4	31.6	31.7	31.7	31.2	30.5	28.9	27.1	26.7	26.5	24.4	24.0	27.1
22	23.8	22.9	22.3	22.0	22.2	21.9	22.2	23.8	25.1	26.8	28.6	29.6	30.7	28.3	25.4	26.2	26.4	26.6	25.9	24.8	24.2	23.7	23.5	23.5	25.0
23	23.4	23.5	23.3	23.2	23.3	23.4	23.6	25.0	26.7	28.2	29.5	30.3	30.6	30.4	27.5	27.1	25.1	23.9	23.6	23.2	23.2	23.3	23.3	23.3	25.3
24	23.2	23.1	23.5	23.6	23.3	23.3	23.7	25.2	26.5	28.1	29.5	30.2	25.6	25.3	26.6	27.7	28.4	24.6	22.2	22.2	22.7	23.0	22.9	22.8	24.9
25	22.6	22.8	22.8	23.2	23.1	23.0	23.0	24.9	26.6	28.4	29.8	29.7	29.3	30.4	30.7	29.8	28.2	28.0	27.1	26.4	25.2	24.7	24.3	23.9	26.1
26	23.5	23.1	22.6	22.3	22.1	22.1	22.5	24.3	25.3	27.3	28.5	29.4	30.7	31.0	31.7	31.4	31.2	30.1	28.7	27.4	26.6	26.3	25.9	25.6	26.6
27	25.2	24.5	23.8	23.9	23.9	23.4	23.9	26.1	27.6	28.7	29.7	30.6	31.1	31.9	32.4	30.6	26.2	25.9	26.1	25.4	25.1	25.4	25.2	25.1	26.7
28	24.7	23.8	23.5	24.3	24.4	23.9	24.3	25.7	27.3	28.5	29.7	30.4	31.3	29.9	25.8	25.9	26.7	26.8	25.7	25.0	24.3	24.4	24.7	24.2	26.0
29	24.5	24.1	23.1	23.4	23.4	23.3	23.6	25.3	27.0	28.4	29.4	30.2	30.4	30.8	30.6	30.9	30.2	28.2	26.7	25.9	25.3	24.9	24.4	24.3	26.6
30	24.3	24.3	24.1	24.1	24.0	23.9	24.0	25.5	26.9	28.4	29.6	30.4	31.0	31.4	31.3	31.8	25.8	21.1	22.1	22.7	23.1	22.7	22.3	23.0	25.7
31	23.8	23.2	22.4	22.5	23.0	22.1	22.2	24.6	26.3	27.7	28.9	29.8	30.7	31.3	31.6	31.2	31.1	30.5	28.4	26.9	25.2	24.9	25.6	25.3	26.6

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%

MAX. 1HR AVG 33.4 08/17/91 14:00:00 2ND MAX. 1 HR AVG 33.4 08/13/91 14:00:00

MIN. 1HR AVG 21.1 08/30/91 17:00:00 ARITHMETIC MEAN 26.5 STANDARD DEV. 3.2

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

SEPTEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	24.7	24.4	23.9	23.0	22.8	22.8	23.6	25.5	27.3	28.4	29.9	30.6	31.2	32.0	32.4	31.7	26.9	24.2	23.2	23.2	23.0	23.7	23.1	22.8	26.0
2	23.0	22.6	22.4	22.6	22.0	21.7	22.2	24.5	26.2	27.8	29.1	30.3	31.1	31.5	32.1	31.9	31.5	30.5	28.9	27.3	26.6	25.5	24.7	24.5	26.7
3	24.4	24.2	23.6	23.7	23.3	23.4	23.5	24.9	26.9	28.1	29.5	30.5	30.4	31.2	28.4	30.0	30.1	28.7	27.6	26.6	26.3	25.4	24.7	23.8	26.6
4	23.4	23.4	23.3	23.5	23.6	23.7	23.7	25.2	26.9	28.4	29.5	30.7	31.0	31.6	32.0	31.6	31.2	30.0	28.4	27.2	26.4	25.7	25.1	25.0	27.1
5	24.6	24.5	24.3	24.2	23.7	23.6	23.5	25.4	27.4	28.9	29.7	30.8	31.7	32.3	32.6	33.2	33.3	32.1	29.3	27.0	26.4	25.4	24.7	24.2	27.6
6	23.8	23.3	23.2	23.0	23.1	23.0	23.8	25.3	27.3	29.2	31.0	32.2	32.9	33.3	34.0	34.2	34.2	33.0	29.4	27.7	26.3	22.9	23.4	23.8	27.6
7	23.9	24.5	24.2	24.1	24.0	24.0	24.3	25.6	27.2	28.6	29.7	31.0	32.0	32.7	33.2	33.2	32.1	25.2	25.6	25.4	25.9	25.2	25.5	25.5	27.2
8	24.8	24.9	24.9	24.9	24.2	23.8	24.2	25.1	25.2	26.3	27.6	29.4	29.9	30.5	29.8	21.9	21.0	21.3	21.8	22.3	22.8	23.0	23.4	23.4	24.8
9	22.7	22.8	22.6	22.9	23.0	23.3	23.3	23.7	24.2	25.3	27.4	28.6	29.4	30.0	30.1	30.3	28.9	28.1	26.2	25.7	25.2	24.9	24.7	24.6	25.7
10	24.4	24.1	23.9	23.7	23.5	23.4	23.4	25.1	26.9	28.1	29.1	29.8	30.7	30.9	28.6	26.7	28.5	28.4	26.7	25.8	25.4	25.2	24.9	24.5	26.3
11	24.2	24.4	24.2	24.2	23.9	23.8	23.8	24.8	26.4	27.9	29.1	30.5	30.9	31.2	31.5	31.5	31.3	30.1	27.9	26.0	25.4	24.5	25.6	25.4	27.0
12	24.7	24.5	23.7	23.6	23.1	22.6	23.3	25.0	26.8	29.1	30.9	31.3	31.8	32.0	32.5	32.9	32.5	30.3	27.6	26.0	26.8	26.4	25.8	25.0	27.4
13	24.3	23.7	22.7	22.4	22.2	22.0	22.1	24.9	27.2	29.6	31.1	31.9	32.2	31.9	31.8	31.6	31.5	30.3	28.4	26.5	26.1	26.2	25.3	24.6	27.1
14	24.0	23.5	22.6	22.8	22.1	21.6	22.3	24.2	26.1	28.3	30.2	31.3	32.0	32.3	32.5	32.4	32.0	30.7	27.0	24.9	25.9	26.4	26.0	25.3	26.9
15	25.0	24.2	23.4	22.7	23.0	22.5	23.2	24.9	26.6	28.5	30.5	31.4	32.0	32.5	32.8	32.7	32.2	31.1	29.5	28.2	27.1	26.1	25.5	25.2	27.5
16	24.7	24.3	23.4	23.2	22.9	23.2	23.2	25.0	26.8	28.3	29.2	30.0	30.6	31.7	32.0	31.5	30.8	29.6	28.3	27.0	26.1	24.9	24.3	23.3	26.8
17	22.2	21.7	21.3	21.2	21.0	21.5	21.7	23.9	26.1	28.0	29.2	30.0	30.9	31.0	31.1	30.9	29.7	28.4	27.4	27.0	25.7	25.0	24.2	24.2	25.9
18	24.8	24.5	24.0	23.0	22.9	23.4	23.5	24.8	26.3	27.8	29.3	29.9	30.6	31.1	29.8	27.7	26.6	24.2	24.2	24.6	23.2	22.9	23.5	23.6	25.6
19	23.4	23.4	23.2	22.6	22.3	22.6	23.1	24.3	26.6	28.1	29.6	30.7	31.6	32.3	32.4	32.8	32.8	28.9	27.2	26.5	26.0	25.1	24.1	23.8	26.8
20	23.3	23.0	22.7	22.9	23.1	22.6	22.9	25.3	27.7	29.4	30.6	31.8	32.4	32.6	33.4	33.6	32.5	29.4	28.5	26.4	25.9	25.3	23.9	24.0	27.2
21	24.0	24.2	23.3	23.7	23.9	23.9	23.9	24.6	26.2	27.8	28.8	29.9	30.7	31.6	31.9	32.2	30.7	28.7	26.3	25.7	25.3	25.0	23.9	24.3	26.7
22	24.1	23.4	22.6	22.5	22.4	22.4	22.5	23.9	26.2	27.9	29.3	30.3	31.1	31.8	31.4	30.1	29.3	28.7	27.6	26.7	26.3	25.9	25.6	25.1	26.5
23	24.8	24.5	24.2	24.1	24.0	23.9	23.9	25.2	26.9	28.4	29.7	30.5	31.0	31.3	31.7	30.9	30.8	26.2	25.5	25.0	24.9	24.6	24.4	24.0	26.7
24	23.9	23.1	23.1	23.3	23.2	22.8	22.7	23.9	25.6	26.7	28.6	29.7	30.7	31.6	32.0	31.9	31.9	30.7	28.1	26.7	23.1	22.5	22.7	22.8	26.3
25	22.7	22.5	22.8	22.9	23.0	22.8	23.0	24.1	26.3	28.4	29.5	29.9	25.5	25.2	26.1	28.9	29.1	28.1	26.2	24.4	24.5	24.2	23.8	23.1	25.1
26	22.6	22.7	22.5	22.4	22.7	22.8	22.6	23.0	23.2	25.2	26.7	27.1	27.9	28.1	28.4	28.1	27.2	25.5	23.0	21.2	19.8	18.4	17.7	16.9	23.6
27	16.8	17.0	16.9	16.9	16.4	15.7	15.9	19.2	22.6	25.0	26.7	27.4	28.1	28.9	29.1	29.3	28.8	27.4	24.7	23.0	22.1	21.6	20.7	19.3	22.5
28	20.2	20.2	19.6	19.5	19.2	19.1	19.3	20.8	23.9	25.9	27.6	28.6	29.3	29.9	29.9	29.2	28.2	27.1	25.8	25.1	24.4	23.1	22.7	22.8	24.2
29	22.3	21.8	21.5	21.3	21.2	21.5	21.6	22.5	24.8	26.5	27.8	28.9	29.4	30.0	30.9	30.8	27.3	25.5	25.2	24.5	24.2	23.9	23.7	23.1	25.0
30	22.4	22.1	21.9	22.1	22.5	22.5	22.5	22.8	23.8	25.2	26.8	27.5	27.2	26.7	25.4	27.0	26.8	26.2	25.2	24.7	24.0	23.8	23.4	23.1	24.4

TOTAL HOURS 720 TOTAL GOOD HOURS 720 DATA CAPTURE 100.0%

MAX. 1HR AVG 34.2 09/06/91 16:00:00 2ND MAX. 1 HR AVG 34.2 09/06/91 15:00:00

MIN. 1HR AVG 15.7 09/27/91 05:00:00 ARITHMETIC MEAN 26.2 STANDARD DEV. 3.5

KEY FOR MISSING CODES

BadC - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qaf - Data questionable external influence, Purg - Analyzer in Purge

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

OCTOBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	23.0	22.9	22.4	22.3	22.9	23.0	22.9	23.4	25.4	27.0	26.8	26.9	26.1	24.7	23.4	24.1	24.2	24.4	23.7	23.2	22.9	22.7	22.8	22.8	23.9
2	22.8	22.7	22.7	22.7	22.6	22.8	22.7	22.8	23.7	25.7	28.4	28.7	25.9	28.7	30.0	29.9	29.1	28.0	26.0	24.7	23.9	23.4	23.3	23.1	25.2
3	22.7	22.6	22.6	22.4	22.3	22.2	22.5	24.3	26.6	28.0	29.2	29.0	29.8	29.5	30.3	30.3	27.9	26.8	25.5	24.5	23.9	23.5	23.1	22.8	25.5
4	22.6	22.1	21.5	21.0	21.2	21.2	21.7	23.5	24.2	25.5	28.2	29.3	29.7	30.1	29.3	28.4	28.0	26.5	24.9	24.5	24.6	24.2	23.9	23.2	24.9
5	23.5	23.6	23.5	23.3	22.8	23.4	23.2	24.0	26.1	28.0	29.4	30.3	31.1	31.4	25.9	26.1	25.4	24.0	23.8	23.4	23.8	23.7	22.9	22.9	25.2
6	22.7	23.3	23.3	23.0	22.8	22.5	22.3	22.7	24.3	26.8	28.7	29.8	27.7	25.0	24.3	25.0	25.7	25.7	24.6	24.1	24.1	22.4	20.3	20.1	24.2
7	19.5	19.0	18.5	17.9	17.6	17.4	16.9	17.0	17.9	18.9	21.0	23.1	25.0	25.5	26.3	26.2	24.9	22.7	21.3	20.3	19.4	18.8	18.6	18.7	20.5
8	18.3	18.3	18.2	18.2	18.7	18.6	18.6	19.9	21.3	23.2	24.5	26.1	26.6	27.3	26.7	26.1	25.9	24.3	23.1	22.1	21.6	21.0	20.9	20.5	22.1
9	20.2	20.1	19.9	20.0	20.2	20.1	20.6	21.7	23.5	24.4	26.2	26.9	27.3	27.0	25.9	26.2	26.0	25.3	24.6	24.2	23.4	22.9	22.5	22.2	23.4
10	22.0	21.5	21.0	20.8	20.7	20.6	20.2	20.5	22.1	23.2	25.6	27.1	28.3	28.6	29.5	29.2	28.9	27.1	25.1	23.7	Down	Down	21.6	20.8	24.0
11	20.4	19.5	18.8	18.5	19.3	20.1	19.6	20.5	22.5	23.9	26.2	27.3	27.4	28.0	28.3	28.1	27.7	25.6	23.1	21.1	19.9	19.0	17.4	17.2	22.4
12	17.0	15.6	14.8	14.7	14.9	15.1	14.9	17.5	20.8	23.7	25.6	26.3	27.4	27.4	27.9	27.2	26.2	24.4	21.4	18.0	17.5	16.8	16.2	15.7	20.3
13	15.9	15.4	14.6	14.9	14.9	14.3	15.0	18.2	22.8	25.6	27.2	28.1	29.1	29.6	29.5	29.6	29.2	25.5	23.9	23.8	23.0	22.5	21.7	20.6	22.3
14	20.6	21.0	20.6	20.3	19.6	19.1	17.8	19.7	22.1	24.8	26.4	27.8	28.5	28.9	29.3	29.1	28.2	26.7	24.6	24.8	23.5	22.7	22.2	21.8	23.7
15	21.7	21.7	21.3	21.6	21.6	21.3	21.2	21.8	22.8	24.5	26.1	27.1	27.5	26.4	27.0	23.4	22.6	22.4	21.4	21.3	21.3	21.0	20.6	20.4	22.8
16	20.3	19.6	18.8	17.9	18.7	18.3	17.4	17.2	18.5	20.5	22.4	23.4	24.1	24.4	24.8	24.1	23.0	20.4	16.7	15.7	14.9	14.3	13.5	13.4	19.2
17	12.7	13.2	12.4	11.3	10.2	8.9	8.9	12.6	17.1	19.7	21.1	22.6	23.7	24.5	25.2	25.3	24.8	21.9	16.5	14.7	14.3	15.6	17.0	16.8	17.1
18	16.3	15.3	14.7	13.4	13.8	15.6	15.8	17.8	20.5	23.1	24.4	25.4	26.4	26.9	27.0	27.0	26.2	24.5	22.3	21.1	20.3	19.6	18.6	18.3	20.6
19	17.8	17.4	16.9	16.7	16.5	16.4	16.3	18.1	20.9	22.9	24.5	26.2	27.3	28.1	28.4	28.2	27.8	25.4	21.7	21.1	21.7	21.2	20.2	19.4	21.7
20	19.1	18.8	18.5	18.2	18.2	18.1	17.8	19.2	21.6	23.6	25.5	26.9	27.8	28.7	28.8	28.4	28.0	26.5	24.8	24.0	23.3	22.8	22.2	21.6	23.0
21	21.7	21.4	21.1	20.9	20.7	20.5	20.5	21.2	24.0	26.2	27.6	28.1	28.5	28.1	28.0	28.3	27.6	26.3	25.5	24.7	24.3	23.9	23.6	23.0	24.4
22	22.8	22.8	22.7	22.4	22.3	22.2	22.1	22.4	23.5	25.1	27.1	28.7	29.5	30.0	30.0	29.8	28.9	27.0	24.6	23.7	22.4	21.3	19.6	19.9	24.6
23	18.8	18.5	18.7	19.6	20.7	20.8	20.7	22.5	24.5	26.9	28.5	29.2	29.5	26.8	29.1	29.9	28.4	Down	Bad<	Down	23.4	23.0	22.5	22.3	24.0
24	22.1	22.0	22.0	21.9	21.7	21.8	21.8	22.6	24.4	26.3	27.7	29.1	29.2	29.8	29.8	29.6	28.5	26.2	24.5	24.0	24.1	23.1	22.5	22.4	24.9
25	22.1	21.9	22.2	22.3	22.4	22.1	21.9	22.9	24.3	26.2	27.7	28.6	28.9	27.8	25.8	25.6	24.9	23.7	23.5	23.4	23.6	23.6	23.3	23.3	24.2
26	23.2	22.9	22.8	22.4	21.9	21.9	21.9	22.5	24.4	26.4	27.7	28.4	28.2	28.6	27.3	27.6	25.8	24.8	23.9	23.9	23.3	22.7	22.3	21.8	24.4
27	21.7	21.6	21.5	21.0	21.0	21.0	21.1	21.9	23.8	25.6	26.8	28.1	28.9	28.9	28.8	29.1	28.1	26.4	24.2	22.8	21.9	21.4	20.9	20.5	24.0
28	20.5	20.1	19.7	18.8	17.7	17.6	17.5	19.5	21.9	24.7	26.6	PwrF	PwrF	28.5	28.4	28.4	27.8	26.2	24.6	24.4	23.6	22.6	22.1	21.8	22.8
29	21.3	20.6	19.1	18.9	18.3	18.3	18.5	19.7	22.7	24.3	25.8	24.4	22.2	22.2	24.1	25.0	25.1	23.9	22.8	22.0	20.8	20.8	21.2	20.3	21.7
30	20.0	19.7	19.1	18.7	19.2	18.7	18.6	20.4	22.8	24.6	25.8	26.5	26.6	26.2	25.7	25.9	25.3	Down	21.5	20.4	19.6	18.7	17.8	16.8	21.7
31	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	11.7	14.4	18.2	20.9	22.6	24.3	25.7	26.4	26.6	26.1	25.3	21.6	17.1	15.6	14.8	14.0	14.2	15.7	Bad<

TOTAL HOURS 744 TOTAL GOOD HOURS 730 DATA CAPTURE 98.1%  
 MAX. 1HR AVG 31.4 10/05/91 13:00:00 2ND MAX. 1 HR AVG 31.1 10/05/91 12:00:00  
 MIN. 1HR AVG 8.9 10/17/91 06:00:00 ARITHMETIC MEAN 22.9 STANDARD DEV. 4.0

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qed - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11-11-84

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

NOVEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	16.9	16.3	14.9	14.3	15.4	14.8	15.8	17.0	20.4	23.1	25.3	25.9	26.5	27.0	27.1	27.2	26.5	24.0	22.4	20.1	19.7	18.0	17.2	16.5	20.5
2	17.0	17.4	17.0	15.9	17.2	17.3	17.7	19.0	21.2	23.7	26.2	26.8	26.8	26.8	26.6	25.8	25.7	24.5	23.2	23.3	22.9	22.0	21.1	20.8	21.9
3	20.7	20.4	19.3	18.3	18.1	18.2	18.0	18.7	20.4	22.3	24.3	25.8	26.1	26.6	26.5	24.1	21.6	19.1	17.4	17.0	16.9	17.0	16.9	16.6	20.4
4	16.1	15.8	15.4	15.8	15.2	13.6	12.7	12.6	12.8	13.8	14.7	15.4	16.2	16.7	16.6	16.6	15.7	14.6	13.4	12.7	12.0	11.7	11.8	11.6	14.3
5	11.1	10.7	10.3	10.3	10.3	9.9	9.5	9.2	9.7	11.0	13.4	14.6	14.6	15.1	15.9	16.4	16.2	15.1	14.1	13.8	13.3	13.2	13.2	13.1	12.6
6	12.7	12.5	12.3	12.5	12.4	13.0	13.5	14.0	15.5	PwrF	21.3	22.8	24.7	25.4	25.0	25.0	24.3	22.0	20.4	19.8	19.0	18.2	17.3	17.0	18.3
7	16.4	16.3	16.6	16.4	16.5	16.6	16.4	16.5	17.0	18.4	21.6	23.4	23.7	24.2	24.6	24.3	23.2	21.6	20.2	19.5	19.6	19.0	17.4	16.3	19.4
8	15.2	14.4	14.1	14.8	15.2	13.9	13.2	13.6	15.1	17.8	20.2	22.1	23.1	23.5	23.0	22.5	21.4	18.7	15.8	14.7	14.0	14.4	13.3	13.9	17.0
9	14.3	13.8	12.4	10.8	10.4	10.1	10.1	10.1	10.6	10.8	11.9	14.4	16.3	17.6	18.0	17.5	16.1	13.1	10.8	9.0	8.0	7.3	7.8	8.5	12.0
10	7.8	6.0	4.3	4.7	5.9	6.5	6.1	5.9	8.8	10.9	12.7	13.5	14.7	15.2	16.4	16.7	15.8	14.0	10.3	9.0	7.9	7.3	7.2	7.3	9.8
11	7.1	6.3	6.2	6.1	5.7	5.6	4.9	7.1	12.8	16.3	18.2	19.5	20.9	21.6	21.7	21.2	19.8	16.7	13.7	12.1	11.2	9.1	7.8	5.9	12.4
12	5.4	4.5	4.8	6.9	6.6	7.8	6.4	8.6	12.6	17.0	19.4	20.9	22.4	23.7	23.9	23.7	21.8	18.0	14.7	13.2	12.0	11.2	10.8	10.3	13.6
13	9.6	10.0	9.8	8.7	7.6	6.9	7.1	8.8	13.2	16.5	18.4	19.8	20.9	21.4	21.6	21.8	21.0	17.9	15.8	16.1	15.6	14.4	13.5	12.6	14.5
14	12.2	12.1	11.3	11.9	11.6	11.6	11.9	13.0	15.8	19.3	22.2	23.7	24.5	25.1	25.3	25.4	24.7	22.2	21.4	20.7	19.6	18.6	17.8	17.2	18.3
15	16.0	13.9	14.3	14.9	14.9	14.3	15.0	17.0	19.1	22.1	24.4	25.7	26.5	27.0	27.2	26.8	25.9	23.5	20.9	20.0	19.1	16.8	15.1	15.5	19.8
16	14.9	14.9	15.4	15.0	15.7	15.1	15.9	17.7	19.8	22.3	24.2	25.7	25.8	26.2	26.0	25.6	24.5	22.9	21.1	20.2	18.1	17.9	18.8	19.4	20.1
17	19.2	19.1	18.5	17.9	17.2	16.8	17.5	18.6	21.0	23.4	25.3	26.5	27.1	27.6	27.0	26.7	25.8	24.0	22.4	21.3	20.0	19.0	18.6	17.6	21.6
18	17.6	16.9	17.0	16.8	16.9	17.3	18.1	18.8	20.9	23.5	25.7	27.1	27.4	27.5	27.8	27.2	26.0	24.6	23.3	22.3	21.1	20.3	19.6	19.2	21.8
19	18.8	18.9	18.9	18.7	18.8	19.4	19.9	20.2	21.8	24.0	25.5	26.8	27.3	27.8	28.0	27.4	26.6	24.7	23.4	21.6	21.1	20.6	20.2	19.6	22.5
20	19.7	20.0	20.1	20.4	20.4	20.6	20.7	20.7	21.3	22.4	23.1	25.2	26.1	26.8	26.2	24.4	24.3	23.3	23.0	22.5	21.9	22.1	21.7	20.8	22.4
21	20.1	19.5	19.2	18.6	18.0	18.4	18.3	18.9	20.7	23.3	25.2	26.3	27.4	28.1	27.7	27.4	26.4	24.4	22.7	22.8	22.1	20.7	19.7	19.2	22.3
22	18.9	18.7	18.5	18.6	19.2	19.2	19.1	19.3	21.5	24.0	25.4	26.9	27.1	27.6	27.3	27.2	26.6	24.8	23.3	22.6	21.8	21.2	20.9	20.6	22.5
23	20.7	20.9	20.8	20.7	20.5	20.4	20.3	20.2	20.6	21.1	22.7	24.1	25.1	25.7	26.6	26.0	23.9	21.6	19.2	17.9	17.0	16.1	15.7	15.1	20.9
24	14.5	14.1	13.2	12.3	11.7	11.6	10.6	12.0	16.1	17.6	16.5	17.0	16.0	17.6	18.9	17.5	16.1	13.5	11.3	10.2	9.4	8.6	8.5	7.7	13.4
25	6.8	7.0	5.6	5.0	4.3	4.1	3.3	3.9	6.5	8.8	11.2	13.5	14.5	15.3	15.2	14.8	13.9	11.6	10.6	9.2	7.2	6.1	6.3	3.6	8.7
26	3.1	4.4	3.4	3.2	3.3	4.7	5.4	6.5	8.7	10.9	14.4	15.6	16.5	16.2	16.8	17.1	16.5	15.2	14.2	13.9	13.3	12.6	12.2	12.0	10.8
27	11.5	11.8	12.2	12.3	12.0	11.6	10.9	11.4	13.3	16.4	18.9	20.7	22.2	23.3	23.8	23.5	22.8	21.4	19.6	18.5	17.5	16.3	15.2	14.6	16.7
28	14.1	14.1	14.3	14.6	14.6	14.5	14.4	15.0	17.5	20.3	23.6	24.8	25.8	26.5	27.1	26.3	24.8	23.0	21.4	20.3	19.7	19.0	18.5	18.7	19.7
29	18.3	18.7	18.8	18.9	18.5	17.9	17.9	18.3	20.1	22.9	23.6	24.1	25.1	26.1	26.1	25.6	24.8	24.1	23.1	21.8	21.0	21.2	21.2	20.8	21.6
30	20.4	20.6	20.4	20.5	20.2	20.7	20.8	21.0	21.5	23.6	25.8	27.4	27.9	28.4	28.5	28.5	27.2	25.5	24.2	23.0	22.2	22.0	21.8	21.8	23.5

TOTAL HOURS 720      TOTAL GOOD HOURS 719      DATA CAPTURE 99.9%

MAX. 1HR AVG 28.5 11/30/91 15:00:00      2ND MAX. 1 HR AVG 28.5 11/30/91 14:00:00

MIN. 1HR AVG 3.1 11/26/91 00:00:00      ARITHMETIC MEAN 17.8      STANDARD DEV. 5.9

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11-11-85

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

DAY	DECEMBER, 1991																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	21.6	21.0	21.2	21.3	21.1	20.9	20.9	21.0	22.1	24.4	26.0	27.4	27.9	28.9	29.1	29.0	27.8	25.8	24.1	23.1	22.5	22.2	21.7	21.1	23.8
2	20.5	20.1	19.9	20.2	20.6	20.9	21.1	21.4	22.1	23.7	26.2	27.9	28.2	29.1	28.9	29.2	27.9	25.9	24.5	23.6	22.8	22.5	22.0	21.6	23.8
3	21.3	21.6	22.0	22.2	22.3	22.5	22.7	23.0	24.1	25.6	27.2	28.2	28.3	28.0	27.6	26.6	25.1	24.3	23.8	23.5	21.8	18.2	16.8	23.7	
4	16.4	15.1	14.0	13.5	12.5	9.7	8.2	8.0	8.0	8.6	9.0	10.2	11.0	11.5	12.6	12.9	12.1	10.6	8.1	7.5	7.3	7.9	7.1	6.2	10.3
5	5.6	5.3	4.7	4.5	4.2	4.0	3.4	3.7	6.4	9.8	13.1	15.7	18.1	19.8	21.0	21.0	20.5	17.7	15.9	15.3	14.8	12.7	13.0	13.5	11.8
6	13.5	12.9	12.2	11.8	11.3	11.6	12.7	13.7	14.9	17.0	20.1	22.5	23.8	24.4	24.6	24.4	23.5	19.4	16.6	18.1	18.4	17.4	16.5	16.2	17.4
7	16.1	15.4	14.7	14.6	14.6	13.8	12.4	14.6	16.4	18.3	21.3	23.4	24.8	25.5	25.6	25.4	23.4	19.2	16.5	15.9	14.6	14.8	14.9	16.3	18.0
8	16.8	16.2	16.4	16.0	13.9	15.6	15.5	15.8	18.4	21.5	23.5	25.0	26.0	26.4	26.2	26.4	25.6	22.5	21.1	21.9	21.4	20.6	18.7	18.0	20.4
9	16.4	15.2	14.5	14.2	14.2	13.9	13.7	13.8	18.0	20.8	23.2	24.3	25.3	25.9	25.9	25.4	24.5	21.8	18.2	19.3	18.5	16.9	15.4	14.5	18.9
10	14.1	13.9	13.8	13.2	14.3	15.5	14.6	14.5	17.7	22.1	24.8	26.6	26.3	26.9	27.2	26.4	25.3	23.1	21.3	20.3	19.5	18.8	16.8	18.5	19.8
11	18.6	18.7	17.4	16.2	17.4	17.2	16.8	16.7	17.5	18.1	21.2	24.1	24.8	25.8	25.6	22.2	18.9	17.8	17.5	19.4	18.8	18.8	18.8	20.0	20.0
12	18.4	18.1	18.8	18.7	18.8	18.7	18.6	18.4	18.7	19.3	20.8	23.8	25.9	26.5	27.0	25.9	24.6	23.1	21.9	20.8	20.5	20.0	19.3	18.6	21.0
13	18.0	17.3	17.3	16.7	16.0	15.6	15.4	16.1	18.8	20.7	23.4	25.1	26.5	27.1	27.3	27.3	26.8	22.7	20.0	19.6	18.4	19.1	20.2	20.7	20.6
14	20.6	19.9	19.7	19.4	18.8	18.5	17.9	18.2	20.4	22.7	25.2	26.9	27.5	28.0	27.6	27.0	26.0	23.5	21.3	19.3	18.8	19.5	20.1	19.8	21.9
15	19.3	19.1	18.7	17.6	16.7	16.3	15.1	14.3	15.3	16.9	18.4	20.1	20.7	20.9	20.6	20.2	18.6	17.1	15.9	14.3	13.4	12.6	12.0	10.6	16.8
16	9.9	9.6	9.6	9.4	9.6	9.8	9.2	9.6	10.7	12.4	14.1	15.5	16.6	17.4	17.7	17.7	16.7	13.9	11.6	10.1	8.9	8.0	8.1	7.4	11.8
17	6.9	6.8	6.7	5.6	7.3	7.8	6.6	6.5	9.8	14.3	16.6	19.2	20.5	21.3	21.6	21.5	20.7	17.6	12.5	11.0	10.6	9.5	9.8	11.1	12.5
18	10.0	10.3	9.9	9.3	8.8	9.2	9.4	9.8	12.8	16.5	19.3	20.6	21.6	21.9	22.1	22.2	21.9	17.4	15.1	14.6	13.5	12.7	11.6	10.1	14.6
19	8.7	8.9	8.5	9.1	9.3	8.7	8.5	8.3	10.3	13.4	16.5	18.9	19.8	19.9	18.6	17.4	16.0	15.2	15.0	14.8	14.7	14.6	14.7	14.6	13.5
20	14.1	13.5	13.4	13.9	14.0	13.6	12.9	12.7	14.9	17.2	19.7	21.0	21.2	20.6	21.3	21.1	20.6	19.6	18.8	17.6	17.6	17.3	16.8	16.4	17.1
21	14.3	12.4	12.1	11.4	12.9	12.5	11.0	11.3	14.9	18.4	21.3	22.6	23.5	23.5	23.0	22.8	22.3	17.6	14.5	13.6	12.7	12.1	13.4	13.4	16.1
22	10.8	10.5	10.5	10.3	9.5	9.4	8.8	9.3	13.0	17.6	20.8	22.3	23.1	23.7	24.4	24.0	23.4	19.6	17.8	14.6	13.4	11.4	10.4	9.8	15.3
23	9.1	8.8	8.7	8.0	7.9	7.4	8.0	8.6	12.7	17.0	21.2	23.0	23.9	24.5	24.9	24.5	23.1	21.0	18.5	16.5	16.3	15.5	16.1	16.2	15.9
24	16.5	17.7	17.6	17.3	17.4	17.8	17.6	16.6	18.5	20.5	22.9	23.8	23.5	23.1	23.9	23.1	22.3	21.4	20.1	19.5	19.3	17.4	14.5	13.4	19.4
25	12.2	11.8	11.6	12.1	11.7	10.9	10.5	9.8	12.1	14.2	17.4	19.5	20.1	20.3	20.3	20.8	20.7	19.4	17.8	16.9	15.6	15.6	15.5	15.1	15.5
26	14.6	14.1	15.6	16.2	16.0	15.7	15.3	15.8	16.9	18.1	19.9	21.5	23.7	24.4	25.4	25.2	24.3	22.5	20.5	19.9	19.1	18.9	18.2	17.2	19.1
27	15.2	14.6	15.2	16.4	17.0	17.1	17.1	17.2	17.8	20.3	23.3	25.2	25.2	25.9	26.4	26.0	25.4	23.3	20.6	20.3	21.0	21.0	20.5	20.0	20.5
28	19.4	19.0	18.5	18.2	18.8	18.9	18.8	18.7	18.9	19.4	20.0	21.4	23.1	24.1	24.2	24.2	24.5	22.5	20.4	19.4	17.8	15.9	15.0	14.3	19.8
29	14.2	13.4	14.2	14.4	16.2	16.4	16.8	16.6	17.3	17.5	19.6	20.2	20.7	21.3	21.9	20.7	20.4	18.2	15.4	14.4	13.6	11.6	9.5	10.8	16.5
30	9.5	10.1	11.8	11.7	10.1	9.0	9.7	8.7	11.6	14.5	16.5	17.5	18.3	18.9	19.3	18.8	17.8	16.2	13.9	12.2	11.3	10.8	10.5	9.9	13.2
31	9.6	9.9	9.9	9.7	9.7	10.2	10.1	10.2	11.8	13.8	15.0	16.4	17.6	18.0	18.4	18.9	18.5	17.7	17.0	16.5	16.3	15.9	15.5	15.1	14.2

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%

MAX. 1HR AVG 29.2 12/02/91 15:00:00 2ND MAX. 1 HR AVG 29.1 12/02/91 13:00:00

MIN. 1HR AVG 3.4 12/05/91 06:00:00 ARITHMETIC MEAN 17.5 STANDARD DEV. 5.4

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

		JANUARY 1992																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1	15.0	15.2	15.4	15.8	16.0	15.9	16.4	16.6	17.1	17.7	18.8	20.0	21.5	21.5	21.2	20.9	20.6	19.6	18.7	18.0	17.9	18.1	17.9	17.8	18.0	
2	18.0	17.9	17.7	17.8	17.6	17.6	17.5	17.4	17.5	18.1	18.5	20.2	21.6	22.5	22.5	22.3	21.9	20.3	17.8	15.6	13.9	15.0	14.8	14.7	18.2	
3	14.3	14.2	14.2	13.2	12.5	13.1	14.3	15.0	15.3	16.2	17.5	18.6	20.1	19.8	19.6	18.7	16.7	15.1	13.5	11.1	8.0	7.5	8.3	10.2	14.4	
4	9.5	10.2	11.9	11.8	11.6	10.6	9.6	9.4	11.6	13.4	14.0	14.9	15.3	16.4	16.4	15.1	13.8	13.2	12.9	12.6	12.4	12.2	11.5	9.0	12.4	
5	7.9	7.7	6.6	7.3	6.0	6.0	6.3	7.0	9.8	12.5	14.5	16.6	17.9	18.9	19.4	19.0	18.6	17.2	15.9	14.9	13.3	11.8	10.9	11.1	12.4	
6	10.9	11.1	11.9	12.2	11.7	11.9	11.9	12.1	13.0	15.2	17.8	19.7	21.2	22.1	22.2	21.3	19.0	16.9	14.6	13.0	12.0	11.3	9.3	9.4	14.6	
7	8.7	7.0	7.0	6.4	6.8	6.9	5.9	4.6	8.8	12.9	16.7	19.1	20.8	22.1	22.6	22.4	22.1	18.6	12.4	10.1	8.8	7.7	9.8	10.2	12.4	
8	8.5	8.4	6.3	4.5	6.4	8.1	8.6	9.2	10.9	14.4	19.1	21.9	22.5	22.9	23.7	23.6	23.0	20.8	16.0	13.4	14.6	16.3	15.8	14.9	14.7	
9	13.9	13.3	11.0	11.2	9.9	9.5	10.0	9.4	13.7	18.3	21.9	23.6	25.1	26.1	26.3	26.2	24.8	22.8	19.3	17.5	16.2	15.1	15.4	15.4	17.3	
10	15.1	15.6	16.2	16.9	17.1	17.6	17.6	17.8	18.4	Cal	Cal	22.7	23.0	21.5	21.5	21.8	19.5	17.6	17.0	16.3	15.6	15.1	14.1	13.1	17.8	
11	12.2	10.9	9.6	8.2	6.8	5.8	4.1	4.2	6.6	8.9	11.0	13.3	14.8	15.4	15.8	16.6	16.2	14.1	9.4	7.9	6.4	6.6	5.8	6.8	9.9	
12	8.8	10.0	10.0	10.0	10.1	10.0	10.0	10.1	12.1	15.8	19.2	21.5	22.3	22.7	23.1	22.8	22.5	21.1	19.8	19.0	18.7	18.9	18.0	17.2	16.4	
13	16.5	15.8	14.9	14.9	15.0	14.6	14.7	15.1	17.2	20.4	23.4	25.1	26.2	26.4	26.4	25.9	25.2	23.8	22.2	21.2	20.4	20.0	19.9	19.6	20.2	
14	19.6	19.9	20.2	20.7	21.2	20.6	20.2	20.0	19.4	19.4	20.7	21.0	21.0	20.6	20.0	19.1	17.5	15.6	14.8	13.7	12.6	11.1	10.6	10.5	17.9	
15	9.6	8.9	8.6	7.7	7.2	6.2	5.6	5.5	6.8	8.1	9.3	9.8	10.5	11.6	12.6	12.2	12.3	10.1	7.6	6.9	5.8	3.3	1.4	1.5	7.9	
16	2.5	4.3	4.1	4.2	3.3	4.0	4.5	4.5	6.5	8.2	10.2	12.0	13.3	13.8	13.7	13.7	12.6	10.6	6.8	5.2	4.2	3.6	3.2	1.7	7.1	
17	2.5	2.3	2.0	2.2	0.7	1.8	0.1	1.1	4.6	7.6	10.3	12.5	14.5	15.8	16.2	16.8	16.9	14.9	9.5	10.3	9.2	8.4	7.8	7.4	8.1	
18	6.9	7.3	7.4	6.6	6.7	6.2	5.6	6.2	9.6	13.3	16.5	18.3	20.2	20.6	20.9	21.1	21.1	19.4	16.1	14.1	13.3	13.0	12.3	12.4	13.1	
19	11.7	10.9	10.1	9.6	10.1	12.2	13.5	14.7	15.6	17.4	17.6	17.8	18.7	19.8	20.2	20.5	19.2	14.5	12.5	11.7	11.2	11.0	11.0	11.0	14.3	
20	10.7	10.5	9.7	8.7	8.0	7.6	7.3	7.2	7.7	8.3	9.3	10.3	11.6	14.6	16.0	16.4	15.9	14.2	11.2	9.3	7.4	5.8	4.7	4.2	9.8	
21	2.8	3.0	2.6	2.0	3.5	2.7	3.1	2.8	5.4	9.0	12.8	15.0	17.4	19.1	20.7	20.9	20.5	17.9	11.1	9.7	11.2	12.7	12.2	11.3	10.4	
22	10.0	10.0	9.7	10.9	11.2	11.0	10.8	10.8	13.2	16.5	19.9	22.4	23.7	24.3	24.7	24.0	23.6	22.1	20.9	20.6	20.4	19.3	18.8	18.5	17.4	
23	18.7	18.4	17.7	17.9	18.6	18.7	19.2	19.8	20.8	22.4	24.3	24.8	25.6	24.9	19.7	17.8	18.6	18.9	18.2	17.7	17.3	17.7	18.0	17.2	19.7	
24	15.8	15.1	14.7	14.1	13.6	13.4	12.8	12.3	11.9	11.3	11.2	11.3	12.4	14.3	16.3	15.4	13.9	12.3	9.1	8.4	6.0	5.0	5.3	5.2	11.7	
25	4.7	5.4	4.4	3.3	4.5	3.4	2.7	1.4	6.6	10.5	12.2	14.2	16.2	17.2	18.2	18.3	18.4	16.9	14.9	12.6	11.6	10.3	9.7	8.7	10.2	
26	7.6	6.6	4.1	6.6	6.1	5.6	3.8	4.4	7.9	9.9	12.6	14.8	16.7	18.1	19.0	19.0	18.4	17.2	14.8	10.6	9.6	9.3	11.4	12.1	11.1	
27	11.9	11.8	12.4	12.1	11.6	11.8	12.2	12.2	13.7	17.0	20.5	22.0	22.1	23.5	24.0	23.6	22.8	21.6	19.5	18.6	18.3	17.3	17.2	17.2	17.3	
28	17.1	16.8	16.7	16.7	16.6	16.6	16.9	17.1	17.9	19.1	21.6	22.5	22.7	22.7	22.7	21.6	20.9	20.5	20.2	20.1	20.0	19.4	19.0	19.0	19.3	
29	18.6	18.6	18.1	17.5	17.6	17.7	17.4	17.6	18.3	19.7	20.5	21.6	24.6	26.5	27.4	27.1	25.7	24.0	22.8	22.1	21.7	20.7	19.7	19.2	21.0	
30	19.1	18.8	18.6	17.4	18.1	17.2	17.3	17.4	17.7	18.6	20.0	22.6	24.7	25.9	26.3	25.4	23.6	22.3	21.5	21.3	20.6	19.0	17.8	16.0	20.3	
31	15.0	14.6	14.7	14.7	14.5	14.6	15.0	15.2	15.8	16.3	17.7	18.0	18.1	18.7	20.4	20.6	19.0	17.1	14.3	12.7	11.6	10.6	10.1	10.0	15.4	

TOTAL HOURS 744 TOTAL GOOD HOURS 742 DATA CAPTURE 99.7%  
 MAX. 1HR AVG 27.4 01/29/92 14:00:00 2ND MAX. 1 HR AVG 27.1 01/29/92 15:00:00  
 MIN. 1HR AVG 0.1 01/17/92 06:00:00 ARITHMETIC MEAN 14.5 STANDARD DEV. 5.8

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-87

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

DAY	FEBRUARY 1992																							DAILY AVG	
	HOUR (EST) 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	10.0	10.4	10.5	10.4	10.5	10.6	10.3	10.0	11.2	13.1	16.6	18.9	20.3	21.5	21.6	21.1	19.7	17.6	13.8	11.9	10.8	10.2	10.0	9.5	13.7
2	8.0	5.8	4.2	3.8	6.6	4.9	4.4	4.3	8.1	11.7	14.7	16.6	17.7	18.4	19.2	19.7	19.3	18.1	16.8	15.7	14.6	13.8	13.2	12.6	12.1
3	12.2	11.7	10.7	10.2	10.0	10.2	10.6	10.5	12.1	15.0	18.0	19.8	20.8	21.7	22.7	22.6	22.1	20.9	16.1	12.7	14.7	14.7	13.5	12.7	15.2
4	13.0	13.3	13.2	11.2	10.2	8.7	9.5	11.3	13.8	17.0	20.0	21.8	22.8	23.4	23.9	23.6	22.9	21.9	18.4	17.4	17.3	17.0	17.0	17.2	16.9
5	17.2	17.6	17.7	17.6	17.6	15.3	13.7	13.8	14.1	14.5	16.3	20.1	22.8	23.1	24.1	24.8	23.7	22.9	19.2	17.2	17.4	17.4	16.8	16.8	18.4
6	16.0	15.6	15.5	15.3	15.4	14.9	14.7	15.3	15.9	17.7	18.2	18.4	18.8	18.4	17.7	16.1	15.2	14.5	13.5	12.5	11.9	11.5	10.4	10.1	15.1
7	9.3	9.0	9.2	9.3	9.5	9.9	9.9	9.7	10.1	10.9	12.7	13.8	16.9	18.2	18.8	18.5	17.9	16.2	14.6	14.0	12.6	11.5	10.1	8.8	12.5
8	8.9	8.3	7.2	5.9	5.4	6.3	7.5	6.6	10.6	13.3	15.5	17.2	18.3	18.6	18.9	18.3	16.8	15.1	12.4	10.6	8.9	7.5	7.1	6.2	11.3
9	6.7	6.6	6.8	6.5	5.3	5.1	5.1	5.5	8.1	10.4	12.6	14.1	15.4	16.8	17.6	18.0	17.5	16.3	14.6	14.2	13.7	13.6	13.0	11.9	11.4
10	10.9	10.4	10.1	9.4	9.2	9.4	10.1	11.4	12.7	15.2	18.6	20.5	21.7	22.2	23.1	23.0	23.0	21.7	19.3	17.4	16.0	15.1	13.5	13.3	15.7
11	13.0	12.2	12.2	12.2	12.2	12.3	12.4	12.6	12.9	13.6	16.0	19.7	22.2	22.8	22.7	22.3	21.0	17.5	14.6	12.7	12.7	13.1	11.6	11.6	15.3
12	10.7	9.6	10.5	9.9	10.2	10.2	10.1	9.6	9.9	10.6	11.5	12.8	15.5	17.5	19.0	19.9	20.8	20.1	14.5	11.5	10.0	10.0	8.9	8.9	12.6
13	8.1	8.0	7.7	7.8	10.6	10.8	11.1	10.4	11.6	13.0	14.6	18.1	21.7	22.8	23.2	23.2	23.4	21.7	19.3	16.9	15.1	12.5	10.9	10.5	14.7
14	10.3	9.7	9.5	9.1	9.6	10.0	10.0	11.3	14.0	16.0	19.0	22.0	23.0	24.0	25.0	26.0	25.0	24.0	22.0	19.0	18.0	16.0	16.0	15.0	16.8
15	14.0	15.0	15.0	15.0	15.0	12.0	13.0	14.0	15.0	20.0	23.0	25.0	26.0	26.0	27.0	27.0	26.0	25.0	22.0	19.0	17.0	17.0	17.0	16.0	19.2
16	16.0	15.0	15.0	15.0	14.0	14.0	15.0	15.0	16.0	18.0	20.0	22.0	26.0	27.0	27.0	26.0	26.0	25.0	24.0	22.0	21.0	21.0	18.0	18.0	19.8
17	16.0	16.0	16.0	16.0	17.0	17.0	17.0	18.0	19.0	21.0	26.0	26.0	28.0	28.0	29.0	28.0	27.0	25.0	22.0	22.0	20.0	18.0	16.0	17.0	21.0
18	17.0	17.0	17.0	16.0	16.0	16.0	17.0	16.0	20.0	22.0	25.0	26.0	28.0	28.0	28.0	28.0	28.0	26.0	24.0	23.0	22.0	21.0	20.0	20.0	21.7
19	20.0	20.0	20.0	20.0	20.0	20.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	28.0	26.0	25.0	24.0	24.0	22.0	21.0	19.0	19.0	19.0	18.0	21.9
20	17.0	17.0	17.0	18.0	18.0	18.0	17.0	16.0	17.0	19.0	20.0	21.0	22.0	23.0	24.0	24.0	24.0	24.0	22.0	20.0	18.0	17.0	16.0	15.0	19.3
21	14.0	14.0	13.0	13.0	13.0	14.0	14.0	15.0	15.0	18.0	21.0	23.0	23.0	24.0	24.0	24.0	23.0	22.0	21.0	21.0	20.0	19.0	19.0	19.0	18.6
22	19.0	19.0	18.0	18.0	18.0	18.0	18.0	18.0	20.0	22.0	24.0	25.0	26.0	26.0	26.0	24.0	25.0	24.0	23.0	22.0	22.0	21.0	20.0	20.0	21.5
23	19.0	19.0	20.0	19.0	18.0	18.0	19.0	20.0	20.0	21.0	23.0	26.0	27.0	28.0	28.0	27.0	27.0	26.0	24.0	22.0	20.0	20.0	19.0	18.0	22.0
24	18.0	18.0	19.0	18.0	19.0	19.0	19.0	19.0	20.0	22.0	23.0	24.0	25.0	26.0	27.0	26.0	26.0	20.0	19.0	18.0	18.0	18.0	18.0	18.0	20.7
25	17.6	17.4	17.5	17.9	18.7	18.9	18.8	19.1	PwrF	21.1	22.1	23.1	22.7	23.0	22.7	20.4	19.6	20.8	21.1	21.8	21.6	19.3	19.3	19.2	20.1
26	19.2	19.4	19.4	19.5	19.4	19.4	19.7	20.3	20.1	20.0	21.7	22.4	PwrF	PwrF	22.5	22.6	20.7	19.5	17.8	16.8	16.3	15.5	16.0	15.8	19.3
27	15.2	14.0	14.1	14.2	13.9	14.0	14.2	14.4	15.1	16.2	18.0	18.6	19.6	20.3	19.5	18.7	16.5	15.0	13.4	12.2	11.4	10.9	10.5	11.1	15.0
28	11.5	11.6	11.8	12.4	12.5	11.6	10.0	10.3	13.4	15.5	17.5	19.1	19.8	20.8	21.2	20.9	20.0	18.6	16.0	13.4	12.2	11.9	11.4	10.0	14.7
29	10.2	9.4	10.8	12.1	10.7	8.6	9.1	10.7	15.3	19.0	20.7	21.5	22.2	23.0	23.6	23.2	22.4	20.9	18.4	16.0	14.9	13.5	11.1	10.7	15.7

TOTAL HOURS 696 TOTAL GOOD HOURS 693 DATA CAPTURE 99.6X  
 MAX. 1HR AVG 29.0 02/17/92 14:00:00 2ND MAX. 1 HR AVG 28.0 02/23/92 14:00:00  
 MIN. 1HR AVG 3.8 02/02/92 03:00:00 ARITHMETIC MEAN 17.0 STANDARD DEV. 5.3

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-88

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR TEMPERATURE IN DEGREES CELSIUS

DAY	MARCH 1992																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	10.7	10.3	10.4	10.3	10.2	9.4	10.3	12.6	14.0	15.5	17.2	21.3	23.1	24.0	24.9	25.2	25.6	24.8	21.1	18.2	17.4	15.0	13.3	13.5	16.6
2	13.4	12.0	12.3	11.0	11.6	12.0	12.2	13.2	16.4	19.3	22.5	24.3	25.2	25.8	26.3	26.3	26.3	25.8	21.4	17.4	18.9	17.3	16.8	17.1	18.5
3	16.0	15.1	13.9	13.0	13.2	12.8	12.1	13.6	18.5	21.4	23.2	24.2	24.8	25.5	25.6	25.8	25.3	24.3	22.7	21.8	20.5	19.3	18.6	17.5	19.5
4	16.4	15.7	15.0	14.8	14.0	13.7	15.2	16.4	18.2	20.9	23.3	23.4	23.6	22.5	20.3	20.6	19.7	19.0	18.5	18.6	18.5	18.6	18.6	18.5	18.5
5	18.6	18.4	18.0	17.7	17.4	17.5	17.3	18.1	19.8	22.0	23.7	25.0	25.7	26.5	26.9	27.2	27.1	25.7	24.0	23.0	22.4	21.6	20.7	20.2	21.8
6	19.6	19.2	19.0	18.7	18.3	18.4	18.6	18.9	20.8	23.5	25.3	25.5	27.0	27.9	27.9	28.6	28.6	26.8	24.6	23.0	22.0	20.8	19.9	19.4	22.6
7	19.5	18.5	18.6	19.2	19.5	19.6	19.6	19.7	20.1	20.8	21.7	24.7	27.8	28.4	28.6	28.2	27.4	25.9	23.7	21.9	20.7	20.8	20.7	20.5	22.3
8	20.6	20.3	20.0	19.4	19.1	18.5	17.8	17.0	18.6	20.6	23.2	25.2	26.8	27.7	28.4	28.7	28.4	27.5	23.5	20.4	18.4	16.4	16.0	16.3	21.6
9	15.2	14.9	15.0	14.6	13.7	13.0	14.1	15.9	19.0	21.2	23.8	25.5	27.3	28.0	28.4	28.8	28.9	27.4	24.0	20.6	20.5	20.5	17.4	18.0	20.6
10	17.9	17.1	17.2	17.3	17.3	17.7	18.2	19.2	21.3	23.1	24.9	26.5	27.6	27.9	27.8	27.1	26.3	25.3	24.3	23.5	22.3	17.8	16.9	15.6	21.6
11	15.0	15.3	15.8	15.7	15.5	15.5	14.8	13.6	13.1	12.7	13.6	15.0	16.5	17.6	17.5	16.4	16.1	14.1	11.8	10.6	9.4	8.3	6.3	6.4	13.6
12	6.0	5.5	6.8	7.3	7.3	8.1	8.4	8.6	9.1	10.1	10.6	10.5	10.8	12.0	11.8	11.7	12.1	12.1	11.5	11.4	11.3	11.0	10.6	9.1	9.7
13	8.9	8.9	8.9	9.3	9.5	9.6	9.9	10.4	12.1	14.7	16.6	18.8	19.1	19.2	19.9	20.6	19.7	18.3	16.8	15.7	14.4	12.8	13.2	12.9	14.2
14	12.8	12.6	12.3	12.0	11.3	10.6	10.8	11.8	12.4	13.0	13.7	14.7	16.8	18.1	19.4	18.9	17.9	16.5	14.8	13.1	12.2	10.9	8.2	7.3	13.4
15	8.2	7.5	9.0	9.2	8.3	7.8	6.7	10.5	14.7	18.8	20.9	22.6	24.1	24.7	24.8	24.1	23.0	21.2	18.9	17.2	16.0	14.8	14.1	14.1	15.9
16	14.3	14.2	14.1	13.3	14.0	14.4	14.2	14.7	15.2	16.1	17.1	18.2	19.5	20.4	20.9	21.4	21.6	20.5	17.8	15.2	13.3	11.8	10.6	9.6	15.9
17	9.1	8.6	8.3	8.4	8.5	8.8	8.6	10.7	14.1	17.3	19.6	20.8	21.9	22.7	23.5	23.9	24.0	23.6	20.9	18.9	16.6	15.6	15.1	12.9	15.9
18	13.7	13.5	13.2	13.0	12.8	12.5	12.7	14.4	17.5	20.2	22.4	23.7	25.0	25.3	25.4	25.3	26.2	25.1	22.6	19.6	18.3	17.8	17.2	15.7	18.9
19	15.5	16.4	17.2	17.4	17.3	17.5	18.5	19.6	22.2	24.6	26.5	27.0	27.3	27.1	27.0	27.7	26.7	25.3	22.9	20.8	19.7	19.2	19.7	19.9	21.8
20	19.4	19.1	18.4	17.5	16.9	16.8	17.0	18.0	19.6	21.3	22.0	21.4	21.2	21.2	20.4	19.9	18.6	16.7	14.7	13.4	13.1	12.7	12.1	11.5	17.6
21	10.8	11.3	10.6	9.9	7.1	7.1	7.6	9.7	12.8	15.6	17.2	18.1	19.5	19.9	20.7	20.7	20.4	19.8	18.1	16.4	15.1	13.4	12.4	11.6	14.4
22	12.9	13.0	13.1	13.1	13.7	13.1	13.4	14.6	16.1	18.0	19.7	20.4	21.1	19.6	17.1	16.7	16.1	15.5	15.3	15.2	15.3	15.3	15.0	15.1	15.7
23	15.5	15.7	15.7	16.5	16.8	16.8	17.0	17.7	19.7	22.4	23.8	24.9	24.5	24.9	24.9	23.8	23.7	23.2	21.4	18.6	16.8	15.5	14.1	13.5	19.5
24	12.6	12.9	14.0	14.1	14.0	13.1	12.8	13.6	15.8	18.1	20.0	21.4	22.8	23.6	24.3	24.4	23.7	22.4	21.0	19.7	18.8	18.4	18.2	18.0	18.2
25	18.0	17.4	17.0	16.7	16.3	16.3	16.5	17.5	19.4	21.2	22.5	22.8	23.4	24.0	24.2	24.1	23.4	21.2	19.5	19.1	18.5	18.5	18.3	16.9	19.7
26	16.7	17.0	16.7	15.3	14.7	14.6	13.5	13.7	15.6	18.0	21.1	22.7	24.0	24.1	24.2	23.9	22.9	21.9	19.5	16.5	14.2	11.7	10.3	9.9	17.6
27	9.0	9.3	8.8	8.6	9.6	10.6	9.9	11.9	16.3	19.6	21.6	23.1	24.0	25.3	25.8	25.8	25.2	23.5	20.7	18.2	16.4	14.2	12.3	11.1	16.7
28	10.7	10.7	11.7	12.1	13.1	12.9	14.1	14.3	16.0	18.1	20.2	21.9	22.8	23.9	24.3	24.9	24.6	23.9	21.6	18.9	17.8	15.5	14.2	15.2	17.6
29	14.5	13.5	13.2	13.7	13.5	13.3	13.4	14.7	17.2	19.9	23.2	24.5	25.0	25.4	24.9	24.5	24.0	23.7	21.0	19.8	19.5	19.1	17.7	17.2	19.0
30	17.4	17.0	17.0	17.0	17.2	16.7	16.7	17.4	19.2	21.5	24.0	25.9	27.3	28.1	28.0	26.3	25.1	23.1	20.5	18.4	18.3	18.1	17.7	17.6	20.6
31	17.6	17.6	17.3	17.7	17.6	17.4	17.7	18.7	20.2	21.3	23.1	24.8	23.9	23.8	23.5	23.0	Cal	20.0	17.5	15.2	14.0	12.9	12.2	11.6	18.6

TOTAL HOURS 744 TOTAL GOOD HOURS 743 DATA CAPTURE 99.9%  
 MAX. 1HR AVG 28.9 03/09/92 16:00:00 2ND MAX. 1 HR AVG 28.8 03/09/92 15:00:00  
 MIN. 1HR AVG 5.5 03/12/92 01:00:00 ARITHMETIC MEAN 18.0 STANDARD DEV. 5.2

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

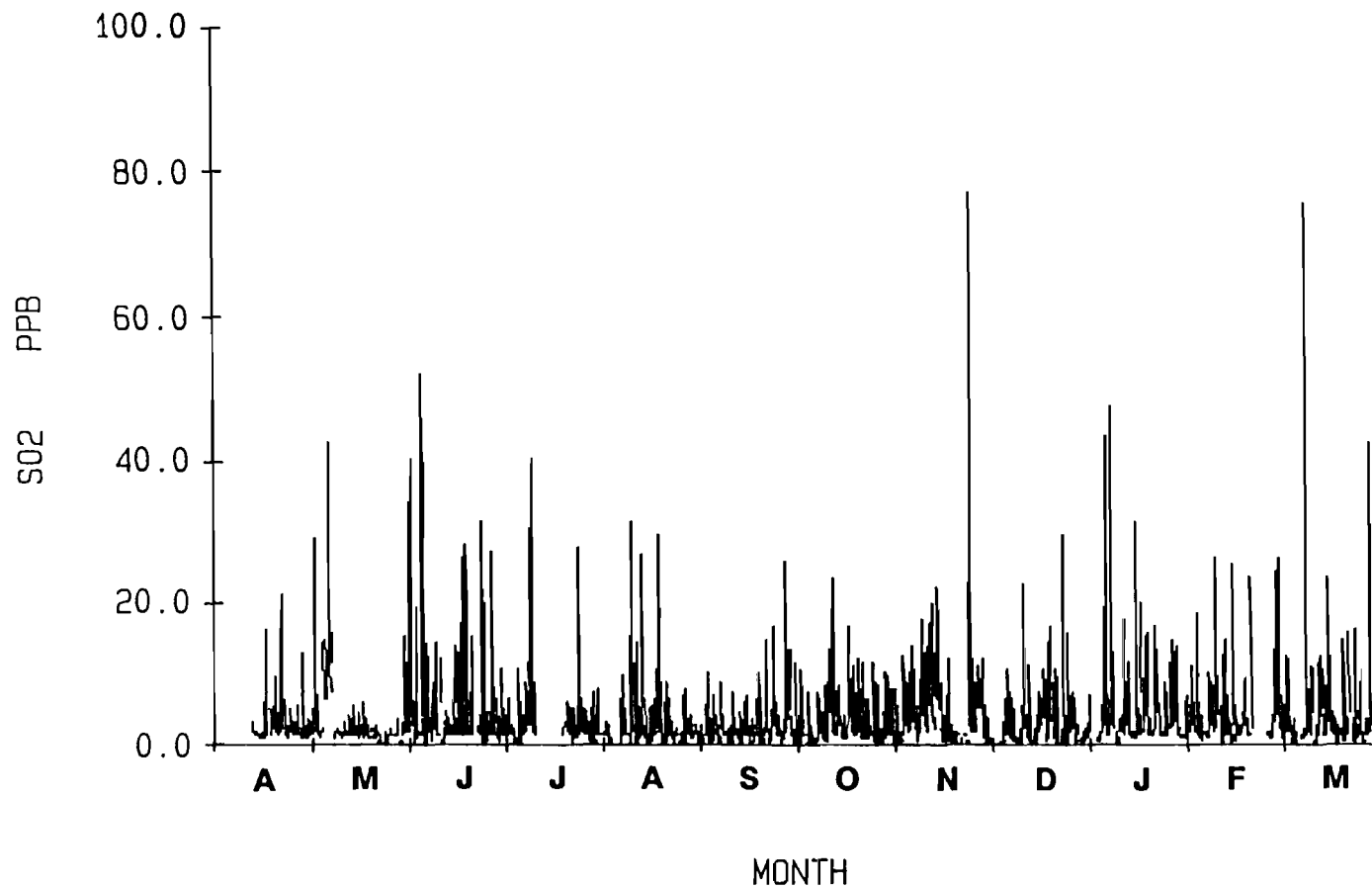
11.11-89

**HOURLY AVERAGES FOR SULFUR DIOXIDE  
[PARTS PER BILLION (ppb)]**



11.11-91

TIME PLOT FOR 04/01/91 00:00:00 TO 03/31/92 23:00:00

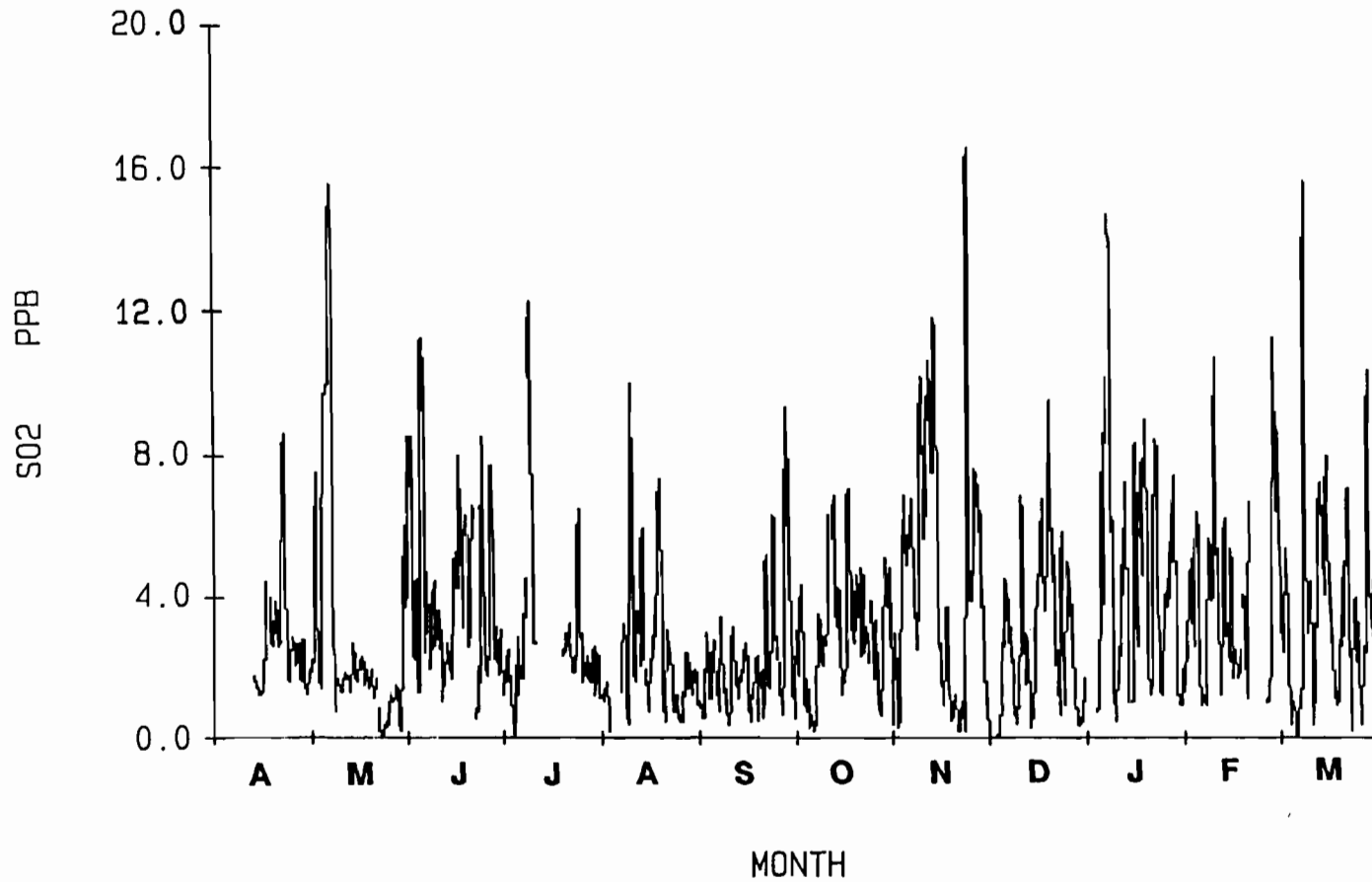


Tampa Electric Station AQ-1

Averaging Time: 3 Hour

11.11-92

TIME PLOT FOR 04/01/91 00:00:00 TO 03/31/92 23:00:00



Tampa Electric Station AQ-1

Averaging Time: 24 Hour

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

APRIL, 1991

DAY	HOURLY AVERAGES FOR SO2 IN PPB																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	0	1	0	1	0	0	1	1	3	Cal	3	2	3	4	2	1	1	2	3	4	0	1	5	14	2
2	1	1	1	1	3	4	2	4	4	1	1	0	Cal	Cal	0	0	0	0	0	0	0	0	0	4	1
3	10	3	Cal	1	2	2	4	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
4	2	2	Cal	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	1	1
5	1	2	Cal	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	1	Cal	0	0	0	0	2	0	0	0	0	0	0	1	0	1	3	0	0	0	0	0	0	0
7	0	1	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	Cal	1	1	1	1	1	1	2	2	Cal	1	1	1	1	1	1	7	1	1	1	1	1	1
9	2	2	Cal	1	1	2	2	2	2	2	2	2	2	2	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
11	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
12	2	2	Cal	1	0	4	2	3	2	2	1	1	1	2	2	2	2	2	1	2	1	1	1	1	2
13	1	1	Cal	2	1	1	1	2	2	2	2	1	1	1	1	1	2	1	1	1	1	2	1	1	1
14	1	1	Cal	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	Cal	0	1	1	1	1	2	2	2	2	1	1	1	1	1	1	2	3	2	3	5	7	2
16	5	5	Cal	1	1	1	1	2	2	2	1	1	2	1	1	2	15	22	12	PwrF	PwrF	PwrF	PwrF	PwrF	Bad<
17	PwrF	Miss	Cal	5	5	5	5	5	5	5	5	5	5	PwrF	1	Cal	1	2	PwrF	6	Cal	7	3	1	Bad<
18	1	2	3	1	1	1	2	2	2	4	4	7	2	2	3	5	5	6	4	2	3	2	2	3	3
19	2	2	Cal	2	4	4	4	2	1	2	2	4	7	15	7	2	2	2	8	2	2	1	2	2	3
20	2	5	Cal	1	0	2	2	3	5	2	2	2	2	8	2	2	2	5	7	2	2	3	2	1	3
21	2	11	Cal	6	3	4	3	3	5	3	3	4	10	19	17	22	21	20	21	5	5	3	3	2	8
22	2	2	Cal	2	4	6	8	4	7	6	5	6	4	3	3	5	3	2	2	2	2	4	3	1	4
23	1	1	Cal	0	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	1	2
24	2	1	Cal	2	2	2	2	3	3	2	3	7	4	3	3	3	3	3	3	2	3	3	3	3	3
25	3	3	Cal	1	1	1	2	2	4	2	2	3	2	3	4	3	2	2	3	3	1	1	1	1	2
26	2	1	Cal	3	2	4	3	2	1	11	3	2	2	2	1	2	1	2	4	5	3	3	2	1	3
27	1	1	Cal	1	0	1	1	2	1	1	1	1	1	1	1	1	2	1	11	21	6	2	2	1	3
28	1	1	Cal	0	0	1	2	2	2	1	1	1	1	1	1	2	2	1	3	2	2	1	1	1	1
29	1	1	Cal	0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	3	4	4	4	3	1
30	2	2	Cal	2	1	1	1	1	4	2	2	2	2	1	1	1	1	2	2	2	2	2	2	4	2

TOTAL HOURS 720 TOTAL GOOD HOURS 631 DATA CAPTURE 87.6X  
 MAX. 1HR AVG 22 04/21/91 15:00:00 2ND MAX. 1 HR AVG 22 04/16/91 17:00:00  
 MIN. 1HR AVG 0 04/01/91 00:00:00 ARITHMETIC MEAN 2 STANDARD DEV. 3  
 NAAQS Comparison: MAX. 3 HR AVG 21 ( 500) 04/21/91 17:00:00  
 MAX. 24 HR AVG 9 ( 140) 04/22/91 11:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

11.11.93

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

		MAY, 1991																							DAILY	
DAY		HOURLY AVERAGES FOR SO2 IN PPB																							AVG	
		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	5	5	Cal	3	2	2	2	1	1	2	2	2	1	2	2	2	2	2	6	7	17	42	29	8	6	
2	8	6	Cal	3	4	3	2	5	10	4	7	3	2	2	2	2	2	2	2	4	4	2	2	1	3	
3	1	2	Cal	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	2	2	2	2	2	2	1	
4	2	2	Cal	14	15	14	13	12	12	11	11	11	10	10	9	9	8	8	8	7	7	7	7	7	9	
5	7	6	Cal	14	15	15	14	12	13	13	11	11	11	11	10	10	9	8	8	8	8	7	7	7	10	
6	7	7	Cal	14	15	15	14	14	14	13	12	12	11	10	10	34	79	16	11	8	9	10	7	7	15	
7	8	8	Cal	16	16	15	14	13	13	12	12	11	11	Cal	Cal	0	0	0	0	0	0	0	0	0	7	
8	0	0	Cal	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	
9	2	2	Cal	1	1	1	2	2	2	1	1	1	2	2	1	1	1	2	2	2	2	2	2	1	1	
10	1	2	Cal	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	1	1	
11	2	2	Cal	2	2	2	4	3	2	1	2	2	2	2	1	1	1	1	2	1	2	1	1	1	2	
12	2	2	Cal	1	1	2	4	6	2	2	1	1	2	2	1	1	1	1	1	1	2	1	1	1	2	
13	1	1	Cal	1	1	1	2	2	2	4	5	3	2	2	2	2	3	4	4	7	6	4	2	1	3	
14	2	3	Cal	2	1	1	1	2	2	2	2	1	2	2	2	3	2	1	2	2	2	3	4	2	2	
15	2	1	Cal	1	1	2	1	1	1	1	2	2	1	2	2	2	2	2	2	9	3	2	3	3	2	
16	2	2	Cal	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	7	4	3	2	
17	2	2	Cal	1	0	1	1	1	2	3	2	1	1	1	1	1	1	1	1	1	1	2	2	2	1	
18	4	5	Cal	1	1	1	3	3	2	3	2	1	1	1	2	2	2	1	1	1	1	1	1	1	2	
19	1	1	Cal	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	
20	2	2	Cal	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	4	2	
21	1	1	Cal	4	1	1	1	1	Down	Down	1	1	1	1	1	1	3	Cal	Cal	Cal	Cal	1	0	0	Bad<	
22	0	0	Cal	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23	0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	0	1	0	1	3	0	0	
24	0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	
25	0	0	Cal	1	1	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
26	1	1	Cal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
27	1	1	Cal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	7	2	1	1	
28	1	1	Cal	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
29	0	0	Cal	2	2	2	1	1	2	1	1	2	4	3	2	2	2	1	2	4	6	14	26	6	4	
30	3	3	Cal	2	2	2	1	2	4	Cal	Cal	17	12	5	4	6	1	3	5	2	2	3	2	3	4	
31	2	1	Cal	2	2	4	5	14	23	41	39	16	5	2	2	2	2	2	2	4	2	2	4	3	8	

TOTAL HOURS 744 TOTAL GOOD HOURS 703 DATA CAPTURE 94.5%  
 MAX. 1HR AVG 79 05/06/91 16:00:00 2ND MAX. 1 HR AVG 42 05/01/91 21:00:00  
 MIN. 1HR AVG 0 05/07/91 15:00:00 ARITHMETIC MEAN 3 STANDARD DEV. 5  
 NAAQS Comparison: MAX. 3 HR AVG 43 ( 500) 05/06/91 17:00:00  
 MAX. 24 HR AVG 16 ( 140) 05/07/91 14:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-94

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

DAY	JUNE, 1991																							DAILY AVG	
	HOUR (EST)	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21		22
1	2	2	Cal	1	2	6	4	3	17	60	44	7	4	3	2	5	5	8	6	4	3	0	0	0	8
2	0	0	Cal	1	4	2	1	1	3	0	1	5	1	1	12	15	26	18	6	1	1	1	2	1	4
3	2	1	Cal	2	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1
4	2	2	Cal	1	1	1	2	1	1	9	Cal	Cal	9	2	1	18	50	17	91	24	3	2	2	2	11
5	2	2	Cal	0	1	0	0	0	0	0	0	0	0	31	6	5	3	7	2	0	0	0	0	0	3
6	0	0	Cal	2	2	2	2	8	12	17	3	2	3	2	1	5	4	1	2	2	3	2	2	7	4
7	2	2	Cal	3	2	1	2	4	3	4	2	1	1	1	2	2	1	0	0	9	5	11	4	0	3
8	14	12	Cal	3	4	4	4	5	7	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4
9	2	2	Cal	1	8	20	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
10	1	1	Cal	21	8	7	3	18	3	Cal	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3
11	1	3	Cal	4	3	2	3	2	Cal	2	1	Cal	1	1	1	1	1	1	1	1	1	4	1	1	2
12	6	4	Cal	2	2	2	3	4	2	1	2	3	3	2	3	3	3	2	3	4	3	1	1	1	2
13	4	5	Cal	1	1	1	1	1	1	2	3	3	2	2	2	2	2	2	2	3	3	1	1	1	2
14	1	1	Cal	2	3	3	5	2	4	3	3	1	1	1	1	1	11	20	11	11	11	5	8	5	
15	5	5	Cal	1	1	1	1	1	2	6	3	2	1	4	3	2	8	12	13	13	9	8	3	2	5
16	1	1	Cal	1	1	1	1	2	4	13	16	19	16	14	21	3	10	7	1	1	1	1	1	2	6
17	1	1	Cal	1	1	2	1	2	2	2	6	67	6	2	2	4	2	PwrF	PwrF	3	3	2	4	2	5
18	2	2	Cal	2	3	2	2	1	1	1	1	20	56	9	6	5	7	6	3	1	1	1	3	2	6
19	2	1	Cal	1	1	2	2	1	1	1	1	2	4	8	6	3	13	4	3	2	2	1	3	1	3
20	2	1	Cal	2	3	3	1	1	1	5	12	10	9	8	7	5	20	14	12	7	PwrF	PwrF	PwrF	PwrF	6
21	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	3	1	.1	Cal	0	0	0	0	0	0	0	0	0	0	Bad<
22	0	0	Cal	1	2	2	2	3	3	1	1	1	1	1	1	2	2	5	2	2	6	4	1	2	2
23	2	2	Cal	1	0	0	0	0	0	2	1	3	6	16	39	39	11	15	2	1	0	0	0	0	6
24	0	0	Cal	0	0	1	1	4	45	11	3	1	2	5	0	0	0	1	2	1	2	2	2	3	4
25	1	1	Cal	2	2	2	1	1	7	5	2	2	2	2	2	3	3	7	1	2	1	2	2	2	2
26	2	2	Cal	1	1	2	2	4	10	10	1	1	1	1	1	3	20	25	38	14	20	3	15	3	8
27	2	1	Cal	1	1	1	1	1	1	1	1	2	2	5	3	4	4	2	4	3	3	3	3	3	2
28	11	5	Cal	1	1	1	1	2	4	4	2	2	2	6	3	3	2	6	4	1	1	3	0	0	3
29	1	1	Cal	1	1	2	2	1	1	1	1	1	1	2	3	5	6	21	3	1	2	1	1	1	3
30	1	1	Cal	1	1	2	2	9	4	2	1	1	1	2	4	2	1	1	1	1	1	1	1	1	2

TOTAL HOURS 720 TOTAL GOOD HOURS 669 DATA CAPTURE 92.9%

MAX. 1HR AVG 91 06/04/91 18:00:00 2ND MAX. 1 HR AVG 67 06/17/91 11:00:00

MIN. 1HR AVG 0 06/01/91 22:00:00 ARITHMETIC MEAN 4 STANDARD DEV. 8

NAAQS Comparison: MAX. 3 HR AVG 53 ( 500) 06/04/91 18:00:00  
MAX. 24 HR AVG 11 ( 140) 06/04/91 21:00:00

KEY FOR MISSING CODES  
Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-95

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

		JULY, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		0	0	Cal	1	1	1	1	1	1	1	3	5	4	4	9	6	3	2	1	2	1	1	1	1	2
2		1	1	Cal	1	1	2	1	2	1	3	4	2	1	2	4	1	2	2	1	1	1	2	1	1	2
3		1	1	Cal	4	1	0	0	0	0	Cal	6	1	0	0	0	0	0	0	2	0	0	0	0	0	1
4		0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	8	18	6	5	1	2	0	0	0	2
5		0	0	Cal	5	2	1	0	0	0	Cal	Cal	7	2	2	2	1	0	1	1	6	7	5	2	0	2
6		0	0	Cal	3	1	1	1	1	1	1	2	1	1	1	2	3	2	1	2	4	6	3	1	2	2
7		3	2	Cal	2	2	2	2	3	19	3	4	6	5	3	3	3	3	3	7	9	6	3	Qad	Qad	4
8		Qad	Qad	Qad	Qad	Qad	Qad	22	3	10	10	14	12	8	3	3	3	17	43	31	14	9	6	4	3	Bad<
9		2	2	Cal	1	2	2	2	1	6	85	26	10	2	3	5	6	3	3	1	2	2	2	1	7	
10		2	1	Cal	1	1	1	1	1	1	2	12	12	PwrF	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Bad<
11		Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	PwrF	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Miss
12		Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Miss
13		Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Miss
14		Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Miss
15		Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Miss
16		Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Miss
17		Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Miss
18		Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Miss
19		4	1	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	Cal	Cal	Cal	Cal	3	3
20		1	1	Cal	0	2	3	3	4	1	3	2	5	2	10	2	2	3	5	2	2	0	2	2	2	3
21		3	5	Cal	2	3	2	2	2	5	2	5	5	5	5	2	2	0	0	0	0	5	2	2	2	3
22		0	0	Cal	0	0	2	2	2	0	2	5	5	5	5	2	2	0	2	0	2	0	2	2	2	2
23		3	Cal	2	2	2	2	3	2	0	2	2	2	2	3	3	15	31	37	11	2	2	2	1	1	6
24		2	2	Cal	2	1	2	3	2	6	5	4	3	2	1	15	3	2	2	2	3	2	1	1	2	3
25		1	1	Cal	1	3	3	2	1	1	2	2	2	1	2	1	1	1	1	1	3	3	9	2	1	2
26		1	2	Cal	1	1	1	1	1	3	2	2	1	3	5	2	2	2	2	5	3	2	1	1	1	2
27		1	1	Cal	1	2	1	0	0	1	3	2	5	5	4	3	2	4	2	3	1	0	0	0	0	2
28		1	0	Cal	0	0	0	0	0	3	6	6	9	6	3	2	2	6	9	0	1	1	0	0	0	2
29		0	0	Cal	1	1	1	1	1	2	1	2	2	1	2	2	1	2	6	11	7	5	2	1	1	2
30		1	1	Cal	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1
31		1	1	Cal	1	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1

TOTAL HOURS 744 TOTAL GOOD HOURS 509 DATA CAPTURE 68.4%  
 MAX. 1HR AVG 85 07/09/91 09:00:00 2ND MAX. 1 HR AVG 43 07/08/91 17:00:00  
 MIN. 1HR AVG 0 07/01/91 00:00:00 ARITHMETIC MEAN 3 STANDARD DEV. 6  
 NAAQS Comparison: MAX. 3 HR AVG 40 ( 500) 07/09/91 11:00:00  
 MAX. 24 HR AVG 12 ( 140) 07/09/91 10:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

DAY	AUGUST, 1991																							DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	1	1	Cal	1	1	1	1	1	1	1	1	1	2	3	4	1	1	1	1	1	1	1	1	1
2	1	1	Cal	5	2	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0
3	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal
4	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal
5	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Cal	Cal	5	8	5	2	0	0	0	0
6	0	0	Cal	1	2	1	1	2	3	3	2	2	1	1	1	1	1	1	2	2	1	2	2	3
7	17	10	Cal	6	4	4	3	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
8	1	1	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	24	10	3	0	0
9	0	0	Cal	2	2	4	3	3	4	9	27	31	31	32	12	9	5	10	2	4	2	2	2	2
10	2	2	Cal	0	0	0	0	0	0	0	0	0	0	0	22	11	2	0	0	0	0	0	0	0
11	0	0	Cal	1	1	1	1	0	0	1	3	11	18	14	7	8	4	3	1	1	1	1	1	2
12	1	1	Cal	2	1	2	1	1	1	1	1	1	4	11	2	4	38	28	15	6	2	2	3	3
13	1	2	Cal	2	1	1	1	1	1	2	4	2	Down	Down	Down	4	3	Qal	Qal	Qal	Qal	12	5	3
14	2	1	1	1	1	0	0	0	1	0	0	0	0	1	1	1	1	1	2	2	2	2	2	1
15	2	0	1	0	0	0	0	2	2	7	6	3	1	2	3	3	3	6	5	2	0	1	1	2
16	1	1	1	0	0	1	2	4	11	Cal	4	11	5	2	1	3	4	1	1	3	5	4	1	1
17	2	2	Cal	2	2	3	3	1	3	11	12	8	3	2	3	6	4	3	10	7	5	3	4	5
18	4	2	Cal	1	2	2	2	3	2	12	45	33	1	1	2	2	16	7	3	1	0	0	0	6
19	0	0	Cal	0	0	0	0	0	0	0	6	11	0	0	0	0	0	0	0	0	0	0	0	1
20	0	0	Cal	0	0	1	0	1	1	2	3	2	2	5	5	14	7	1	0	1	2	1	1	2
21	2	1	Cal	2	1	1	1	2	2	2	1	16	2	2	6	2	1	2	2	2	2	2	1	2
22	2	1	Cal	0	1	1	2	0	0	0	0	2	3	1	1	0	0	0	0	2	0	0	1	2
23	0	0	Cal	1	1	2	2	2	1	1	1	1	1	1	2	3	1	1	1	1	1	1	1	1
24	1	1	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	4	1	0	1
25	0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	12	3	5	1	4	0	0	0	1
26	0	0	Cal	0	1	1	1	2	3	2	1	2	3	10	6	8	5	2	1	0	0	0	0	2
27	0	0	Cal	1	2	2	4	5	2	1	3	2	1	1	2	2	2	2	5	5	3	1	1	2
28	1	2	Cal	0	0	2	2	2	5	2	1	1	1	1	1	0	2	0	2	2	1	1	0	2
29	3	0	Cal	3	2	4	3	1	5	2	1	1	1	1	2	2	1	1	2	1	2	4	1	2
30	1	1	Cal	0	0	1	2	1	3	0	0	0	0	0	0	0	0	2	1	1	5	2	1	1
31	0	0	Cal	0	1	1	1	1	4	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0

TOTAL HOURS 744 TOTAL GOOD HOURS 646 DATA CAPTURE 86.8%

MAX. 1HR AVG 45 08/18/91 10:00:00 2ND MAX. 1 HR AVG 38 08/12/91 16:00:00

MIN. 1HR AVG 0 08/02/91 07:00:00 ARITHMETIC MEAN 2 STANDARD DEV. 5

NAAQS Comparison: MAX. 3 HR AVG 31 ( 500) 08/09/91 13:00:00  
MAX. 24 HR AVG 10 ( 140) 08/09/91 17:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11.97

TAMPA ELECTRIC COMPANY AIR MONITORING SITE Aq-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

SEPTEMBER, 1991

DAY	HOUR (EST)																								DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1	1	Cal	1	1	1	1	1	1	3	3	8	4	3	2	2	1	1	1	1	1	3	1	1	2
2	1	1	Cal	0	2	0	0	17	0	13	2	2	1	0	1	1	0	0	0	0	2	1	1	1	2
3	0	5	Cal	1	2	3	4	3	1	2	0	0	1	0	1	2	2	0	0	1	0	2	6	8	2
4	7	5	Cal	4	3	3	3	6	3	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2
5	3	2	Cal	2	5	1	0	1	4	1	0	0	0	0	0	0	1	2	2	2	0	0	0	0	1
6	0	0	Cal	1	2	4	8	5	14	2	1	3	3	Qal	Qal	Qal	Qal	2	2	1	1	2	6	4	3
7	2	2	Cal	2	1	1	1	1	1	1	1	1	1	1	2	2	2	1	2	1	1	1	1	2	1
8	2	1	Cal	0	1	0	0	6	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
9	0	0	Cal	1	0	0	3	5	1	1	1	0	1	1	0	0	1	0	4	5	0	0	4	1	0
10	8	11	Cal	4	1	2	5	12	4	2	2	2	2	1	1	1	2	1	1	1	4	2	1	2	3
11	1	1	Cal	0	1	1	2	2	1	2	1	2	2	3	2	3	2	2	2	2	2	1	0	0	1
12	0	0	Cal	0	1	2	1	0	0	1	3	5	5	4	4	4	3	2	1	1	0	0	0	0	1
13	0	0	Cal	1	2	2	2	3	2	2	2	5	3	7	7	4	3	3	2	1	1	1	2	2	2
14	1	1	Cal	1	1	1	1	1	1	2	5	9	7	5	3	3	2	2	2	2	2	1	1	1	2
15	1	1	Cal	0	0	0	0	0	0	0	4	3	1	0	0	0	0	0	0	1	0	0	0	0	0
16	0	0	Cal	2	1	2	3	4	2	6	3	2	1	1	1	2	3	0	2	1	0	0	0	0	1
17	0	0	Cal	1	1	4	2	3	5	7	6	4	3	2	2	1	1	1	1	1	1	1	1	1	2
18	1	1	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	8	2	1	0	0	0	1
19	0	0	Cal	1	1	1	3	2	2	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1
20	1	1	Cal	1	2	2	2	3	9	9	27	2	6	8	7	7	7	4	5	2	4	5	2	1	5
21	2	2	Cal	2	3	1	1	1	1	4	1	1	2	2	2	1	2	1	0	0	0	3	5	1	2
22	1	1	Cal	6	3	3	3	4	7	4	2	2	2	3	3	3	2	3	4	10	12	13	18	19	5
23	8	5	Cal	6	2	10	2	7	8	2	1	3	2	2	3	2	1	1	1	1	1	1	2	1	3
24	1	9	Cal	2	Qal	Qal	Qal	Qal	9	2	2	1	Qal	Qal	Qal	Qal	1	2	5	5	1	2	2	2	Bad<
25	2	2	Cal	4	1	0	0	0	0	0	0	0	0	0	0	2	0	1	1	1	1	1	1	1	1
26	1	1	Cal	3	1	1	1	2	3	3	5	5	4	26	22	29	16	9	7	2	2	3	2	2	6
27	3	2	Cal	13	13	11	9	4	4	11	8	10	9	9	6	4	2	5	5	3	6	9	25	6	8
28	5	4	Cal	1	1	2	2	2	5	4	3	2	1	2	1	1	3	0	0	2	1	2	3	0	2
29	0	2	Cal	0	0	1	0	2	4	0	0	0	0	0	0	0	0	2	0	0	0	0	1	15	1
30	16	3	Cal	0	11	1	0	4	1	6	0	0	1	2	0	2	0	0	5	0	5	0	0	0	2

TOTAL HOURS 720 TOTAL GOOD HOURS 678 DATA CAPTURE 94.2%

MAX. 1HR AVG 29 09/26/91 15:00:00 2ND MAX. 1 HR AVG 27 09/20/91 10:00:00

MIN. 1HR AVG 0 09/02/91 03:00:00 ARITHMETIC MEAN 2 STANDARD DEV. 3

NAAQS Comparison: MAX. 3 HR AVG 26 ( 500) 09/26/91 15:00:00  
MAX. 24 HR AVG 9 ( 140) 09/27/91 12:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

OCTOBER, 1991

DAY	HOUR (EST)																								DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1	4	Cal	4	4	10	4	7	5	3	1	1	2	4	2	2	17	12	1	6	2	3	2	1	4
2	5	2	Cal	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	2	1	Cal	0	0	0	0	0	0	0	0	9	9	3	3	0	0	0	0	0	0	0	0	0	1
4	0	0	Cal	1	1	1	1	1	1	1	0	0	0	0	0	0	2	5	1	1	0	0	0	0	1
5	0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	2	1	0	0
6	0	0	Cal	0	0	1	1	1	0	0	1	0	0	5	12	5	2	2	2	2	2	1	2	6	2
7	1	1	Cal	1	2	3	3	4	5	5	10	5	3	3	3	3	1	1	2	2	2	1	3	3	3
8	6	1	Cal	8	5	1	1	2	2	2	2	2	1	0	0	0	1	2	20	2	1	0	1	4	3
9	3	1	Cal	3	4	4	2	3	4	2	2	1	0	0	1	1	3	6	17	1	4	1	1	2	3
10	5	2	Cal	4	5	5	5	4	9	15	14	12	10	8	5	Cal	Cal	3	4	Cal	Cal	Cal	Cal	Cal	Bad<
11	Cal	2	Cal	2	2	2	2	3	5	6	5	1	2	3	3	9	38	24	8	5	4	3	2	2	6
12	2	1	Cal	2	4	5	5	2	8	6	9	7	6	4	1	1	1	2	2	3	3	2	3	3	4
13	2	2	Cal	3	2	2	3	4	5	4	8	10	6	5	4	4	4	3	5	6	6	4	3	1	4
14	1	1	Cal	1	1	1	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	2	Cal	2	1	1	3	2	6	4	2	1	1	1	1	2	2	1	4	1	1	1	2	1	2
16	1	1	Cal	2	2	2	7	19	16	15	12	6	5	5	7	6	6	6	6	5	5	4	4	6	6
17	11	4	Cal	2	3	4	7	5	15	6	6	4	5	2	2	2	2	3	3	2	2	1	1	1	4
18	2	3	Cal	2	1	1	2	16	15	2	2	2	2	1	2	1	1	1	1	1	1	7	9	3	3
19	2	2	Cal	4	8	7	7	4	3	3	4	3	2	2	2	2	2	2	2	2	7	25	4	2	4
20	3	2	Cal	1	1	1	2	5	11	7	1	2	3	2	2	1	1	1	1	1	1	4	2	1	2
21	17	17	Cal	18	13	1	1	2	7	4	2	1	1	1	1	1	1	2	7	2	1	1	4	7	5
22	8	2	Cal	1	1	1	3	4	7	9	1	3	3	2	3	2	1	4	5	1	1	1	3	11	3
23	3	1	Cal	1	1	2	2	4	Cal	2	1	Cal	1	1	2	1	Cal	Cal	Cal	Down	2	1	1	1	Bad<
24	2	2	Cal	16	6	5	24	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
25	5	4	Cal	12	1	13	1	3	0	1	0	0	0	0	0	6	0	0	0	6	14	5	5	2	3
26	0	0	Cal	0	1	1	0	0	5	1	0	0	0	0	2	1	0	0	0	0	0	0	0	2	1
27	0	0	Cal	1	1	1	6	5	2	1	2	1	1	1	1	1	3	2	6	1	1	1	2	25	3
28	3	2	Cal	1	2	2	3	3	4	15	5	PwrF	PwrF	3	2	2	2	2	2	6	13	9	1	1	4
29	2	4	Cal	4	4	4	3	4	5	10	5	5	3	1	9	7	2	1	1	1	7	2	15	2	4
30	1	7	Cal	0	1	19	1	3	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	2
31	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	1	1	21	0	1	2	1	2	4	7	5	2	1	2	2	0	1	0	Bad<

TOTAL HOURS 744 TOTAL GOOD HOURS 692 DATA CAPTURE 93.0%  
 MAX. 1HR AVG 38 10/11/91 16:00:00 2ND MAX. 1 HR AVG 25 10/27/91 23:00:00  
 MIN. 1HR AVG 0 10/03/91 03:00:00 ARITHMETIC MEAN 3 STANDARD DEV. 4  
 NAAQS Comparison: MAX. 3 HR AVG 23 ( 500) 10/11/91 17:00:00  
 MAX. 24 HR AVG 7 ( 140) 10/17/91 05:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator doused channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qel - Data questionable external influence, Purg - Analyzer in Purge

11.11.99

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

DAY	NOVEMBER, 1991																							DAILY AVG	
	HOUR (EST) 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	0	0	Cal	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2	1	2	1	0	
2	0	0	Cal	1	1	1	1	1	1	1	1	1	1	1	2	7	20	10	8	12	9	6	2	4	4
3	6	5	Cal	3	3	3	3	3	10	11	2	4	4	12	10	4	3	6	6	4	8	6	6	5	6
4	2	4	Cal	7	7	3	1	2	3	6	6	9	11	7	5	7	5	6	4	3	3	5	15	10	6
5	5	4	Cal	1	3	6	4	2	3	6	13	12	17	7	3	7	6	4	4	4	10	11	11	10	7
6	4	4	Cal	5	2	2	3	3	5	PwrF	9	12	4	3	1	3	3	2	1	0	0	1	5	6	3
7	4	7	Cal	10	2	1	1	1	2	3	2	4	1	1	3	2	3	2	2	2	2	3	20	4	3
8	3	6	Cal	10	4	4	4	15	17	21	8	9	7	12	13	Cal	Cal	7	6	12	11	9	15	13	10
9	9	12	Cal	8	3	6	2	2	4	11	10	13	16	5	4	3	5	9	11	2	1	1	10	6	7
10	3	3	Cal	3	3	6	6	8	16	18	6	8	10	14	17	19	9	7	6	8	7	5	5	10	8
11	14	10	Cal	14	7	2	4	3	8	22	7	6	21	24	15	18	16	13	9	5	4	4	3	3	10
12	2	1	Cal	8	6	8	7	11	7	9	14	14	11	10	5	5	14	14	13	13	9	7	6	6	9
13	16	13	Cal	6	9	10	11	17	23	27	13	9	8	6	6	6	5	7	6	11	6	5	5	11	10
14	5	3	Cal	2	3	2	1	1	10	14	2	1	1	1	0	1	6	2	3	1	1	0	0	3	3
15	2	2	Cal	1	1	4	2	6	4	3	1	0	0	1	0	0	0	1	0	1	1	2	2	1	1
16	1	1	Cal	0	0	2	2	1	16	3	1	3	2	1	0	0	1	0	2	1	4	1	0	6	2
17	14	16	Cal	4	1	1	7	1	1	1	1	2	1	1	0	0	0	0	0	1	0	1	1	1	2
18	1	1	Cal	1	1	0	1	0	4	0	0	0	0	0	0	2	1	1	1	1	0	0	0	1	1
19	2	2	Cal	2	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	1	1	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
21	0	0	Cal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	1	1	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0
23	0	0	Cal	0	0	7	38	23	6	3	12	2	2	3	23	44	107	83	6	5	3	2	1	4	16
24	3	2	Cal	3	3	5	5	5	3	8	24	4	2	3	3	1	2	2	2	2	2	4	10	5	4
25	7	5	Cal	1	2	2	3	3	6	9	11	6	5	5	7	6	6	9	8	8	16	8	8	5	6
26	4	6	Cal	4	7	7	11	12	10	7	8	6	6	6	6	7	7	7	6	4	5	5	8	9	7
27	7	9	Cal	9	5	6	8	9	8	9	9	7	3	5	2	1	1	1	11	23	3	3	4	4	6
28	3	2	Cal	3	3	4	5	6	5	5	2	0	0	0	0	0	0	0	0	0	2	5	2	4	2
29	0	5	Cal	8	1	1	1	2	4	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1
30	0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL HOURS 720      TOTAL GOOD HOURS 687      DATA CAPTURE 95.4%

MAX. 1HR AVG 107 11/23/91 16:00:00      2ND MAX. 1 HR AVG 83 11/23/91 17:00:00

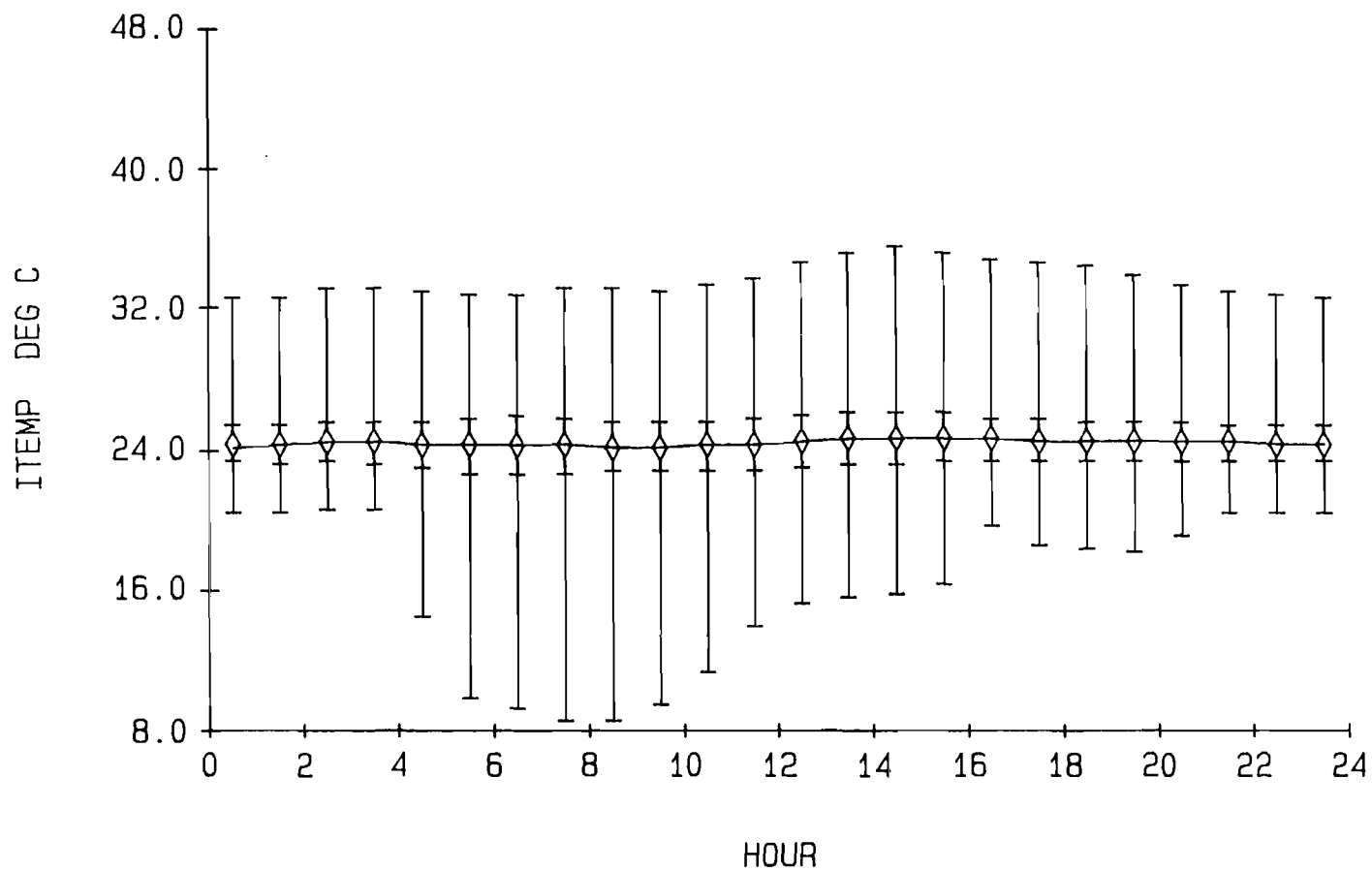
MIN. 1HR AVG 0 11/01/91 00:00:00      ARITHMETIC MEAN 5      STANDARD DEV. 7

NAAQS Comparison: MAX. 3 HR AVG 78 ( 500) 11/23/91 17:00:00  
MAX. 24 HR AVG 17 ( 140) 11/24/91 04:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

DIURNAL PLOT 04/01/91 TO 03/31/92



Tampa Electric Station AQ-1

Averaging Time: 3600 sec

11.11-101

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

DECEMBER, 1991

DAY	HOUR (EST)																								DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
3	0	0	Cal	0	0	0	0	0	0	0	0	Down	Cal	Cal	1	1	1	1	1	1	8	1	0	1	
4	0	0	Cal	0	0	4	3	5	5	2	2	2	2	2	5	9	5	2	3	2	2	3	2	3	
5	2	12	Cal	1	1	2	3	5	6	13	13	5	6	2	1	1	1	2	4	4	3	2	1	0	4
6	0	4	Cal	7	9	7	3	2	2	5	11	1	0	1	2	0	0	3	2	1	0	0	3	6	3
7	7	0	Cal	0	1	4	3	1	3	9	3	1	0	0	1	2	1	3	2	1	1	1	1	0	2
8	0	0	Cal	0	0	0	0	1	2	0	1	0	0	0	0	0	0	1	1	1	4	1	1	0	0
9	0	0	Cal	1	2	2	4	1	1	1	0	0	0	0	0	0	2	4	4	4	6	5	5	3	2
10	3	3	Cal	3	2	4	3	3	8	4	2	2	16	24	16	28	7	4	1	3	2	6	4	2	7
11	2	2	Cal	1	1	2	2	2	1	1	1	4	3	1	1	4	5	2	1	1	0	1	1	1	2
12	0	4	Cal	6	0	0	1	11	13	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
13	0	0	Cal	0	0	0	0	0	2	4	1	0	0	0	0	0	0	2	2	0	0	2	1	0	1
14	0	0	Cal	0	0	1	0	1	0	8	3	1	1	0	4	2	0	4	11	3	1	1	4	2	2
15	1	3	Cal	5	5	3	3	3	6	9	6	7	5	5	4	4	4	5	4	7	8	3	3	3	5
16	3	3	Cal	2	3	7	4	8	7	11	11	9	8	9	11	9	6	3	5	7	4	6	2	3	6
17	7	12	Cal	2	5	7	4	8	8	12	7	3	1	1	1	0	0	2	3	1	1	1	1	7	4
18	13	5	Cal	3	4	6	4	3	11	21	10	3	5	3	4	4	12	18	9	4	15	21	14	9	9
19	9	10	Cal	6	9	9	7	10	5	6	7	3	2	1	1	3	5	4	7	7	9	4	9	10	6
20	6	6	Cal	1	0	21	9	2	13	10	0	0	0	0	0	0	0	0	0	2	27	0	1	1	4
21	1	1	Cal	0	1	1	1	0	2	12	1	0	0	0	0	0	0	2	3	2	3	3	1	1	1
22	0	0	Cal	0	0	0	1	2	1	0	0	0	0	0	0	0	0	2	36	30	22	13	7	4	5
23	3	2	Cal	0	0	0	1	4	4	5	3	0	0	0	0	0	0	1	2	4	4	0	0	0	1
24	0	0	Cal	0	0	1	1	3	1	2	16	21	10	2	1	2	2	3	6	4	10	4	1	4	4
25	8	2	Cal	6	2	1	2	2	2	6	8	8	5	3	2	1	3	4	3	5	5	5	4	4	4
26	2	2	Cal	1	1	2	2	0	5	12	2	0	0	0	0	0	0	0	2	3	2	3	3	3	2
27	1	0	Cal	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0
28	1	1	Cal	0	0	0	0	0	0	0	0	0	3	2	0	0	0	1	0	0	0	1	0	0	0
29	1	0	Cal	1	0	1	1	1	1	1	0	1	2	2	1	2	2	2	2	1	1	1	1	1	1
30	2	2	Cal	0	2	5	2	1	2	3	3	4	1	1	2	2	2	4	9	4	1	1	11	8	3
31	2	1	Cal	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Qad	Bad<

TOTAL HOURS 744 TOTAL GOOD HOURS 689 DATA CAPTURE 92.6%  
 MAX. 1HR AVG 36 12/22/91 18:00:00 2ND MAX. 1 HR AVG 30 12/22/91 19:00:00  
 MIN. 1HR AVG 0 12/01/91 00:00:00 ARITHMETIC MEAN 3 STANDARD DEV. 4  
 NAAQS Comparison: MAX. 3 HR AVG 29 ( 500) 12/22/91 20:00:00  
 MAX. 24 HR AVG 10 ( 140) 12/19/91 07:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

		JANUARY 1992																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
2		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	1	1	0	0	2	1	1	0	1	1	Bad<
3		1	0	Cal	1	0	0	3	1	0	0	0	1	3	1	7	6	4	5	1	3	1	2	3	4	2
4		7	3	Cal	2	1	4	4	5	9	26	18	14	14	10	4	7	8	8	14	5	3	2	3	7	
5		3	2	Cal	1	1	2	3	2	1	2	3	3	2	6	24	48	59	8	10	4	3	3	4	8	
6		1	0	Cal	3	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	67	34	43	53	26	9	2	2	3	4	3	Bad<
7		2	3	Cal	4	4	3	3	4	6	8	16	11	6	13	15	10	3	6	6	7	6	4	3	2	6
8		2	2	Cal	1	0	0	1	1	0	1	3	0	0	0	0	0	0	0	0	2	0	0	0	0	1
9		0	0	Cal	2	2	3	5	3	2	2	3	2	2	2	2	2	Cal	Cal	Cal	4	4	4	2	2	2
10		3	2	Cal	1	2	2	2	2	2	3	2	2	6	46	Cal	Cal	Cal	Cal	2	1	1	1	1	1	4
11		2	12	Cal	4	3	2	3	3	3	9	10	6	10	9	7	6	4	3	5	7	4	6	6	3	5
12		4	26	Cal	31	2	1	1	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
13		1	1	Cal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14		1	1	Cal	1	1	1	1	1	4	3	8	44	25	26	22	13	10	5	5	8	3	3	2	2	8
15		1	2	Cal	2	2	1	1	2	2	2	6	6	2	3	5	5	5	3	2	1	1	2	3	2	3
16		2	9	Cal	6	18	27	12	20	5	3	15	11	2	2	2	2	1	Cal	Cal	4	3	3	5	11	8
17		6	4	Cal	5	5	3	5	4	12	18	16	10	7	3	5	4	5	8	8	8	8	8	7	21	8
18		9	7	Cal	8	8	6	6	6	12	29	6	3	2	2	2	1	1	3	4	4	3	2	2	1	5
19		2	1	Cal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1
20		1	2	Cal	1	1	1	1	1	7	10	10	13	11	14	11	7	4	3	2	2	3	3	4	16	5
21		16	18	Cal	12	6	4	4	4	5	18	16	7	10	4	3	10	6	7	7	6	4	4	2	2	8
22		5	4	Cal	2	1	2	4	3	5	3	1	1	1	1	1	1	1	1	2	1	2	1	1	1	2
23		1	1	Cal	1	1	1	1	1	2	1	1	1	2	1	2	2	1	1	2	1	1	1	3	11	2
24		10	5	Cal	12	8	2	2	2	1	2	6	9	3	5	1	1	1	1	3	1	3	3	3	17	4
25		12	6	Cal	3	4	5	3	3	3	4	3	2	2	3	2	3	3	3	4	3	6	26	10	8	5
26		4	2	Cal	3	3	7	7	5	5	10	9	9	5	5	4	3	4	3	4	5	5	6	4	5	5
27		29	3	Cal	11	14	16	8	5	6	4	1	1	1	1	1	1	1	1	1	1	1	1	2	4	5
28		1	1	Cal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29		1	1	Cal	1	1	1	1	1	1	1	1	1	1	1	1	2	14	3	1	1	3	2	2	2	2
30		1	1	Cal	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	5	5	6	2
31		4	3	Cal	1	2	3	2	2	1	2	7	4	3	3	2	1	3	6	4	13	11	9	9	5	4

TOTAL HOURS 744      TOTAL GOOD HOURS 661      DATA CAPTURE 88.8%

MAX. 1HR AVG 67 01/06/92 13:00:00      2ND MAX. 1 HR AVG 59 01/05/92 16:00:00

MIN. 1HR AVG 0 01/02/92 16:00:00      ARITHMETIC MEAN 4      STANDARD DEV. 7

NAAQS Comparison: MAX. 3 HR AVG 48 ( 500) 01/06/92 15:00:00  
 MAX. 24 HR AVG 15 ( 140) 01/07/92 07:00:00

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11-11-103

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

DAY	FEBRUARY 1992																							DAILY AVG		
	HOUR (EST)	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21		22	23
1	2	4	Cal	4	4	3	2	3	4	4	5	6	6	4	4	3	2	2	5	2	2	3	3	3	3	
2	6	4	Cal	2	3	1	2	2	2	2	4	7	5	4	2	1	2	1	1	3	25	22	9	23	6	
3	1	6	Cal	9	2	2	3	3	6	8	1	2	0	1	3	3	2	1	6	4	2	0	0	0	3	
4	0	0	Cal	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
5	1	1	Cal	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6	1	1	Cal	1	1	1	1	1	1	2	14	11	5	4	10	3	2	11	16	2	3	8	2	1	4	
7	5	10	Cal	1	3	8	3	2	3	6	6	10	3	14	5	6	3	2	2	2	6	2	2	2	4	
8	6	4	Cal	2	1	1	3	4	4	6	8	12	21	26	12	10	10	15	41	23	6	4	3	2	10	
9	1	7	Cal	8	5	6	4	4	9	11	9	7	6	4	5	4	4	5	4	5	5	3	3	3	5	
10	4	4	Cal	2	2	1	1	0	1	8	7	0	0	0	0	0	0	0	0	2	2	3	0	0	2	
11	0	0	Cal	1	1	1	2	10	10	17	12	16	16	5	3	4	3	4	4	8	2	4	1	1	5	
12	1	1	Cal	4	6	9	1	1	1	1	2	1	1	3	3	3	4	6	8	6	4	5	2	2	3	
13	2	2	Cal	1	0	0	0	0	0	1	6	2	1	1	1	1	Cal	Cal	4	38	28	10	6	3	5	
14	2	2	Cal	1	1	1	0	1	1	2	1	1	1	0	0	Cal	Cal	1	2	3	4	4	3	4	2	
15	5	7	Cal	3	4	3	1	1	1	1	1	1	1	1	1	1	1	1	2	4	2	2	3	2	2	
16	2	2	Cal	3	2	1	1	1	1	1	1	1	2	2	1	1	1	2	4	4	4	4	4	5	2	
17	3	4	Cal	1	1	1	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
18	3	3	3	4	3	3	3	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
19	2	1	1	1	1	1	1	1	1	Cal	Cal	Cal	Cal	Cal	3	4	46	16	8	5	4	4	4	3	6	
20	2	1	4	3	5	6	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
21	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
22	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
23	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
24	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
25	1	1	Cal	1	1	1	1	1	1	PwrF	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
26	1	1	Cal	1	1	1	1	2	2	9	2	1	PwrF	PwrF	1	1	8	3	15	6	16	19	3	15	5	
27	12	2	Cal	8	8	4	4	3	6	12	14	7	9	21	22	31	19	8	7	3	4	5	4	7	9	
28	6	4	Cal	5	3	4	7	5	3	3	7	4	6	12	19	15	10	25	42	12	3	2	2	3	9	
29	2	3	Cal	1	0	1	1	3	3	3	1	2	6	7	7	6	5	6	3	4	2	1	1	4	3	

TOTAL HOURS 696 TOTAL GOOD HOURS 549 DATA CAPTURE 78.9%  
 MAX. 1HR AVG 46 02/19/92 16:00:00 2ND MAX. 1 HR AVG 42 02/28/92 18:00:00  
 MIN. 1HR AVG 0 02/03/92 12:00:00 ARITHMETIC MEAN 4 STANDARD DEV. 6  
 NAAQS Comparison: MAX. 3 HR AVG 26 ( 500) 02/28/92 19:00:00  
 MAX. 24 HR AVG 11 ( 140) 02/27/92 17:00:00

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, Ocal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-104

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SO2 IN PPB

DAY	MARCH 1992																								DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	3	2	Cal	1	0	0	0	7	4	2	1	8	7	2	2	1	1	2	3	12	16	9	4	4	4
2	3	2	Cal	3	2	2	3	3	9	9	17	4	4	2	2	2	2	2	3	4	7	6	4	1	4
3	1	1	Cal	1	1	0	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
4	0	0	Cal	1	1	1	2	4	4	4	2	0	0	0	0	0	0	0	0	0	0	0	5	1	1
5	0	0	Cal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	Cal	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	3	1
7	2	1	Cal	1	1	1	1	1	1	1	2	4	1	1	1	1	1	1	1	1	1	42	14	172	11
8	32	19	Cal	7	4	2	7	11	2	2	5	15	3	4	2	1	1	3	7	6	4	4	4	5	6
9	4	4	Cal	3	2	2	2	1	7	3	2	2	2	1	1	1	1	4	12	12	9	11	10	10	4
10	3	2	Cal	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
11	5	3	Cal	1	1	3	3	1	1	1	1	2	3	3	2	2	5	13	16	4	1	2	2	2	3
12	1	1	Cal	3	3	7	8	6	12	17	7	3	3	11	13	9	15	11	10	3	4	5	4	2	7
13	1	1	Cal	2	8	8	8	10	13	7	4	4	10	12	8	8	6	7	12	4	4	5	4	3	6
14	3	4	Cal	2	1	1	2	3	6	4	2	4	8	8	2	2	23	37	10	7	7	9	7	5	7
15	6	7	Cal	6	4	5	3	8	8	6	4	3	2	3	4	3	2	2	29	6	3	2	3	1	5
16	1	1	Cal	2	2	2	3	3	4	4	4	4	4	4	4	4	4	2	1	1	1	1	1	1	3
17	1	1	Cal	0	0	0	0	4	3	0	1	3	2	2	2	2	1	1	1	0	1	1	0	0	1
18	0	0	Cal	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	3	2	1	1	1	1
19	1	1	Cal	3	1	0	0	0	1	1	0	0	2	2	0	0	16	25	4	0	0	0	2	16	3
20	1	0	Cal	0	0	0	4	6	7	6	8	4	2	2	3	3	1	1	2	3	4	3	3	2	3
21	1	4	Cal	4	10	26	11	4	7	9	6	6	6	6	7	6	6	5	4	4	4	5	7	6	7
22	8	6	Cal	5	4	2	1	1	1	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	1
23	0	0	Cal	0	0	0	0	0	1	1	6	39	3	1	4	1	1	6	1	1	1	0	1	1	3
24	0	1	Cal	2	5	4	5	3	3	2	6	3	2	2	1	2	1	4	1	1	11	13	2	3	
25	1	1	Cal	0	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	1	Cal	2	1	1	2	3	4	3	2	2	2	3	2	4	3	2	3	3	2	2	3	4	2
27	4	3	Cal	2	1	1	2	3	1	2	2	10	6	1	3	17	64	43	21	6	4	5	12	9	10
28	6	2	Cal	3	2	2	4	3	3	11	4	4	4	5	4	4	3	5	4	4	4	4	3	2	4
29	2	5	Cal	7	6	3	1	2	4	2	3	2	2	2	3	2	2	2	2	3	8	19	18	6	4
30	2	3	Cal	2	1	1	0	0	0	0	0	0	0	1	1	1	2	3	4	1	0	0	0	0	1
31	0	0	Cal	0	0	0	0	3	3	6	4	Cal	Cal	Cal	37	30	18	19	13	2	1	2	1	1	7

TOTAL HOURS 744      TOTAL GOOD HOURS 710      DATA CAPTURE 95.4%

MAX. 1HR AVG 172 03/07/92 23:00:00      2ND MAX. 1 HR AVG 64 03/27/92 16:00:00

MIN. 1HR AVG 0 03/01/92 05:00:00      ARITHMETIC MEAN 4      STANDARD DEV. 8

NAAQS Comparison: MAX. 3 HR AVG 76 ( 500) 03/07/92 23:00:00  
 MAX. 24 HR AVG 16 ( 140) 03/08/92 20:00:00

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qel - Data questionable external influence, Purg - Analyzer in Purge

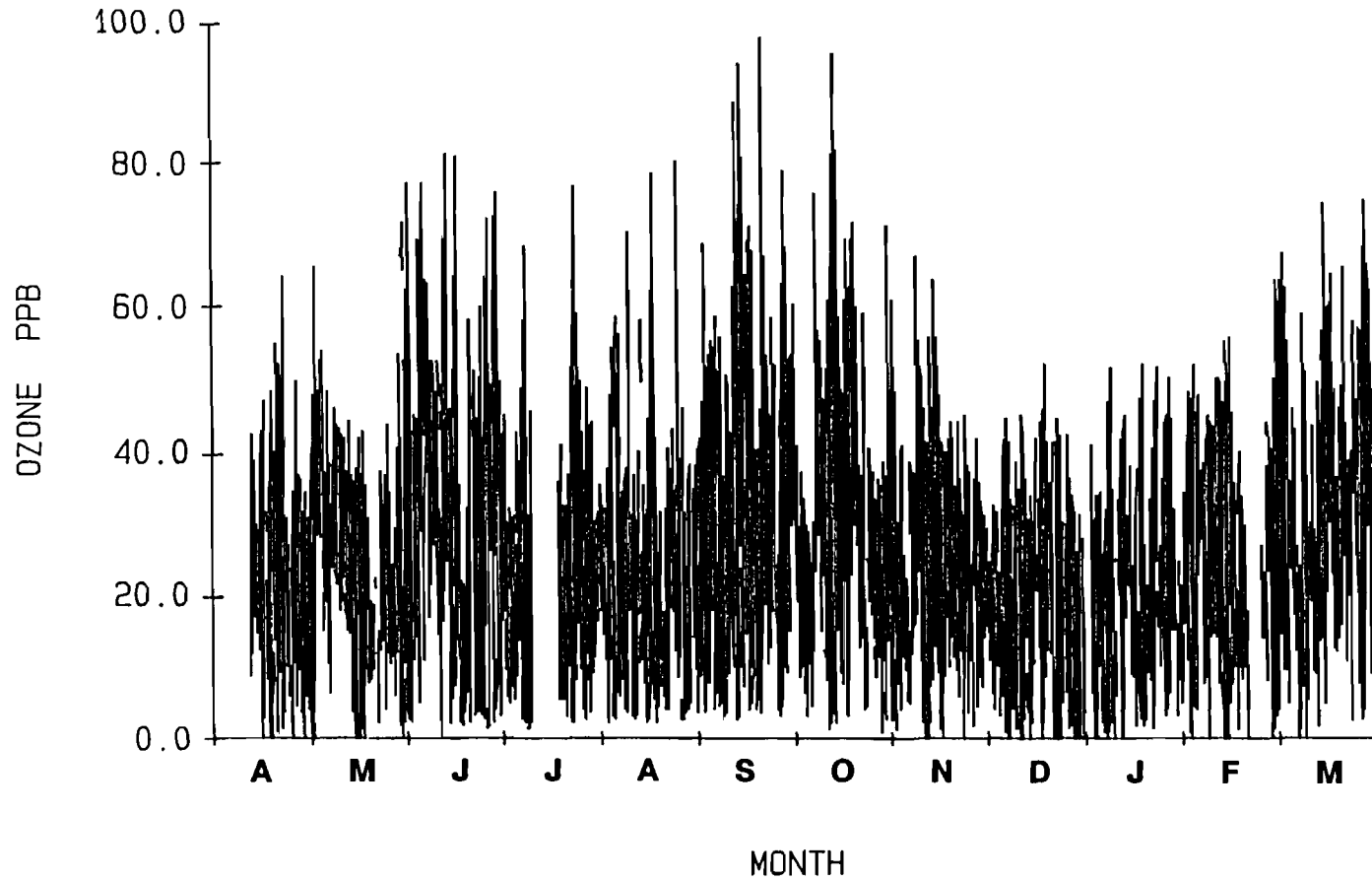
11.11-105

**HOURLY AVERAGES FOR OZONE  
[PARTS PER BILLION (ppb)]**



11.11-107

TIME PLOT FOR 04/01/91 00:00:00 TO 03/31/92 23:00:00



Tampa Electric Station AQ-1

Averaging Time: 1 Hour

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

APRIL, 1991

DAY	HOUR (EST)																								DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	14	21	14	14	16	16	12	23	27	Cal	40	47	53	56	58	57	55	58	51	45	42	40	38	36	36
2	34	23	27	19	10	6	5	12	34	42	47	32	Cal	Cal	Cal	64	58	55	69	49	51	41	32	35	
3	32	8	Cal	12	8	4	3	32	40	49	51	51	54	56	58	51	51	51	49	47	47	45	45	39	
4	19	14	Cal	0	0	34	6	30	36	45	51	41	43	42	43	42	0	29	27	27	29	27	25	28	
5	23	4	Cal	0	0	0	0	20	32	37	0	0	37	0	33	0	0	0	33	0	0	0	0	9	
6	0	0	Cal	11	0	11	9	13	22	31	0	0	0	0	37	37	41	31	31	0	0	0	0	12	
7	20	4	Cal	20	0	0	0	0	0	28	31	32	34	35	35	34	31	32	30	31	17	11	16	17	20
8	13	18	3	17	18	17	19	17	21	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
9	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
11	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	47	47	52	47	37	31	29	25	19	Bad<
12	19	17	Cal	12	12	9	12	18	25	23	32	34	39	42	43	39	39	35	32	28	25	22	19	17	26
13	15	12	Cal	15	18	19	17	21	25	28	30	32	33	34	34	37	39	38	37	35	30	25	24	23	27
14	22	19	Cal	18	17	15	15	18	23	28	29	30	30	30	29	28	29	29	28	26	26	25	24	22	24
15	20	16	Cal	17	16	16	13	19	27	33	37	38	42	40	41	43	43	40	29	32	34	22	9	4	27
16	0	3	Cal	12	10	9	8	3	20	27	30	32	33	34	34	30	40	47	37	PwrF	PwrF	PwrF	PwrF	PwrF	Bad<
17	PwrF	Miss	Cal	9	19	22	22	17	17	17	8	17	PwrF	28	Cal	32	29	PwrF	18	Cal	3	19	21	Bad<	
18	22	12	0	1	10	10	13	13	16	20	23	26	34	40	45	49	46	40	32	25	11	13	10	1	21
19	4	6	Cal	4	0	0	0	4	8	10	12	PwrF	26	25	37	40	36	31	19	20	20	21	14	17	16
20	19	15	Cal	19	19	7	1	11	19	25	33	40	47	53	51	52	55	52	45	41	35	25	16	9	30
21	21	21	Cal	25	34	28	21	26	36	47	50	52	53	49	53	49	48	46	43	46	41	38	32	19	38
22	7	5	Cal	3	1	1	1	19	46	52	54	59	58	59	55	63	57	65	53	43	31	5	4	21	33
23	26	26	Cal	27	29	29	23	23	30	31	30	24	24	22	21	21	18	17	15	10	14	14	17	17	22
24	10	10	Cal	10	8	6	6	6	13	18	23	27	27	24	24	24	22	18	15	12	10	4	0	15	
25	0	0	Cal	0	0	0	2	13	21	26	32	35	35	25	11	19	29	31	33	35	33	30	29	29	20
26	19	17	Cal	16	15	14	10	15	20	29	39	44	47	47	48	48	50	29	13	5	15	17	10	17	25
27	16	16	Cal	13	12	15	11	10	11	16	22	25	28	28	31	31	37	36	28	8	10	7	4	7	18
28	9	7	Cal	8	9	7	7	11	15	18	21	24	27	29	29	31	32	31	25	21	17	7	0	0	16
29	13	12	Cal	7	8	9	6	16	14	18	22	25	27	35	31	31	33	31	25	28	14	7	6	19	19
30	13	6	Cal	4	6	7	8	11	13	18	24	27	28	30	29	29	29	31	33	23	16	13	8	7	18

TOTAL HOURS 720 TOTAL GOOD HOURS 602 DATA CAPTURE 83.6%

MAX. 1HR AVG 69 04/02/91 19:00:00 2ND MAX. 1 HR AVG 65 04/22/91 17:00:00

MIN. 1HR AVG 0 04/04/91 03:00:00 ARITHMETIC MEAN 24 STANDARD DEV. 15

NAAQS Comparison: MAX. 1 HR AVG 69 ( 120) 04/02/91 19:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

DAY	MAY, 1991																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	3	0	Cal	0	0	3	6	10	18	25	34	39	39	43	47	48	45	33	36	34	27	13	4	14	22
2	8	8	Cal	11	1	0	3	15	25	33	45	51	52	58	65	66	64	57	47	23	26	41	38	38	34
3	38	35	Cal	34	33	29	30	36	41	44	47	49	45	47	47	47	49	49	47	45	45	47	46	44	42
4	43	41	Cal	33	34	32	28	34	39	40	46	50	51	53	53	54	54	53	34	39	38	40	30	28	41
5	29	24	Cal	18	16	15	16	19	23	28	30	33	36	38	38	37	37	36	33	35	32	34	29	25	29
6	23	20	Cal	13	14	11	12	13	21	25	29	34	36	36	36	29	21	49	35	31	30	39	26	22	26
7	15	7	Cal	11	12	9	11	16	22	27	30	32	33	Cal	Cal	39	39	36	33	29	28	30	30	30	24
8	30	27	Cal	28	28	24	26	30	36	42	44	45	46	47	46	45	45	46	40	33	29	28	26	28	35
9	29	24	Cal	24	22	22	22	27	33	35	38	40	43	44	42	42	44	43	37	33	29	26	26	25	32
10	22	19	Cal	20	20	19	18	22	29	34	38	40	41	43	44	42	43	43	42	39	35	30	30	29	32
11	26	23	Cal	25	22	20	20	30	38	40	42	41	40	40	42	42	41	39	38	35	33	32	31	30	33
12	27	23	Cal	20	18	17	15	24	29	32	34	37	38	37	38	37	36	34	33	32	35	32	30	28	30
13	23	19	Cal	21	17	17	15	17	24	34	45	33	32	34	32	PwrF	29	28	24	28	37	24	17	14	25
14	14	13	Cal	14	11	4	10	15	22	26	23	35	34	28	35	32	35	36	31	22	9	2	0	0	19
15	0	1	Cal	0	0	0	4	12	19	22	24	27	31	34	38	38	34	33	26	18	17	5	1	0	17
16	0	0	Cal	2	3	0	0	9	19	29	34	35	41	42	35	31	33	32	18	15	17	21	9	4	19
17	3	8	Cal	1	6	15	16	23	22	22	30	37	36	38	40	42	43	39	31	30	25	17	14	12	24
18	7	0	Cal	0	5	8	4	22	27	29	34	36	32	34	34	30	23	25	26	23	21	19	16	15	20
19	11	8	Cal	9	9	8	8	13	18	24	26	27	30	31	30	31	30	27	26	19	15	9	11	10	18
20	10	9	Cal	10	9	9	8	8	12	16	19	20	17	17	18	18	19	17	14	11	11	11	10	11	13
21	12	10	Cal	10	10	10	10	12	12	Down	Down	Down	21	22	23	22	Cal	Cal	Cal	Cal	Cal	0	0	0	Bad<
22	0	0	Cal	14	14	13	11	10	12	13	8	2	3	5	10	15	11	8	8	12	13	13	13	13	9
23	15	13	Cal	14	17	16	14	15	21	26	30	36	38	36	36	33	33	32	28	23	21	18	16	15	24
24	15	14	Cal	14	15	15	14	16	19	24	31	33	34	34	37	32	21	16	12	4	14	18	18	16	20
25	15	12	Cal	12	13	12	15	18	21	24	26	29	31	32	38	41	44	42	35	29	26	21	17	14	24
26	12	11	Cal	12	13	14	13	15	19	22	23	23	22	35	27	24	25	25	21	21	20	19	18	14	19
27	17	17	Cal	15	14	12	13	17	20	23	24	26	27	28	30	27	23	19	15	7	6	12	15	18	18
28	16	12	Cal	13	13	12	15	18	21	25	27	29	31	31	32	34	39	41	39	39	27	30	24	21	25
29	21	16	Cal	2	2	2	11	21	29	34	39	41	43	47	52	54	50	47	28	5	19	28	21	19	27
30	12	4	Cal	0	0	5	12	19	27	Cal	Cal	67	70	72	72	66	PwrF	53	44	35	31	15	21	15	32
31	11	12	Cal	4	2	8	8	22	42	54	58	62	51	51	58	59	59	63	42	24	25	30	10	5	33

TOTAL HOURS 744 TOTAL GOOD HOURS 699 DATA CAPTURE 94.0%

MAX. 1HR AVG 72 05/30/91 14:00:00 2ND MAX. 1 HR AVG 72 05/30/91 13:00:00

MIN. 1HR AVG 0 05/01/91 01:00:00 ARITHMETIC MEAN 25 STANDARD DEV. 14

NAAQS Comparison: MAX. 1 HR AVG 72 ( 120) 05/30/91 14:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.1-109

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

JUNE, 1991

DAY	HOURLY AVERAGES FOR OZONE IN PPB																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	4	3	Cal	3	4	11	15	29	38	38	59	78	77	71	66	72	75	76	71	42	16	28	28	19	40
2	11	4	Cal	6	2	2	10	19	28	34	38	43	43	43	46	42	39	39	41	34	28	18	11	12	26
3	13	14	Cal	14	14	15	18	26	34	39	42	43	44	45	42	43	40	40	34	31	26	22	17	14	29
4	17	15	Cal	12	5	16	10	26	43	46	Cal	Cal	60	57	53	52	53	70	34	50	46	48	53	47	38
5	34	34	Cal	37	49	49	29	35	46	51	54	60	63	65	77	78	72	69	62	61	64	62	59	53	55
6	53	43	Cal	29	27	11	16	23	30	42	58	63	64	64	61	56	55	51	48	40	38	40	42	43	43
7	45	38	Cal	38	29	18	17	27	37	43	51	55	58	64	58	58	53	48	45	43	42	39	40	35	42
8	37	35	Cal	36	33	22	26	37	44	47	49	53	50	52	52	53	53	53	50	47	44	40	39	40	43
9	39	34	Cal	31	30	27	29	37	42	45	47	47	48	48	49	47	47	46	43	43	40	38	36	34	40
10	31	28	Cal	28	24	15	17	30	34	Cal	49	48	50	52	53	50	48	45	44	41	38	34	31	21	37
11	19	8	Cal	5	3	0	9	30	Cal	44	46	Cal	49	50	50	48	48	47	46	44	42	39	36	33	33
12	28	24	Cal	17	22	18	25	31	43	44	54	66	61	66	69	70	68	65	58	21	45	43	36	33	44
13	29	23	Cal	29	29	25	26	28	33	55	64	72	78	78	76	82	82	79	62	51	49	42	38	37	51
14	33	25	Cal	20	5	2	3	24	29	36	44	44	45	44	45	45	47	41	30	14	6	7	19	28	
15	15	11	Cal	24	25	26	21	23	27	35	47	52	52	49	46	50	59	61	65	53	37	32	36	17	37
16	14	12	Cal	7	9	12	16	27	47	59	67	74	81	78	78	58	45	53	45	41	35	29	22	14	40
17	15	11	Cal	8	3	2	5	9	19	23	23	19	30	26	36	PwrF	35	PwrF	PwrF	18	6	3	5	4	15
18	3	2	Cal	2	2	2	5	11	16	21	22	16	14	21	18	22	14	15	16	13	13	12	5	4	11
19	6	8	Cal	12	11	5	8	14	17	18	21	27	29	30	30	28	25	25	12	33	31	25	12	14	19
20	7	9	Cal	8	2	3	14	22	29	36	40	52	55	57	59	56	PwrF	36	38	25	PwrF	PwrF	PwrF	PwrF	Bad<
21	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	48	47	Cal	45	40	44	52	44	46	36	30	25	20	Bad<
22	12	7	Cal	13	3	3	12	20	28	29	27	34	39	39	33	39	45	41	37	33	21	19	25	7	24
23	8	4	Cal	14	11	4	10	20	32	37	35	40	47	51	30	35	41	42	PwrF	44	35	36	32	25	29
24	15	10	Cal	10	9	3	8	26	24	31	40	49	59	60	47	42	38	40	28	25	17	21	11	7	27
25	5	9	Cal	3	3	3	10	27	36	41	51	61	65	63	62	63	60	56	50	44	43	28	20	16	35
26	19	17	Cal	4	1	2	2	11	28	39	49	60	67	69	73	64	PwrF	54	50	30	47	45	30	32	36
27	33	36	Cal	33	35	28	30	37	44	50	47	48	48	39	36	27	29	31	12	6	4	5	4	3	29
28	6	5	Cal	3	5	2	5	20	32	47	60	68	68	68	72	61	59	73	59	39	30	47	43	29	39
29	26	26	Cal	11	6	4	8	40	50	56	60	59	62	65	73	76	72	64	52	57	51	50	36	38	45
30	35	34	Cal	17	8	3	12	37	47	44	44	44	42	45	48	49	50	35	29	24	17	20	18	21	31

TOTAL HOURS 720 TOTAL GOOD HOURS 664 DATA CAPTURE 92.2X  
 MAX. 1HR AVG 82 06/13/91 16:00:00 2ND MAX. 1 HR AVG 82 06/13/91 15:00:00  
 MIN. 1HR AVG 0 06/11/91 05:00:00 ARITHMETIC MEAN 35 STANDARD DEV. 19  
 NAAQS Comparison: MAX. 1 HR AVG 82 ( 120) 06/13/91 15:00:00

KEY FOR MISSING CODES  
 Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-110



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

		AUGUST, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1	22	19	Cal	17	16	16	15	16	18	23	27	30	31	33	33	24	25	25	21	19	15	16	15	17	21	
2	16	14	Cal	11	13	14	15	15	22	28	28	29	33	31	38	29	18	19	11	11	10	7	5	6	18	
3	11	12	Cal	8	9	4	2	14	25	28	34	33	35	37	41	48	46	31	30	38	26	16	11	23	24	
4	21	17	Cal	14	6	3	4	12	17	19	24	37	24	32	31	48	55	53	42	26	17	12	5	5	23	
5	3	3	Cal	3	3	3	3	5	25	Cal	Cal	44	53	51	59	Cal	Cal	51	41	27	32	33	21	18	25	
6	16	7	Cal	8	8	18	24	34	44	51	54	57	51	45	44	44	39	33	28	17	33	16	18	15	30	
7	10	6	Cal	8	13	15	12	15	19	24	28	28	29	29	35	28	26	27	29	25	19	18	16	15	20	
8	14	12	Cal	9	4	6	8	13	18	23	28	29	30	31	32	36	38	36	31	31	33	PwrF	27	22	23	
9	20	11	Cal	4	6	4	5	14	34	38	37	34	47	57	PwrF	PwrF	71	41	49	45	46	41	25	18	31	
10	20	21	Cal	19	19	18	17	22	27	27	30	32	31	32	17	26	29	27	24	19	13	10	3	4	21	
11	3	4	Cal	3	3	4	4	9	20	26	30	33	37	26	36	37	33	30	24	20	18	14	5	3	18	
12	3	3	Cal	3	6	4	5	11	19	25	28	31	30	40	40	35	30	33	32	27	32	26	26	24	22	
13	22	18	Cal	11	14	16	11	19	24	Down	Down	Down	Qal	54	59	56	50	Qal	Qal	Qal	Qal	20	25	27	Bad<	
14	15	13	8	14	14	17	17	28	31	27	27	27	29	34	36	36	31	27	15	10	4	3	2	3	19	
15	7	20	15	16	16	13	11	13	21	24	24	31	35	31	25	37	45	41	31	17	38	38	25	18	24	
16	11	10	5	5	7	3	3	9	24	Cal	37	51	48	49	54	63	60	47	49	37	26	40	49	27	31	
17	12	7	Cal	13	6	10	7	14	22	34	47	63	61	55	67	79	69	57	47	41	31	25	16	20	35	
18	16	15	Cal	10	4	2	6	16	23	25	20	24	27	30	26	25	22	26	21	17	14	10	9	6	17	
19	7	7	Cal	7	5	5	6	12	18	23	26	29	26	24	32	28	25	23	21	15	13	9	7	7	16	
20	8	7	Cal	10	9	14	18	10	6	13	12	10	12	10	15	16	16	15	16	9	10	6	9	7	11	
21	6	4	Cal	10	11	11	12	15	21	23	28	25	32	33	31	29	28	32	29	17	22	24	41	37	22	
22	32	26	Cal	24	17	5	4	15	19	24	32	37	38	33	30	32	32	33	31	27	25	22	19	20	25	
23	20	19	Cal	18	20	20	18	22	28	33	38	40	44	43	36	37	38	32	32	33	30	27	20	24	29	
24	23	17	Cal	19	16	15	13	21	27	33	33	34	34	32	33	35	37	81	27	24	21	20	20	20	27	
25	20	17	Cal	19	17	13	9	18	23	28	32	32	35	36	35	35	40	35	27	25	28	25	24	22	26	
26	19	12	Cal	6	3	3	3	8	17	30	38	43	45	47	45	42	40	42	39	29	25	25	23	20	26	
27	16	11	Cal	9	7	4	4	10	16	21	27	32	15	18	27	25	16	15	8	5	7	13	11	14	14	
28	11	4	Cal	10	12	5	7	15	23	31	36	39	38	35	27	27	30	33	22	15	5	12	21	20	21	
29	21	18	Cal	12	14	14	14	17	22	29	31	31	31	32	33	35	33	27	29	33	29	25	22	19	25	
30	16	14	Cal	12	11	10	11	14	22	28	32	33	33	34	33	34	39	34	20	15	8	7	8	12	21	
31	18	14	Cal	7	10	6	4	16	30	32	35	38	40	42	41	39	41	39	34	33	13	14	23	25	26	

TOTAL HOURS 744 TOTAL GOOD HOURS 700 DATA CAPTURE 94.1%  
 MAX. 1HR AVG 81 08/24/91 17:00:00 2ND MAX. 1 HR AVG 79 08/17/91 15:00:00  
 MIN. 1HR AVG 2 08/03/91 06:00:00 ARITHMETIC MEAN 23 STANDARD DEV. 13  
 NAAQS Comparison: MAX. 1 HR AVG 81 ( 125) 08/24/91 17:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-112

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

SEPTEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	24	21	Cal	10	10	9	12	26	31	38	47	47	45	46	47	44	39	37	41	31	19	26	22	13	29
2	11	6	Cal	10	69	4	4	20	32	38	47	49	47	46	51	55	57	61	56	45	52	35	27	16	36
3	18	24	Cal	21	14	9	8	14	29	44	48	52	50	50	43	54	52	46	43	37	35	25	27	18	33
4	18	16	Cal	17	14	9	8	15	28	43	46	47	47	50	51	56	48	42	39	36	33	24	30	30	33
5	18	19	Cal	20	11	4	6	12	29	40	44	45	45	49	53	55	44	41	52	34	24	22	25	32	32
6	19	11	Cal	10	9	7	7	13	24	39	45	51	59	Qai	Qai	Qai	Qai	44	52	43	42	30	13	15	28
7	13	10	Cal	9	6	5	5	9	22	36	47	50	53	56	54	50	51	46	38	27	28	31	22	11	29
8	5	7	Cal	10	6	3	6	12	17	26	33	27	28	28	29	37	35	29	17	14	12	8	7	8	17
9	7	4	Cal	9	11	21	29	32	35	39	48	51	51	51	50	51	49	46	44	39	35	29	29	29	34
10	24	21	Cal	22	22	19	9	21	31	36	42	43	43	43	40	38	41	43	38	32	28	27	26	23	31
11	22	18	Cal	23	19	10	15	18	26	32	40	50	57	62	63	60	59	63	49	37	31	10	27	26	35
12	23	19	Cal	10	4	3	10	18	31	42	60	66	65	70	86	89	77	54	26	11	33	39	33	31	39
13	29	22	Cal	6	6	4	3	11	37	47	59	71	75	88	95	89	85	71	49	41	40	41	37	36	45
14	34	27	Cal	24	14	10	19	20	32	45	59	70	75	80	81	77	65	53	23	7	26	37	35	35	41
15	34	28	Cal	20	18	15	20	28	35	45	57	65	63	58	54	53	51	50	48	48	46	40	39	40	41
16	38	28	Cal	8	8	6	4	28	54	70	69	69	68	67	70	72	69	60	53	50	48	43	39	28	45
17	15	10	Cal	9	7	7	5	9	33	56	61	65	68	68	68	63	55	52	48	43	35	30	26	25	37
18	28	26	Cal	18	16	20	17	20	26	32	37	38	40	41	37	35	23	4	7	22	6	8	24	20	23
19	18	17	Cal	11	7	11	13	17	20	27	33	35	38	41	42	45	47	40	33	28	22	19	11	10	25
20	5	5	Cal	5	5	4	4	7	17	26	42	62	72	85	99	90	82	66	57	61	38	37	20	27	40
21	26	20	Cal	19	20	25	27	26	32	41	48	54	62	65	67	67	56	56	52	43	37	33	17	25	40
22	26	19	Cal	16	14	11	11	15	26	37	43	47	51	54	49	45	44	43	35	31	27	24	26	25	31
23	24	19	Cal	20	19	19	13	19	34	40	46	49	53	53	56	59	56	46	37	29	27	23	24	22	34
24	25	18	Cal	21	Qai	Qai	Qai	Qai	30	32	42	47	Qai	Qai	Qai	Qai	48	53	40	35	32	18	16	7	Bad<
25	4	4	Cal	15	15	15	13	13	16	20	24	23	21	23	21	24	27	24	14	5	6	9	14	8	15
26	4	5	Cal	8	5	3	14	8	23	36	44	50	58	54	64	61	61	55	47	46	36	22	18	5	31
27	9	24	Cal	29	24	10	14	22	38	43	60	72	76	79	80	76	75	55	43	38	26	20	15	9	41
28	31	33	Cal	37	36	27	30	35	45	58	64	69	68	68	65	61	PwrF	55	51	46	46	41	41	39	47
29	35	26	Cal	25	19	15	16	20	34	46	52	53	54	52	51	49	45	34	31	33	31	32	35	39	36
30	38	33	Cal	30	35	37	40	38	40	38	44	46	46	61	40	45	45	43	42	42	37	35	36	32	40

TOTAL HOURS 720      TOTAL GOOD HOURS 677      DATA CAPTURE 94.0%  
 MAX. 1HR AVG 99 09/20/91 14:00:00      2ND MAX. 1 HR AVG 95 09/13/91 14:00:00  
 MIN. 1HR AVG 3 09/12/91 05:00:00      ARITHMETIC MEAN 34      STANDARD DEV. 19  
 NAAQS Comparison: MAX. 1 HR AVG 99 ( 125) 09/20/91 14:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-113

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

DAY	OCTOBER, 1991																							DAILY AVG	
	HOUR (EST) 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	29	26	Cal	23	25	20	20	20	29	41	41	41	40	38	33	33	32	30	31	29	20	21	23	17	29
2	16	15	Cal	13	9	11	14	13	14	18	25	27	26	32	35	38	33	31	28	17	20	18	15	15	21
3	11	13	Cal	13	10	12	14	13	21	26	32	25	29	34	31	31	26	25	21	18	16	14	13	12	20
4	11	7	Cal	3	3	4	4	8	10	15	27	29	30	30	27	26	22	21	13	12	11	20	19	15	16
5	17	16	Cal	15	11	14	11	12	15	23	26	27	29	29	25	21	21	18	10	7	7	7	6	8	16
6	7	9	Cal	7	11	6	5	6	18	24	29	29	25	19	17	24	28	22	20	13	17	21	29	25	18
7	31	27	Cal	35	32	25	27	24	24	27	35	46	57	61	71	76	62	46	41	37	38	39	40	41	41
8	42	39	Cal	37	36	30	29	31	36	46	51	55	57	57	55	56	55	51	47	43	41	36	35	32	43
9	29	29	Cal	28	26	15	21	24	30	33	43	48	48	46	45	44	43	40	36	31	36	38	33	33	34
10	33	23	Cal	13	12	10	8	11	14	17	24	32	40	52	52	47	43	Down	Down	34	20	18	Cal	Cal	26
11	Cal	4	Cal	1	1	1	2	3	16	21	35	49	57	61	61	61	45	54	47	31	23	15	12	14	28
12	16	9	Cal	2	2	3	4	13	34	52	61	71	75	82	75	76	76	71	54	26	13	8	4	7	36
13	9	8	Cal	7	6	5	2	10	46	72	89	93	96	96	95	92	86	41	31	51	55	50	45	38	49
14	45	47	Cal	55	46	35	15	33	43	63	73	77	82	80	77	74	67	51	42	59	53	51	48	44	55
15	43	38	Cal	42	41	25	9	18	29	35	48	50	48	42	40	44	37	37	36	39	37	30	20	17	35
16	16	16	Cal	8	16	30	28	27	31	35	44	51	55	59	58	61	61	54	36	36	29	26	22	30	36
17	27	34	Cal	20	8	7	3	5	28	42	52	60	67	68	70	69	69	33	7	12	12	30	40	40	35
18	31	21	Cal	16	17	15	18	31	42	51	60	63	63	64	70	66	64	60	54	52	52	50	36	38	45
19	38	31	Cal	27	25	23	27	33	46	52	58	63	63	66	68	72	72	47	34	41	41	41	39	36	45
20	35	30	Cal	27	32	30	30	36	45	52	56	58	60	58	51	44	42	44	43	39	38	36	39	39	42
21	39	34	Cal	35	29	23	22	13	26	31	34	34	33	34	34	35	37	36	33	32	32	31	30	25	31
22	25	25	Cal	24	22	18	14	18	25	37	44	48	52	58	60	59	55	52	46	36	31	25	12	7	34
23	7	4	Cal	8	8	5	9	16	Cal	Cal	Cal	Cal	Cal	Cal	34	Cal	Cal	Cal	Down	26	25	22	22	Bad<	
24	23	23	Cal	21	20	23	22	23	27	34	39	40	41	41	40	37	33	31	29	29	29	30	27	26	30
25	23	18	Cal	20	24	22	22	25	28	33	36	38	37	36	34	32	30	23	25	21	23	23	20	20	26
26	16	14	Cal	13	9	11	11	16	23	29	32	33	33	34	33	33	32	28	23	29	27	24	19	18	23
27	20	19	Cal	12	12	13	16	18	24	30	33	35	34	35	36	37	36	32	30	27	23	22	18	17	25
28	15	9	Cal	8	4	2	1	4	17	29	36	PwrF	PwrF	39	39	39	39	37	37	31	29	25	24	25	23
29	19	11	Cal	7	4	3	3	4	18	28	34	34	35	33	34	37	37	37	36	34	27	27	31	24	24
30	25	24	Cal	72	26	22	14	24	34	38	40	42	43	41	41	44	44	40	37	34	35	33	28	22	35
31	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	3	10	30	37	43	46	51	52	54	59	61	35	19	7	3	14	22	29	Bad<

TOTAL HOURS 744 TOTAL GOOD HOURS 690 DATA CAPTURE 92.7%

MAX. 1HR AVG 96 10/13/91 13:00:00 2ND MAX. 1 HR AVG 96 10/13/91 12:00:00

MIN. 1HR AVG 1 10/28/91 06:00:00 ARITHMETIC MEAN 31 STANDARD DEV. 18

NAAQS Comparison: MAX. 1 HR AVG 96 ( 125) 10/13/91 13:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

02/17/9

11.11-114



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

NOVEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	27	23	Cal	15	20	17	17	17	26	41	48	49	47	47	48	45	42	31	30	5	11	8	1	8	27
2	11	13	Cal	9	17	16	12	15	20	25	29	31	31	29	28	27	22	16	8	8	7	4	11	11	17
3	13	12	Cal	20	19	15	9	12	20	24	29	37	40	41	38	30	27	16	12	19	17	16	15	19	21
4	20	20	Cal	21	19	22	18	16	14	15	22	25	26	26	24	23	22	17	17	15	16	14	10	14	19
5	14	17	Cal	19	18	14	9	11	12	16	19	20	16	21	21	23	23	12	9	6	5	6	6	12	14
6	15	14	Cal	15	13	14	11	11	12	Pwrf	29	32	37	37	39	37	34	24	21	19	16	14	12	16	21
7	17	20	Cal	22	22	20	16	15	15	18	21	24	32	36	38	36	29	30	17	16	21	27	33	29	24
8	23	17	Cal	27	34	25	18	19	21	31	43	46	61	67	61	Cal	Cal	49	32	35	37	36	34	43	36
9	47	46	Cal	46	41	33	26	28	24	25	27	37	46	56	53	52	50	38	32	29	28	20	18	18	35
10	15	11	Cal	2	6	12	14	7	18	24	25	26	29	27	33	35	47	42	17	1	0	2	1	0	17
11	1	0	Cal	0	0	1	0	0	13	30	39	40	28	34	42	39	39	34	28	24	23	9	9	2	19
12	4	5	Cal	17	16	15	7	8	15	21	36	47	49	50	56	55	47	46	38	30	33	31	32	34	30
13	30	28	Cal	30	22	16	9	8	17	29	38	46	52	57	58	61	64	25	13	37	35	25	19	15	32
14	22	23	Cal	22	16	15	15	17	21	32	45	53	56	55	55	54	50	9	19	32	38	37	35	31	32
15	19	3	Cal	10	9	3	1	10	21	32	41	46	46	47	48	48	47	35	30	28	27	16	3	6	25
16	6	6	Cal	8	6	4	0	2	10	26	36	42	40	40	39	38	38	32	22	20	9	11	15	22	20
17	20	18	Cal	18	18	14	11	20	25	29	33	33	35	35	38	40	39	36	32	27	23	21	18	27	25
18	22	15	Cal	11	11	10	15	13	18	25	34	39	41	40	41	42	40	35	31	27	22	20	19	16	25
19	14	16	Cal	18	18	18	24	26	25	32	36	39	41	45	42	41	40	36	32	23	20	19	19	16	28
20	15	12	Cal	18	20	22	23	21	23	24	26	30	33	36	36	36	32	26	22	26	23	20	20	17	24
21	14	10	Cal	9	6	6	8	10	16	23	30	33	34	36	37	45	45	42	31	32	31	22	20	18	24
22	18	15	Cal	13	16	15	13	13	18	25	30	31	32	37	36	32	27	22	21	13	13	15	9	9	20
23	12	11	Cal	7	2	0	0	0	6	13	18	31	40	46	30	30	23	22	33	28	28	24	23	22	19
24	20	20	Cal	19	10	12	4	8	22	31	30	33	29	31	39	35	35	32	26	23	20	21	20	21	23
25	21	24	Cal	24	20	17	12	11	13	20	25	30	36	38	37	23	13	15	21	19	14	6	9	2	19
26	2	4	Cal	2	5	16	16	18	19	23	29	34	37	35	36	36	33	24	22	30	27	33	32	33	23
27	30	27	Cal	27	25	15	7	5	8	18	26	29	32	37	42	41	39	36	33	23	21	22	23	24	25
28	23	19	Cal	17	17	13	9	10	17	23	30	35	36	36	36	35	33	31	27	25	21	20	20	20	24
29	19	14	Cal	14	9	7	8	10	12	23	28	30	31	32	31	31	30	27	25	20	17	19	18	16	20
30	15	14	Cal	17	15	18	18	19	19	22	25	27	28	29	30	30	29	26	25	20	18	18	17	16	21

TOTAL HOURS 720 TOTAL GOOD HOURS 687 DATA CAPTURE 95.4%

MAX. 1HR AVG 67 11/08/91 13:00:00 2ND MAX. 1 HR AVG 64 11/13/91 16:00:00

MIN. 1HR.AVG 0 11/10/91 20:00:00 ARITHMETIC MEAN 24 STANDARD DEV. 13

NAAQS Comparison: MAX. 1 HR AVG 67 ( 125) 11/08/91 13:00:00

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
BadS - Bad Analyzer Status, Pwrf - Power Failure, Down - Operator downed channel, Miss - Missing Data

11.11-115

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

DECEMBER, 1991

DAY	HOUR (EST)																									DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	14	11	Cal	15	14	14	15	15	16	19	23	24	24	25	25	25	23	21	19	16	16	12	9	18		
2	9	7	Cal	7	8	9	10	10	9	14	19	22	26	30	31	33	33	28	19	12	13	4	10	13	16	
3	11	11	Cal	13	12	12	12	13	13	15	Cal	Cal	Cal	23	22	21	19	17	16	16	14	10	22	29	16	
4	32	27	Cal	16	18	14	13	11	10	11	12	16	21	22	23	24	24	14	3	7	6	13	12	14	16	
5	15	10	Cal	16	17	14	7	7	10	14	23	29	33	35	42	42	42	20	14	11	6	1	1	3	18	
6	2	1	Cal	9	8	8	4	4	7	16	24	33	38	41	44	45	42	2	0	11	27	24	13	16	18	
7	19	17	Cal	14	14	5	0	3	5	14	27	35	37	39	41	42	37	10	5	10	12	21	18	15	19	
8	21	17	Cal	14	4	10	5	5	18	27	31	33	33	34	33	33	33	13	8	22	23	22	16	16	20	
9	6	1	Cal	2	1	1	1	1	7	27	35	37	39	38	38	35	17	4	2	20	16	9	2	1	15	
10	2	2	Cal	0	0	0	1	0	2	18	31	33	27	30	35	32	34	26	23	15	7	5	0	3	14	
11	1	6	Cal	1	1	0	0	1	8	14	24	30	38	39	41	46	43	8	5	3	5	10	6	10	15	
12	12	6	Cal	17	19	19	16	12	12	17	22	29	34	35	37	35	33	29	27	20	22	23	20	17	22	
13	17	14	Cal	9	5	3	5	8	17	23	28	29	30	31	31	29	5	0	4	10	7	9	14	15		
14	16	13	Cal	12	10	6	5	2	8	15	23	25	26	27	34	34	28	23	20	12	11	11	13	11	16	
15	14	17	Cal	16	14	17	15	14	18	22	26	30	35	40	42	40	30	27	24	22	24	25	26	22	24	
16	23	22	Cal	26	26	21	21	24	24	26	26	28	29	28	29	34	25	18	21	19	14	13	16	13	23	
17	15	20	Cal	20	24	24	10	6	10	22	29	35	41	44	44	45	27	0	3	5	4	5	6	21		
18	4	7	Cal	15	10	7	4	7	15	23	34	46	46	47	51	53	40	9	23	33	25	19	19	19	24	
19	13	13	Cal	25	24	21	15	13	19	24	28	35	42	41	40	40	37	36	36	36	36	34	34	35	29	
20	34	31	Cal	33	34	33	22	12	22	28	33	36	36	35	36	36	36	36	34	30	27	26	21	11	29	
21	7	5	Cal	10	8	1	0	0	6	21	35	39	41	42	42	41	31	9	5	4	0	9	20	19	17	
22	10	7	Cal	2	2	4	0	0	4	25	34	41	42	44	44	44	45	20	16	5	6	4	1	2	17	
23	0	0	Cal	1	0	0	1	1	3	20	34	37	38	39	43	41	37	24	13	7	6	17	22	21	17	
24	21	20	Cal	18	18	15	11	5	10	20	21	23	25	28	31	30	29	27	20	18	20	18	20	26	20	
25	23	23	Cal	20	17	15	11	7	12	17	26	32	37	42	42	43	36	10	6	1	4	14	14	11	20	
26	9	3	Cal	3	8	2	4	10	12	12	18	24	31	35	37	34	33	24	12	25	20	9	3	0	16	
27	0	0	Cal	1	5	4	4	5	7	14	23	27	28	31	33	34	32	21	15	16	16	14	9	7	15	
28	0	0	Cal	8	9	10	7	7	8	9	14	19	21	24	26	27	27	13	18	19	12	1	0	5	12	
29	0	2	Cal	5	11	5	5	4	11	19	24	26	28	30	32	31	30	25	13	16	17	12	0	0	15	
30	0	0	Cal	0	1	0	0	2	4	18	24	26	31	33	31	32	28	21	13	12	12	13	13	11	14	
31	7	4	Cal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Bad<	

TOTAL HOURS 744 TOTAL GOOD HOURS 689 DATA CAPTURE 92.6%  
 MAX. 1HR AVG 53 12/18/91 15:00:00 2ND MAX. 1 HR AVG 51 12/18/91 14:00:00  
 MIN. 1HR AVG 0 12/06/91 18:00:00 ARITHMETIC MEAN 18 STANDARD DEV. 12  
 NAAQS Comparison: MAX. 1 HR AVG 53 ( 125) 12/18/91 15:00:00

KEY FOR MISSING CODES  
 Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11.11-116

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

		JANUARY 1992																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
2		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	37	41	34	30	7	12	6	12	7	2	Bad<
3		1	1	Cal	1	0	5	9	11	11	18	21	27	31	32	30	33	34	29	27	13	6	0	3	10	15
4		9	13	Cal	29	32	28	23	20	22	16	19	22	22	28	34	34	28	24	16	23	25	25	25	13	23
5		10	13	Cal	9	6	4	2	3	7	12	16	22	28	29	20	15	14	35	31	28	22	13	3	1	15
6		2	4	Cal	1	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	22	33	25	18	27	25	23	18	9	1	5	Bad<
7		5	2	Cal	0	1	3	1	1	7	13	22	33	41	43	47	47	15	2	1	2	1	20	22	16	
8		17	19	Cal	2	9	19	23	23	28	34	37	45	48	50	52	52	49	35	15	25	35	32	27	31	
9		21	23	Cal	11	1	0	0	0	4	19	28	30	32	34	34	Cal	Cal	26	25	Cal	Cal	Cal	10	14	Bad<
10		6	8	Cal	15	10	11	10	7	7	Cal	Cal	Cal	Cal	Cal	Cal	Cal	Cal	Cal	29	34	30	24	24	22	Bad<
11		23	25	Cal	22	19	16	8	9	16	18	26	33	38	39	42	40	38	33	10	0	0	0	1	9	20
12		11	22	Cal	25	23	21	22	21	23	30	35	39	40	39	40	42	43	46	42	40	39	37	33	29	32
13		27	24	Cal	23	23	20	17	18	19	24	27	32	31	29	30	31	31	29	28	27	24	33	23	22	25
14		24	22	Cal	24	22	21	18	15	22	33	39	26	31	31	32	33	31	29	24	19	20	9	10	9	23
15		11	9	Cal	10	11	12	9	9	11	15	19	20	23	24	25	24	23	22	20	24	21	11	2	8	16
16		13	12	Cal	19	18	19	18	12	22	27	26	29	37	38	38	38	37	Cal	Cal	11	16	17	18	14	23
17		15	10	Cal	14	10	8	3	3	11	21	27	33	39	46	46	48	46	28	13	25	12	4	8	12	21
18		13	12	Cal	8	8	11	2	2	9	23	38	46	51	51	53	51	47	28	8	3	7	7	7	9	21
19		11	16	Cal	3	6	15	23	27	26	27	25	19	21	22	21	21	16	9	16	16	15	16	17	19	17
20		21	19	Cal	18	16	15	12	11	13	14	16	18	20	27	33	34	33	28	20	16	16	17	16	13	19
21		8	9	Cal	8	15	12	8	6	8	12	24	31	34	34	38	41	35	13	1	3	10	24	26	26	18
22		24	24	Cal	28	28	24	17	18	21	29	37	43	45	46	47	46	52	50	48	48	44	37	31	30	35
23		28	25	Cal	20	21	20	18	18	16	18	21	22	25	26	27	23	25	18	10	14	14	16	19	19	20
24		18	25	Cal	21	25	33	29	25	25	25	21	22	27	33	37	37	35	32	17	26	17	9	15	14	24
25		15	16	Cal	12	17	11	7	3	11	27	32	34	38	41	44	44	46	34	27	28	24	18	20	16	24
26		13	14	Cal	14	14	10	4	7	16	21	31	34	41	48	51	51	51	48	18	13	17	7	31	37	25
27		33	27	Cal	31	25	21	15	18	23	33	38	42	42	42	45	44	45	41	37	33	29	24	19	20	31
28		22	18	Cal	18	16	15	18	17	16	17	25	30	29	29	33	24	19	16	16	12	8	6	8	10	18
29		8	6	Cal	4	5	4	3	4	6	10	12	17	21	23	25	24	24	25	15	11	10	8	15	16	13
30		17	17	Cal	9	10	8	5	12	16	14	16	17	19	21	21	22	20	18	17	16	14	12	9	5	14
31		13	15	Cal	22	21	16	17	19	17	17	17	22	24	27	33	35	33	30	30	24	20	16	11	12	21

TOTAL HOURS 744 TOTAL GOOD HOURS 652 DATA CAPTURE 87.6%

MAX. 1HR AVG 53 01/18/92 14:00:00 2ND MAX. 1 HR AVG 52 01/22/92 16:00:00

MIN. 1HR AVG 0 01/03/92 04:00:00 ARITHMETIC MEAN 21 STANDARD DEV. 12

NAAQS Comparison: MAX. 1 HR AVG 53 ( 120) 01/18/92 14:00:00

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-117

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

DAY	FEBRUARY 1992																							DAILY AVG		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23	
1	13	14	Cal	16	20	25	22	17	21	29	35	41	44	47	48	49	46	40	30	31	35	33	32	29	31	
2	24	10	Cal	9	16	15	1	0	10	29	37	41	42	45	47	48	46	39	33	34	36	36	33	30	29	
3	29	27	Cal	27	22	12	14	16	16	29	34	41	46	50	50	53	51	50	5	4	33	33	27	26	30	
4	26	23	Cal	15	21	12	17	19	12	26	37	42	45	46	45	48	46	44	38	35	37	33	33	30	32	
5	28	25	Cal	28	23	30	24	24	30	33	36	37	36	36	37	37	36	38	31	34	29	30	31	31	31	
6	31	28	Cal	26	26	21	13	25	25	33	31	34	39	39	34	30	31	18	8	24	21	14	22	23	26	
7	17	9	Cal	22	19	15	20	21	20	16	18	17	29	29	42	43	42	46	34	34	23	27	20	17	25	
8	18	18	Cal	7	11	10	4	0	14	24	26	28	30	39	43	45	42	22	22	21	16	14	17	22		
9	22	21	Cal	26	19	16	15	16	23	31	34	37	38	41	44	44	40	33	31	25	24	28	27	25	28	
10	29	32	Cal	29	27	24	14	19	22	26	40	47	48	49	50	51	51	47	34	35	28	25	19	23	33	
11	24	18	Cal	23	23	22	18	8	9	9	13	15	19	33	45	48	50	44	19	13	21	15	27	22	23	
12	19	15	Cal	9	8	4	1	3	6	7	11	19	24	33	42	47	44	24	1	0	8	0	5	0	14	
13	1	2	Cal	2	17	14	17	10	17	18	21	34	50	Cal	56	53	55	49	25	17	26	11	14	14	24	
14	0	0	Cal	0	0	0	1	2	16	36	46	50	50	51	53	Cal	56	56	50	26	20	10	7	25		
15	10	11	Cal	10	5	7	8	10	26	30	36	36	38	46	44	40	36	34	30	24	18	18	18	16	24	
16	12	10	Cal	16	17	18	12	18	24	28	30	36	36	34	32	33	30	26	20	16	16	10	5	1	21	
17	1	1	Cal	10	12	13	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
18	24	24	Cal	16	12	10	16	8	14	14	18	18	20	28	30	32	32	34	28	20	18	16	14	10	20	
19	12	12	10	14	18	20	14	14	12	Cal	Cal	Cal	Cal	Cal	28	30	24	16	12	10	6	8	8	6	14	
20	1	0	0	1	8	18	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
21	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
22	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
23	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
24	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	18	20	18	16	14	26	Bad<	
25	27	23	Cal	21	20	18	16	14	PwrF	19	19	20	18	20	22	24	24	23	18	20	22	19	19	15	20	
26	14	18	Cal	18	18	15	8	20	21	23	33	39	PwrF	PwrF	43	45	42	42	34	35	30	28	34	26	28	
27	30	31	Cal	27	28	32	31	31	24	24	30	38	38	38	41	35	35	30	25	22	17	11	5	0	27	
28	6	5	Cal	18	29	19	1	9	28	37	35	46	50	49	48	50	51	42	31	33	32	35	33	9	30	
29	26	14	Cal	36	24	6	3	4	24	39	46	48	48	55	63	64	64	58	53	47	45	33	10	5	35	

TOTAL HOURS 696 TOTAL GOOD HOURS 550 DATA CAPTURE 79.0%  
 MAX. 1HR AVG 64 02/29/92 15:00:00 2ND MAX. 1 HR AVG 64 02/29/92 16:00:00  
 MIN. 1HR AVG 0 02/02/92 07:00:00 ARITHMETIC MEAN 25 STANDARD DEV. 14  
 NAAQS Comparison: MAX. 1 HR AVG 64 ( 120) 02/29/92 15:00:00

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-118

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR OZONE IN PPB

DAY	HOUR (EST)		MARCH 1992																				DAILY AVG		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21		22	23
1	7	4	Cal	21	12	6	10	17	26	32	49	59	63	64	64	64	63	53	44	39	35	17	15	20	34
2	28	20	Cal	15	23	25	18	24	29	45	56	64	65	66	65	66	68	54	42	10	39	37	31	37	40
3	31	25	Cal	20	25	13	13	10	23	44	51	59	61	63	62	60	60	56	52	56	54	51	49	46	43
4	38	33	Cal	28	19	12	18	5	15	28	35	36	37	36	33	35	34	32	33	31	27	28	29	29	28
5	29	25	Cal	27	27	24	24	27	28	33	37	39	42	43	44	46	47	45	43	35	31	29	25	25	33
6	22	18	Cal	15	13	13	14	13	18	25	30	31	35	39	44	33	29	23	21	19	16	8	2	0	21
7	4	3	Cal	9	11	10	9	7	12	13	15	20	27	25	24	23	25	23	19	13	10	2	7	1	13
8	4	2	Cal	2	8	13	12	10	19	26	31	38	45	49	50	52	55	50	60	38	26	15	13	9	27
9	7	8	Cal	8	3	0	3	12	24	32	36	42	45	46	47	51	52	48	51	34	40	34	22	37	29
10	34	31	Cal	25	23	22	20	22	24	26	6	26	29	27	26	25	25	25	25	25	28	27	28	31	25
11	20	20	Cal	27	25	25	20	21	26	29	30	31	31	37	44	44	40	27	21	25	30	27	15	15	27
12	13	10	Cal	20	17	16	13	14	9	16	30	28	27	24	19	20	28	21	20	25	23	22	21	18	19
13	28	27	Cal	25	10	6	2	5	15	30	37	42	40	38	48	50	50	44	33	36	29	17	25	28	29
14	30	31	Cal	30	29	19	14	24	28	32	35	40	43	50	57	57	51	49	49	46	37	21	15	16	35
15	20	14	Cal	23	21	17	5	19	30	43	55	61	66	69	74	75	72	69	54	55	48	39	34	34	43
16	36	32	Cal	28	25	29	21	33	37	39	43	45	52	56	59	59	60	53	61	47	43	43	44	41	43
17	39	35	Cal	34	34	35	31	31	37	45	52	60	62	65	65	65	65	64	43	54	43	37	40	33	46
18	29	26	Cal	26	24	24	23	25	32	37	40	40	42	42	44	49	46	35	26	13	17	20	20	20	30
19	17	15	Cal	14	15	13	19	19	21	28	33	33	35	34	33	37	31	23	29	26	22	18	22	14	24
20	27	28	Cal	28	28	29	31	37	40	44	44	44	47	47	47	48	50	48	44	39	38	36	32	29	38
21	22	28	Cal	30	23	16	17	23	27	35	45	49	54	61	66	66	66	57	45	43	45	39	31	26	40
22	29	28	Cal	24	21	14	11	24	32	37	40	44	45	44	41	31	36	28	21	24	30	32	34	34	30
23	31	28	Cal	40	34	31	27	20	25	35	38	25	37	36	35	41	40	36	40	34	28	30	25	20	32
24	6	3	Cal	18	28	24	15	24	31	38	44	50	55	59	54	54	52	49	47	46	44	41	40	39	37
25	38	35	Cal	33	28	27	27	29	37	42	44	46	47	48	48	47	47	45	41	38	33	23	22	16	36
26	21	17	Cal	13	11	12	13	8	16	32	41	50	57	57	58	57	57	54	49	37	34	22	10	9	32
27	3	7	Cal	6	17	16	11	3	35	49	52	55	60	64	69	65	51	57	56	54	48	34	6	6	36
28	4	9	Cal	13	23	23	27	27	34	37	43	51	57	62	69	74	75	69	47	45	41	30	32	40	40
29	38	30	Cal	37	35	34	34	35	40	47	62	66	67	66	63	65	66	62	38	38	41	26	9	28	44
30	35	17	Cal	13	29	32	29	28	39	43	43	45	49	49	46	48	34	26	22	38	36	35	33	31	35
31	29	26	Cal	28	27	22	19	20	29	34	Cal	Cal	Cal	Cal	44	44	46	40	37	36	31	19	17	12	29

TOTAL HOURS 744 TOTAL GOOD HOURS 709 DATA CAPTURE 95.3%

MAX. 1HR AVG 75 03/28/92 16:00:00 2ND MAX. 1 HR AVG 75 03/15/92 15:00:00

MIN. 1HR AVG 0 03/06/92 23:00:00 ARITHMETIC MEAN 33 STANDARD DEV. 16

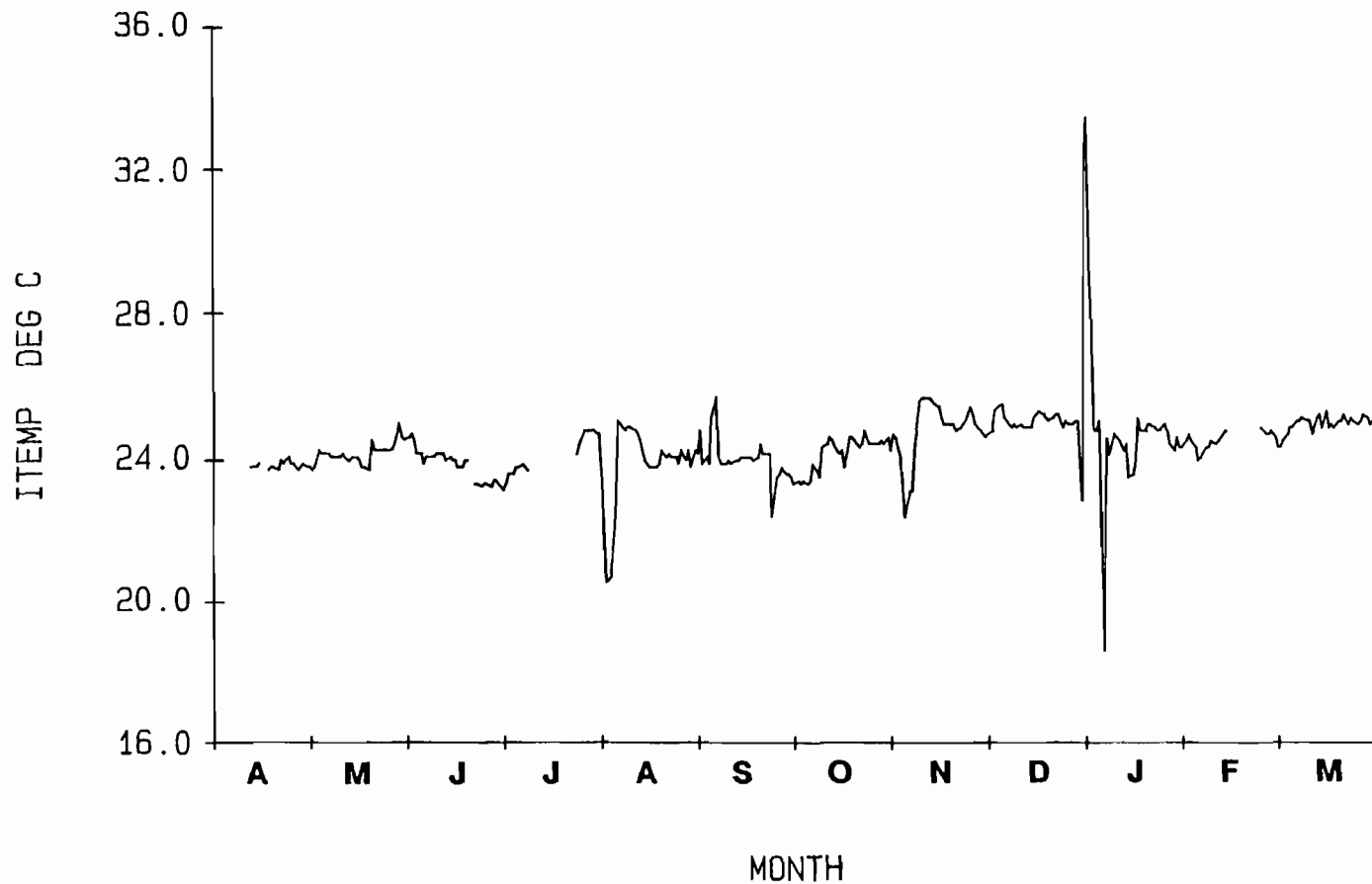
NAAQS Comparison: MAX. 1 HR AVG 75 ( 120) 03/28/92 16:00:00

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-119

**HOURLY AVERAGES FOR SHELTER TEMPERATURE  
(DEGREES CELSIUS)**

TIME PLOT FOR 04/01/91 00:00:00 TO 03/31/92 00:00:00

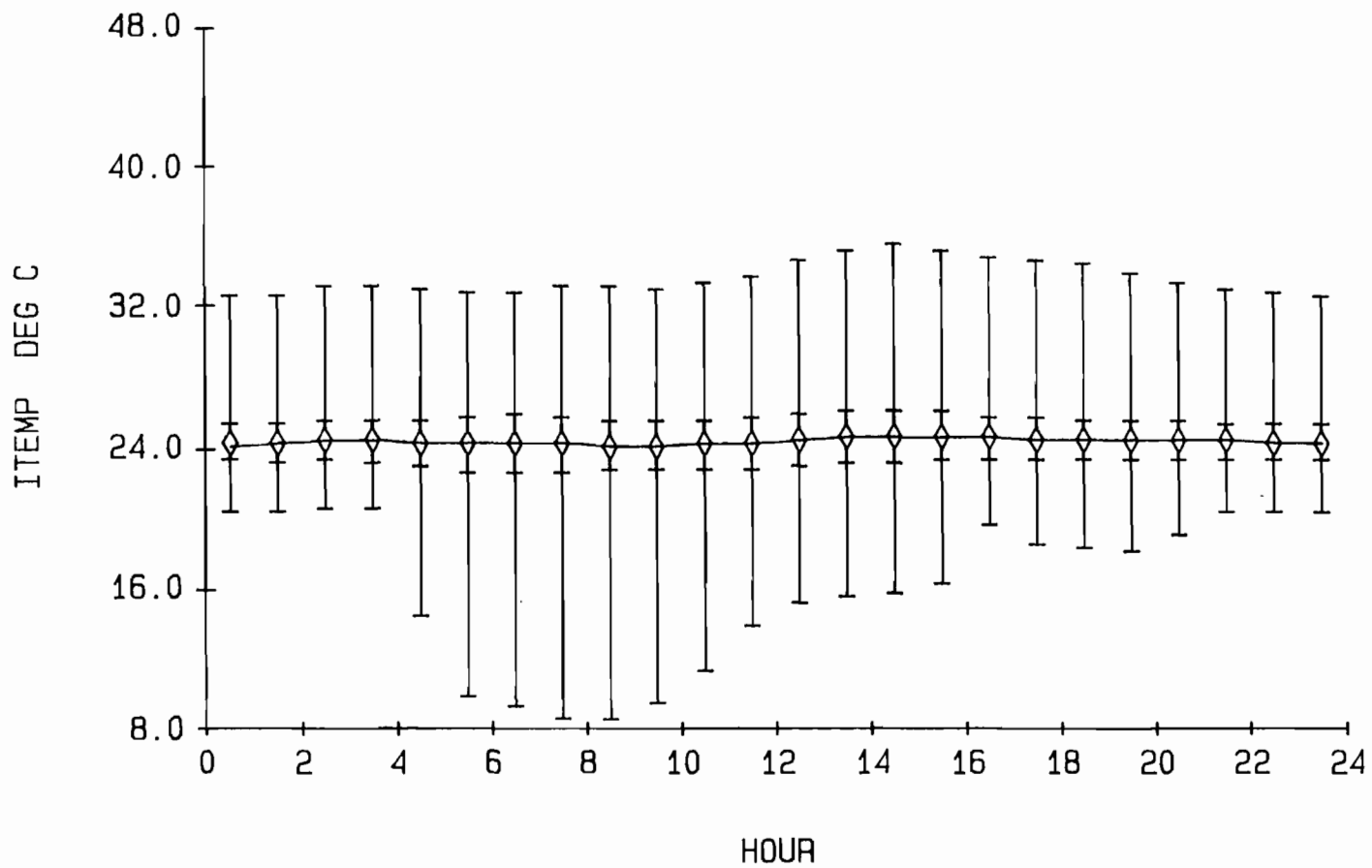


Tampa Electric Station AQ-1

Averaging Time: 24 Hour

11.11-121

DIURNAL PLOT 04/01/91 TO 03/31/92



Tampa Electric Station AQ-1

Averaging Time:

3600 sec

11.11-122



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR INDOOR TEMPERATURE IN DEGREES CELSIUS

APRIL, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	23.6	23.7	23.4	23.1	22.5	22.4	22.3	23.1	23.1	22.9	22.9	23.1	23.1	23.2	23.4	23.3	23.3	23.3	23.3	23.0	23.1	23.2	23.4	23.7	23.1
2	23.7	23.4	23.0	22.6	22.1	21.7	21.4	22.0	23.0	22.9	23.1	23.5	24.8	24.7	24.5	24.5	24.5	24.4	24.3	24.2	24.2	24.3	24.6	24.6	23.6
3	24.8	24.7	24.8	24.6	24.3	24.0	23.8	24.2	24.0	24.1	24.2	24.2	24.3	24.4	24.5	24.5	24.5	24.5	24.4	24.3	24.2	24.2	24.1	24.1	24.3
4	24.2	24.3	24.3	24.2	24.2	24.2	24.1	24.1	24.1	24.1	24.2	24.3	24.4	24.4	24.6	24.5	24.4	24.3	24.2	24.1	24.1	24.1	24.1	24.1	24.2
5	24.2	24.1	24.2	24.1	24.0	24.2	24.0	24.1	23.4	24.1	24.3	24.4	24.5	24.6	24.6	24.6	24.6	24.6	24.4	24.3	24.3	24.1	24.1	24.1	24.2
6	24.1	24.1	24.2	24.1	24.1	24.1	24.0	24.1	24.1	24.3	24.4	24.6	24.8	25.0	25.1	25.1	25.1	24.9	24.9	24.7	24.4	24.3	24.2	24.2	24.4
7	24.2	24.1	24.2	24.1	24.1	24.2	24.0	24.1	24.1	24.2	24.3	24.5	24.6	24.8	25.0	25.1	25.0	24.8	24.7	24.4	Qal	Qal	Qal	Qal	24.4
8	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Qal	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
9	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
11	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
12	23.6	23.6	23.7	23.7	23.4	23.6	23.5	23.5	23.6	23.6	23.7	23.8	24.0	24.1	24.2	24.3	24.2	24.2	24.1	23.9	23.7	23.7	23.6	23.6	23.8
13	23.6	23.6	23.7	23.5	23.6	23.5	23.6	23.5	23.6	23.6	23.7	23.8	23.9	24.0	24.1	24.2	24.3	24.3	24.2	24.0	23.8	23.8	23.6	23.6	23.8
14	23.6	23.6	23.6	23.5	23.6	23.6	23.6	23.4	23.6	23.6	23.8	24.0	24.1	24.1	24.2	24.2	24.2	24.2	24.1	24.1	23.8	23.8	23.7	23.6	23.8
15	23.6	23.6	23.6	23.6	23.6	23.5	23.5	23.5	23.6	23.8	23.9	24.1	24.6	24.6	24.4	24.5	24.5	24.3	24.2	24.0	23.7	23.7	23.6	23.6	23.9
16	23.6	23.6	23.7	23.6	23.5	23.5	23.6	23.5	23.6	23.8	23.9	24.0	24.2	24.4	24.4	24.3	24.3	Miss	Miss	PwrF	PwrF	PwrF	PwrF	PwrF	Bad<
17	PwrF	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	PwrF	23.9	24.2	24.0	24.0	PwrF	23.9	23.8	23.7	23.6	23.6	Bad<
18	23.6	23.5	23.5	23.5	23.5	23.5	22.6	23.4	23.4	23.6	23.8	23.7	23.8	24.0	24.0	24.2	24.2	24.2	24.1	23.8	23.7	23.5	23.5	23.6	23.7
19	23.4	23.5	23.6	23.6	23.4	23.5	23.4	23.5	23.4	23.6	23.7	25.0	24.0	24.2	24.2	24.3	24.2	24.3	24.1	23.9	23.9	23.7	23.7	23.6	23.8
20	23.7	23.5	23.8	23.7	23.6	23.5	23.5	23.6	23.6	23.6	23.6	23.7	24.0	24.2	24.2	24.3	24.3	24.2	24.1	23.9	23.8	23.7	23.6	23.5	23.8
21	23.6	23.6	23.6	23.6	23.5	23.4	23.5	23.4	23.5	23.5	23.5	23.6	23.7	23.9	23.9	23.9	24.0	23.8	23.8	23.7	23.6	23.7	23.7	23.9	23.6
22	24.1	24.2	23.9	24.1	24.5	24.1	23.9	23.6	23.5	23.6	23.8	24.0	24.2	24.2	24.4	24.5	24.3	24.3	24.2	23.9	23.7	23.8	23.6	23.5	24.0
23	23.5	23.6	23.6	23.6	23.6	23.5	23.7	23.5	23.5	23.8	23.9	24.0	24.2	24.4	24.6	24.6	24.3	24.2	24.1	24.0	24.0	23.9	23.9	23.7	23.9
24	23.8	23.8	23.9	24.0	23.7	23.8	23.7	23.8	23.8	24.0	24.1	24.2	24.3	24.5	24.5	24.5	24.5	24.5	24.4	24.2	24.0	24.0	24.0	23.8	24.0
25	23.8	23.7	23.9	23.7	23.8	23.6	23.7	23.6	23.8	24.0	24.1	24.6	24.3	24.3	24.1	24.1	23.9	23.8	23.7	23.6	23.6	23.6	23.7	23.6	23.8
26	23.6	23.6	23.7	23.7	23.6	23.6	23.6	23.6	23.7	23.9	23.7	23.9	24.0	24.8	25.0	24.4	24.3	24.0	24.0	23.7	23.7	23.5	23.6	23.4	23.8
27	23.4	23.3	23.5	23.4	23.3	23.3	23.3	23.2	23.5	23.6	23.7	23.9	23.9	24.1	24.3	24.3	24.4	24.3	24.2	24.0	23.9	23.7	23.7	23.4	23.7
28	23.5	23.5	23.5	23.6	23.3	23.4	23.4	23.4	23.5	23.7	23.8	23.8	23.9	24.1	24.2	24.3	24.3	24.3	24.3	24.0	23.9	23.6	23.7	23.4	23.7
29	23.5	23.4	23.7	23.5	23.5	23.5	23.4	23.8	23.5	23.6	23.7	23.7	24.0	26.1	24.5	24.2	24.2	24.2	24.1	23.9	23.7	23.6	23.7	23.6	23.8
30	23.6	23.5	23.8	23.5	23.5	23.5	23.5	23.6	23.6	23.7	23.7	23.9	24.0	24.1	24.3	24.3	24.4	24.4	24.2	24.0	23.8	23.7	23.6	23.6	23.8

TOTAL HOURS 720      TOTAL GOOD HOURS 605      DATA CAPTURE 84.0%

MAX. 1HR AVG 26.1    04/29/91 13:00:00      2ND MAX. 1 HR AVG 25.1    04/07/91 15:00:00

MIN. 1HR AVG 21.4    04/02/91 06:00:00      ARITHMETIC MEAN 23.9    STANDARD DEV. 0.5

KEY FOR MISSING CODES  
 Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-123

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR INDOOR TEMPERATURE IN DEGREES CELSIUS

		MAY, 1991																							DAILY		
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	
DAY																											
1		23.5	23.5	23.5	23.5	23.4	23.3	23.3	23.3	23.3	23.5	23.7	23.9	24.1	24.2	24.3	24.4	24.4	24.4	24.3	24.2	23.9	23.7	23.5	23.5	23.3	23.8
2		23.3	23.4	23.4	23.4	23.3	23.3	23.3	23.3	23.4	23.7	23.8	23.9	24.0	24.1	24.2	24.2	24.3	24.3	24.0	23.8	23.7	23.6	23.4	23.5	23.7	23.8
3		23.3	23.4	23.5	23.4	23.3	23.4	23.2	23.2	23.4	23.5	23.7	22.1	Cal	23.9	24.5	24.7	24.7	24.8	24.5	24.4	24.1	24.2	24.0	23.9	23.8	24.2
4		23.9	23.9	23.9	23.9	23.8	23.9	23.8	23.8	24.0	24.0	24.2	24.4	24.5	24.7	24.8	24.8	24.9	24.8	24.7	24.4	24.2	24.1	23.9	24.0	24.2	24.1
5		23.9	23.8	23.9	23.8	23.9	23.8	23.9	23.8	23.9	23.9	24.1	24.3	24.4	24.5	24.7	24.8	24.7	24.7	24.5	24.4	24.2	24.1	24.0	24.0	24.1	24.1
6		24.0	23.9	23.9	23.9	23.9	23.9	23.8	23.9	24.0	24.1	24.2	24.3	24.5	24.5	24.7	24.6	24.6	24.5	24.5	24.2	24.0	23.9	23.8	23.8	24.1	24.1
7		23.9	23.8	23.8	23.9	23.9	23.7	23.8	23.7	24.0	24.1	24.2	24.3	24.4	25.0	25.4	24.8	24.6	24.5	24.2	24.2	24.0	24.0	24.0	23.9	24.1	24.1
8		23.9	23.8	24.0	23.9	23.9	23.8	23.8	23.9	23.9	24.0	24.0	24.1	24.1	24.3	24.3	24.3	24.4	24.3	24.2	24.1	24.1	24.0	23.9	23.9	24.0	24.0
9		23.8	23.8	24.0	23.9	23.9	23.7	23.8	23.8	24.0	24.0	24.1	24.2	24.2	24.4	24.5	24.5	24.4	24.5	24.4	24.3	24.1	24.1	24.0	24.0	24.1	24.1
10		23.9	23.9	24.1	24.0	23.9	23.9	23.8	23.9	23.9	24.0	24.1	24.2	24.5	24.4	24.5	24.5	24.5	24.4	24.3	24.2	24.0	24.1	23.9	23.8	24.1	24.1
11		23.9	23.8	23.8	23.9	23.9	23.8	23.7	23.8	24.0	24.0	24.2	24.2	24.4	24.4	24.5	24.4	24.5	24.4	24.2	24.1	24.0	24.0	23.8	23.9	24.0	24.0
12		23.8	23.9	23.9	23.8	23.9	23.8	23.8	23.7	23.9	24.0	24.1	24.4	24.4	24.7	24.7	24.8	24.8	24.5	24.4	24.2	24.0	24.1	23.9	23.9	24.1	24.1
13		23.8	23.8	23.9	23.8	23.8	23.9	23.7	23.7	23.9	24.1	24.2	24.2	24.2	24.1	24.1	24.2	24.1	24.1	24.0	24.0	23.9	23.8	23.8	23.9	23.9	23.9
14		23.7	23.8	23.9	23.8	23.8	23.8	23.6	23.7	23.9	24.0	24.2	24.1	24.2	24.2	24.2	24.3	24.4	24.3	24.3	24.3	24.3	24.1	24.0	23.9	23.8	24.0
15		23.7	23.8	23.9	23.8	23.7	23.7	23.7	23.7	23.9	24.1	24.2	24.3	24.2	24.5	24.7	24.7	24.6	24.7	24.5	24.3	24.1	24.0	23.9	23.9	24.1	24.1
16		23.9	23.8	23.9	23.8	23.8	23.7	23.7	23.7	23.9	24.1	24.3	24.4	24.6	24.7	24.8	24.5	24.3	24.1	23.9	23.9	23.9	23.8	23.7	23.8	24.0	24.0
17		23.8	23.7	23.9	23.9	23.7	23.8	23.7	23.7	23.9	24.0	24.2	23.8	24.0	24.5	24.5	24.6	24.5	24.4	24.1	23.8	23.8	23.7	23.6	23.6	23.9	23.9
18		23.6	23.7	23.6	23.7	23.6	23.6	23.5	23.5	23.6	23.7	23.9	24.0	24.1	24.3	24.4	24.4	24.1	24.0	23.8	23.8	23.6	23.7	23.6	23.7	23.8	23.8
19		23.5	23.6	23.7	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.7	23.8	23.8	24.0	24.1	24.2	24.0	24.1	23.9	23.9	23.7	23.6	23.6	23.6	23.7	23.7
20		23.6	23.6	23.8	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.7	23.9	23.9	23.8	23.8	23.7	23.8	23.7	23.8	23.7	23.6	23.7	23.7	23.7	23.7
21		23.6	23.6	23.7	23.7	23.7	23.7	23.8	24.4	24.6	25.0	25.6	26.2	25.3	25.3	Down	Down	25.2	25.6	25.2	25.0	25.0	24.4	24.4	24.2	24.6	24.6
22		24.3	24.2	24.4	24.2	24.3	24.1	24.2	24.1	24.1	24.1	24.3	24.3	24.4	24.3	24.3	24.4	24.3	24.3	24.4	24.4	24.3	24.3	24.3	24.3	24.3	24.2
23		24.3	24.2	24.4	24.2	24.2	24.3	24.2	24.2	24.3	24.2	24.2	24.4	24.4	24.4	24.5	24.5	24.4	24.3	24.3	24.3	24.3	24.4	24.2	24.2	24.3	24.2
24		24.2	24.2	24.3	24.2	24.2	24.2	24.2	24.2	24.2	24.3	24.2	24.2	24.3	24.4	24.5	24.5	24.6	24.4	24.3	24.3	24.3	24.3	24.4	24.3	24.2	24.3
25		24.1	24.2	24.3	24.3	24.1	24.2	24.2	24.1	24.1	24.2	24.1	24.2	24.3	24.4	24.5	24.6	24.5	24.5	24.4	24.4	24.3	24.3	24.2	24.2	24.2	24.3
26		24.2	24.2	24.2	24.3	24.1	24.2	24.2	24.2	24.1	24.3	24.4	24.5	24.5	24.6	24.4	24.4	24.4	24.2	24.2	24.3	24.3	24.2	24.2	24.2	24.2	24.3
27		24.2	24.2	24.3	24.3	24.3	24.1	24.2	24.1	24.1	24.2	24.2	24.3	24.4	24.5	24.7	24.6	24.4	24.3	24.3	24.2	24.3	24.1	24.2	24.2	24.2	24.3
28		24.1	24.1	24.3	24.3	24.2	24.1	24.1	24.1	24.1	24.2	24.2	24.9	24.7	25.0	25.2	25.1	25.1	25.0	24.8	24.6	24.5	24.2	24.2	24.2	24.2	24.4
29		24.2	24.2	24.3	24.1	24.1	24.4	25.0	25.3	25.1	25.3	25.4	25.6	25.5	25.4	25.5	25.6	25.5	25.5	25.3	25.1	24.9	24.6	24.5	24.5	24.9	24.9
30		24.4	24.4	24.6	24.4	24.3	24.5	24.3	24.3	24.5	24.8	25.2	25.1	25.2	25.3	25.4	25.4	25.0	24.6	24.4	24.3	24.3	24.4	24.2	24.3	24.6	24.6
31		24.2	24.3	24.5	24.3	24.3	24.3	24.2	24.2	24.4	24.6	24.9	25.0	25.0	24.9	24.9	25.1	24.9	24.9	24.9	24.6	24.5	24.4	24.2	24.3	24.5	24.5

TOTAL HOURS 744 TOTAL GOOD HOURS 741 DATA CAPTURE 99.6X  
 MAX. 1HR AVG 26.2 05/21/91 11:00:00 2ND MAX. 1 HR AVG 25.6 05/29/91 15:00:00  
 MIN. 1HR AVG 22.1 05/03/91 11:00:00 ARITHMETIC MEAN 24.1 STANDARD DEV. 0.4

KEY FOR MISSING CODES  
 Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-124

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR INDOOR TEMPERATURE IN DEGREES CELSIUS

		JUNE, 1991																							DAILY		
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	
DAY																											
1		24.2	24.3	24.4	24.3	24.2	24.2	24.2	24.1	24.3	24.4	24.7	24.9	25.1	25.0	25.0	25.3	25.3	25.2	25.0	24.8	24.6	24.5	24.4	24.3	24.6	
2		24.3	24.3	24.4	24.3	24.3	24.2	24.2	24.3	24.5	24.7	24.8	25.0	25.0	25.1	25.1	25.1	25.3	25.3	25.1	24.9	24.8	24.5	24.5	24.4	24.7	
3		24.4	24.3	24.5	24.4	24.3	24.2	24.3	24.3	24.5	24.6	24.8	24.9	25.0	25.4	25.4	25.3	25.1	24.9	24.7	24.3	24.1	24.0	23.9	23.8	24.5	
4		23.7	23.8	23.9	23.9	23.7	23.8	23.7	23.8	23.9	24.1	24.3	24.6	24.6	24.6	24.5	24.6	24.5	24.6	24.4	24.3	24.1	24.0	24.0	24.0	24.1	
5		23.8	23.9	24.0	24.0	23.9	23.8	23.7	23.8	23.9	24.1	24.2	24.4	24.3	24.5	24.5	24.8	24.6	24.6	24.4	24.2	24.1	24.1	24.0	23.9	24.1	
6		23.9	23.8	23.9	23.9	23.7	23.7	23.7	23.8	23.8	24.0	24.1	24.2	24.2	24.2	24.1	24.1	24.0	24.0	23.9	23.8	23.8	23.7	23.7	23.7	23.9	
7		23.7	23.8	23.7	23.6	23.7	23.6	23.7	23.6	23.8	24.0	24.1	24.2	24.4	24.5	24.6	24.7	24.8	24.6	24.4	24.1	24.1	23.9	23.9	23.8	24.0	
8		23.8	23.8	23.9	23.8	23.8	23.7	23.7	23.8	23.9	24.0	24.0	24.8	24.6	24.5	24.5	24.6	24.5	24.4	24.3	24.2	24.1	23.8	23.9	23.7	24.1	
9		23.8	23.8	23.8	23.8	23.7	23.7	23.7	23.8	24.0	24.2	24.1	24.3	24.4	24.5	24.6	24.5	24.4	24.3	24.2	24.1	24.0	23.9	23.8	23.8	24.0	
10		23.7	23.7	23.9	23.9	23.8	23.7	23.7	23.9	24.1	24.3	24.4	24.4	24.5	24.6	24.6	24.8	24.7	24.7	24.4	24.3	24.1	24.0	23.8	23.8	24.1	
11		23.8	23.7	23.9	23.8	23.8	23.9	23.6	23.7	23.9	24.1	24.2	24.6	24.6	24.7	24.7	24.9	24.8	24.8	24.5	24.4	24.2	24.0	24.0	23.9	24.2	
12		23.9	23.8	24.0	23.8	23.7	23.6	23.8	24.5	24.9	24.4	24.5	24.4	24.6	24.6	24.8	24.7	24.7	24.5	24.2	23.9	23.8	23.7	23.7	24.1		
13		23.5	23.6	23.7	23.6	23.5	23.5	23.5	23.6	23.8	24.0	24.2	24.2	24.4	24.4	24.6	24.8	24.7	24.7	24.4	24.1	23.9	23.8	23.8	23.7	24.0	
14		23.7	23.6	23.9	23.7	23.6	23.6	23.5	23.6	23.8	24.0	24.2	24.3	24.4	24.6	24.5	24.9	24.7	24.6	24.3	24.1	24.0	23.9	23.7	23.7	24.0	
15		23.7	23.6	23.9	23.7	23.6	23.5	23.5	23.7	23.9	24.1	24.2	24.4	24.4	24.7	24.3	24.1	24.2	24.3	24.3	24.1	24.0	23.8	23.8	23.7	24.0	
16		23.7	23.6	24.0	23.6	23.6	23.6	23.6	23.6	23.6	23.7	24.1	24.2	24.4	24.5	24.7	24.7	24.5	24.3	24.2	24.2	24.0	23.8	23.9	23.7	23.7	24.0
17		23.5	23.6	23.8	23.7	23.6	23.5	23.5	23.5	23.5	23.7	24.0	24.1	24.0	24.2	24.2	24.2	23.9	24.0	PwrF	PwrF	23.8	23.7	23.6	23.6	23.5	23.8
18		23.5	23.5	23.8	23.6	23.5	23.5	23.5	23.6	23.9	24.0	24.2	24.1	24.1	24.2	24.1	24.0	23.8	23.9	23.8	23.8	23.7	23.7	23.6	23.6	23.8	
19		23.6	23.6	23.8	23.7	23.6	23.6	23.4	23.6	23.8	23.9	24.2	24.2	24.4	24.4	24.4	24.8	24.3	24.1	24.0	24.0	23.9	23.7	23.7	23.7	23.9	
20		23.6	23.6	23.8	23.7	23.6	23.6	23.5	23.6	23.8	24.0	24.2	24.3	24.4	24.5	24.5	24.5	24.3	24.2	23.9	23.8	PwrF	PwrF	PwrF	PwrF	24.0	
21		PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	24.6	24.2	24.4	23.6	24.7	24.3	24.1	23.9	23.6	23.4	23.3	23.1	23.1	23.1	BadC	
22		23.1	23.0	23.1	23.0	23.0	23.0	22.9	23.1	23.2	23.4	23.4	23.6	23.8	23.7	23.6	23.6	23.5	23.5	23.5	23.4	23.2	23.2	23.1	23.1	23.3	
23		23.1	23.0	23.2	23.1	23.0	23.0	23.0	23.1	23.1	23.2	23.3	23.6	23.7	23.6	23.7	23.7	23.7	23.8	23.6	23.3	23.2	23.2	23.0	23.1	23.3	
24		23.1	23.0	23.1	23.0	23.1	23.0	23.0	23.0	23.0	23.2	23.3	23.5	23.8	23.9	23.7	23.3	23.3	23.1	23.1	23.0	23.0	23.0	23.1	23.0	23.2	
25		23.1	22.9	23.1	23.1	22.9	23.0	22.9	23.0	23.1	23.2	23.3	23.5	23.7	23.8	23.9	23.8	24.0	23.8	23.5	23.5	23.3	23.1	23.0	23.0	23.3	
26		23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.1	23.3	23.4	23.5	23.6	23.8	24.0	24.2	23.9	23.7	23.6	23.5	23.3	23.2	23.1	23.1	23.3	
27		23.1	23.0	23.1	23.1	23.1	22.9	23.0	23.0	23.1	23.3	23.5	23.6	23.7	24.0	23.6	23.4	23.4	23.4	23.3	23.2	23.3	23.1	23.1	23.1	23.2	
28		23.1	23.0	23.2	23.1	23.0	23.1	23.0	22.9	23.1	23.2	23.4	23.5	23.7	23.9	24.0	24.0	24.2	24.0	24.3	23.7	23.4	23.4	23.2	23.2	23.4	
29		23.2	23.1	23.3	23.2	23.2	23.1	23.1	23.0	23.2	23.3	23.5	23.8	23.8	24.0	24.0	24.3	24.3	23.8	23.5	23.3	23.2	23.1	23.1	23.0	23.4	
30		23.0	23.0	23.0	23.0	23.1	23.0	23.0	23.0	23.1	23.3	23.4	23.5	23.8	23.8	24.0	23.9	23.7	23.4	23.2	23.1	23.1	23.1	23.0	23.1	23.2	

TOTAL HOURS 720 TOTAL GOOD HOURS 704 DATA CAPTURE 97.8X  
 MAX. 1HR AVG 25.4 06/03/91 14:00:00 2ND MAX. 1 HR AVG 25.4 06/03/91 13:00:00  
 MIN. 1HR AVG 22.9 06/25/91 01:00:00 ARITHMETIC MEAN 23.8 STANDARD DEV. 0.5

KEY FOR MISSING CODES  
 BadC - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-125

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

		JULY, 1991																								
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	DAILY
DAY																										AVG
1		23.0	23.1	23.0	23.1	23.0	23.1	23.0	23.1	23.1	23.1	23.2	23.2	23.2	23.3	23.3	23.6	23.4	23.2	23.3	23.1	23.1	23.1	23.1	23.1	23.1
2		23.1	23.0	23.2	23.1	23.5	23.4	23.3	23.4	23.3	23.5	23.4	23.5	23.5	23.5	23.4	23.4	23.5	23.6	23.5	23.4	23.2	23.3	23.1	23.2	23.3
3		23.1	23.1	23.3	23.1	23.1	23.1	23.1	23.3	23.6	23.7	23.6	23.7	24.3	25.7	24.6	24.2	23.9	23.7	23.6	23.5	23.3	23.4	23.3	23.6	23.6
4		23.3	23.4	23.4	23.4	23.4	23.4	23.3	23.4	23.5	23.7	23.7	23.9	24.0	24.3	24.0	23.9	23.9	23.8	23.7	23.7	23.5	23.4	23.5	23.4	23.6
5		23.4	23.4	23.5	23.5	23.3	23.4	23.4	23.4	23.5	23.9	24.5	24.3	24.2	24.3	24.6	24.1	23.8	23.9	23.8	23.8	23.6	23.7	23.7	23.7	23.8
6		23.6	23.6	23.7	23.7	23.6	23.5	23.5	23.6	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.4	24.1	24.0	23.8	23.7	23.7	23.6	23.6	23.8
7		23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.5	23.7	23.7	23.8	24.0	24.2	24.4	24.5	24.6	24.6	24.4	24.1	24.0	23.8	23.9	23.9	23.7	23.9
8		23.6	23.5	23.6	23.6	23.5	23.4	23.5	23.4	23.6	23.8	23.8	24.0	24.1	24.3	24.4	24.6	24.2	24.1	24.0	23.9	23.8	23.7	23.7	23.6	23.8
9		23.6	23.6	23.6	23.6	23.5	23.4	23.4	23.4	23.5	23.7	23.8	23.9	24.8	24.0	23.8	23.8	23.9	23.9	23.8	23.8	23.8	23.7	23.7	23.6	23.7
10		23.6	23.6	23.6	23.6	23.6	23.5	23.5	23.6	23.6	23.8	23.9	23.9	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai
11		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
12		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
13		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
14		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
15		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
16		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
17		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss
18		Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Qai	Miss	Miss	Miss	Miss	Miss
19		23.1	23.2	23.0	23.2	23.0	23.2	23.0	23.0	22.9	22.9	23.0	23.2	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
20		24.5	24.3	24.5	24.5	24.3	24.4	24.2	24.3	24.3	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
21		Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
22		24.4	24.3	24.4	24.4	24.3	24.3	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
23		Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	25.3	24.7	24.6	24.5	24.4	24.3	24.3	24.2	24.2	Bad<
24		24.2	24.2	24.3	24.3	24.1	24.1	24.2	24.0	23.9	23.8	23.9	24.0	24.0	24.0	24.9	24.5	24.3	24.2	24.2	24.1	24.2	24.1	24.1	24.1	24.2
25		24.1	24.1	24.2	24.2	24.1	24.1	24.0	23.9	23.9	23.7	23.7	23.6	23.5	25.0	25.2	25.3	25.1	25.3	25.3	25.2	25.0	25.0	24.9	24.8	24.5
26		24.9	24.7	24.9	24.8	24.8	24.8	24.7	24.6	24.5	24.5	24.7	24.7	24.9	25.2	25.2	25.1	25.0	24.9	25.0	24.9	24.9	24.7	24.8	24.8	24.8
27		24.7	24.7	24.9	24.8	24.7	24.8	24.6	24.6	24.7	24.7	24.8	24.8	24.9	24.9	25.1	25.1	25.1	25.0	24.9	24.9	24.9	24.8	24.7	24.8	24.8
28		24.7	24.7	24.9	24.8	24.8	24.7	24.7	24.6	24.4	24.5	24.6	24.7	24.7	24.7	25.0	25.3	25.7	25.5	25.3	25.1	24.9	24.8	24.8	24.7	24.8
29		24.7	24.7	24.8	24.8	24.7	24.7	24.7	24.6	24.4	24.4	24.4	24.4	24.6	25.0	25.3	25.3	25.1	25.0	24.9	25.0	24.9	24.8	24.7	24.8	24.8
30		24.8	24.7	24.9	24.8	24.8	24.7	24.6	24.5	24.4	24.4	24.4	24.6	25.1	25.0	25.0	24.9	24.8	24.8	24.7	24.7	24.7	24.6	24.7	24.6	24.7
31		24.6	24.6	24.6	24.7	24.6	24.6	24.6	24.6	24.6	24.4	24.3	24.5	25.1	24.9	24.8	24.7	24.9	25.0	24.9	24.9	24.8	24.6	24.5	24.6	24.7

TOTAL HOURS 744 TOTAL GOOD HOURS 456 DATA CAPTURE 61.3%

MAX. 1HR AVG 25.7 07/03/91 14:00:00 2ND MAX. 1 HR AVG 25.7 07/28/91 16:00:00

MIN. 1HR AVG 22.9 07/19/91 08:00:00 ARITHMETIC MEAN 24.1 STANDARD DEV. 0.6

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-126

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

		AUGUST, 1991																							DAILY		
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	
DAY																											
1		24.6	24.6	24.6	24.7	24.6	24.5	24.5	24.5	24.5	24.5	24.5	24.7	24.8	24.9	22.5	20.9	20.8	20.7	20.5	20.4	20.4	20.4	20.4	20.4	23.0	
2		20.5	20.4	20.5	20.6	20.4	20.4	20.5	20.3	20.1	20.0	20.2	20.4	20.7	20.9	20.8	21.1	20.8	20.6	20.6	20.5	20.5	20.6	20.5	20.5	20.5	20.5
3		20.5	20.5	20.6	20.6	20.5	20.5	20.5	20.2	20.1	20.2	20.4	20.6	20.7	20.9	21.0	21.2	21.2	21.1	20.9	20.9	20.7	20.7	20.6	20.5	20.6	20.6
4		20.5	20.5	20.6	20.7	20.6	20.6	20.6	20.3	20.1	20.2	20.3	20.6	20.6	20.9	21.2	21.3	21.2	21.1	21.0	20.9	20.9	20.7	20.6	20.7	20.7	20.7
5		20.5	20.6	20.6	20.6	20.4	20.6	20.5	20.3	20.1	20.0	20.4	20.5	20.5	20.6	20.8	25.3	25.6	25.4	25.4	25.3	25.3	25.2	25.2	25.3	22.3	
6		25.3	25.2	25.4	25.2	25.3	25.3	25.2	25.0	24.8	24.8	24.6	24.7	24.8	24.9	24.9	25.0	25.2	25.5	25.4	25.3	25.4	25.3	25.2	25.2	25.3	25.1
7		25.1	25.3	25.2	25.1	25.1	25.1	25.0	25.0	24.6	24.5	24.7	24.7	24.6	24.9	25.2	25.3	25.7	25.3	25.0	25.1	25.2	25.0	25.0	25.0	25.0	25.0
8		25.0	24.9	25.0	25.1	25.1	25.0	25.0	24.6	24.5	24.3	24.4	24.5	24.5	24.7	24.9	24.9	25.0	25.1	25.1	25.2	25.0	24.9	24.8	24.9	24.8	24.8
9		25.0	24.9	25.0	25.0	25.0	24.9	24.9	24.7	24.3	24.2	24.1	24.4	24.4	24.7	25.1	25.5	25.2	25.2	25.1	25.1	25.1	25.1	25.1	25.1	24.8	24.8
10		25.1	25.1	25.0	25.1	25.1	25.0	24.9	24.7	24.4	24.3	24.2	24.4	24.8	24.9	25.0	25.1	25.1	25.2	25.1	25.0	25.0	25.0	24.9	25.0	24.9	24.9
11		24.9	25.0	24.9	24.9	25.0	24.8	24.5	24.4	24.3	24.2	24.2	24.3	24.7	24.7	24.8	25.3	25.0	25.1	25.0	25.0	24.9	25.0	24.9	25.0	24.9	24.8
12		25.0	24.9	25.0	25.0	24.9	24.9	24.9	24.5	24.2	24.0	24.2	24.2	24.3	24.5	24.6	24.6	24.9	24.9	24.9	24.9	25.0	24.9	24.9	24.9	24.9	24.7
13		24.9	24.9	25.0	24.9	24.9	24.9	24.9	24.6	24.9	27.3	29.0	30.2	30.9	29.9	29.9	28.2	20.7	18.6	18.3	18.1	19.2	23.9	24.0	24.1	24.8	
14		24.1	24.2	24.2	24.2	24.1	24.1	24.1	23.9	23.7	23.5	23.4	23.6	23.7	24.2	24.1	24.1	24.0	24.0	24.1	24.2	24.2	24.1	24.1	24.1	24.0	24.0
15		24.1	24.1	24.1	24.1	24.1	24.1	24.1	23.8	23.5	23.2	23.3	23.3	23.3	23.6	24.0	24.0	24.0	23.9	24.0	24.1	24.1	24.1	24.1	24.1	24.0	23.9
16		24.2	24.1	24.2	24.1	24.2	24.2	24.0	23.8	23.5	23.2	23.3	23.1	23.4	23.4	23.5	23.7	23.9	23.9	23.9	23.9	24.0	24.1	24.0	24.1	24.2	23.8
17		24.1	24.1	24.2	24.1	24.1	24.1	24.0	23.7	23.5	23.2	23.1	23.2	23.2	23.3	23.4	23.5	23.6	23.8	23.9	24.0	24.1	24.1	24.1	24.1	24.0	23.7
18		24.0	24.0	24.1	24.1	24.1	24.1	24.0	23.7	23.3	23.0	23.1	23.2	23.7	23.4	23.9	24.0	23.8	23.8	23.9	24.0	24.0	24.0	24.0	24.0	24.0	23.8
19		24.0	24.0	24.1	24.1	24.0	24.0	24.0	23.6	23.2	23.0	23.4	23.3	23.6	23.8	23.5	23.9	23.9	24.5	24.1	24.2	24.3	24.1	24.1	24.1	23.8	23.8
20		24.1	24.1	24.1	24.1	24.1	24.2	24.2	24.2	24.2	24.1	24.1	24.2	24.3	24.5	24.3	24.2	24.2	24.2	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.2
21		24.2	24.4	24.3	24.2	24.2	24.3	24.3	24.1	23.9	23.7	23.5	23.7	23.5	23.7	23.7	23.7	24.2	24.0	24.1	24.2	24.2	24.2	24.3	24.4	24.0	24.0
22		24.2	24.2	24.2	24.4	24.2	24.3	24.3	24.2	24.1	24.0	23.6	23.7	23.9	24.0	24.2	24.1	24.1	24.0	24.2	24.2	24.3	24.4	24.3	24.3	24.1	24.1
23		24.3	24.2	24.2	24.3	24.2	24.3	24.2	24.0	23.6	23.4	23.4	23.5	23.7	23.8	24.1	24.1	24.3	24.5	24.5	24.3	24.3	24.3	24.3	24.3	24.1	24.1
24		24.3	24.4	24.2	24.1	24.2	24.2	24.2	23.9	23.6	23.4	23.3	23.3	24.1	24.1	24.1	24.1	24.0	24.3	24.5	24.5	24.2	24.2	24.2	24.2	24.0	24.0
25		24.1	24.2	24.0	24.0	24.1	24.1	24.2	24.0	23.6	23.3	23.1	23.4	23.8	23.8	23.7	23.7	23.9	23.9	24.0	24.1	24.3	24.2	24.1	24.1	23.9	23.9
26		24.1	24.2	24.1	24.0	24.1	24.2	24.2	24.0	23.9	23.7	23.6	23.8	25.8	25.7	26.0	24.7	23.8	24.0	23.8	23.9	23.8	24.0	24.1	24.0	24.2	24.2
27		24.0	24.0	23.9	24.0	24.0	24.1	24.0	23.8	23.6	23.3	23.3	23.4	24.9	24.4	23.9	25.4	24.3	24.1	24.0	24.0	24.0	23.9	23.9	24.0	24.0	24.0
28		24.0	24.1	24.0	23.9	24.0	24.0	24.0	23.8	23.6	23.4	24.1	26.0	27.7	26.9	24.2	24.1	24.0	23.9	23.9	24.0	24.0	23.9	23.9	24.0	24.0	24.3
29		23.9	23.9	23.9	23.9	24.0	24.0	24.0	23.7	23.5	23.4	23.4	23.3	23.6	23.7	24.0	23.9	23.8	23.8	23.9	23.9	23.9	23.9	23.9	23.9	23.8	23.8
30		23.9	23.9	23.7	23.9	23.9	23.9	23.9	23.6	23.4	23.3	23.2	23.2	23.4	23.6	25.1	27.7	27.5	25.3	24.7	24.4	24.3	24.3	24.3	24.2	24.3	24.3
31		24.1	24.2	24.2	24.2	24.1	24.2	24.2	23.9	23.7	23.6	23.7	23.7	24.1	24.3	24.5	24.4	24.4	24.4	24.4	24.3	24.3	24.2	24.1	24.1	24.1	24.1

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%

MAX. 1HR AVG 30.9 08/13/91 12:00:00 2ND MAX. 1 HR AVG 30.2 08/13/91 11:00:00

MIN. 1HR AVG 18.1 08/13/91 19:00:00 ARITHMETIC MEAN 23.8 STANDARD DEV. 1.5

KEY FOR MISSING CODES

Badc - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11.11-127

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

SEPTEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	24.1	24.1	24.1	24.2	24.2	24.2	24.1	24.0	23.9	23.7	23.6	24.5	26.6	27.3	28.9	28.4	26.3	24.8	24.4	24.2	24.1	24.1	24.1	24.1	24.8
2	24.2	24.1	24.2	24.2	24.1	24.2	24.1	23.9	23.5	23.3	23.3	23.6	23.7	23.8	24.0	24.0	24.0	23.9	24.0	24.1	24.1	24.1	24.1	24.1	23.9
3	24.1	24.1	24.2	24.2	24.1	24.1	24.1	23.9	23.7	23.6	23.6	23.5	23.9	24.0	24.3	24.4	24.3	24.3	24.0	24.1	24.0	24.0	24.1	24.1	24.0
4	24.1	24.1	24.2	24.1	24.1	24.1	24.0	23.9	23.7	23.7	23.7	23.6	23.7	23.8	24.1	24.1	24.0	24.0	23.8	23.8	23.9	23.9	23.9	24.0	23.9
5	24.1	24.0	24.1	24.0	24.1	24.0	24.1	23.8	23.5	23.2	23.1	23.5	26.0	27.9	28.6	30.1	30.4	29.7	27.2	24.2	24.1	24.1	24.1	24.1	25.2
6	24.1	24.1	24.2	24.1	24.1	24.1	24.0	23.9	23.5	23.1	25.5	27.4	29.8	31.9	32.7	32.8	31.4	25.6	24.8	24.5	24.3	24.2	24.1	23.9	25.9
7	23.9	23.9	23.9	23.9	23.9	23.8	23.8	23.7	23.9	23.9	24.0	24.2	24.2	24.4	24.6	24.7	24.6	24.7	24.3	24.0	24.1	23.9	23.9	23.8	24.1
8	23.8	23.9	23.9	23.9	23.9	23.8	23.8	23.8	23.8	23.9	23.9	23.9	24.0	24.0	24.2	24.4	24.2	24.0	23.9	23.9	23.7	23.8	23.8	23.8	23.9
9	23.7	23.7	23.9	23.8	23.8	23.7	23.7	23.7	23.8	23.9	23.8	23.9	23.9	24.0	24.2	24.3	24.3	24.3	24.2	24.1	24.0	23.9	23.8	23.8	23.9
10	23.8	23.7	23.9	23.8	23.8	23.8	23.7	23.7	23.7	23.9	24.0	24.0	24.2	24.2	24.4	24.4	24.2	24.2	24.1	23.9	23.8	23.8	23.8	23.8	23.9
11	23.7	23.7	23.8	23.8	23.7	23.7	23.8	23.6	23.6	23.7	23.8	23.9	24.1	24.3	24.4	24.4	24.3	24.2	24.1	24.1	23.9	23.8	23.7	23.7	23.9
12	23.8	23.7	23.8	23.7	23.8	23.6	23.7	23.5	23.6	23.6	23.8	24.7	24.4	24.4	24.4	24.5	24.4	24.3	24.2	24.0	24.0	23.8	23.9	23.8	24.0
13	23.8	23.8	23.9	23.9	23.9	23.8	23.8	23.6	23.6	23.5	23.7	23.9	24.2	24.3	25.3	24.7	24.4	24.3	24.3	24.1	24.0	23.9	23.9	23.9	24.0
14	23.9	23.8	23.9	23.9	23.8	24.0	23.8	23.6	23.7	23.8	23.9	24.0	24.2	24.3	24.4	24.6	24.5	24.4	24.4	24.3	24.1	23.9	24.0	23.9	24.0
15	24.0	23.9	24.0	24.0	23.9	23.9	23.9	23.9	23.8	23.8	23.9	24.1	24.2	24.4	24.5	24.6	24.6	24.4	24.3	24.2	24.1	24.0	24.1	24.0	24.1
16	23.9	23.9	24.1	24.0	23.9	23.9	23.9	23.8	23.8	23.8	24.0	24.1	24.2	24.3	24.4	24.4	24.4	24.3	24.2	24.0	24.1	23.9	23.9	23.9	24.0
17	24.0	24.0	24.0	23.9	24.0	23.9	23.9	23.8	23.7	23.8	23.9	24.0	24.2	24.4	24.5	24.4	24.3	24.3	24.2	24.1	24.0	24.0	23.9	23.9	24.0
18	24.0	23.9	24.0	24.0	23.9	23.9	23.9	23.9	23.8	23.9	23.9	24.1	24.3	24.3	24.2	24.3	24.3	24.1	24.1	24.0	24.0	24.0	24.0	23.9	24.0
19	23.9	23.9	23.9	24.0	23.9	23.9	23.8	23.9	23.8	23.8	23.8	24.0	24.3	24.4	24.5	24.7	24.7	24.5	24.4	24.2	24.1	24.2	24.0	24.0	24.1
20	24.0	24.0	23.9	24.0	23.9	24.0	23.9	23.8	23.6	23.7	23.8	24.1	24.5	28.5	27.5	25.1	24.8	24.7	24.4	24.3	24.2	24.2	24.0	24.1	24.4
21	24.0	23.9	24.2	24.0	24.0	24.0	24.0	23.9	23.9	24.0	24.1	24.2	24.3	24.5	24.6	24.6	24.7	24.5	24.3	24.2	24.2	24.1	24.1	24.0	24.2
22	24.0	24.0	24.2	24.1	24.0	24.0	24.0	24.0	23.8	23.9	24.1	24.2	24.3	24.5	24.6	24.6	24.6	24.6	24.4	24.3	24.2	24.2	24.1	24.1	24.2
23	24.1	24.0	24.1	24.1	24.1	24.0	24.0	24.0	23.9	23.9	23.9	24.2	24.3	24.4	24.6	25.3	24.8	24.5	24.3	24.0	24.0	24.0	23.9	23.9	24.2
24	23.8	23.8	23.9	23.6	14.5	9.7	9.2	13.9	19.6	22.7	26.7	29.3	31.6	33.6	35.3	30.7	25.3	24.6	24.1	24.0	23.9	23.8	23.6	23.7	23.5
25	23.6	23.5	23.7	23.4	23.6	23.5	23.3	23.4	23.2	23.3	23.4	23.6	23.6	23.5	23.6	23.6	23.6	23.6	23.6	23.4	23.6	23.5	23.4	23.5	23.6
26	23.5	23.4	23.6	23.5	23.5	23.5	23.5	23.5	23.3	23.3	23.3	23.1	23.3	23.3	23.4	23.6	23.7	23.8	23.7	23.8	23.6	23.8	23.8	24.2	24.2
27	24.2	24.3	24.0	24.7	24.0	24.6	24.6	23.5	23.1	23.0	23.0	23.1	23.4	23.6	23.8	23.9	24.0	23.8	23.8	23.8	23.6	23.7	23.6	23.9	23.8
28	23.7	23.7	23.7	23.9	23.8	23.8	23.8	23.5	23.2	23.2	23.3	23.3	23.4	23.6	23.6	23.6	23.8	23.7	23.7	23.5	23.7	23.6	23.6	23.5	23.6
29	23.7	23.7	23.7	23.8	23.6	23.7	23.7	23.5	23.4	23.3	23.1	23.3	23.4	23.5	23.7	23.8	23.9	23.9	23.8	23.6	23.7	23.5	23.6	23.6	23.6
30	23.7	23.6	23.7	23.6	23.6	23.6	23.7	23.5	23.6	23.4	23.3	23.7	23.8	24.0	24.0	23.6	23.4	23.3	23.4	23.4	23.4	23.3	23.3	23.4	23.5

TOTAL HOURS 720 TOTAL GOOD HOURS 720 DATA CAPTURE 100.0X  
 MAX. 1HR AVG 35.3 09/24/91 14:00:00 2ND MAX. 1 HR AVG 33.6 09/24/91 13:00:00  
 MIN. 1HR AVG 9.2 09/24/91 06:00:00 ARITHMETIC MEAN 24.0 STANDARD DEV. 1.5

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11-11-128

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

OCTOBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	23.5	23.3	23.5	23.4	23.4	23.4	23.3	23.3	23.3	23.0	23.2	23.3	23.2	23.5	23.5	23.3	23.3	23.3	23.4	23.4	23.4	23.4	23.5	23.3	23.3
2	23.5	23.3	23.5	23.6	23.4	23.4	23.4	23.3	23.3	23.2	23.0	23.2	23.5	23.3	23.5	23.6	23.6	23.5	23.5	23.4	23.4	23.4	23.4	23.3	23.4
3	23.3	23.4	23.4	23.5	23.3	23.5	23.3	23.2	22.9	22.9	23.0	23.2	23.2	23.2	23.3	23.3	23.4	23.4	23.3	23.5	23.4	23.4	23.4	23.4	23.3
4	23.5	23.5	23.5	23.6	23.4	23.6	23.4	23.2	23.3	23.4	23.1	23.1	23.2	23.3	23.4	23.4	23.4	23.4	23.5	23.3	23.4	23.4	23.4	23.5	23.4
5	23.5	23.3	23.5	23.4	23.4	23.4	23.4	23.3	23.1	23.0	23.0	23.1	23.1	23.4	23.7	23.5	23.4	23.6	23.5	23.4	23.4	23.4	23.4	23.5	23.3
6	23.4	23.4	23.6	23.5	23.4	23.4	23.4	23.5	23.1	22.9	22.9	23.1	23.4	23.5	23.5	23.4	23.3	23.4	23.3	23.4	23.4	23.6	23.6	23.7	23.4
7	23.5	23.8	23.6	24.0	24.1	24.1	24.6	24.1	23.7	23.7	23.3	23.3	23.8	24.1	23.9	23.8	23.8	23.8	23.7	23.8	23.8	23.9	23.9	23.9	23.8
8	24.2	23.9	24.0	23.9	23.9	24.0	24.2	23.6	23.5	23.4	23.3	23.4	23.6	23.5	23.7	23.8	23.6	23.7	23.5	23.6	23.6	23.8	23.5	23.7	23.7
9	23.8	23.7	23.6	23.8	23.5	23.7	23.7	23.5	23.3	23.4	23.3	23.4	23.4	23.4	23.5	23.5	23.5	23.6	23.5	23.4	23.5	23.6	23.6	23.5	23.5
10	23.6	23.6	23.6	23.7	23.7	23.8	23.6	23.5	23.5	23.5	23.2	23.3	24.3	24.8	25.0	25.1	25.2	25.1	25.2	25.4	25.4	25.5	25.1	25.4	24.3
11	24.9	24.6	24.5	24.6	24.3	24.2	24.3	24.4	24.0	24.1	24.0	24.2	24.4	24.5	24.7	24.7	24.5	24.6	24.3	24.3	24.4	24.3	24.7	24.9	24.4
12	24.9	25.2	25.0	24.9	25.1	25.1	25.0	24.4	24.0	23.9	23.9	24.0	24.2	24.4	24.5	24.5	24.6	24.5	24.3	24.5	24.6	24.7	25.1	25.4	24.6
13	24.9	25.1	25.1	25.4	25.3	25.2	25.2	24.4	23.8	24.1	24.3	24.1	24.3	24.5	24.7	24.7	24.7	24.5	24.2	24.2	24.2	24.2	24.2	24.1	24.5
14	24.2	24.2	24.3	24.2	24.3	24.4	24.3	24.3	23.9	23.9	23.8	24.0	24.0	24.2	24.4	24.5	24.6	24.5	24.4	24.2	24.1	24.2	24.0	24.1	24.2
15	24.1	24.1	24.3	24.2	24.1	24.1	24.1	24.1	24.1	23.9	24.0	24.1	24.1	24.4	24.3	24.4	24.3	24.3	24.2	24.1	24.2	24.2	24.1	24.3	24.2
16	24.0	24.2	24.3	24.5	24.4	24.4	24.6	24.4	24.0	23.7	23.6	23.7	23.9	24.1	24.2	24.3	24.3	24.4	24.9	25.4	25.1	24.7	24.2	23.8	24.3
17	23.4	23.1	23.4	23.1	22.4	21.8	21.2	21.5	23.1	23.9	24.0	24.0	24.2	24.3	24.5	24.7	24.5	24.6	24.8	25.2	25.5	25.3	24.8	25.1	23.8
18	25.1	25.0	25.0	25.0	24.6	24.5	25.0	24.6	24.2	24.1	24.2	24.3	24.4	24.6	24.6	24.8	24.7	24.7	24.5	24.5	24.5	24.5	24.6	24.6	24.6
19	24.9	24.9	24.7	25.0	25.2	25.0	25.2	24.5	24.2	24.0	24.1	24.4	24.5	24.7	24.8	24.9	25.0	24.8	24.7	24.5	24.4	24.5	24.4	24.5	24.6
20	24.4	24.5	24.6	24.6	24.6	24.7	24.7	24.3	24.1	24.1	24.0	24.3	24.4	24.7	24.9	24.9	24.8	24.7	24.6	24.4	24.4	24.4	24.4	24.5	24.5
21	24.3	24.4	24.5	24.4	24.4	24.4	24.3	24.3	24.1	24.1	24.2	24.2	24.4	24.4	24.6	24.5	24.5	24.6	24.4	24.4	24.4	24.4	24.3	24.3	24.4
22	24.4	24.3	24.5	24.5	24.3	24.4	24.4	24.2	24.3	24.3	24.2	24.3	24.4	24.7	24.8	24.9	24.7	24.8	24.5	24.4	24.7	24.5	24.4	24.3	24.4
23	24.4	24.4	24.4	24.4	24.3	24.3	24.2	24.4	24.7	25.1	25.2	24.9	25.2	25.8	25.8	25.0	25.3	25.7	Bad<	24.9	24.8	24.7	24.4	24.6	24.8
24	24.4	24.5	24.6	24.5	24.5	24.5	24.3	24.4	24.3	24.1	24.3	24.1	24.3	24.4	24.4	24.6	24.6	24.6	24.6	24.6	24.6	24.5	24.4	24.6	24.4
25	24.5	24.5	24.5	24.5	24.4	24.5	24.4	24.4	24.3	24.3	24.3	24.3	24.1	24.2	24.4	24.6	24.6	24.6	24.6	24.5	24.6	24.4	24.5	24.5	24.4
26	24.4	24.5	24.6	24.5	24.5	24.5	24.5	24.2	24.2	24.0	24.2	24.1	24.2	24.4	24.6	24.9	24.9	24.8	24.7	24.5	24.5	24.5	24.5	24.5	24.4
27	24.3	24.4	24.7	24.5	24.4	24.4	24.4	24.4	24.1	24.1	24.2	24.2	24.3	24.5	24.7	24.7	24.9	24.7	24.6	24.6	24.4	24.6	24.4	24.4	24.4
28	24.4	24.5	24.7	24.6	24.5	24.7	24.8	24.3	24.0	24.0	24.1	Pwrf	Pwrf	25.0	24.8	24.7	24.7	24.7	24.5	24.4	24.4	24.3	24.4	24.5	24.4
29	24.5	24.4	24.7	24.6	24.6	24.7	24.6	24.4	24.0	24.1	24.2	24.5	24.5	24.7	24.5	24.5	24.5	24.4	24.5	24.3	24.4	24.5	24.5	24.4	24.4
30	24.4	24.4	24.7	24.6	24.5	24.5	24.6	24.4	24.1	23.8	24.0	24.3	25.0	25.2	25.0	25.2	25.2	25.3	25.2	24.7	24.6	24.5	24.6	24.9	24.6
31	Pwrf	Pwrf	Pwrf	Pwrf	Pwrf	20.1	21.5	22.8	24.3	24.0	24.1	24.3	24.9	25.1	25.1	25.0	25.1	25.0	25.1	25.0	25.1	25.3	25.2	25.3	24.3

TOTAL HOURS 744      TOTAL GOOD HOURS 736      DATA CAPTURE 98.9%

MAX. 1HR AVG 25.8    10/23/91 14:00:00      2ND MAX. 1 HR AVG 25.8    10/23/91 13:00:00

MIN. 1HR AVG 20.1    10/31/91 05:00:00      ARITHMETIC MEAN 24.1    STANDARD DEV. 0.6

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, Pwrf - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

11-11-129

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

NOVEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	24.9	24.9	24.9	25.3	24.9	25.2	24.9	24.7	24.4	24.2	24.1	24.4	24.6	24.7	24.7	24.8	24.8	24.7	24.7	24.6	24.6	24.8	24.7	24.7	24.7
2	24.9	24.7	24.9	24.8	24.9	24.7	24.7	24.7	24.4	24.4	24.4	24.7	24.6	24.7	24.7	24.6	24.6	24.6	24.7	24.6	24.6	24.6	24.6	24.6	24.6
3	24.5	24.7	24.9	24.7	24.7	24.7	24.7	24.7	24.5	24.5	24.4	24.8	24.5	24.3	23.9	23.3	23.2	23.0	23.1	23.4	23.3	23.6	23.6	23.6	24.1
4	23.6	24.1	23.3	23.7	24.0	24.1	23.8	23.5	23.3	23.4	23.7	23.6	23.4	23.3	23.3	23.4	23.6	24.0	23.9	23.5	23.1	22.7	22.4	22.2	23.4
5	21.9	21.6	21.6	21.3	21.1	20.9	20.7	20.5	20.4	20.6	21.5	22.7	23.4	23.8	23.5	23.3	23.6	23.7	24.1	24.0	23.9	23.7	23.6	23.5	22.4
6	23.3	23.2	23.4	23.3	23.2	23.1	23.1	23.3	23.8	23.4	22.7	22.8	22.8	22.9	23.0	23.1	23.1	23.2	23.0	22.9	23.0	23.2	23.3	23.2	23.1
7	23.5	23.4	23.3	23.3	23.5	23.3	23.4	23.4	23.3	23.0	22.7	22.5	22.9	22.8	23.1	23.0	23.1	23.2	23.0	22.9	22.9	23.1	23.1	23.5	23.1
8	23.7	23.8	24.2	23.7	24.0	24.0	23.7	23.6	23.8	22.8	22.7	22.5	24.2	25.0	25.4	25.4	25.4	25.1	25.8	25.6	25.5	25.5	25.6	25.5	24.4
9	25.4	25.4	25.7	25.6	25.6	25.5	25.6	25.5	25.7	25.7	25.5	25.4	25.4	25.6	25.8	25.8	25.8	25.6	25.6	25.8	25.8	25.9	25.9	25.7	25.6
10	25.9	25.8	26.1	26.0	26.0	25.9	25.9	25.8	25.6	25.3	25.3	25.5	25.6	25.7	25.8	25.7	25.7	25.7	25.9	26.0	25.9	26.0	25.9	26.0	25.8
11	25.9	26.0	26.1	26.1	26.0	26.1	26.0	25.8	25.3	25.1	25.2	25.1	25.4	25.5	25.8	25.9	25.9	25.8	25.8	25.7	25.8	25.9	25.8	26.0	25.7
12	26.0	26.1	26.2	26.0	25.9	25.9	25.9	25.7	25.3	25.1	25.2	25.4	25.6	25.7	25.9	26.1	26.0	26.0	25.8	25.8	25.8	25.8	25.8	25.7	25.7
13	25.8	25.7	25.8	25.9	25.8	26.0	25.9	25.7	25.2	25.1	25.1	25.4	25.5	25.7	25.9	26.0	26.0	25.9	25.9	25.6	25.6	25.6	25.6	25.6	25.6
14	25.7	25.6	25.8	25.6	25.7	25.6	25.6	25.6	25.2	25.1	25.2	25.3	25.5	25.7	25.9	26.1	25.9	25.9	25.7	25.6	25.6	25.4	25.5	25.5	25.6
15	25.5	25.6	25.8	25.6	25.5	25.6	25.6	25.4	25.2	25.2	25.3	25.2	25.4	25.6	25.7	25.8	26.0	25.7	25.4	25.3	25.2	25.3	25.3	25.2	25.5
16	25.2	25.3	25.3	25.4	25.2	25.2	25.2	25.1	25.0	24.9	24.9	25.0	25.1	25.3	25.5	25.4	25.6	25.4	25.3	25.2	25.2	25.2	25.1	25.1	25.2
17	25.1	25.0	25.3	25.1	25.1	25.1	25.1	25.0	24.8	24.7	24.8	24.7	24.9	25.0	25.1	25.2	25.3	25.1	25.2	25.0	25.1	25.1	25.1	25.1	25.0
18	25.1	25.0	25.3	25.2	25.1	25.1	25.0	25.0	24.9	24.7	24.6	24.7	24.7	24.9	25.0	25.1	25.1	25.2	25.0	25.1	25.1	25.1	25.0	25.0	25.0
19	25.0	25.0	25.2	25.1	25.0	25.0	25.0	25.0	24.9	24.7	24.5	24.5	24.7	25.1	25.3	25.1	25.1	25.2	25.0	25.1	25.1	25.0	25.0	24.9	25.0
20	24.9	25.0	25.2	25.1	25.0	25.0	24.9	24.9	24.9	24.9	25.0	24.8	24.8	24.7	25.0	25.1	25.2	25.2	25.0	25.0	24.9	24.9	25.0	24.9	25.0
21	25.0	25.0	25.1	25.0	25.0	24.9	25.0	24.8	24.7	24.5	24.5	24.4	24.5	24.6	24.7	25.0	25.0	25.1	25.0	25.0	25.0	24.9	24.9	25.0	24.8
22	25.0	24.9	25.2	25.0	25.0	24.9	24.9	24.9	24.6	24.6	24.8	24.7	24.9	24.9	24.9	24.9	25.0	25.0	24.9	25.0	25.0	24.9	24.9	24.9	24.9
23	24.9	24.9	25.1	25.0	25.0	25.0	24.9	24.9	24.9	25.0	24.8	24.8	24.8	24.9	24.9	25.1	25.2	25.1	25.0	25.0	24.8	25.0	24.9	25.1	24.9
24	25.0	25.0	25.2	25.1	25.2	25.1	25.2	25.1	24.8	24.6	24.9	24.9	24.9	25.0	24.9	25.0	25.3	25.3	25.3	25.2	25.4	25.6	25.3	25.6	25.1
25	25.8	25.6	25.8	25.8	26.1	26.0	25.7	25.6	25.4	25.1	24.7	24.8	24.9	25.1	25.3	25.3	25.4	25.3	25.1	25.3	25.3	25.7	25.5	26.2	25.4
26	26.2	26.2	26.0	26.2	26.1	26.0	25.5	25.6	25.1	24.8	24.7	24.7	24.8	25.0	25.0	25.0	25.0	24.9	25.0	24.9	24.9	25.0	24.9	25.0	25.2
27	25.0	24.9	25.2	25.0	24.9	25.1	25.1	25.0	24.9	24.8	24.7	24.9	24.9	25.1	25.3	25.4	25.1	24.9	24.9	24.9	24.7	24.8	24.9	24.8	24.9
28	24.9	25.0	25.0	24.9	24.9	24.9	25.0	24.7	24.6	24.4	24.4	24.7	24.6	24.6	24.8	25.0	24.9	25.0	24.8	24.8	24.7	24.7	24.7	24.7	24.8
29	24.7	24.7	25.0	24.7	24.7	24.8	24.7	24.7	24.6	24.4	24.7	24.6	24.5	24.5	24.7	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.7	24.7
30	24.7	24.8	24.8	24.8	24.7	24.7	24.8	24.8	24.7	24.5	24.4	24.2	24.2	24.5	24.6	24.7	24.8	24.9	24.8	24.8	24.8	24.8	24.7	24.7	24.6

TOTAL HOURS 720 TOTAL GOOD HOURS 720 DATA CAPTURE 100.0X  
 MAX. 1HR AVG 26.2 11/26/91 03:00:00 2ND MAX. 1 HR AVG 26.2 11/12/91 02:00:00  
 MIN. 1HR AVG 20.4 11/05/91 08:00:00 ARITHMETIC MEAN 24.8 STANDARD DEV. 0.9

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-130



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

DECEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	24.8	24.7	24.9	24.8	24.8	24.8	24.6	24.8	24.5	24.4	24.4	24.5	24.4	25.0	25.1	25.0	25.0	25.0	24.9	24.8	24.8	24.8	24.9	24.7
2	24.8	24.9	25.1	24.9	24.8	24.9	24.8	24.8	24.9	24.6	24.2	24.3	24.5	24.5	24.7	24.9	24.8	24.9	24.9	24.9	24.9	24.9	24.9	24.7
3	25.0	24.9	25.0	25.0	24.9	24.7	24.8	24.8	24.7	24.9	25.7	26.7	26.9	27.4	27.3	26.3	25.6	25.2	25.1	25.0	25.0	25.0	25.2	25.4
4	25.0	25.0	25.3	25.2	25.1	25.1	25.5	25.4	25.4	25.4	25.5	25.3	25.2	25.3	25.4	25.4	25.3	25.6	25.6	25.6	25.8	25.8	25.7	26.4
5	26.1	26.3	26.3	26.6	26.5	26.3	26.1	26.0	25.4	25.0	25.0	25.0	25.1	25.1	25.3	25.5	25.6	25.4	25.3	25.3	25.2	25.4	25.2	25.3
6	25.1	25.3	25.2	25.4	25.3	25.3	25.3	25.2	25.1	24.8	24.8	24.8	25.0	25.1	25.4	25.5	25.5	25.2	25.3	25.1	24.9	25.0	25.1	25.1
7	25.1	25.1	25.2	25.1	25.0	25.2	25.3	25.0	25.0	25.0	24.8	24.8	24.7	24.7	25.0	25.1	25.1	25.2	25.2	25.3	25.3	25.3	25.2	25.0
8	25.0	25.0	25.1	25.1	25.2	25.1	24.9	25.1	24.7	24.6	24.4	24.5	24.5	24.7	24.9	24.9	25.0	25.0	25.0	24.9	24.9	24.8	25.0	24.9
9	25.1	25.1	25.3	25.4	25.2	25.2	25.3	25.1	24.7	24.5	24.5	24.7	24.6	24.8	25.0	25.1	25.0	25.1	25.1	25.0	25.0	25.0	25.1	25.0
10	25.1	25.3	25.2	25.2	25.2	25.1	25.1	25.1	24.8	24.5	24.4	24.4	24.5	24.6	24.9	25.0	25.0	25.1	25.0	25.0	25.0	25.1	25.0	24.9
11	25.0	25.0	25.2	25.2	25.1	25.0	25.0	25.0	24.9	24.9	24.6	24.7	24.8	24.8	25.0	25.2	25.4	25.2	25.2	25.1	25.1	25.0	25.0	25.0
12	24.9	25.0	25.2	25.1	25.1	25.1	25.1	25.1	25.1	24.9	24.7	24.6	24.5	24.8	24.9	24.9	24.9	25.0	25.1	25.0	25.0	24.9	25.1	24.8
13	25.0	25.0	25.2	25.0	25.1	25.0	25.1	24.9	24.7	24.6	24.6	24.3	24.6	24.8	25.0	25.2	25.4	25.0	25.2	25.1	25.1	25.1	25.0	24.9
14	24.9	24.9	25.1	25.0	25.0	24.9	25.0	25.0	24.8	24.6	24.5	24.6	24.7	24.9	24.9	24.9	25.2	25.2	25.1	25.1	25.2	25.2	25.1	24.9
15	25.1	25.1	25.3	25.3	25.2	25.2	25.2	25.3	25.0	24.9	24.9	24.9	24.9	25.1	25.2	25.1	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.4
16	25.5	25.5	25.5	25.6	25.4	25.3	25.3	25.3	25.0	24.9	24.7	24.8	25.0	25.0	25.3	25.6	25.7	25.4	25.4	25.4	25.5	25.6	25.4	25.7
17	25.5	25.8	25.6	25.8	25.8	25.4	25.7	25.8	25.2	24.7	24.8	24.9	25.0	25.0	25.2	25.4	25.3	25.5	25.4	25.5	25.5	25.5	25.5	25.4
18	25.4	25.3	25.4	25.4	25.4	25.4	25.4	25.3	25.0	24.8	24.7	24.8	25.0	25.2	25.4	25.6	25.5	25.6	25.6	25.3	25.3	25.3	25.3	25.4
19	25.5	25.4	25.5	25.3	25.3	25.4	25.3	25.3	25.1	24.7	24.7	24.8	24.9	25.1	25.1	25.3	25.4	25.2	25.2	25.3	25.2	25.2	25.2	25.2
20	25.1	25.2	25.3	25.2	25.2	25.1	25.2	25.2	25.2	25.1	25.0	24.8	25.0	25.2	25.1	25.2	25.1	25.1	25.1	25.0	25.1	25.0	25.2	25.0
21	25.3	25.3	25.3	25.5	25.3	25.3	25.2	25.4	24.8	24.8	24.6	24.7	24.9	25.1	25.2	25.1	25.2	25.2	25.4	25.2	25.3	25.3	25.2	25.1
22	25.4	25.5	25.5	25.4	25.5	25.5	25.4	25.5	25.1	24.7	24.7	24.9	25.0	25.2	25.2	25.4	25.4	25.5	25.4	25.3	25.4	25.4	25.4	25.5
23	25.6	25.6	25.6	25.6	25.6	25.7	25.7	25.5	25.2	24.9	25.0	24.8	24.9	24.9	25.2	25.3	25.2	25.2	25.2	25.3	25.3	25.3	25.3	25.2
24	25.2	25.1	25.3	25.3	25.2	25.1	25.1	25.3	24.8	24.3	24.4	24.5	24.7	24.7	24.8	24.9	24.9	24.9	24.9	24.9	25.0	24.8	25.0	25.0
25	25.1	25.0	25.1	25.0	25.1	25.2	25.1	25.3	25.0	24.9	24.8	24.9	25.1	25.1	25.1	24.9	25.0	25.1	25.1	25.1	25.1	25.2	25.2	25.1
26	25.2	25.2	25.2	25.1	25.0	24.9	25.1	24.9	25.0	25.0	25.0	25.1	24.9	25.0	25.0	25.0	25.0	25.1	25.1	25.1	25.1	25.0	25.1	25.0
27	25.3	25.2	25.3	25.3	25.2	25.1	25.2	25.2	25.1	24.8	24.7	24.6	24.8	24.7	24.9	24.9	24.9	24.9	25.2	25.1	25.2	25.0	24.9	25.0
28	25.0	25.1	25.1	25.2	24.9	25.1	25.0	25.0	25.1	25.1	25.0	25.1	24.9	25.0	24.9	24.8	24.8	25.1	25.1	25.1	25.2	25.3	25.2	25.0
29	25.3	25.3	25.4	25.3	25.2	25.3	25.2	25.1	25.1	24.9	24.7	24.9	24.9	24.9	24.9	25.0	25.1	25.2	25.3	25.2	25.2	25.3	25.3	25.1
30	25.3	25.4	25.3	25.3	25.4	25.5	25.4	25.3	25.1	22.3	16.4	15.3	15.2	15.5	15.7	16.3	19.6	24.6	27.1	28.2	28.9	29.4	29.6	29.8
31	30.0	30.2	30.6	30.8	30.7	30.8	30.8	31.0	30.9	31.3	31.9	32.5	33.4	33.9	34.3	34.7	34.7	34.4	34.1	33.7	33.4	33.1	32.9	32.7

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0X  
 MAX. 1HR AVG 34.7 12/31/91 15:00:00 2ND MAX. 1 HR AVG 34.7 12/31/91 16:00:00  
 MIN. 1HR AVG 15.2 12/30/91 12:00:00 ARITHMETIC MEAN 25.3 STANDARD DEV. 1.7

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

		JANUARY 1992																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY	1	32.5	32.5	32.8	33.0	32.9	32.9	32.9	32.9	32.8	33.0	33.5	33.9	34.8	35.3	35.6	35.3	34.9	34.8	34.6	34.0	33.3	33.0	32.7	32.6	33.6
	2	32.6	32.7	33.2	33.2	33.0	32.9	32.8	33.3	33.3	33.1	33.2	33.7	34.0	32.1	29.6	25.6	25.5	25.3	25.1	25.1	25.1	25.1	25.1	24.9	30.0
	3	24.9	24.9	24.9	25.0	25.0	24.9	24.9	24.9	24.7	24.5	24.5	24.4	24.5	24.4	24.8	24.6	24.7	24.8	24.8	25.1	25.1	25.3	25.2	25.1	24.8
	4	24.9	25.2	24.8	25.0	24.7	25.0	24.9	25.1	24.7	24.5	24.6	24.7	24.6	24.4	24.8	24.7	24.7	24.9	25.0	25.0	25.1	25.0	25.0	25.2	24.8
	5	25.2	25.3	25.3	25.4	25.4	25.4	25.4	25.3	25.1	24.9	24.9	24.7	24.7	24.7	24.9	25.0	25.0	25.0	24.9	24.9	25.1	25.1	25.2	25.1	25.1
	6	25.2	25.1	25.0	24.1	15.1	11.1	9.2	8.4	8.5	9.4	11.3	14.0	18.3	24.9	25.0	25.1	25.3	25.2	25.2	25.1	25.2	25.4	25.4	25.4	20.1
	7	25.5	25.6	25.7	25.8	25.7	25.7	25.7	25.9	24.1	24.1	24.4	24.1	24.0	24.2	24.2	24.2	24.2	24.2	24.1	24.2	24.2	24.1	24.1	24.1	24.6
	8	24.2	24.1	23.9	24.2	24.2	24.3	24.2	24.2	24.3	24.2	24.0	24.1	24.0	24.1	24.2	24.0	24.1	24.1	24.1	24.3	24.1	24.1	24.2	24.5	24.1
	9	24.9	24.8	24.7	24.7	24.9	24.8	24.8	24.6	25.0	25.1	25.2	24.8	24.9	24.7	24.7	24.7	24.6	24.8	24.6	24.2	24.7	24.7	24.6	24.5	24.7
	10	24.4	24.6	24.5	24.7	24.6	24.6	24.5	24.7	24.5	24.6	24.9	24.6	25.0	24.8	24.6	24.6	25.6	25.0	24.2	24.3	24.3	24.3	24.4	24.3	24.6
	11	24.4	24.6	24.5	24.6	24.6	24.6	24.7	24.6	24.6	24.7	24.7	24.6	24.5	24.4	24.4	24.5	24.4	24.4	24.5	24.5	24.6	24.6	24.6	24.6	24.5
	12	24.6	24.6	24.5	24.6	24.6	24.6	24.6	24.7	24.4	24.4	24.0	23.7	24.1	23.9	24.2	24.2	24.0	23.9	24.1	24.0	24.2	24.1	24.1	24.1	24.2
	13	24.1	24.3	24.1	24.2	24.2	24.2	24.4	24.2	24.2	24.0	23.9	24.3	25.2	25.6	25.8	25.9	25.6	25.1	24.0	24.0	24.0	24.1	24.1	23.9	24.4
	14	24.0	23.9	23.8	23.8	23.7	24.0	23.9	24.0	23.9	24.0	24.2	23.5	22.8	23.1	23.0	23.2	23.1	23.2	23.3	23.2	23.3	23.5	23.4	23.5	23.5
	15	23.4	23.5	23.5	23.5	23.6	23.6	23.7	23.6	23.7	23.7	23.6	23.6	23.6	23.5	23.6	23.5	23.6	23.7	23.7	23.6	23.7	23.7	23.7	23.7	23.6
	16	23.7	23.7	23.7	23.7	23.7	23.7	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.6	23.7	23.6	24.2	24.2	23.9	25.2	25.1	25.0	25.1	25.2
	17	25.1	25.2	25.3	25.2	25.3	25.2	25.2	25.2	25.2	25.3	25.3	25.1	25.3	25.2	25.0	24.9	25.1	25.1	25.0	25.1	25.1	25.1	25.1	25.1	25.1
	18	25.1	25.2	25.2	25.1	25.1	25.0	25.1	25.1	25.1	25.1	25.1	25.0	24.9	24.6	24.5	24.6	24.3	24.5	24.6	24.7	24.8	24.9	24.8	24.9	24.8
	19	24.8	25.0	25.0	25.0	24.9	24.9	24.9	24.7	24.8	24.6	24.8	24.6	24.5	24.3	24.5	24.5	24.6	24.8	24.8	25.1	25.0	25.1	25.1	25.0	24.8
	20	25.0	25.0	25.2	25.2	25.1	25.1	25.1	25.2	25.2	25.1	25.1	25.1	25.0	24.9	24.9	24.8	24.9	25.0	25.0	25.0	25.0	25.0	25.2	25.1	25.0
	21	25.1	25.1	25.3	25.1	25.2	25.2	25.2	25.3	25.1	25.2	25.1	24.9	24.9	24.7	24.7	24.7	24.7	24.8	24.9	25.0	25.1	25.0	25.2	25.2	25.0
	22	25.2	25.2	25.2	25.1	25.2	25.3	25.0	25.1	25.2	25.1	25.2	25.1	25.2	25.1	25.2	24.7	24.2	24.5	24.5	24.5	24.5	24.6	24.5	24.5	24.9
	23	24.5	24.5	25.0	24.8	24.9	24.9	24.8	24.9	24.5	24.4	25.1	25.1	25.1	25.2	24.8	25.2	24.5	24.9	25.0	25.1	25.0	24.4	24.6	24.5	24.8
	24	24.6	24.6	24.7	24.6	24.7	24.8	24.7	24.8	24.9	25.0	25.0	25.0	24.9	25.0	24.8	24.6	24.7	24.6	24.8	24.9	24.9	25.0	25.0	25.1	24.8
	25	24.9	25.0	25.2	25.1	25.0	25.0	25.1	25.2	25.2	25.1	25.1	25.1	25.1	25.2	25.0	25.0	24.5	24.6	24.8	24.8	24.8	24.8	25.0	25.0	25.0
	26	24.9	24.9	25.1	25.1	25.0	25.0	25.0	25.0	25.0	25.0	24.8	24.7	24.6	24.5	24.5	24.4	24.5	24.5	24.7	24.7	24.9	24.8	24.9	24.7	24.8
	27	24.9	24.8	24.9	24.8	24.8	24.8	24.8	24.8	24.8	24.5	24.4	24.0	24.2	24.1	23.9	23.9	24.1	24.1	24.2	24.4	24.3	24.2	24.3	24.4	24.4
	28	24.3	24.4	24.5	24.4	24.3	24.4	24.3	24.4	24.4	24.4	24.4	24.0	24.2	24.0	24.2	24.2	24.6	24.7	24.0	24.2	24.3	24.1	24.2	24.3	24.3
	29	24.3	24.3	24.0	24.2	24.3	24.2	24.3	24.3	24.2	24.3	24.1	23.9	24.5	25.6	26.6	26.9	26.6	25.7	24.5	23.8	24.1	24.2	24.2	24.2	24.6
	30	24.2	24.1	24.1	24.2	24.2	24.3	24.3	24.2	24.3	24.1	24.1	24.1	24.4	24.2	25.6	25.7	25.2	24.3	24.0	24.0	24.0	24.1	24.1	24.2	24.3
	31	24.3	24.3	24.2	24.4	24.4	24.4	24.5	24.4	24.3	24.2	24.3	24.3	24.2	24.2	24.1	24.0	24.1	24.2	24.4	24.5	24.7	24.8	24.8	24.8	24.3

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0X  
 MAX. 1HR AVG 35.6 01/01/92 14:00:00 2ND MAX. 1 HR AVG 35.3 01/01/92 15:00:00  
 MIN. 1HR AVG 8.4 01/06/92 07:00:00 ARITHMETIC MEAN 24.9 STANDARD DEV. 2.5

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-132

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

FEBRUARY 1992

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	24.8	24.8	24.7	24.7	24.8	24.8	24.7	24.7	24.6	24.3	24.2	24.2	24.1	24.0	23.9	24.0	24.1	24.3	24.4	24.6	24.7	24.8	24.9	24.8	24.5
2	24.9	24.9	25.0	25.1	25.0	25.1	25.1	25.1	24.9	24.7	24.5	24.4	24.3	24.2	24.1	24.2	24.4	24.5	24.6	24.7	24.8	24.8	24.8	24.7	24.7
3	24.8	24.8	24.8	24.9	24.9	24.9	24.9	25.0	24.8	24.6	24.4	24.3	24.1	24.2	24.4	24.5	24.1	24.1	24.3	24.5	24.6	24.7	24.6	24.6	24.5
4	24.7	24.7	24.5	24.6	24.8	24.8	24.9	24.9	24.5	24.2	24.2	24.0	24.0	24.0	24.2	24.1	23.8	24.0	24.2	24.1	24.2	24.1	24.1	24.2	24.3
5	24.0	24.0	24.0	24.1	24.0	24.1	24.2	24.1	24.0	24.2	24.0	23.9	24.0	23.8	23.9	24.4	24.2	23.7	24.0	24.0	24.0	23.9	24.0	23.9	24.0
6	24.0	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.0	24.0	23.9	23.9	24.1	24.0	24.0	24.1	24.0	24.1	24.2	24.2	24.1	24.2	24.3	24.3	24.1
7	24.3	24.4	24.6	24.6	24.4	24.5	24.7	24.7	24.6	24.5	24.4	24.2	24.2	24.1	24.2	24.1	24.2	24.2	24.2	24.3	24.3	24.4	24.4	24.4	24.3
8	24.4	24.4	24.3	24.4	24.4	24.5	24.5	24.5	24.4	24.3	24.3	24.1	24.1	24.2	24.1	24.1	24.2	24.3	24.4	24.4	24.6	24.6	24.6	24.5	24.3
9	24.5	24.6	24.4	24.5	24.5	24.5	24.6	24.5	24.5	24.7	24.6	24.6	24.6	24.4	24.4	24.5	24.5	24.5	24.6	24.5	24.5	24.6	24.6	24.6	24.5
10	24.6	24.6	24.5	24.5	24.5	24.6	24.6	24.6	24.6	24.5	24.5	24.3	24.3	24.3	24.3	24.2	24.3	24.4	24.3	24.3	24.5	24.5	24.5	24.5	24.4
11	24.5	24.5	24.5	24.5	24.6	24.6	24.5	24.6	24.7	24.6	24.6	24.6	24.4	24.3	24.0	24.4	24.4	24.3	24.5	24.5	24.6	24.5	24.6	24.6	24.5
12	24.7	24.7	24.4	24.6	24.7	24.5	24.7	24.7	24.8	24.7	24.7	24.7	24.6	24.5	24.5	24.6	24.4	24.4	24.5	24.5	24.7	24.6	24.7	24.6	24.6
13	24.7	24.6	24.4	24.6	24.5	24.5	24.6	24.7	24.6	24.6	24.4	24.3	25.4	25.6	24.9	25.0	25.3	25.0	24.9	24.9	24.8	24.9	24.8	24.9	24.8
14	24.9	24.8	24.9	24.8	24.9	24.9	24.8	24.7	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
15	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
16	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
17	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
18	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
19	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
20	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
21	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
22	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
23	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
24	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
25	25.0	24.8	24.7	25.0	25.0	25.1	25.0	25.1	Pwrf	24.9	24.8	24.8	24.7	24.7	24.9	24.9	24.9	24.9	24.9	24.9	24.8	25.0	25.0	24.9	24.9
26	24.9	24.9	24.8	24.8	24.8	24.7	24.7	24.9	24.8	24.8	24.5	24.5	Pwrf	Pwrf	24.5	24.7	24.7	24.6	24.4	24.5	24.6	24.7	24.7	24.6	24.7
27	24.6	24.5	24.6	24.6	24.6	24.7	24.7	24.6	24.7	24.7	24.6	24.6	24.7	24.8	24.8	24.7	24.6	24.8	24.8	24.8	24.8	24.8	24.9	24.8	24.8
28	24.8	24.8	24.8	24.7	24.8	24.9	25.0	24.8	24.8	24.7	24.7	24.7	24.8	24.9	24.9	25.0	24.9	24.7	24.7	24.8	24.8	24.8	24.8	24.7	24.8
29	24.8	24.9	24.7	24.7	24.7	24.8	24.8	24.6	24.5	24.6	24.7	24.8	24.8	24.7	24.7	24.7	24.7	24.8	24.7	24.5	24.4	24.5	24.6	24.5	24.6

TOTAL HOURS 696      TOTAL GOOD HOURS 437      DATA CAPTURE 62.8X  
 MAX. 1HR AVG 25.6    02/13/92 13:00:00      2ND MAX. 1 HR AVG 25.4    02/13/92 12:00:00  
 MIN. 1HR AVG 23.7    02/05/92 17:00:00      ARITHMETIC MEAN 24.5    STANDARD DEV. 0.3

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, Pwrf - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-133

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SHELTER TEMPERATURE IN DEGREES CELSIUS

DAY	MARCH 1992																							DAILY AVG		
	HOUR (EST) 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23	
1	24.5	24.5	24.4	24.4	24.4	24.5	24.4	24.5	24.6	24.4	24.0	23.4	24.1	24.4	24.5	25.1	25.2	24.2	24.0	24.0	24.1	24.0	24.2	24.3		
2	24.1	24.0	24.1	24.2	24.1	24.2	24.2	24.1	24.2	24.2	24.1	24.2	24.4	24.5	24.5	24.6	24.5	24.5	24.4	24.8	24.7	24.8	24.6	24.6	24.3	
3	24.6	24.5	24.5	24.5	24.4	24.4	24.4	24.4	24.7	24.6	24.3	24.2	24.5	24.6	24.5	24.5	24.6	24.6	24.7	24.8	24.8	24.8	24.7	24.8	24.5	
4	24.7	24.6	24.7	24.6	24.5	24.6	24.6	24.7	24.7	24.8	24.7	24.5	24.6	24.4	24.4	24.9	24.8	24.9	25.0	24.9	24.9	24.9	25.0	24.8	24.7	
5	24.8	24.9	24.8	24.9	24.9	24.7	24.8	24.8	25.0	25.0	24.9	24.9	25.0	25.0	24.9	24.9	24.9	24.9	24.8	24.7	24.8	24.6	24.9	25.1	24.8	
6	24.9	24.9	24.7	25.1	25.1	25.1	25.0	25.2	24.9	24.7	24.8	24.9	24.9	24.9	24.9	25.0	25.0	24.9	25.0	25.0	24.9	24.9	24.8	24.7	24.9	
7	25.0	24.9	25.0	24.9	25.0	25.1	25.1	25.2	25.2	25.1	25.0	25.0	25.0	25.1	25.0	25.2	25.1	25.1	25.1	25.0	25.1	25.2	25.1	25.2	25.0	
8	25.1	25.1	25.0	25.1	25.1	25.2	25.2	25.3	25.1	25.0	25.0	25.0	25.0	25.1	25.1	25.1	25.1	25.1	25.0	25.0	25.2	25.5	25.1	25.6	25.1	
9	25.5	25.4	25.4	25.5	25.3	25.6	25.5	25.8	25.5	25.1	24.9	24.9	25.0	24.9	25.0	24.9	24.9	25.0	24.8	25.0	25.1	25.2	25.2	25.4	25.2	
10	25.4	25.4	25.1	25.3	25.5	25.3	25.4	25.4	25.0	24.9	25.0	24.8	24.9	24.9	24.9	24.9	24.9	24.9	24.8	24.9	24.8	25.1	25.2	25.4	25.1	
11	25.4	25.5	25.2	25.1	25.2	25.2	24.8	25.3	25.5	25.3	25.5	25.2	25.2	25.2	25.2	25.2	25.2	25.3	25.4	25.4	25.2	24.8	24.2	23.9	25.1	
12	23.6	23.2	23.5	23.4	23.4	23.7	24.0	24.2	24.7	25.3	25.5	25.6	25.5	25.3	25.1	25.4	25.4	25.2	25.2	25.4	25.5	25.4	25.6	25.6	24.8	
13	25.6	25.6	25.2	25.5	25.3	25.6	25.6	25.3	25.2	25.0	24.8	24.9	24.9	25.0	24.9	25.0	24.9	25.0	24.8	25.1	25.3	24.9	25.3	25.3	25.4	25.2
14	25.3	25.3	25.1	25.3	25.4	25.2	25.2	25.5	25.5	25.4	25.3	25.2	25.3	25.3	25.1	25.1	25.1	25.1	25.0	25.3	25.7	25.7	25.4	24.9	25.3	
15	24.5	24.3	24.6	24.7	24.3	24.0	23.8	24.0	25.5	25.1	25.0	24.9	25.0	25.0	25.0	25.1	25.0	25.0	25.2	25.1	25.6	25.3	25.4	25.6	24.9	
16	25.4	25.4	25.5	25.3	25.2	25.4	25.4	25.6	25.3	25.4	25.5	25.3	25.2	25.2	25.1	25.2	25.2	25.1	25.3	25.3	25.5	25.5	25.5	25.3	25.3	
17	25.0	24.7	25.0	24.9	24.6	24.5	24.5	24.9	25.4	25.0	24.7	24.7	24.9	25.0	25.0	25.0	25.1	25.0	24.9	25.1	25.1	25.2	25.3	25.3	24.9	
18	25.2	25.5	25.1	25.4	25.3	25.4	25.4	25.3	25.2	24.7	24.9	24.8	24.9	24.8	24.8	24.8	24.9	24.8	24.8	24.7	25.0	25.0	25.0	25.0	25.0	
19	25.0	25.2	24.8	25.0	25.1	24.6	24.0	24.9	24.7	24.8	25.0	25.0	25.1	24.9	25.0	25.0	25.0	25.0	24.9	24.8	24.7	24.9	24.8	24.9	24.9	
20	25.1	25.0	24.7	25.0	24.9	25.1	25.1	25.2	24.9	24.9	24.8	24.7	24.9	24.9	25.0	25.0	25.1	24.8	25.3	25.3	25.4	25.3	25.3	25.4	25.0	
21	25.5	25.6	25.2	25.3	24.8	24.3	23.8	23.9	25.2	25.3	25.3	25.1	25.2	25.1	25.1	25.0	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.5	25.1	
22	25.6	25.6	25.4	25.3	25.6	25.5	25.5	25.2	25.6	25.3	25.1	25.1	24.9	25.0	25.1	25.2	25.2	25.1	25.2	25.5	25.3	25.2	25.3	25.3	25.3	
23	25.2	25.1	25.1	25.0	25.0	25.4	25.2	25.2	25.0	24.8	24.8	24.8	24.8	24.9	25.0	24.8	24.9	24.9	24.9	25.0	25.3	25.1	25.1	25.2	25.0	
24	25.4	25.3	25.1	25.3	25.4	25.5	25.6	25.6	25.3	25.2	25.1	25.0	25.0	25.0	24.9	24.9	24.9	25.0	25.1	25.1	25.3	25.2	25.4	25.5	25.2	
25	25.3	25.6	25.0	25.6	25.2	25.4	25.2	25.3	25.4	25.0	24.9	24.8	24.8	24.8	24.8	24.8	24.6	24.9	25.0	25.1	25.1	25.1	25.1	25.1	25.0	
26	25.1	24.9	24.5	25.0	25.1	25.1	25.0	25.0	25.2	25.0	24.9	24.8	24.9	24.9	24.9	25.0	24.8	24.9	24.9	25.0	25.1	25.4	25.7	25.6	25.0	
27	25.4	25.2	25.3	25.3	25.0	24.9	24.8	25.2	25.4	25.0	24.9	24.9	24.9	25.0	25.0	25.1	25.0	24.9	25.0	25.2	25.4	25.4	25.4	25.2	25.1	
28	25.3	25.4	25.3	25.5	25.3	25.4	25.5	25.6	25.6	25.4	25.2	25.0	25.0	24.9	25.0	25.0	25.0	25.0	25.0	25.0	25.3	25.3	25.6	25.5	25.3	
29	25.4	25.8	25.6	25.5	25.6	25.7	25.0	25.6	25.5	25.0	24.9	24.9	24.9	24.9	24.8	24.8	24.9	24.9	25.0	25.1	25.2	25.2	25.4	25.4	25.2	
30	25.2	25.4	25.1	25.2	25.3	25.1	25.0	25.2	24.9	24.7	24.8	24.8	24.8	24.9	24.9	24.8	24.8	24.7	24.8	25.1	25.2	25.0	24.9	25.0	25.0	
31	25.1	25.0	24.9	25.1	25.0	25.1	25.1	24.7	24.7	24.8	24.8	25.0	24.9	24.9	25.0	25.1	Cal	25.0	25.1	25.3	25.8	25.8	25.8	25.7	25.1	

TOTAL HOURS 744 TOTAL GOOD HOURS 743 DATA CAPTURE 99.9%  
 MAX. 1HR AVG 25.8 03/31/92 22:00:00 2ND MAX. 1 HR AVG 25.8 03/29/92 01:00:00  
 MIN. 1HR AVG 23.2 03/12/92 01:00:00 ARITHMETIC MEAN 25.0 STANDARD DEV. 0.4

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qaf - Data questionable external influence, Purg - Analyzer in Purge

11.11-134

**HOURLY AVERAGES FOR SIGMA THETA (DEGREES)**

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

APRIL, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
2	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
3	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
4	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
5	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
6	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
7	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
8	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
9	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
10	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
11	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
12	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	11.7	11.9	13.2	17.0	14.4	11.5	11.6	10.8	9.4	8.1	7.6	7.3	7.3	7.3	Bad<
13	8.1	8.2	7.6	7.9	7.9	8.3	8.4	9.0	11.0	11.4	12.0	13.9	15.9	17.9	13.6	12.5	13.0	11.1	8.9	8.7	9.0	8.8	7.8	8.8	10.4
14	8.9	8.2	7.6	8.3	8.6	9.2	7.8	9.9	11.0	12.0	16.8	16.5	16.0	11.7	10.3	12.4	9.5	10.1	9.5	9.8	9.4	8.9	8.8	10.0	10.5
15	8.6	8.9	9.4	9.3	9.8	9.7	16.3	12.5	15.5	17.4	20.8	25.3	27.4	24.2	41.7	41.9	30.3	27.0	12.1	10.1	9.0	29.2	34.0	35.8	20.3
16	50.1	38.4	9.5	8.7	11.5	22.6	19.1	16.9	15.9	14.6	19.6	24.5	35.8	26.7	24.5	31.2	19.2	Miss	Miss	PwrF	PwrF	PwrF	PwrF	PwrF	Bad<
17	PwrF	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	PwrF	24.0	14.3	19.7	23.8	PwrF	30.5	34.8	18.3	11.2	10.6	Bad<
18	8.6	23.0	45.0	42.0	11.0	11.0	8.0	15.0	18.2	19.0	24.1	18.8	15.3	16.0	17.7	15.8	12.4	10.9	9.2	9.5	22.5	15.9	18.2	24.5	18.0
19	17.5	11.5	9.4	29.6	23.2	27.9	30.9	28.5	30.1	64.1	23.0	PwrF	53.3	42.1	29.2	11.0	10.6	9.8	8.6	7.7	9.0	16.5	7.7	10.8	22.3
20	11.4	10.1	16.3	17.9	10.0	31.2	44.4	42.2	19.3	18.8	27.5	66.5	48.5	35.9	31.3	31.8	26.3	14.9	8.8	9.8	13.5	17.0	21.3	15.2	24.6
21	6.8	5.9	4.9	5.1	6.1	7.9	24.7	20.3	17.7	14.3	14.8	14.8	14.9	15.8	12.6	13.5	14.1	12.5	12.4	8.6	7.8	8.9	8.1	34.4	12.8
22	16.4	43.3	27.5	8.4	11.1	19.8	21.0	28.1	25.8	37.1	31.8	28.6	31.5	36.4	28.7	18.1	13.7	10.5	8.7	8.3	9.3	19.3	20.8	8.1	21.4
23	11.4	15.9	13.1	11.7	11.5	11.9	12.4	12.7	14.6	14.2	12.4	11.0	11.6	11.0	10.6	11.0	11.1	10.6	15.0	39.4	20.1	18.7	16.8	37.7	15.3
24	49.8	16.4	10.0	10.3	9.9	10.0	11.5	13.2	11.9	14.6	13.6	14.2	15.0	15.2	14.6	12.8	14.4	11.5	7.9	6.7	7.3	6.2	11.0	20.8	13.7
25	19.1	16.6	16.4	30.4	13.6	15.4	15.3	13.9	15.7	16.5	18.8	18.2	17.9	23.8	48.5	16.3	24.8	16.3	15.8	11.1	20.3	20.7	20.8	16.0	19.3
26	34.0	14.1	56.6	48.8	27.8	37.3	33.7	11.5	11.7	20.1	15.2	29.0	24.2	35.6	38.2	54.0	38.3	54.2	14.7	13.9	32.2	18.3	37.2	11.0	29.6
27	13.5	9.3	10.6	13.8	10.1	9.9	12.0	12.8	14.1	14.7	14.4	19.0	20.4	22.1	25.9	24.8	36.1	17.0	22.1	11.1	10.1	11.1	13.1	7.7	15.7
28	10.3	18.7	20.1	12.5	12.4	9.0	10.8	11.4	13.0	13.6	15.3	17.7	19.4	24.2	25.6	20.7	27.4	26.4	15.4	8.4	7.8	47.4	11.0	18.8	17.4
29	11.2	10.1	11.9	11.1	10.5	12.4	12.4	0.0	13.2	13.5	15.7	17.2	22.9	40.2	23.5	24.7	15.3	11.9	10.3	25.1	44.0	22.5	21.0	18.2	17.4
30	14.1	10.1	11.7	14.6	10.5	13.9	11.0	13.5	16.0	16.8	17.2	23.8	25.8	31.4	29.5	22.5	21.9	19.7	13.1	10.3	24.9	20.8	28.4	31.1	18.9

TOTAL HOURS 720 TOTAL GOOD HOURS 423 DATA CAPTURE 58.8%

ARITHMETIC MEAN 18.0 STANDARD DEV. 10.5

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-136

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

		MAY, 1991																							DAILY	
HOUR (EST)		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG
DAY																										
1	52.0	19.8	22.3	46.5	16.4	44.1	12.6	14.3	16.4	21.6	33.0	24.8	31.8	41.6	23.4	31.2	22.9	18.8	11.6	28.7	30.8	48.2	54.5	19.8	28.6	
2	29.6	51.2	23.4	19.8	32.5	14.7	15.5	15.0	28.0	50.7	27.9	17.9	20.3	23.6	21.8	23.0	20.1	14.2	16.1	13.3	14.3	8.3	8.1	7.9	21.6	
3	8.2	8.6	7.8	8.7	7.1	9.9	9.9	8.8	14.1	16.1	16.0	17.5	19.6	24.5	23.0	28.7	22.1	14.9	7.6	7.7	8.2	8.1	9.3	10.6	13.2	
4	9.5	9.5	9.5	8.2	10.4	8.9	9.4	11.6	12.5	18.3	23.4	40.4	32.0	35.9	43.9	33.7	41.5	26.7	44.5	6.8	9.5	13.7	56.4	12.4	22.0	
5	10.5	11.6	12.2	13.5	12.0	10.9	11.2	13.2	13.3	13.5	25.2	30.2	42.1	27.0	25.4	23.2	24.8	15.8	12.7	8.3	21.4	12.6	11.7	14.9	17.4	
6	9.8	10.4	18.8	20.4	19.3	15.3	15.4	14.7	13.5	13.9	14.8	16.4	20.1	31.8	52.9	34.6	12.0	24.0	22.6	17.7	12.0	11.7	11.1	11.4	18.5	
7	20.4	12.5	12.5	7.2	9.3	10.9	8.1	11.5	16.4	16.3	18.1	21.2	21.3	20.1	21.6	22.0	13.2	13.2	8.6	8.1	7.9	7.7	8.3	8.9	13.5	
8	7.2	7.9	7.5	8.4	8.1	8.1	7.8	8.7	11.0	11.5	12.4	13.2	13.9	12.2	12.6	12.1	11.2	9.9	8.1	8.2	7.8	8.3	8.6	9.0	9.7	
9	9.3	8.2	7.7	8.7	7.7	7.9	7.7	10.0	12.7	13.2	13.9	18.6	15.5	16.9	16.0	17.1	15.5	13.6	15.9	8.6	8.1	11.0	10.6	9.4	11.8	
10	7.9	9.2	10.6	10.0	11.9	7.8	10.5	12.4	12.6	13.9	19.8	21.5	45.2	20.1	18.0	14.4	12.5	10.6	8.4	9.3	8.3	7.3	7.7	7.6	13.2	
11	7.5	7.6	9.2	7.9	7.8	11.6	9.3	13.3	13.9	15.4	19.6	26.3	19.0	16.4	19.7	16.4	17.6	11.7	8.9	7.5	7.5	8.2	8.6	8.9	12.5	
12	7.0	7.5	6.5	7.0	5.6	5.1	12.1	10.9	13.3	16.0	29.2	35.9	48.5	48.7	33.9	42.1	35.5	18.1	8.2	16.9	17.0	14.1	8.1	8.7	19.0	
13	10.3	8.7	10.8	13.7	9.9	9.0	12.8	14.2	14.3	20.5	29.1	48.9	13.9	24.3	17.6	17.2	29.7	19.7	36.3	10.6	12.1	9.9	15.8	10.5	17.5	
14	12.5	11.5	11.0	9.7	11.5	14.7	11.5	17.4	26.7	21.2	33.1	19.4	18.7	22.4	19.9	20.5	28.0	23.1	10.8	8.4	16.6	17.1	22.0	37.4	18.5	
15	31.9	8.3	24.9	48.4	31.2	19.1	25.4	17.1	20.1	19.6	25.6	20.3	30.7	28.1	24.0	19.1	13.2	13.6	9.7	8.4	7.8	14.4	17.0	18.6	20.7	
16	27.0	48.7	59.3	21.9	13.8	34.2	37.7	21.8	20.4	45.1	37.9	58.8	24.9	47.9	46.6	16.3	18.0	12.7	27.4	39.3	27.5	24.9	55.1	53.2	34.2	
17	59.8	50.7	20.7	36.1	8.8	7.3	8.3	10.9	13.6	18.3	22.0	27.8	43.0	34.0	27.3	25.8	20.1	19.2	32.5	50.0	51.0	22.1	28.7	22.5	27.5	
18	23.0	39.4	12.4	32.2	6.6	11.9	14.1	14.3	19.3	22.0	23.5	27.3	26.0	36.4	41.6	30.9	33.7	12.2	10.8	9.5	8.4	16.8	8.9	10.0	20.5	
19	10.8	11.7	8.7	11.9	9.4	8.2	10.3	10.5	12.0	14.1	16.3	18.0	18.1	23.7	17.1	12.6	11.0	10.9	11.4	12.8	11.7	23.7	8.7	7.9	13.0	
20	8.1	10.6	9.4	8.8	8.2	8.3	9.2	9.0	12.1	11.4	10.9	14.7	12.8	11.2	13.1	10.3	9.9	8.9	8.6	9.5	10.5	8.1	9.7	7.9	10.1	
21	7.8	8.3	9.4	9.3	7.6	7.8	7.8	8.1	7.5	8.4	8.9	Down	Down	Down	8.6	8.3	7.5	8.1	8.6	7.9	8.3	8.3	7.8	7.3	8.2	
22	7.1	7.6	7.2	6.8	7.3	7.9	8.3	8.2	8.1	8.7	10.8	9.3	7.9	6.8	8.1	8.1	7.9	7.5	7.6	7.1	7.3	7.2	6.7	7.3	7.8	
23	7.7	9.2	10.9	8.9	8.3	13.9	11.0	10.1	12.7	12.8	13.7	15.9	18.5	15.5	10.6	9.2	10.0	11.6	9.3	11.0	7.9	9.0	8.2	7.9	11.0	
24	8.1	8.7	8.7	10.1	11.4	10.5	14.1	9.0	13.8	18.2	14.2	15.0	18.6	35.2	16.8	12.7	36.6	18.6	19.1	24.1	8.2	7.6	7.9	7.8	14.8	
25	7.9	8.9	7.5	7.6	8.9	9.3	8.4	9.3	10.0	10.8	11.1	11.5	13.1	11.9	13.1	13.2	11.4	10.6	7.9	7.8	16.4	21.5	14.4	9.0	10.9	
26	8.4	8.9	11.1	10.8	12.1	11.1	13.0	13.5	15.7	19.3	19.4	16.5	27.4	22.3	17.6	23.2	16.3	8.7	8.7	10.9	11.4	8.7	8.9	8.8	13.9	
27	8.2	10.1	11.1	9.9	9.5	10.5	11.4	11.2	12.8	15.3	12.8	12.7	18.7	27.3	31.3	34.2	33.5	47.8	39.9	20.2	12.4	12.0	7.9	7.8	17.9	
28	8.9	9.2	8.4	10.0	9.5	7.7	9.4	11.2	12.4	12.7	15.2	17.1	11.6	19.7	18.0	14.1	16.0	13.5	9.4	8.7	29.2	9.4	9.0	9.7	12.5	
29	9.5	10.4	32.0	58.4	35.8	29.1	14.7	27.6	23.6	33.1	42.9	48.8	44.4	43.8	28.1	24.3	18.2	19.2	29.0	24.7	32.3	36.4	17.2	25.7	29.6	
30	17.6	16.9	23.2	37.4	19.7	37.8	15.8	18.5	28.6	50.7	69.9	49.8	49.5	59.8	43.0	18.1	16.4	34.1	52.1	49.0	19.3	22.9	31.4	72.5	35.6	
31	52.3	27.9	32.4	44.8	72.4	18.0	47.4	38.6	66.6	30.9	36.6	51.7	25.4	24.9	52.9	23.2	29.1	22.7	16.1	21.6	14.8	27.9	62.6	21.3	35.9	

TOTAL HOURS 744 TOTAL GOOD HOURS 741 DATA CAPTURE 99.6%

ARITHMETIC MEAN 18.1 STANDARD DEV. 12.3

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, Ocal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-137

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

JUNE, 1991

DAY	HOUR (EST)																							DAILY AVG			
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23		
1	49.2	33.0	34.4	20.4	12.7	10.8	15.4	21.4	24.0	27.0	29.6	38.8	25.8	21.3	21.0	21.9	14.7	16.8	15.0	22.0	16.3	13.0	13.0	12.7	22.1		
2	17.6	19.2	19.1	10.4	11.9	18.1	12.0	14.2	14.2	11.4	16.1	15.3	16.9	15.5	14.8	35.8	16.0	11.5	9.8	8.7	9.2	7.3	10.1	7.1	14.3		
3	7.1	8.7	8.9	7.8	7.0	7.5	9.2	10.8	13.5	15.3	13.0	15.2	13.8	14.1	15.4	17.0	12.5	11.9	10.4	7.6	9.8	9.0	9.5	6.8	10.9		
4	7.1	9.4	8.6	11.0	10.6	13.7	16.4	12.0	14.2	15.9	PwrF	15.5	12.7	10.1	10.3	16.6	18.8	13.3	10.3	9.8	9.2	8.1	8.1	9.2	11.8		
5	14.7	8.7	12.0	29.5	63.2	14.6	15.0	12.4	9.5	13.7	11.1	11.1	13.8	19.1	15.9	13.5	12.7	15.8	22.6	19.1	14.1	20.2	45.4	21.4	18.7		
6	12.4	18.2	11.0	42.3	13.7	15.5	16.0	17.2	20.9	17.6	16.9	13.7	14.9	13.7	13.8	13.9	12.2	9.8	12.7	14.8	14.2	14.4	14.2	14.2	15.8		
7	13.3	14.8	13.5	13.5	13.1	15.0	13.8	16.1	15.3	16.0	24.5	38.2	41.2	26.0	35.6	23.5	19.6	14.4	13.5	13.5	12.8	14.1	13.8	14.8	18.7		
8	13.8	13.8	13.8	13.3	12.4	12.1	14.1	14.2	13.7	13.2	13.3	13.7	11.9	12.1	13.1	13.7	13.1	10.3	9.4	9.5	9.8	9.7	12.1	10.3	12.3		
9	10.5	12.6	13.2	12.8	13.6	13.9	12.6	10.5	12.5	13.1	12.7	14.3	14.1	17.5	14.2	10.1	13.1	11.1	9.8	10.0	10.3	10.8	10.6	10.8	12.3		
10	13.0	13.7	12.8	13.8	14.4	12.7	14.6	15.3	15.0	11.1	13.2	15.5	15.8	17.0	12.8	14.4	13.0	12.8	7.9	9.4	9.9	10.0	12.5	12.7	13.1		
11	12.2	14.3	11.5	14.6	16.1	10.4	13.3	13.2	12.4	12.8	13.0	13.8	17.6	17.1	19.4	16.4	14.4	12.8	9.8	9.2	7.3	7.7	8.6	7.1	12.7		
12	7.3	7.8	8.9	8.7	8.7	8.1	11.1	12.5	17.9	32.4	36.2	36.8	33.0	41.7	45.5	47.8	31.4	23.0	12.5	13.5	9.4	7.3	7.9	7.8	19.9		
13	10.3	8.7	9.3	10.9	9.5	7.6	9.9	15.9	28.6	27.5	23.0	26.4	34.8	28.6	30.8	26.3	25.8	18.7	14.1	13.5	12.7	9.5	10.0	9.0	17.6		
14	9.7	9.8	10.0	13.0	36.8	10.4	49.6	23.5	17.4	19.2	25.4	17.6	39.4	33.7	29.5	40.5	41.1	22.5	18.3	18.6	30.3	28.6	19.9	24.2	24.5		
15	20.8	29.5	10.9	13.6	11.1	14.4	18.0	15.2	17.6	36.2	39.7	32.9	28.2	22.5	23.0	28.2	20.1	27.5	25.8	26.4	20.2	16.1	13.7	24.7	22.3		
16	34.8	26.9	21.2	44.3	60.5	42.2	26.7	35.3	33.4	64.8	63.3	53.3	55.9	41.0	25.2	13.3	19.6	34.5	27.6	15.5	18.2	27.6	36.8	17.0	35.0		
17	13.8	15.0	11.1	32.5	24.2	35.7	29.8	20.8	26.2	63.2	23.7	39.3	30.4	17.6	39.3	19.8	35.0	PwrF	PwrF	48.9	45.9	25.7	12.0	18.7	28.6		
18	17.2	28.4	31.3	24.0	26.7	31.5	35.5	30.4	28.5	30.4	19.0	28.4	42.8	19.3	18.7	29.3	45.7	47.4	16.1	20.3	9.0	12.2	15.7	11.6	25.8		
19	14.1	15.7	15.8	15.7	16.4	38.6	28.5	17.0	31.1	26.3	32.0	39.9	26.0	22.4	27.3	16.0	17.9	25.2	36.9	10.9	11.7	16.9	18.1	20.1	22.5		
20	47.4	18.8	43.3	35.2	53.7	28.4	21.8	22.4	19.8	31.5	32.5	24.0	40.1	57.8	38.4	43.9	26.9	17.2	36.9	43.5	PwrF	PwrF	PwrF	PwrF	34.2		
21	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	38.3	30.9	54.4	47.4	35.7	20.2	35.8	15.8	25.6	12.7	17.2	15.7	21.9	37.9	Bad<
22	46.5	41.1	51.6	19.0	38.5	29.6	13.0	15.4	25.8	32.0	39.5	36.1	55.1	24.0	21.4	15.7	18.0	22.5	31.4	24.7	38.2	14.6	9.5	61.3	30.2		
23	49.2	43.5	23.4	20.2	31.9	30.1	26.2	16.1	31.4	36.1	43.5	47.9	35.0	20.9	23.7	14.2	20.1	13.2	43.4	18.3	16.8	18.5	14.4	38.5	28.2		
24	39.7	23.8	47.8	47.9	39.5	58.8	49.0	19.8	52.1	30.0	47.7	27.5	33.1	28.7	34.4	28.1	16.3	16.6	40.8	48.2	33.5	22.1	44.6	27.0	35.7		
25	48.1	27.6	56.6	40.4	63.1	16.9	46.0	13.3	15.4	21.4	23.2	38.9	45.9	41.9	47.3	58.3	42.9	19.7	19.4	41.1	48.4	63.1	56.7	44.0	39.2		
26	30.4	46.3	75.4	49.4	31.1	36.4	37.7	22.1	28.7	52.5	60.3	44.9	33.9	34.7	32.9	18.2	13.0	16.9	19.8	30.6	13.7	11.7	44.0	13.6	33.3		
27	14.3	10.1	12.4	11.6	12.0	19.0	12.2	14.2	21.0	38.0	50.9	69.8	63.2	13.7	23.5	13.2	11.1	15.3	46.2	32.8	39.4	21.2	20.3	40.0	26.1		
28	16.0	10.5	23.4	29.0	24.6	24.2	14.4	14.9	16.9	22.4	33.0	37.1	48.5	46.1	38.5	40.1	35.9	25.4	41.1	53.4	27.0	11.0	23.5	44.9	29.2		
29	29.7	13.1	34.8	44.0	28.6	25.4	59.4	17.7	22.6	33.4	56.9	58.1	53.1	51.6	61.3	60.9	26.8	21.3	24.9	19.6	33.3	14.8	51.2	23.7	36.1		
30	28.5	14.3	33.6	29.3	52.8	59.8	22.9	13.3	14.8	33.7	48.7	60.8	61.6	48.7	33.0	38.3	20.3	17.4	27.5	62.0	42.6	26.8	37.8	23.0	35.5		

TOTAL HOURS 720 TOTAL GOOD HOURS 703 DATA CAPTURE 97.6%

ARITHMETIC MEAN 23.7 STANDARD DEV. 13.9

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-138



TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

JULY, 1991

DAY	HOUR (EST)																							DAILY AVG		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23	
1	15.4	13.8	11.6	13.2	15.0	15.9	18.0	20.7	26.0	20.7	19.1	13.8	17.6	15.7	16.3	18.0	10.5	11.0	9.7	13.1	12.8	11.4	12.4	13.5	15.2	
2	11.7	13.5	13.3	12.8	14.9	13.8	33.4	24.7	22.3	12.5	34.8	22.4	27.5	31.7	14.7	10.9	10.9	10.6	8.9	9.7	9.3	11.4	13.9	20.5	17.1	
3	10.8	16.1	10.3	9.0	11.9	13.8	16.0	15.9	18.5	20.7	15.9	18.6	24.0	24.0	20.2	16.3	50.4	29.7	22.3	43.3	28.4	31.1	13.7	8.6	20.4	
4	11.4	12.5	10.9	10.8	19.0	15.3	14.7	15.9	19.6	16.3	21.2	15.8	19.1	13.5	13.2	28.7	19.6	21.4	42.2	48.2	33.0	20.1	11.6	17.5	19.6	
5	32.5	10.5	11.0	9.9	16.8	18.3	19.0	13.8	20.4	18.3	32.9	33.6	53.7	47.3	13.8	21.0	22.4	27.9	34.6	19.9	52.1	35.0	12.1	11.9	24.5	
6	10.4	11.7	11.4	21.5	24.8	49.0	15.2	23.8	27.8	47.6	36.8	51.5	52.3	50.9	60.6	23.1	14.3	27.6	17.9	22.1	23.8	16.0	18.6	47.0	29.4	
7	46.5	52.0	60.5	29.6	41.6	38.6	47.8	33.1	21.0	24.0	50.3	42.4	57.6	41.1	69.5	48.1	60.9	24.0	23.0	23.8	27.8	36.3	51.1	56.7	42.0	
8	36.3	45.6	16.0	19.4	56.7	47.0	60.5	26.9	25.8	39.4	48.4	66.6	51.6	70.4	65.3	33.0	34.2	16.9	23.4	11.9	12.1	14.4	45.4	58.8	38.6	
9	47.7	62.9	41.0	42.2	19.7	24.9	42.1	14.4	35.5	39.3	21.5	18.5	55.9	48.5	45.7	39.4	15.5	13.8	10.1	11.2	12.0	11.5	18.3	29.2	30.0	
10	24.6	20.5	21.8	16.3	17.7	15.5	16.8	14.7	14.3	15.9	14.6	14.6	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<	
11	19.8	14.9	15.5	26.4	12.8	37.4	29.5	14.3	12.0	16.5	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<	
12	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
13	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
14	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
15	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
16	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
17	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
18	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
19	26.9	19.9	10.5	10.3	9.4	8.9	13.8	11.4	14.6	16.3	41.1	32.4	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<	
20	23.1	12.1	8.9	6.7	11.2	11.4	12.4	18.5	18.3	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<	
21	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	
22	15.8	29.3	10.6	27.8	22.3	28.2	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<	
23	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	41.5	14.2	19.2	27.0	19.9	58.9	52.8	25.7	32.0	Bad<
24	21.4	19.1	41.6	41.6	42.9	31.2	22.3	15.2	35.2	51.8	35.1	59.7	44.1	43.9	22.6	43.0	22.0	24.0	40.2	15.4	12.8	37.3	30.2	29.8	32.6	
25	27.4	15.0	14.1	12.7	17.4	31.1	27.8	15.5	28.6	23.5	25.6	31.7	58.7	35.7	19.9	18.2	18.0	25.6	16.6	25.3	30.4	25.6	13.7	22.3	24.2	
26	40.0	21.9	20.1	21.0	18.8	25.2	20.5	12.7	17.1	28.7	29.7	32.6	30.4	23.1	25.1	28.9	35.9	17.6	19.6	55.5	26.8	14.2	12.5	17.2	24.8	
27	13.1	13.9	18.3	25.8	20.1	25.8	18.0	16.5	25.9	63.3	49.9	57.1	48.4	44.9	34.4	47.7	27.3	22.7	13.9	12.1	17.6	16.4	12.5	13.8	27.5	
28	66.5	32.0	72.8	15.3	22.7	13.5	13.5	16.0	17.6	17.6	22.9	20.1	20.8	26.7	25.8	27.1	14.6	15.2	37.8	32.5	48.7	40.4	12.0	13.6	26.9	
29	13.3	23.1	12.4	10.1	14.8	19.1	18.3	13.7	16.5	15.5	16.9	18.7	22.1	19.0	19.3	34.7	38.9	41.3	29.1	22.7	39.1	10.9	9.4	14.6	20.6	
30	10.8	17.5	17.0	10.3	12.5	10.6	13.6	14.4	13.7	15.3	18.8	19.6	15.8	23.7	13.3	14.1	16.4	20.4	11.6	14.6	11.7	11.2	10.8	11.5	14.5	
31	11.2	12.7	12.8	22.0	15.0	12.4	11.0	12.1	13.2	13.1	13.6	19.0	13.0	14.8	14.8	13.3	16.9	14.7	16.3	13.5	12.0	15.9	11.4	12.4	14.0	

TOTAL HOURS 744 TOTAL GOOD HOURS 466 DATA CAPTURE 62.6%

ARITHMETIC MEAN 24.2 STANDARD DEV. 13.8

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

10-29-91

11.11-139

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

AUGUST, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	13.1	12.5	13.6	11.7	12.7	12.2	13.7	12.2	13.2	17.5	17.4	19.0	38.3	32.4	18.1	37.2	12.2	20.3	18.0	11.5	19.3	12.8	10.3	10.5	17.1
2	11.9	9.2	12.2	19.3	10.8	10.6	12.1	17.0	13.5	14.7	16.9	19.7	17.7	18.2	25.2	22.1	28.1	32.9	62.6	61.8	12.8	45.0	52.1	13.1	23.3
3	13.3	18.3	17.0	22.7	14.8	34.4	47.6	22.7	16.8	25.3	62.9	45.7	52.1	36.8	70.3	27.8	30.7	21.9	12.6	25.2	31.3	32.9	33.7	12.1	30.4
4	23.1	35.9	24.5	45.2	53.6	42.3	35.1	49.4	33.9	40.1	43.3	34.4	41.9	25.3	26.3	20.8	22.6	18.0	11.4	8.4	7.0	12.4	18.8	17.2	28.8
5	25.8	15.5	22.9	47.3	28.7	52.9	32.4	45.7	48.9	50.3	72.6	51.4	38.3	26.0	23.4	22.6	17.0	20.7	21.2	49.6	16.3	23.4	24.1	19.4	33.2
6	36.1	71.0	30.3	57.0	35.9	9.5	13.9	25.2	28.2	18.3	22.9	23.5	21.6	25.4	27.3	35.2	23.0	22.6	24.1	35.0	38.8	71.4	30.2	15.3	30.9
7	15.2	14.8	11.5	10.5	11.2	7.9	7.6	10.5	11.9	13.7	15.7	16.0	18.6	19.4	24.7	33.9	18.5	24.3	8.7	13.0	14.7	10.9	10.1	8.9	14.7
8	10.4	8.6	19.4	14.2	26.3	9.3	12.8	13.5	19.0	35.1	35.2	43.8	38.9	49.6	50.9	58.9	53.2	55.3	19.4	42.8	30.9	20.8	24.6	26.8	30.0
9	14.4	28.9	64.1	47.6	27.8	20.1	22.6	26.7	31.5	53.3	57.2	61.4	58.1	54.2	17.0	39.0	35.5	15.3	12.1	12.5	13.7	53.4	24.2	10.6	33.4
10	44.5	17.0	13.3	27.5	15.9	19.0	28.6	13.5	19.7	32.9	37.1	35.8	14.8	14.7	14.7	13.9	15.0	10.9	10.3	8.1	12.1	15.0	16.1	16.5	19.5
11	23.7	13.1	13.8	17.4	22.9	30.0	28.0	48.3	23.6	52.1	47.9	36.3	59.4	16.3	22.9	21.9	10.5	12.6	9.2	8.9	7.2	7.8	19.3	45.9	25.0
12	39.6	19.2	35.1	26.3	14.8	42.1	24.8	17.5	24.6	23.6	29.0	36.4	29.6	23.7	21.8	18.2	16.8	40.0	43.0	36.9	28.1	45.2	19.0	16.1	28.0
13	17.7	31.1	66.6	19.3	17.5	18.1	33.5	19.3	30.6	27.4	26.7	52.0	33.9	36.9	26.0	23.4	13.6	17.4	20.7	38.0	29.0	11.9	33.3	15.7	27.5
14	55.4	37.9	40.0	19.8	18.1	8.4	14.3	15.7	15.7	14.3	24.1	19.7	22.7	20.1	21.4	17.2	17.6	30.6	24.1	24.3	17.0	60.3	36.9	54.9	26.3
15	31.3	16.3	28.7	15.5	17.7	17.5	39.4	29.3	23.1	37.4	40.0	44.1	33.0	14.9	47.8	19.2	12.0	28.9	54.4	18.8	16.3	14.4	26.9	24.0	27.1
16	23.2	29.8	48.1	25.1	30.3	29.8	16.6	42.9	33.1	35.7	52.0	51.7	41.3	46.0	41.5	37.5	23.5	12.6	57.3	28.5	24.2	17.9	18.8	33.3	33.4
17	33.3	35.6	41.8	41.6	28.2	20.1	26.9	36.7	31.2	32.6	38.9	28.9	37.3	26.8	38.5	24.9	33.7	27.8	11.5	8.7	12.5	9.5	16.8	7.5	27.1
18	10.4	7.2	8.4	10.4	16.1	16.9	10.1	12.4	17.9	24.1	20.1	26.5	25.8	27.4	23.7	22.9	19.0	16.1	12.7	11.4	15.5	8.8	13.6	11.2	16.2
19	13.0	9.7	14.1	35.7	38.4	16.0	19.4	13.1	20.1	27.6	24.1	19.6	19.3	23.0	19.1	17.4	45.1	30.4	11.6	12.0	9.7	10.3	9.4	13.5	19.6
20	13.2	14.1	13.8	16.1	16.0	15.8	13.6	26.4	28.1	11.9	26.0	39.3	23.2	19.7	11.5	8.9	9.8	26.7	31.4	51.0	22.0	20.8	17.0	10.9	20.3
21	25.3	27.8	13.3	14.8	22.5	32.2	16.5	27.8	35.2	22.9	26.7	14.8	19.1	22.6	15.2	13.2	14.3	11.6	10.1	7.9	7.7	28.6	30.9	21.3	20.1
22	11.4	13.5	11.6	22.9	45.6	26.5	21.6	9.3	15.8	31.9	43.4	24.7	21.4	30.0	19.7	57.0	16.6	16.3	13.6	10.0	11.5	12.7	13.0	8.4	21.2
23	10.9	11.4	8.7	12.8	8.6	11.0	11.4	11.4	15.5	13.9	14.3	18.1	14.1	16.3	43.2	45.4	10.9	10.5	9.7	10.1	8.9	14.4	19.0	10.4	15.0
24	7.6	8.1	11.9	11.0	16.9	12.1	17.4	12.6	16.8	19.0	22.0	19.0	21.4	18.7	46.0	54.7	42.8	24.0	48.9	33.3	35.3	12.8	12.4	10.3	22.3
25	11.6	12.1	12.4	11.5	11.6	18.3	29.2	12.4	13.0	17.4	19.9	19.8	12.1	15.7	13.0	16.3	14.7	43.7	40.6	9.7	8.6	10.8	14.9	14.8	16.8
26	13.1	27.4	42.2	27.4	57.3	46.2	30.9	18.3	19.8	26.2	24.8	34.0	40.5	37.7	49.4	19.7	16.0	13.9	10.0	10.6	12.0	8.2	10.4	7.9	25.2
27	10.8	14.7	9.2	7.5	12.4	9.7	10.9	15.5	19.1	27.5	20.2	16.3	17.7	19.9	27.4	32.3	24.1	16.3	12.0	17.0	38.9	12.7	10.1	8.2	17.1
28	31.1	19.6	16.6	12.1	14.4	16.0	11.0	11.9	16.1	20.2	33.7	37.2	34.8	13.3	14.3	12.4	13.5	9.3	17.6	21.3	19.1	13.1	9.2	9.3	17.8
29	10.4	14.7	16.0	8.7	8.1	9.5	11.2	12.2	16.1	12.8	18.8	18.6	20.2	13.6	14.2	21.5	15.7	19.7	35.2	10.1	9.0	11.0	9.5	9.7	14.4
30	8.4	8.9	9.0	13.1	14.4	12.7	10.1	14.6	14.1	14.2	19.3	19.6	22.0	23.6	31.2	39.6	55.4	16.0	21.5	15.9	37.9	21.4	41.0	13.8	20.7
31	12.4	27.1	39.5	10.9	12.1	60.5	21.4	16.0	13.6	17.2	22.4	30.7	40.8	60.5	49.4	47.0	23.7	19.7	11.0	22.5	59.4	38.4	15.3	10.8	28.4

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%

ARITHMETIC MEAN 23.6 STANDARD DEV. 13.4

KEY FOR MISSING CODES

Badc - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

10-21-91

11.11-140

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

SEPTEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	11.9	9.4	14.4	21.8	17.6	23.0	17.1	23.0	28.2	54.2	52.1	38.4	37.3	35.7	34.7	44.8	14.1	15.4	20.3	39.7	26.4	9.3	21.3	39.0	27.0
2	14.8	19.6	58.2	11.0	28.9	35.2	22.4	17.0	15.4	20.5	19.2	18.3	19.1	21.2	22.3	19.8	16.1	14.8	10.5	14.2	13.5	18.3	13.2	10.5	19.7
3	14.8	18.1	21.2	12.5	17.4	14.6	19.8	15.5	16.9	17.4	17.4	15.5	15.4	16.5	19.4	13.7	14.6	14.2	14.3	13.0	14.7	14.6	15.4	19.8	16.1
4	14.1	15.5	12.7	13.6	13.6	13.5	16.5	14.4	16.0	14.3	15.4	14.7	16.5	13.1	16.0	15.9	11.9	11.4	9.7	9.8	10.3	9.4	10.3	14.2	13.4
5	12.4	14.2	16.1	15.3	22.5	10.8	23.6	17.0	17.0	21.8	22.7	28.6	45.2	51.7	53.9	35.3	38.5	47.4	31.3	12.2	38.3	21.8	35.9	16.4	27.1
6	36.3	40.8	27.9	25.9	28.2	29.0	13.5	36.8	15.9	25.6	40.0	44.6	36.6	33.6	31.8	30.8	23.5	24.0	24.8	16.4	21.6	55.4	50.1	33.0	31.1
7	20.9	15.2	21.0	15.9	20.5	20.7	14.2	13.2	14.7	19.2	17.0	21.3	20.1	25.2	23.2	19.2	23.6	21.8	12.5	27.9	26.2	14.8	14.8	22.7	19.4
8	43.9	19.8	15.8	13.9	18.6	16.5	15.4	14.7	12.1	15.0	14.8	13.8	12.0	14.8	13.5	12.7	11.5	25.9	15.8	11.4	12.4	12.8	12.2	13.2	15.9
9	19.7	11.7	12.1	14.8	11.9	14.8	14.1	13.9	9.7	10.6	11.5	14.1	11.9	13.6	14.4	14.6	12.5	10.8	8.7	11.9	10.8	12.0	13.5	14.2	12.8
10	14.7	14.4	12.2	14.4	14.4	15.4	15.2	16.6	16.5	14.7	21.0	21.6	33.3	24.8	36.8	13.5	25.1	14.7	10.0	11.2	11.7	11.6	10.8	14.7	17.1
11	7.8	8.9	11.1	10.1	10.4	13.7	8.3	10.5	13.0	17.6	22.6	27.5	35.3	40.7	36.4	22.9	17.9	17.0	24.2	14.1	56.5	32.4	9.2	8.4	19.9
12	11.6	8.1	12.1	8.1	6.8	11.4	10.4	13.8	24.9	54.8	54.3	38.4	36.7	50.1	49.2	30.0	25.7	15.4	22.9	22.5	38.8	10.3	10.0	11.4	24.1
13	11.1	9.4	23.4	69.8	15.9	19.8	20.1	31.5	42.2	45.2	37.9	33.5	44.3	31.7	27.6	19.0	18.1	9.8	9.0	6.6	7.9	8.8	10.0	10.9	23.5
14	10.9	12.5	7.7	12.1	23.5	22.4	18.0	16.4	23.4	41.9	46.0	30.2	30.7	29.7	27.5	19.8	18.2	11.9	30.6	15.9	11.9	8.7	9.3	9.7	20.4
15	9.2	12.4	16.8	10.5	11.0	12.0	7.2	10.0	21.6	27.1	33.0	21.2	22.3	26.0	25.3	19.3	17.0	11.9	8.6	7.7	8.6	7.8	9.2	9.3	15.2
16	8.9	17.7	13.0	12.4	12.4	13.5	13.1	15.3	13.1	19.6	23.4	17.5	21.2	18.5	20.9	16.6	13.7	13.8	9.5	8.8	8.2	12.6	11.4	18.7	14.7
17	52.6	27.1	20.1	20.8	8.1	18.7	16.9	16.3	16.3	20.2	20.3	26.2	27.9	37.7	28.5	18.3	11.1	9.0	9.9	10.4	9.7	9.9	9.5	9.0	18.9
18	9.8	9.2	12.1	12.8	7.7	7.3	9.0	13.1	14.7	20.8	27.5	34.7	29.8	15.3	11.5	12.6	19.2	42.4	45.9	63.2	29.1	13.8	8.4	8.1	19.9
19	10.8	8.8	17.1	36.8	13.3	10.9	11.1	10.3	12.2	21.6	23.5	52.3	35.7	46.5	54.8	42.1	41.5	14.8	11.7	14.4	17.0	24.8	24.6	26.0	24.3
20	29.0	24.5	19.9	12.8	15.4	16.1	45.7	59.2	40.6	47.3	48.9	37.1	48.3	40.4	55.3	47.9	31.7	19.1	22.9	26.2	22.7	23.7	51.7	11.7	33.3
21	14.3	13.0	17.0	8.1	15.2	13.9	16.0	14.8	15.9	15.0	17.1	17.7	27.4	29.5	24.1	25.1	16.5	13.2	9.5	9.9	14.6	31.9	45.4	15.0	18.3
22	12.5	16.3	26.7	29.5	15.3	20.2	17.2	23.1	20.4	19.3	18.2	19.0	19.1	19.3	17.2	14.7	13.9	14.4	14.1	15.3	14.1	13.8	14.7	14.4	17.6
23	11.7	14.7	15.2	15.8	13.0	15.9	15.0	14.4	14.1	16.4	17.1	21.0	19.4	23.1	18.8	15.4	19.0	13.8	15.2	14.4	10.4	18.7	18.6	11.1	15.9
24	15.2	23.6	16.4	14.2	18.5	12.2	14.4	14.7	13.9	16.5	22.5	27.0	27.5	31.2	44.5	42.8	24.5	14.1	24.7	17.7	39.5	25.2	37.8	43.8	24.3
25	58.7	51.4	12.5	14.7	14.1	13.1	15.7	14.3	14.6	15.5	16.4	20.3	58.8	30.8	24.5	25.9	11.6	8.8	12.1	13.1	9.9	18.6	18.5	28.6	21.8
26	28.2	43.5	21.3	33.6	24.5	30.3	24.7	41.9	18.3	20.9	32.2	24.6	24.9	18.7	19.2	15.8	16.0	10.1	25.6	31.4	26.4	18.0	13.8	25.7	24.6
27	23.8	21.8	21.2	23.0	19.8	18.1	17.2	16.8	19.7	26.2	34.0	53.4	52.5	59.5	28.5	28.5	24.8	14.2	12.4	13.9	16.1	15.7	15.7	22.9	25.0
28	24.3	13.9	13.6	16.0	17.6	16.5	14.3	14.2	16.3	14.1	14.9	14.6	15.4	16.6	14.7	14.6	14.1	13.9	14.6	14.2	13.7	15.8	13.6	13.0	15.2
29	13.7	12.5	13.9	13.9	27.1	18.0	18.0	14.9	15.8	13.5	14.1	18.2	24.6	24.6	25.6	38.8	14.4	14.9	13.0	14.8	13.9	15.0	13.9	13.3	17.5
30	13.9	14.1	15.0	14.7	14.2	12.6	13.0	14.1	15.3	14.3	12.8	13.7	15.7	15.3	13.5	13.7	11.0	12.5	13.1	12.4	14.3	14.3	14.2	13.9	13.8

TOTAL HOURS 720 TOTAL GOOD HOURS 720 DATA CAPTURE 100.0X

ARITHMETIC MEAN 20.3 STANDARD DEV. 11.0

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration

BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data

Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

1.1.1-141

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

OCTOBER, 1991

DAY	HOUR (EST)																								DAILY AVG
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	13.0	14.3	16.8	13.8	13.2	14.1	13.0	15.2	14.7	12.7	13.3	12.7	11.6	13.7	15.0	11.4	14.7	12.6	14.6	15.5	19.0	14.7	16.1	16.8	14.3
2	21.3	24.6	11.7	30.6	25.6	19.1	12.8	16.5	13.6	17.2	19.9	14.2	12.8	14.4	10.9	10.9	11.1	10.9	11.1	11.4	9.9	10.9	16.5	12.7	15.4
3	23.7	9.9	18.0	14.8	20.1	13.5	13.2	16.4	18.6	16.3	19.0	19.2	16.8	14.8	25.9	12.8	30.4	16.6	12.4	12.6	13.0	22.0	12.8	14.1	16.9
4	29.5	44.6	39.3	40.6	30.0	22.9	20.3	14.3	11.4	15.8	24.9	21.4	18.7	29.2	45.2	13.8	23.2	39.4	44.6	17.6	12.4	10.8	12.5	6.8	24.5
5	6.5	9.4	9.9	10.0	9.8	9.8	8.7	11.9	24.0	19.4	24.0	23.8	23.5	29.3	31.8	50.3	11.9	25.4	35.1	46.1	15.8	27.1	24.5	28.0	21.5
6	43.3	12.1	28.5	34.6	10.0	32.9	23.7	61.4	20.8	25.1	32.4	28.4	22.5	15.8	12.6	46.3	55.1	21.9	16.4	14.3	14.4	16.0	14.1	18.5	25.9
7	16.8	14.2	15.4	17.4	21.0	13.8	15.5	15.4	18.0	17.5	17.0	17.7	19.1	16.5	22.1	17.6	13.6	13.7	12.7	13.8	15.0	13.1	13.8	13.8	16.0
8	13.3	14.6	12.8	13.2	14.1	13.0	12.8	14.4	13.9	13.3	11.7	15.3	14.8	13.7	15.0	13.8	14.4	14.7	14.2	13.6	14.2	12.2	11.0	12.7	13.6
9	12.8	12.6	11.5	12.6	11.9	14.1	13.6	14.1	15.0	14.4	14.2	14.6	14.1	13.9	13.5	14.3	15.3	14.4	14.2	14.1	14.6	13.9	13.9	16.4	13.9
10	15.3	16.9	14.6	17.4	14.8	17.2	17.0	15.5	15.9	18.6	28.2	34.2	40.0	31.4	37.1	31.4	19.4	18.7	21.3	15.9	52.0	Down	Down	21.5	23.4
11	23.1	21.9	32.0	31.3	17.5	26.5	33.4	25.2	18.7	19.3	25.6	30.9	41.1	56.5	44.5	27.8	16.3	9.8	7.9	20.3	21.9	35.7	20.8	22.4	26.3
12	19.6	27.5	34.5	12.7	29.2	45.1	18.2	16.4	15.8	46.6	26.4	21.6	22.0	20.3	13.7	13.8	10.5	8.8	7.0	15.0	8.4	13.9	21.2	16.6	20.2
13	14.4	11.0	14.6	9.2	15.5	27.1	19.9	12.4	18.3	30.2	29.3	42.7	41.7	38.9	38.4	39.1	31.8	24.9	27.0	15.9	21.3	22.3	27.6	15.7	24.6
14	9.3	8.4	9.2	13.2	6.6	9.3	12.7	9.0	11.5	15.5	14.8	15.0	14.8	20.4	14.1	16.5	20.8	20.4	19.9	10.8	10.6	9.9	8.7	8.4	12.9
15	8.8	9.7	6.8	9.5	9.7	13.3	12.1	16.1	17.4	36.7	13.6	21.0	17.9	18.2	28.5	23.4	21.9	18.0	29.6	10.1	15.2	37.8	34.0	22.1	18.8
16	12.1	8.3	11.9	43.4	21.2	26.0	26.3	26.2	23.0	22.5	26.7	28.6	29.6	31.9	28.1	26.2	17.0	12.6	14.2	16.4	19.1	35.8	34.2	26.0	23.6
17	16.3	18.1	13.8	19.2	11.7	45.7	35.8	15.0	16.0	17.7	17.4	24.3	25.4	28.4	27.0	22.1	16.1	15.8	9.3	8.6	14.7	9.3	8.6	9.2	18.6
18	12.6	13.1	9.0	7.8	8.2	10.5	9.5	14.9	13.8	13.7	14.3	16.6	18.3	19.0	19.1	17.1	14.2	10.1	9.2	9.4	10.6	13.6	10.4	10.3	12.7
19	11.7	8.4	9.5	13.5	12.0	12.8	12.8	13.6	14.9	15.2	18.5	22.3	28.6	27.8	23.0	23.8	17.4	17.5	19.0	9.8	14.2	14.4	12.6	13.3	16.1
20	12.4	12.8	13.3	12.2	12.0	13.3	12.4	13.6	15.4	16.9	22.0	41.5	36.3	53.7	35.3	15.8	18.0	13.6	11.2	9.3	11.0	11.5	11.7	13.8	18.3
21	13.5	13.5	13.5	12.6	12.2	12.4	12.6	13.5	15.8	14.8	14.3	17.5	17.4	15.4	16.9	15.7	13.6	11.2	12.6	9.0	7.8	10.4	15.0	16.4	13.6
22	14.7	15.2	13.7	11.2	13.0	12.2	12.6	15.3	13.9	13.3	13.2	19.0	18.1	19.2	18.7	17.2	13.0	12.0	9.2	8.6	7.6	9.8	25.2	13.9	14.2
23	35.3	14.2	8.9	9.8	9.9	9.7	18.6	16.5	13.6	13.0	12.8	16.5	15.9	15.3	14.2	9.3	8.8	Down	Down	Down	10.9	9.8	16.0	13.2	13.9
24	14.7	13.9	13.8	14.4	13.6	14.3	15.3	13.7	12.1	11.5	11.5	10.5	11.6	9.4	10.5	13.2	10.5	9.7	9.0	10.4	10.5	10.3	13.7	14.9	12.2
25	14.8	13.9	15.2	14.1	12.0	13.9	14.2	13.0	11.6	11.0	11.2	9.9	11.0	9.8	11.5	13.1	11.2	10.5	11.4	13.9	12.5	13.0	14.6	14.2	12.6
26	13.3	12.2	13.7	11.9	14.1	12.8	12.5	13.8	13.7	13.2	10.4	10.1	9.3	11.1	12.8	15.8	16.1	13.9	11.5	9.7	12.2	13.2	14.3	15.4	12.8
27	11.7	12.6	12.7	11.5	11.1	13.7	14.2	15.3	14.8	15.0	12.7	13.6	18.2	18.2	13.8	14.8	13.5	12.8	10.3	8.6	8.3	9.0	11.9	13.7	13.0
28	12.8	10.5	10.5	9.7	7.6	8.9	9.3	11.4	14.2	20.2	26.8	PwrF	PwrF	29.6	17.2	18.1	13.3	9.7	7.9	14.3	13.8	13.9	13.9	14.8	14.0
29	12.4	12.1	17.0	14.4	13.2	11.4	12.2	13.5	15.2	14.9	14.8	13.2	12.4	11.9	18.8	16.4	10.8	10.3	11.4	12.1	12.8	13.0	15.4	15.2	13.5
30	10.9	14.3	10.3	10.6	13.5	14.6	12.0	13.8	10.3	10.6	10.5	11.1	15.3	15.2	12.7	13.1	13.6	Down	45.6	9.5	12.8	14.6	11.6	10.3	13.8
31	PwrF	PwrF	PwrF	PwrF	PwrF	PwrF	7.7	12.2	15.0	28.0	28.1	53.2	67.9	63.6	36.7	33.0	19.1	10.6	11.0	13.7	18.5	10.4	12.2	7.3	Bad<

TOTAL HOURS 744 TOTAL GOOD HOURS 730 DATA CAPTURE 98.1%

MAX. 1HR AVG 67.9 10/31/91 12:00:00 2ND MAX. 1 HR AVG 63.6 10/31/91 13:00:00

MIN. 1HR AVG 6.5 10/05/91 00:00:00 ARITHMETIC MEAN 17.2 STANDARD DEV. 8.9

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11.11-142

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

NOVEMBER, 1991

DAY	HOUR (EST)																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	9.0	8.6	18.7	8.3	13.3	9.5	11.5	19.3	14.6	13.3	16.6	19.6	26.9	25.3	29.2	33.3	15.2	19.2	10.8	12.2	8.8	13.3	13.6	27.3	16.6
2	16.1	13.2	15.5	30.6	13.0	17.4	16.5	25.1	13.3	13.5	18.5	16.9	17.1	16.9	13.2	17.5	13.8	18.0	59.1	22.1	20.7	25.4	23.4	27.6	20.2
3	21.9	24.9	24.5	16.4	15.4	16.1	13.2	18.5	18.0	18.6	18.6	51.1	34.2	Down	Down	20.4	17.1	14.4	14.6	15.3	13.0	13.2	16.9	17.2	19.7
4	17.2	17.5	17.4	15.3	15.8	17.1	19.0	17.4	16.5	15.7	16.3	16.6	16.3	16.3	16.8	16.5	14.6	18.5	14.8	18.8	18.7	14.9	15.8	14.7	16.6
5	19.9	19.4	19.3	15.8	25.3	24.9	19.1	17.5	15.4	16.0	18.3	18.8	17.6	15.3	17.5	16.6	16.1	15.0	14.8	13.6	14.1	13.7	12.7	13.3	17.1
6	15.3	17.1	18.7	12.6	15.7	17.5	15.4	17.6	20.4	PwrF	23.7	18.8	24.8	33.5	24.7	15.8	18.6	17.1	14.9	13.9	15.9	13.6	13.1	13.3	17.9
7	16.3	12.6	14.1	15.7	16.6	15.2	14.8	15.8	16.8	20.9	32.2	25.3	21.4	21.9	22.0	19.1	15.2	14.2	13.8	12.7	13.1	15.9	11.6	14.1	17.1
8	18.8	15.8	15.4	13.8	14.9	18.0	19.8	23.2	19.8	20.2	19.9	26.3	33.4	Bad<	25.7	18.8	18.2	16.4	16.0	25.2	27.1	17.4	29.0	24.2	20.8
9	29.2	23.6	23.4	25.4	26.0	19.8	24.0	28.0	24.5	24.9	23.5	24.7	34.0	27.9	29.7	30.9	18.5	23.6	20.4	17.2	17.9	26.8	31.3	18.5	24.7
10	16.4	19.0	36.8	35.1	25.7	35.6	18.6	52.0	33.5	31.3	32.6	31.7	33.3	34.0	29.9	18.3	13.1	9.3	19.3	14.1	21.3	17.6	49.9	11.1	26.2
11	14.4	32.2	25.7	21.2	9.0	24.7	15.2	41.9	18.8	27.8	28.5	22.4	34.8	30.3	25.1	18.3	12.1	8.1	12.5	23.5	20.2	21.5	37.3	39.0	23.5
12	25.4	23.2	23.6	18.0	15.5	15.9	20.4	22.0	16.9	19.2	21.2	51.6	45.4	33.3	33.6	34.7	21.5	10.3	14.7	23.1	22.1	26.0	30.9	27.5	24.8
13	23.8	17.1	15.4	14.1	18.1	15.8	16.4	12.5	12.8	14.3	16.6	19.1	20.5	19.4	16.4	19.9	14.4	11.4	7.9	11.0	12.5	10.0	9.9	7.8	14.9
14	9.2	9.4	9.4	11.9	10.3	11.1	10.9	13.5	13.6	13.3	13.6	12.5	18.2	51.5	21.2	15.2	15.2	18.3	9.2	12.2	9.7	9.0	9.0	12.4	14.1
15	12.7	12.2	8.7	8.7	8.1	8.4	8.1	12.7	15.4	15.5	17.7	15.0	16.8	15.9	16.5	15.8	12.2	11.0	11.4	9.5	6.5	7.5	7.6	13.6	12.0
16	12.5	8.9	7.5	8.9	11.2	13.9	12.8	14.7	15.3	15.3	17.6	19.8	18.3	18.0	17.9	15.8	16.1	12.8	11.2	11.9	12.1	10.8	12.0	14.2	13.7
17	14.2	13.0	12.5	11.5	6.4	11.9	12.6	12.4	12.8	14.7	15.5	13.7	14.9	15.5	12.7	11.2	10.6	9.5	10.3	10.8	9.5	7.1	8.9	7.8	11.7
18	10.4	11.2	10.0	10.0	9.3	10.6	12.1	13.8	10.1	15.0	12.6	13.5	12.4	13.1	13.5	10.0	11.1	10.0	7.6	7.2	6.8	7.6	7.0	7.5	10.5
19	8.8	10.5	9.7	9.5	9.7	9.7	7.7	7.5	12.7	10.6	11.2	12.6	12.7	11.2	11.4	10.0	8.1	7.0	7.5	6.0	6.7	7.1	7.7	7.2	9.3
20	9.9	10.4	7.3	9.2	8.2	7.5	8.4	8.6	10.5	10.4	14.8	14.8	13.0	14.1	12.8	14.8	11.1	8.9	11.0	8.6	8.9	9.7	9.4	9.5	10.5
21	8.8	7.9	6.6	6.7	7.0	6.1	6.7	7.5	9.7	13.1	17.0	13.5	13.7	15.3	11.4	14.3	12.6	12.8	9.4	13.2	10.3	7.8	8.2	9.0	10.4
22	14.8	10.4	11.1	10.4	10.6	12.6	13.3	16.0	15.4	12.8	12.1	13.1	15.4	17.9	15.5	15.3	14.3	13.3	14.3	13.3	9.4	14.2	16.0	11.9	13.5
23	13.0	14.8	13.8	23.6	16.8	13.5	11.0	16.8	29.5	31.8	30.4	46.8	36.6	47.2	20.2	15.0	11.0	9.7	10.0	12.1	15.0	17.9	20.5	21.9	20.8
24	12.2	15.4	16.0	18.3	11.2	26.5	18.5	23.5	35.3	22.5	24.6	25.8	25.3	31.2	23.5	28.6	24.5	16.8	18.6	29.8	31.5	23.7	22.5	23.7	22.9
25	18.0	17.4	16.1	14.8	14.8	14.1	14.7	14.3	15.2	14.9	18.1	20.5	18.6	24.3	21.6	19.4	15.7	13.0	11.7	12.7	13.6	12.7	10.3	13.2	15.8
26	15.2	19.2	16.6	14.6	13.1	11.4	11.2	11.4	12.6	13.9	15.8	17.4	16.6	16.1	14.3	15.2	13.0	13.2	13.2	12.8	14.8	13.7	13.3	13.2	14.2
27	13.0	12.1	12.8	13.8	14.2	12.2	13.0	11.6	13.0	14.1	16.0	14.4	14.4	15.2	15.4	14.7	12.7	11.6	13.5	13.2	12.0	12.6	12.1	12.1	13.3
28	13.0	12.6	13.6	12.4	12.6	11.1	11.6	11.0	12.0	14.7	14.4	12.1	12.6	9.9	11.4	11.6	9.5	10.3	10.0	12.5	13.1	10.9	11.5	12.0	11.9
29	11.6	15.4	19.4	12.7	10.9	13.9	14.2	14.8	13.6	12.5	10.3	9.3	8.7	9.9	9.9	10.6	8.8	7.5	7.5	11.1	8.4	8.6	8.2	10.9	11.2
30	11.4	9.0	8.9	8.7	8.7	7.9	8.4	9.2	8.8	11.5	12.0	13.6	12.8	14.1	11.2	10.1	8.9	8.7	7.8	6.5	7.2	7.2	8.6	8.3	9.6

TOTAL HOURS 720      TOTAL GOOD HOURS 716      DATA CAPTURE 99.4X  
 MAX. 1HR AVG 59.1 11/02/91 18:00:00      2ND MAX. 1 HR AVG 52.0 11/10/91 07:00:00  
 MIN. 1HR AVG 6.0 11/19/91 19:00:00      ARITHMETIC MEAN 16.2      STANDARD DEV. 7.4

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qal - Data questionable external influence, Purg - Analyzer in Purge

TAMPA ELECTRIC COMPANY AIR MONITORING SITE AQ-1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

DAY	DECEMBER, 1991																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	9.4	7.6	7.2	9.4	8.6	7.7	7.0	7.9	10.5	13.6	12.5	16.0	18.2	13.5	16.0	13.3	10.4	8.3	6.0	6.5	7.5	7.9	8.4	9.4	10.1
2	8.9	10.1	10.0	9.9	10.5	10.4	10.5	10.8	12.5	13.0	12.1	14.6	16.5	14.3	13.5	15.3	12.6	10.4	10.8	28.6	28.5	40.6	12.1	10.6	14.5
3	9.7	10.9	13.6	11.4	12.4	12.1	11.9	11.4	10.9	12.8	13.6	14.9	15.3	13.9	12.5	12.6	11.6	12.0	11.0	10.9	12.4	23.1	19.8	21.9	13.4
4	25.2	27.0	32.9	27.3	25.9	19.3	21.4	20.1	22.9	20.8	26.9	22.7	19.4	23.1	26.7	31.5	20.4	18.6	16.9	17.9	19.2	20.9	16.1	14.6	22.4
5	12.8	12.8	13.2	14.4	14.8	14.4	11.7	15.5	16.0	15.8	16.8	17.2	18.2	16.6	15.7	17.4	14.1	13.7	14.4	10.9	12.8	7.1	7.6	8.2	13.8
6	8.9	10.0	10.9	10.9	18.1	11.2	13.7	14.4	19.8	13.9	17.9	16.4	24.3	24.7	21.2	17.0	17.4	18.8	9.5	10.5	9.7	12.2	10.3	12.5	14.8
7	11.6	10.5	10.0	6.8	7.2	11.9	12.7	12.5	14.9	17.4	19.0	19.9	28.4	23.2	16.1	19.6	12.2	7.8	6.4	7.3	7.7	5.3	6.1	6.2	12.5
8	6.8	6.1	6.5	19.4	14.3	10.1	12.0	11.1	13.3	11.7	11.0	12.7	19.7	27.4	27.4	18.8	13.3	9.8	8.9	11.9	11.5	12.8	6.5	9.7	13.0
9	9.4	8.4	10.3	9.9	14.7	9.3	12.5	18.6	16.6	25.3	23.5	23.7	26.3	39.0	29.0	24.9	24.6	30.9	13.7	10.4	14.9	20.9	24.5	54.3	20.6
10	49.3	18.3	10.9	26.7	55.9	14.3	16.5	17.2	20.9	14.6	17.9	22.3	19.8	25.2	18.7	16.0	14.4	10.4	9.2	31.1	24.7	14.7	30.8	13.3	21.4
11	10.6	14.1	12.0	10.6	9.9	11.9	10.9	10.3	15.8	17.9	21.6	30.3	32.9	51.6	31.9	25.9	16.9	19.4	7.7	9.8	9.0	9.8	11.1	12.1	17.3
12	10.6	12.5	14.6	13.8	13.7	11.9	14.6	13.9	15.0	13.0	16.6	18.2	14.7	13.3	16.4	8.8	8.8	9.4	8.6	8.7	7.6	7.6	6.0	6.8	11.9
13	6.1	8.4	8.8	8.2	8.8	7.8	9.0	7.8	12.2	13.8	14.2	19.7	20.3	20.1	24.5	22.4	11.0	16.9	11.5	7.0	10.9	23.6	25.2	8.7	13.6
14	10.8	12.6	10.0	10.8	23.8	14.1	16.6	32.9	15.2	15.3	14.8	22.1	20.1	15.8	15.0	13.7	12.5	9.5	8.2	9.2	9.5	29.5	17.7	19.2	15.8
15	11.9	13.8	12.5	13.7	14.4	12.5	13.7	13.2	14.8	14.4	16.1	17.9	16.5	18.6	17.1	15.8	14.9	14.6	13.1	12.1	13.1	13.3	15.0	15.9	14.5
16	16.1	15.0	15.3	12.8	13.9	13.3	14.3	14.7	14.3	15.7	15.0	17.1	16.9	18.6	19.0	16.8	16.1	10.5	11.6	11.1	8.7	11.4	12.8	12.4	14.3
17	13.2	12.8	13.3	14.6	11.9	12.2	14.1	15.9	12.1	15.7	16.9	19.4	18.8	20.1	19.1	15.8	11.7	14.3	9.3	7.8	7.1	6.5	23.4	17.2	14.3
18	19.6	14.8	13.7	10.5	11.7	10.0	9.3	10.6	14.6	13.8	15.5	21.0	34.5	41.2	26.5	40.7	22.3	15.0	20.8	32.2	15.9	16.6	12.6	13.3	19.0
19	14.1	11.7	9.9	12.1	13.0	11.7	12.2	12.1	12.5	13.0	14.1	14.1	12.1	13.0	13.3	12.7	12.4	12.1	12.2	12.1	12.7	13.3	12.4	12.7	12.6
20	13.2	11.6	12.4	12.8	11.6	13.0	13.1	11.5	12.8	12.8	11.5	9.3	8.7	7.9	9.8	9.0	8.2	7.3	11.6	13.7	14.4	10.8	16.6	15.8	11.6
21	8.6	8.6	12.4	11.6	7.9	9.5	7.6	9.2	13.7	16.8	15.0	32.6	35.9	30.0	24.3	14.2	17.9	15.3	15.3	11.4	16.5	8.7	7.5	5.5	14.8
22	7.8	5.7	6.4	8.2	8.2	6.4	11.2	11.0	14.8	30.4	38.8	35.2	33.9	31.3	47.6	37.9	19.3	34.4	13.2	17.0	26.5	17.0	14.8	21.9	20.8
23	27.9	15.0	19.9	15.8	28.5	38.5	25.7	13.7	22.9	21.9	24.9	15.7	18.8	15.2	16.1	14.3	10.3	8.6	10.6	9.7	7.9	7.8	9.0	11.1	17.1
24	14.3	14.2	10.6	10.6	8.8	9.4	9.8	16.6	11.0	12.4	17.2	19.4	19.0	21.9	18.1	22.6	22.5	10.8	12.7	10.1	10.3	23.7	22.3	24.6	15.5
25	25.3	21.4	21.5	19.6	15.4	19.1	17.9	15.9	17.4	29.3	16.1	47.3	40.4	40.6	16.0	18.8	26.2	45.0	34.2	33.6	17.4	13.6	44.8	24.2	25.9
26	22.9	27.1	23.6	18.6	12.2	10.3	10.8	12.1	14.1	15.5	14.3	17.7	24.1	17.2	18.8	16.6	14.7	19.6	47.7	15.5	15.7	22.9	33.7	30.1	19.8
27	21.4	17.2	8.7	17.9	11.4	30.4	11.4	11.2	15.0	13.7	16.0	19.2	17.5	20.4	17.4	12.6	9.2	7.8	5.9	6.7	8.8	39.9	47.2	19.9	17.0
28	24.5	11.5	8.2	8.8	9.3	9.9	9.4	8.6	12.6	12.5	11.9	12.7	12.8	13.7	14.6	17.5	15.0	9.4	9.3	6.5	10.8	6.5	25.2	13.3	12.3
29	12.0	16.3	19.6	8.7	9.3	19.9	21.5	27.3	20.9	24.0	28.7	21.3	16.5	23.8	33.1	19.3	25.2	13.0	22.3	33.7	34.4	49.4	17.7	42.9	23.4
30	15.3	12.1	27.1	53.1	27.0	16.9	21.9	18.6	17.0	33.3	39.6	35.3	25.6	30.7	27.0	28.7	28.0	23.7	12.6	20.7	25.3	21.3	19.9	22.7	25.1
31	19.3	14.8	11.9	15.3	13.0	14.8	19.8	19.9	15.0	21.4	18.3	21.0	19.0	16.3	16.5	17.1	15.0	13.8	12.6	13.8	13.5	13.6	15.3	15.0	16.1

TOTAL HOURS 744 TOTAL GOOD HOURS 744 DATA CAPTURE 100.0%

MAX. 1HR AVG 55.9 12/10/91 04:00:00 2ND MAX. 1 HR AVG 54.3 12/09/91 23:00:00

MIN. 1HR AVG 5.3 12/07/91 21:00:00 ARITHMETIC MEAN 16.4 STANDARD DEV. 8.1

KEY FOR MISSING CODES

Bad< - Too few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qei - Data questionable external influence, Purg - Analyzer in Purge

02/17/92

11.11-144

TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

DAY	JANUARY 1992																							DAILY AVG		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23	
1	13.8	14.9	14.6	16.4	13.5	13.8	13.3	13.5	13.8	13.6	14.7	15.7	15.5	14.4	15.5	14.4	15.3	15.4	14.2	13.9	15.2	15.7	14.4	15.7	14.6	
2	15.3	12.1	14.3	14.1	14.1	13.7	16.6	14.8	15.7	15.2	15.9	18.6	17.4	16.0	15.2	13.9	15.2	12.7	14.9	20.7	17.5	11.0	12.4	14.7	15.1	
3	14.9	17.7	27.1	27.0	19.8	8.7	11.2	16.3	23.8	23.6	20.5	17.4	19.7	20.1	16.4	12.2	12.0	11.1	11.7	8.4	15.2	12.0	8.3	9.9	16.0	
4	9.7	11.5	24.5	17.6	16.6	13.7	10.5	12.0	13.8	13.5	14.8	18.0	18.5	13.5	15.0	13.2	15.2	12.7	18.6	23.0	26.4	28.1	29.8	17.4		
5	30.3	29.6	19.3	16.8	9.5	14.2	15.3	22.0	30.9	25.3	23.4	24.3	36.1	32.4	22.0	25.7	11.7	10.1	11.0	8.6	10.3	12.0	14.7	27.3	20.1	
6	26.2	11.1	10.6	28.0	19.4	46.8	17.9	14.1	13.6	14.9	13.2	14.8	17.7	19.0	18.1	13.5	12.6	9.8	7.8	6.1	6.8	15.9	11.9	30.9	16.7	
7	19.7	9.7	14.3	10.5	17.5	14.6	21.0	20.4	22.3	19.8	22.7	37.9	47.0	49.4	59.9	28.7	23.5	14.6	9.3	25.6	14.9	8.8	6.8	6.8	21.9	
8	6.0	6.8	9.9	18.6	7.2	7.3	7.3	9.4	8.1	12.6	15.0	15.0	19.0	18.6	20.9	15.2	14.9	7.6	7.2	7.9	6.5	7.2	7.7	7.7	11.0	
9	6.1	13.2	28.6	29.5	18.6	42.6	21.5	40.2	13.6	14.2	14.9	18.3	19.0	20.3	16.5	15.3	10.6	7.7	6.8	8.6	13.5	Cal	Cal	7.0	17.6	
10	8.4	13.0	14.7	11.7	12.0	8.6	13.3	13.6	12.1	10.5	13.1	12.6	11.4	13.2	13.2	21.9	20.8	20.3	26.2	27.5	23.1	20.8	29.2	33.7	16.9	
11	25.8	22.7	17.1	16.1	14.2	15.8	16.0	15.0	17.0	19.7	22.9	22.4	30.8	19.7	16.4	20.3	13.7	7.9	14.7	16.8	11.4	6.4	11.4	7.1	16.7	
12	8.6	11.9	10.6	9.8	8.4	7.9	7.5	7.7	8.3	9.7	11.9	14.6	15.2	15.7	16.8	14.2	10.0	7.6	6.1	6.6	8.4	10.6	9.9	10.9	10.4	
13	11.2	10.9	12.7	10.9	11.7	12.2	10.6	11.4	12.2	12.2	13.9	13.1	14.6	13.9	13.6	13.6	12.1	12.5	13.8	12.5	12.2	13.5	11.6	13.1	12.5	
14	12.4	13.3	12.7	12.2	13.0	9.7	7.9	8.9	10.4	13.5	12.6	13.8	11.6	12.1	13.1	14.2	13.9	12.2	13.1	14.8	20.5	26.8	35.0	44.4	15.5	
15	33.1	33.7	34.5	29.3	13.8	15.4	16.0	17.5	16.4	18.2	30.2	37.1	29.3	22.5	28.2	27.0	27.1	28.0	34.6	35.1	29.6	46.8	17.0	20.2	26.7	
16	25.7	28.6	12.2	15.3	24.8	29.0	18.1	20.2	19.6	22.0	22.7	26.5	29.1	27.4	25.6	25.6	30.0	28.2	21.3	13.3	18.7	24.2	23.4	21.2	20.4	22.7
17	13.3	13.5	11.7	10.8	7.5	8.8	9.4	9.4	15.3	16.3	26.8	30.4	26.0	36.7	63.5	54.5	32.4	26.4	22.0	17.6	14.3	18.6	17.2	16.6	21.6	
18	18.2	14.4	19.6	15.8	12.7	12.5	12.4	13.9	19.2	17.5	17.5	29.5	42.9	25.1	22.1	18.2	23.6	35.1	31.8	49.0	21.9	20.4	13.3	10.1	21.5	
19	12.8	13.7	19.3	22.4	9.2	9.0	11.6	11.6	11.6	11.2	14.1	15.9	14.2	14.6	14.8	14.9	33.4	13.5	13.0	13.3	12.8	14.2	14.4	14.8	14.6	
20	13.0	13.6	16.5	14.3	16.3	15.8	16.6	22.1	22.0	23.0	21.0	23.8	25.8	25.8	23.7	26.3	17.5	14.3	14.8	13.9	22.5	19.8	17.2	17.7	19.1	
21	16.5	16.9	18.7	19.8	12.4	13.9	12.6	14.1	21.2	18.3	16.5	18.8	23.0	21.6	30.2	17.7	15.7	12.4	7.9	7.0	5.6	5.7	6.1	5.1	14.9	
22	4.8	5.3	7.3	6.5	5.3	8.3	9.8	5.5	9.4	10.6	12.1	12.4	12.6	14.4	11.4	11.6	10.8	7.9	7.0	8.7	8.8	8.3	10.0	9.2	9.1	
23	10.9	10.6	12.8	12.4	10.9	10.3	10.4	10.4	11.6	12.5	13.6	12.2	11.1	10.1	8.9	12.0	9.2	10.8	9.9	10.8	10.1	8.6	9.4	11.7	10.9	
24	10.8	10.4	10.4	9.9	15.7	28.0	31.9	30.1	32.2	29.3	29.1	27.4	31.9	28.4	27.5	27.6	28.2	28.0	20.2	30.3	16.3	29.1	32.4	25.3	24.6	
25	17.9	13.6	13.2	12.4	11.9	11.1	10.0	8.8	14.7	15.3	14.2	15.7	20.2	26.9	42.3	58.1	19.1	13.6	10.8	13.5	19.7	19.7	21.3	12.7	18.2	
26	11.1	19.9	17.4	13.8	12.4	10.0	19.7	9.8	14.9	14.6	14.4	15.3	16.0	15.2	12.1	9.8	10.8	10.1	10.0	7.6	8.1	7.5	11.6	14.4	12.8	
27	10.6	11.5	12.6	13.2	12.1	12.0	11.9	15.3	13.6	11.1	13.2	11.9	10.5	11.2	14.8	12.1	11.4	11.7	8.9	11.4	11.4	8.4	8.6	10.0	11.6	
28	7.1	7.8	8.1	7.2	6.6	7.3	7.2	7.0	10.8	11.7	14.1	12.6	13.5	12.8	10.9	12.8	10.9	13.1	11.7	14.2	15.7	14.9	10.4	8.2	10.7	
29	9.2	6.8	6.2	6.0	7.6	12.7	10.5	12.7	16.5	33.1	25.1	63.6	49.9	30.1	28.5	26.8	13.0	11.5	12.4	18.5	15.0	13.0	12.8	11.6	18.9	
30	14.1	9.8	29.1	31.4	23.0	12.8	31.7	17.1	14.2	19.2	17.6	13.9	18.2	15.2	12.8	12.2	10.9	10.3	9.8	9.3	11.0	10.9	11.0	9.5	15.6	
31	10.5	10.9	10.4	11.5	11.6	16.5	18.1	24.1	25.9	14.4	17.0	20.7	22.5	22.1	20.7	24.1	13.1	12.1	7.0	6.5	7.6	8.7	6.5	7.0	14.6	

TOTAL HOURS 744 TOTAL GOOD HOURS 742 DATA CAPTURE 99.7%

MAX. 1HR AVG 63.6 01/29/92 11:00:00 2ND MAX. 1 HR AVG 63.5 01/17/92 14:00:00

MIN. 1HR AVG 4.8 01/22/92 00:00:00 ARITHMETIC MEAN 16.5 STANDARD DEV. 8.4

KEY FOR MISSING CODES  
 Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-145

TEC A0 - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

DAY	FEBRUARY 1992																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	7.0	8.4	13.1	12.5	18.1	20.4	19.1	16.6	17.9	25.9	29.1	28.5	28.9	24.3	21.6	19.9	15.9	14.1	8.3	21.0	24.9	22.7	32.0	31.9	20.1
2	18.6	35.0	18.5	15.8	10.9	8.3	17.5	24.7	24.1	14.1	14.7	16.4	23.0	19.6	19.9	26.7	17.9	13.7	11.6	12.1	12.6	12.8	12.4	13.5	17.3
3	13.9	13.0	13.0	15.3	16.5	17.9	10.6	11.5	12.8	13.0	18.1	19.2	49.5	39.0	50.1	58.7	15.9	14.4	14.6	7.3	7.2	6.0	6.7	6.1	18.8
4	7.3	9.0	9.5	18.5	12.1	13.3	11.4	7.3	6.8	10.0	13.2	16.3	18.7	16.3	22.0	14.3	13.7	12.2	8.3	6.7	7.9	8.6	9.2	10.5	11.8
5	10.4	10.6	10.6	11.1	11.1	34.8	58.2	20.5	10.8	17.0	12.6	12.6	13.6	13.9	14.7	13.6	12.7	11.7	13.9	14.2	11.1	10.8	13.0	12.1	15.7
6	12.1	14.3	13.6	13.7	11.4	11.7	10.3	10.0	9.4	10.9	11.1	10.8	10.9	12.1	11.5	12.7	12.4	13.6	13.7	15.8	15.4	14.6	19.1	12.4	12.6
7	13.1	16.3	16.9	19.6	17.5	18.6	19.9	28.0	16.9	21.5	23.7	29.5	43.2	31.5	13.2	15.7	13.2	10.5	10.0	11.1	29.7	25.3	33.0	12.7	20.4
8	6.1	7.7	4.9	8.2	11.0	8.7	17.2	16.5	23.1	31.1	25.1	20.8	16.0	19.4	18.1	14.9	12.7	12.0	9.0	10.5	14.9	15.8	20.7	28.4	15.5
9	32.8	23.7	21.9	14.6	12.8	12.4	13.0	11.6	13.0	13.3	17.0	19.3	18.0	23.4	20.5	18.2	16.8	13.0	13.6	12.0	12.0	12.4	12.4	11.9	16.2
10	11.5	11.9	12.5	11.4	11.7	12.1	11.1	13.0	12.2	15.0	15.9	15.2	15.4	14.4	17.2	16.1	17.9	14.7	9.0	9.8	9.3	11.0	10.5	11.4	12.9
11	11.4	12.1	13.8	14.4	16.0	15.5	15.4	16.6	13.6	15.4	18.8	28.0	36.6	29.3	24.7	27.9	24.1	14.2	8.4	8.1	7.9	16.4	9.8	9.2	17.0
12	9.7	7.3	10.3	11.5	11.2	14.4	15.4	15.2	15.2	14.2	18.5	16.3	16.8	17.4	23.6	29.3	51.5	27.8	19.8	9.3	22.6	17.0	16.0	17.6	17.8
13	41.1	42.2	49.0	19.9	32.0	29.6	15.8	13.0	14.3	17.0	19.0	17.0	49.5	43.2	38.2	24.1	17.6	15.7	15.7	17.0	18.7	26.8	17.4	13.7	25.3
14	17.1	11.4	17.1	10.8	7.1	14.6	7.0	12.2	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Bad<
15	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
16	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
17	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
18	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
19	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
20	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
21	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
22	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
23	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
24	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss	Miss
25	9.8	17.4	23.0	9.9	13.3	7.9	7.2	9.2	PwrF	PwrF	11.5	11.4	13.3	12.8	11.2	22.3	10.9	14.1	11.9	12.5	16.0	13.2	16.3	14.6	13.2
26	15.7	13.5	13.7	14.9	11.0	10.8	12.0	9.8	10.6	10.3	11.6	10.5	PwrF	PwrF	13.5	11.1	11.5	10.5	10.4	10.3	10.5	10.5	8.6	10.6	11.4
27	10.3	11.1	12.2	14.3	18.3	14.6	17.7	13.6	20.1	PwrF	19.0	16.4	16.0	18.7	15.5	13.9	12.6	11.6	12.4	13.7	11.9	16.5	36.3	33.0	16.5
28	41.0	17.2	14.9	21.6	16.4	39.9	26.9	40.0	30.1	28.5	28.5	18.6	19.9	16.8	15.3	11.6	13.6	10.6	7.7	6.4	8.6	5.5	7.1	9.7	19.0
29	8.2	13.2	6.2	6.0	13.1	7.0	7.6	9.7	10.4	17.5	12.4	18.5	19.4	23.2	21.2	17.5	15.4	11.4	7.9	6.8	7.0	7.3	9.0	9.7	11.9

TOTAL HOURS 696 TOTAL GOOD HOURS 435 DATA CAPTURE 62.5%  
 MAX. 1HR AVG 58.7 02/03/92 15:00:00 2ND MAX. 1 HR AVG 58.2 02/05/92 06:00:00  
 MIN. 1HR AVG 4.9 02/08/92 02:00:00 ARITHMETIC MEAN 16.3 STANDARD DEV. 8.4

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

11.11-146



TEC AQ - 1  
Polk County, Florida - Site 001

HOURLY AVERAGES FOR SIGMA THETA IN DEGREES

DAY	MARCH 1992																							DAILY AVG	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1	6.8	6.7	6.5	9.7	15.5	12.0	11.5	15.7	33.4	24.2	27.9	33.0	41.3	28.2	40.8	30.6	66.5	53.9	12.7	12.8	17.6	28.1	46.6	17.1	25.0
2	29.5	19.2	25.1	15.0	13.0	15.7	14.2	19.1	16.5	14.4	19.2	23.8	25.6	30.6	51.4	52.0	45.1	29.2	16.9	55.6	24.9	20.2	26.8	9.0	25.5
3	4.8	5.7	4.9	6.4	5.1	7.1	6.0	21.3	19.2	16.8	22.3	20.1	29.5	20.2	22.6	23.7	14.4	17.7	7.9	8.1	8.1	7.7	7.1	6.7	13.1
4	6.7	6.8	9.9	6.1	8.9	10.5	16.1	10.8	15.5	14.4	11.5	14.6	15.2	14.2	12.7	13.2	12.2	13.0	11.6	12.6	12.5	10.9	8.9	7.9	11.5
5	7.8	7.2	6.7	7.0	6.1	6.6	6.5	9.2	10.0	10.5	12.6	16.1	13.3	15.2	13.3	13.6	12.1	11.5	8.1	7.0	7.2	7.1	6.6	7.5	9.5
6	7.0	8.2	7.3	7.1	7.3	8.1	9.4	7.8	10.6	12.2	14.4	13.7	17.2	19.4	18.7	16.5	11.1	9.9	7.9	7.1	5.6	10.4	9.4	9.4	10.7
7	7.6	28.6	10.0	16.0	14.1	13.9	13.3	12.0	16.8	16.3	14.8	17.7	16.6	13.8	15.4	13.3	12.1	11.1	9.0	7.7	9.2	11.6	12.7	13.7	13.6
8	15.0	18.3	16.1	22.1	27.8	27.3	29.7	36.4	36.7	46.3	41.8	42.2	50.7	53.7	62.0	47.7	35.7	30.7	9.8	6.0	13.9	10.5	17.4	15.2	29.7
9	19.1	18.6	20.5	16.0	14.7	8.1	8.8	8.8	12.4	15.5	15.7	17.2	18.1	18.0	17.6	18.7	26.2	12.2	16.9	21.9	26.4	23.1	56.6	8.2	18.3
10	9.3	10.3	13.6	15.0	13.7	11.9	13.8	11.4	13.3	15.3	15.8	15.7	14.6	15.2	13.0	12.4	12.6	11.6	11.2	11.6	15.3	26.5	27.1	20.4	14.6
11	20.2	10.8	8.8	8.2	9.0	15.2	18.1	24.5	25.7	26.3	28.5	41.2	36.3	28.2	22.5	19.2	21.6	9.9	11.1	22.1	33.5	28.1	27.4	13.6	21.3
12	12.8	20.3	17.9	14.7	17.9	34.7	17.5	23.7	24.3	20.8	24.3	41.5	37.3	37.4	26.4	27.3	48.2	33.1	24.0	27.0	28.7	35.7	57.6	62.7	29.8
13	47.8	35.2	33.3	45.0	38.4	46.2	37.9	50.6	25.9	35.6	30.9	30.1	26.3	15.2	25.3	20.3	15.3	15.2	9.7	10.4	9.9	19.3	23.7	28.7	28.6
14	27.1	39.9	38.0	29.7	44.6	30.1	26.4	21.9	15.3	17.6	22.6	21.9	43.9	40.0	39.4	30.7	15.9	10.4	8.8	8.7	11.7	16.3	10.0	10.5	24.2
15	11.6	10.9	19.7	14.4	11.7	12.8	12.8	10.3	14.8	24.3	21.5	25.2	28.6	27.4	24.6	12.8	11.5	9.7	9.3	9.3	9.4	7.0	5.5	4.9	14.6
16	5.5	5.6	8.4	6.6	11.5	12.4	26.7	21.3	15.4	15.3	18.7	19.4	17.7	22.9	24.5	23.2	20.9	18.7	13.3	10.0	9.9	9.5	10.1	11.1	14.9
17	9.3	10.1	8.4	9.2	7.2	7.6	7.5	9.3	10.6	13.0	17.2	21.8	28.5	26.9	38.3	58.6	20.4	20.5	10.6	8.1	21.5	15.5	8.3	8.1	16.5
18	7.9	8.4	10.4	12.1	11.7	12.6	9.5	9.8	12.5	13.2	14.4	18.0	19.4	18.6	19.9	17.7	18.0	13.6	10.4	11.2	8.7	11.7	16.1	18.0	13.5
19	14.2	14.6	13.6	14.4	14.6	11.7	14.8	14.1	13.5	11.1	9.8	10.3	10.1	10.8	10.6	11.9	11.7	10.3	8.7	7.8	6.7	6.8	8.9	8.1	11.2
20	7.2	8.1	7.7	6.8	6.4	8.3	7.7	9.7	15.9	15.0	14.1	12.5	13.5	12.2	13.5	14.4	12.1	11.6	11.1	13.1	18.2	15.5	12.1	10.1	11.5
21	33.5	19.0	19.4	20.2	27.1	23.0	20.1	15.2	18.5	19.1	19.1	34.6	48.4	46.3	54.0	60.0	42.8	20.5	12.0	22.9	24.8	24.2	26.7	19.1	27.9
22	14.1	19.4	18.0	13.1	43.7	46.7	27.8	8.7	8.9	12.6	15.8	14.9	14.2	13.8	13.0	18.3	15.3	24.8	56.6	26.2	11.6	12.2	23.5	14.6	20.3
23	20.7	19.7	17.6	11.2	11.4	12.6	18.3	17.9	11.2	11.0	12.1	14.8	11.9	13.0	13.9	12.6	13.6	15.3	26.3	16.3	19.4	19.9	11.4	29.7	15.9
24	28.9	39.3	12.6	14.4	11.2	11.5	13.6	15.9	15.3	15.9	15.3	17.2	20.7	21.4	21.3	16.9	14.8	13.7	12.0	11.5	11.2	12.6	13.1	10.8	16.3
25	10.9	10.4	11.0	10.1	9.2	9.5	11.0	10.0	8.7	10.0	10.9	11.1	10.0	10.1	11.9	12.5	11.2	12.6	12.4	12.7	14.7	14.7	25.7	11.5	11.8
26	8.1	21.0	21.6	17.9	9.3	12.0	11.6	20.2	15.9	24.0	28.1	24.2	22.5	23.1	15.8	18.2	16.3	18.0	11.6	9.8	7.3	11.2	19.9	13.8	16.7
27	13.2	14.1	13.6	9.8	16.8	27.5	17.2	50.4	21.6	30.3	47.8	50.6	53.9	56.1	46.0	23.1	18.2	11.7	9.2	9.0	9.3	13.2	17.5	11.4	24.6
28	29.3	13.6	12.4	18.3	41.2	24.1	14.1	15.4	15.2	14.9	18.5	19.2	21.4	24.8	28.0	34.2	26.3	19.8	13.3	12.4	13.0	18.6	8.9	7.7	19.4
29	6.4	5.7	6.0	6.2	5.6	9.9	7.8	9.0	12.2	21.0	25.7	21.9	16.5	15.4	20.2	13.8	12.4	14.7	25.4	20.3	19.3	25.6	16.6	6.7	14.4
30	7.9	25.7	17.2	8.2	15.8	33.3	25.7	16.9	18.5	18.2	19.3	21.0	18.2	14.2	13.2	11.4	11.0	11.9	21.8	13.5	12.0	12.1	13.7	13.7	16.4
31	11.0	9.3	8.4	7.8	7.9	8.2	8.7	10.4	13.0	15.4	Cal	Cal	13.0	15.9	66.6	14.4	44.3	10.4	9.8	9.4	7.7	20.4	17.9	35.0	16.6

TOTAL HOURS 744 TOTAL GOOD HOURS 742 DATA CAPTURE 99.7%

MAX. 1HR AVG 66.6 03/31/92 14:00:00 2ND MAX. 1 HR AVG 66.5 03/01/92 16:00:00

MIN. 1HR AVG 4.8 03/03/92 00:00:00 ARITHMETIC MEAN 18.0 STANDARD DEV. 11.0

KEY FOR MISSING CODES

Bad< - To few samples for valid average, Cal - calibration, OCal - Analyzer out of calibration  
 BadS - Bad Analyzer Status, PwrF - Power Failure, Down - Operator downed channel, Miss - Missing Data  
 Qad - Data questionable insufficient documentation, Qai - Data questionable external influence, Purg - Analyzer in Purge

1.11-147

**APPENDIX 11.12**

**NOISE MONITORING PROGRAM AND  
SUPPORTING INFORMATION**

## 24-HOUR MEASUREMENT LOG

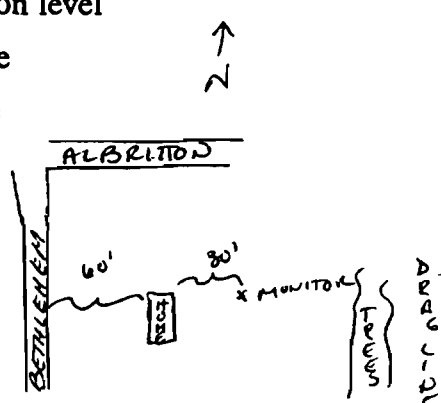
Monitoring Location: NS-1 Operator: RGT/TAB  
 Start Date: 6/8/91 Day of Week: SATURDAY  
 Survey Meter Model/Serial No.: LARSON-DAVIS 870/870A0155  
 Calibrator Model/Serial No.: LARSON-DAVIS CA 250-0702  
 Start Time: 1145 AM Stop Time: 1145 AM 6/9/91

CALIBRATED OK

QUEST 1800-10022

Collocated Measurement Data (Survey Meter Model/Serial No. HP0030023)  
 CALIBRATOR QUEST CA-22 / J0040028

Parameter	Collocated Measurement Period		
	Beginning	Middle	End
Date	<u>6/8/91</u>	<u>6/8/91</u>	<u>6/9/91</u>
Calibration level	<u>110.0</u>	<u>110.0</u>	<u>110.0</u>
Start time	<u>1147 AM</u>	<u>947 PM</u>	<u>1141 AM</u>
End time	<u>1152 AM</u>	<u>952 PM</u>	<u>1146 AM</u>
L <sub>eq</sub>	<u>50.6</u>	<u>57.0</u>	<u>45.1</u>
L <sub>99</sub>	<u>31.0</u>	<u>40.0</u>	<u>30.0</u>
L <sub>90</sub>	<u>31.0</u>	<u>43.0</u>	<u>30.0</u>
L <sub>50</sub>	<u>41.0</u>	<u>50.0</u>	<u>30.0</u>
L <sub>10</sub>	<u>50.0</u>	<u>59.0</u>	<u>50.0</u>
L <sub>1</sub>	<u>66.0</u>	<u>71.0</u>	<u>51.0</u>
Minimum L	<u>29.9</u>	<u>38.6</u>	<u>29.9</u>
Maximum L	<u>50.6</u>	<u>73.1</u>	<u>50.6</u>
Sounds heard	<u>WIND IN TREES</u>	<u>INSECTS</u>	<u>INSECTS</u>
	<u>TRAFFIC</u>	<u>DRAGLINE</u>	<u>BIRDS</u>
	<u>BIRDS</u>	<u>TRAFFIC (IN DISTANCE)</u>	<u>DRAGLINE</u>
	<u>DRAGLINE</u>		<u>TREES</u>
Temperature	<u>86°F RH=58%</u>	<u>T=78°F RH=46%</u>	<u>88°F RH=51%</u>
Weather	<u>MOSTLY SUNNY</u>	<u>CLEAR</u>	<u>MOSTLY SUNNY</u>
Windspeed	<u>3-4 mph G 10</u>	<u>2 mph</u>	<u>5-8 mph</u>
Wind direction	<u>NE</u>	<u>NE</u>	<u>N-NW</u>
Other comments:	<u></u>		



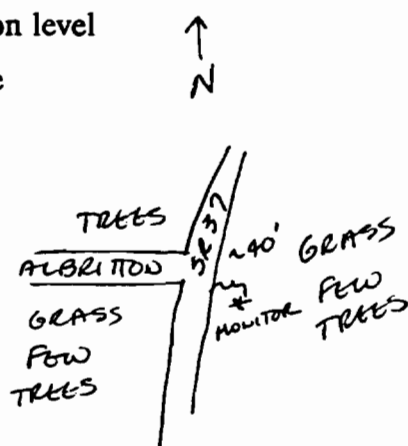
## 24-HOUR MEASUREMENT LOG

Monitoring Location: NS-2 Operator: RGT/TAB  
 Start Date: 01/8/91 Day of Week: SATURDAY  
 Survey Meter Model/Serial No.: LARSON-DAVIS 870/870 A0153  
 Calibrator Model/Serial No.: LARSON-DAVIS / CA 250-0702  
 Start Time: 1000 AM Stop Time: 1000 AM 01/9/91

CALIBRATED OK

Collocated Measurement Data (Survey Meter Model/Serial No. QUEST 1800-10022 / HP0030032)  
 CALIBRATOR QUEST CA-22 / J0040028

Parameter	Collocated Measurement Period		
	Beginning	Middle	End
Date	<u>01/8/91</u>	<u>01/8/91</u>	<u>01/9/91</u>
Calibration level	<u>110.0</u>	<u>110.0</u>	<u>110.0</u>
Start time	<u>1030 AM</u>	<u>1015 PM</u>	<u>954 AM</u>
End time	<u>1035 AM</u>	<u>1020 PM</u>	<u>959 AM</u>
L <sub>eq</sub>	<u>46.5</u>	<u>45.3</u>	<u>37.6</u>
L <sub>99</sub>	<u>33.0</u>	<u>37.0</u>	<u>30.0</u>
L <sub>90</sub>	<u>36.0</u>	<u>43.0</u>	<u>31.0</u>
L <sub>50</sub>	<u>41.0</u>	<u>45.0</u>	<u>33.0</u>
L <sub>10</sub>	<u>48.0</u>	<u>48.0</u>	<u>42.0</u>
L <sub>1</sub>	<u>40.0</u>	<u>49.0</u>	<u>48.0</u>
Minimum L	<u>43.4</u>	<u>36.7</u>	<u>29.9</u>
Maximum L	<u>49.4</u>	<u>48.7</u>	<u>52.4</u>
Sounds heard	<u>TRAFFIC</u>	<u>TRAFFIC</u>	<u>TRAFFIC</u>
	<u>BIRDS, INSECTS</u>	<u>INSECTS</u>	<u>BIRDS, INSECTS</u>
	<u>GRASS RUSTLING</u>		<u>GRASS</u>
	<u>TREES RUSTLING</u>		<u>TREES</u>
Temperature	<u>81°F RH=60%</u>	<u>T=75°F RH=77%</u>	<u>82°F RH=68%</u>
Weather	<u>MOSTLY SUNNY</u>	<u>CLEAR</u>	<u>MOSTLY SUNNY</u>
Windspeed	<u>3-4 mph G 10</u>	<u>2 mph</u>	<u>3-4 mph G 10</u>
Wind direction	<u>NE</u>	<u>NE</u>	<u>NE</u>



Other comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

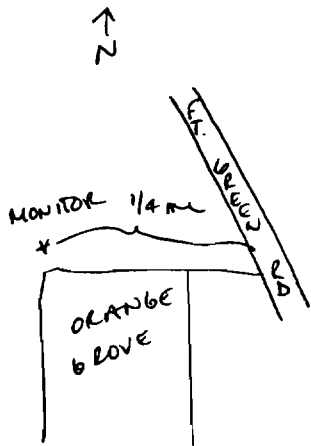
## 24-HOUR MEASUREMENT LOG

Monitoring Location: N5-3 Operator: RGT/TAB  
 Start Date: 6/9/91 Day of Week: SUNDAY  
 Survey Meter Model/Serial No.: LARSON-DAVIS 870 / 870 A0153  
 Calibrator Model/Serial No.: LARSON-DAVIS / CA 250-0702  
 Start Time: 1045 AM Stop Time: 1045 AM 6/10/91

CALIBRATED OK

Collocated Measurement Data (Survey Meter Model/Serial No. QUEST 1800-100227  
CA 1P0030023)  
 CALIBRATOR QUEST CA-22 / J0040028

Parameter	Collocated Measurement Period		
	Beginning	Middle	End
Date	<u>6/9/91</u>	<u>6/9/91</u>	<u>6/10/91</u>
Calibration level	<u>110.0</u>	<u>110.0</u>	<u>110.0</u>
Start time	<u>1103 AM</u>	<u>915 PM</u>	<u>1040 AM</u>
End time	<u>1108 AM</u>	<u>920 PM</u>	<u>1045 AM</u>
L <sub>eq</sub>	<u>42.7</u>	<u>52.5</u>	<u>30.7</u>
L <sub>99</sub>	<u>38.0</u>	<u>48.0</u>	<u>31.0</u>
L <sub>90</sub>	<u>40.0</u>	<u>51.0</u>	<u>31.0</u>
L <sub>50</sub>	<u>42.0</u>	<u>58.0</u>	<u>31.0</u>
L <sub>10</sub>	<u>46.0</u>	<u>71.0</u>	<u>31.0</u>
L <sub>1</sub>	<u>47.0</u>	<u>77.0</u>	<u>38.0</u>
Minimum L	<u>38.2</u>	<u>52.8</u>	<u>29.9</u>
Maximum L	<u>46.4</u>	<u>52.8</u>	<u>39.7</u>
Sounds heard	<u>BIRDS</u>	<u>INSECTS</u>	<u>BIRDS</u>
	<u>GLASS TREES INSECTS</u>	<u>FROGS</u>	<u>INSECTS TRAFFIC</u>
	<u>AIRPLANE</u>	<u>TRAFFIC IF DISTANCE</u>	<u>TRAFFIC IN ORANGE GROVE</u>
	<u>TRAFFIC</u>	<u>AIRPLANE</u>	<u>AIRPLANE</u>
Temperature	<u>88°F RH=58%</u>	<u>78°F RH=62%</u>	<u>85°F RH=59%</u>
Weather	<u>MOSTLY SUNNY</u>	<u>MOSTLY CLOUDY</u>	<u>PARTLY CLOUDY</u>
Windspeed	<u>4-7 mph</u>	<u>1-2 mph</u>	<u>3-6 mph</u>
Wind direction	<u>S</u>	<u>S-SW</u>	<u>S</u>



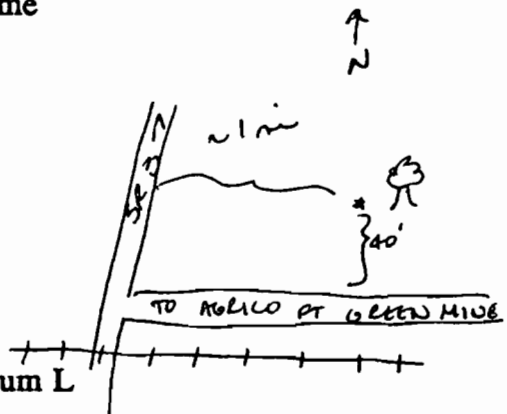
Other comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## 24-HOUR MEASUREMENT LOG

Monitoring Location: NSA Operator: RBT/TAB  
 Start Date: 6/9/91 Day of Week: SUNDAY  
 Survey Meter Model/Serial No.: LARSON-DAVIS 870/870A0155  
 Calibrator Model/Serial No.: LARSON-DAVIS/CA 250-0702  
 Start Time: 1225 PM Stop Time: 1225 PM 6/10/91  
CALIBRATED OK

QUEST 1800-10022/  
 HPO030023 )  
 CALIBRATOR QUEST CA-22/10040028

Parameter	Collocated Measurement Period		
	Beginning	Middle	End
Date	<u>6/9/91</u>	<u>6/9/91</u>	<u>6/10/91</u>
Calibration level	<u>110.0</u>	<u>110.0</u>	<u>110.0</u>
Start time	<u>1225 PM</u>	<u>950 PM</u>	<u>1220 PM</u>
End time	<u>1230 PM</u>	<u>955 PM</u>	<u>1225 PM</u>
$L_{eq}$	<u>40.9</u>	<u>38.5</u>	<u>41.9</u>
$L_{99}$	<u>37.0</u>	<u>36.0</u>	<u>30.0</u>
$L_{90}$	<u>37.0</u>	<u>37.0</u>	<u>34.0</u>
$L_{50}$	<u>38.0</u>	<u>39.0</u>	<u>37.0</u>
$L_{10}$	<u>44.0</u>	<u>41.0</u>	<u>47.0</u>
$L_1$	<u>46.0</u>	<u>41.0</u>	<u>51.0</u>
Minimum L	<u>36.3</u>	<u>34.4</u>	<u>29.9</u>
Maximum L	<u>45.3</u>	<u>42.3</u>	<u>50.6</u>
Sounds heard	<u>BIRDS AGALCO MINE</u>	<u>INSECTS TRAFFIC MINE</u>	<u>BIRDS TRAIN LOADING MINE</u>
Temperature	<u>88°F RH= 57%</u>	<u>77°F RH= 49%</u>	<u>88°F RH= 51%</u>
Weather	<u>MOSTLY SUNNY</u>	<u>PARTLY CLOUDY</u>	<u>MOSTLY SUNNY</u>
Windspeed	<u>5-7 mph</u>	<u>1-2 mph</u>	<u>8-10 mph</u>
Wind direction	<u>NE</u>	<u>N</u>	<u>W</u>



Other comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## 24-HOUR MEASUREMENT LOG

Monitoring Location: NS-2 Job NS-1 Operator: RET/TAB  
 Start Date: 6/11/91 Day of Week: TUESDAY  
 Survey Meter Model/Serial No.: LARSON-DAVIS 870/870A 0155  
 Calibrator Model/Serial No.: LARSON-DAVIS CA 250-0702  
 Start Time: 130PM Stop Time: 130 PM 6/12/91

CALIBRATED OK

Collocated Measurement Data (Survey Meter Model/Serial No. QUEST 1800-10022/HP0030023)  
CALIBRATOR CA-22 FS0040028

Parameter	Collocated Measurement Period		
	Beginning	Middle	End
Date	<u>6/11/91</u>	<u>6/11/91</u>	<u>6/12/91</u>
Calibration level	<u>109.9</u>	<u>109.9</u>	<u>110.0</u>
Start time	<u>130 PM</u>	<u>935 AM</u>	<u>125 PM</u>
End time	<u>135 PM</u>	<u>940 PM</u>	<u>130 PM</u>
L <sub>eq</sub>	<u>40.8</u>	<u>34.2</u>	<u>42.6</u>
L <sub>99</sub>	<u>30.0</u>	<u>31.0</u>	<u>40.0</u>
L <sub>90</sub>	<u>30.0</u>	<u>31.0</u>	<u>40.0</u>
L <sub>50</sub>	<u>37.0</u>	<u>31.0</u>	<u>43.0</u>
L <sub>10</sub>	<u>46.0</u>	<u>31.0</u>	<u>46.0</u>
L <sub>1</sub>	<u>49.0</u>	<u>48.0</u>	<u>46.0</u>
Minimum L	<u>29.9</u>	<u>29.9</u>	<u>39.3</u>
Maximum L	<u>48.7</u>	<u>48.7</u>	<u>45.7</u>
Sounds heard	<u>BIRDS</u>	<u>DRAGLINE</u>	<u>DRAGLINE</u>
	<u>PLANES</u>	<u>INSECTS</u>	<u>BIRDS</u>
	<u>DRAGLINE</u>	<u>AIR PLANE</u>	<u>INSECTS</u>
	<u>TRAFFIC</u>	<u>BIRDS</u>	
Temperature	<u>90°F RH=45%</u>	<u>77°F RH=70%</u>	<u>90°F RH=38%</u>
Weather	<u>PARTLY CLOUDY</u>	<u>CLEAR</u>	<u>MOSTLY SUNNY</u>
Windspeed	<u>5-7mph</u>	<u>3-5mph</u>	<u>3-5mph</u>
Wind direction	<u>N</u>	<u>N</u>	<u>NE</u>
Other comments:	<u></u>		

## 24-HOUR MEASUREMENT LOG

Monitoring Location: NS-2 Operator: RGT/TAB  
 Start Date: 4/11/91 Day of Week: TUESDAY  
 Survey Meter Model/Serial No.: LARSON-DAVIS 870/870A0153  
 Calibrator Model/Serial No.: LARSON-DAVIS CA 250-0702  
 Start Time: 1200 PM Stop Time: 1200 PM 4/12/91

CALIBRATED OK

Collocated Measurement Data (Survey Meter Model/Serial No. QUEST 1800-10022/HP 0030023)  
 CALIBRATOR QUEST CA-22/10040028

Parameter	Collocated Measurement Period		
	Beginning	Middle	End
Date	<u>4/11/91</u>	<u>4/11/91</u>	<u>4/12/91</u>
Calibration level	<u>109.9</u>	<u>109.9</u>	<u>110.0</u>
Start time	<u>1200 PM</u>	<u>950 PM</u>	<u>1155 AM</u>
End time	<u>1205 PM</u>	<u>955 PM</u>	<u>1200 PM</u>
L <sub>eq</sub>	<u>38.8</u>	<u>31.4</u>	<u>46.3</u>
L <sub>99</sub>	<u>31.0</u>	<u>30.0</u>	<u>44.0</u>
L <sub>90</sub>	<u>36.0</u>	<u>30.0</u>	<del>44.0</del> <u>44.0</u>
L <sub>50</sub>	<u>39.0</u>	<u>30.0</u>	<del>49.0</del> <u>46.0</u>
L <sub>10</sub>	<u>41.0</u>	<u>30.0</u>	<del>50.0</del> <u>49.0</u>
L <sub>1</sub>	<u>42.0</u>	<u>44.0</u>	<del>43.4</del> <u>50.0</u>
Minimum L	<u>30.3</u>	<u>29.9</u>	<del>49.4</del> <u>43.4</u>
Maximum L	<u>41.9</u>	<u>44.2</u>	<u>49.4</u>
Sounds heard	<u>Grass</u>	<u>Traffic</u>	<u>Traffic</u>
	<u>traffic Birds</u>	<u>Insects</u>	<u>Birds</u>
	<u>Insects</u>		<u>Insects</u>
	<u>trucks</u>		<u>Airplane</u>
Temperature	<u>85°F RH=52%</u>	<u>77°F RH=70%</u>	<u>89°F RH=43%</u>
Weather	<u>MOIST CLOUDY</u>	<u>CLEAR</u>	<u>MOIST SUNNY</u>
Windspeed	<u>3-5 mph</u>	<u>3-5 mph</u>	<u>3-5 mph</u>
Wind direction	<u>NE</u>	<u>N</u>	<u>NE</u>

Other comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## 24-HOUR MEASUREMENT LOG

Monitoring Location: NS-3 Operator: PBT/TAB  
 Start Date: 6/10/91 Day of Week: MONDAY  
 Survey Meter Model/Serial No.: LARSON DAVIS 870/070A0153  
 Calibrator Model/Serial No.: LARSON DAVIS CA 250-0702  
 Start Time: 1115 AM Stop Time: 1115 AM 6/11/91

CALIBRATED OK

QUEST 1800-10022/  
#P003023

Collocated Measurement Data (Survey Meter Model/Serial No. QUEST CA-22 / J0040028)

Parameter	Collocated Measurement Period		
	Beginning	Middle	End
Date	<u>6/10/91</u>	<u>6/10/91</u>	<u>6/11/91</u>
Calibration level	<u>109.6</u>	<u>109.6</u>	<u>109.9</u>
Start time	<u>1125 AM</u>	<u>915 PM</u>	<u>1110 AM</u>
End time	<u>1130 AM</u>	<u>920 PM</u>	<u>1115 AM</u>
L <sub>eq</sub>	<u>31.5</u>	<u>44.5</u>	<u>35.5</u>
L <sub>99</sub>	<u>31.0</u>	<u>30.0</u>	<u>30.0</u>
L <sub>90</sub>	<u>31.0</u>	<u>31.0</u>	<u>31.0</u>
L <sub>50</sub>	<u>31.0</u>	<u>31.0</u>	<u>32.0</u>
L <sub>10</sub>	<u>34.0</u>	<u>35.0</u>	<u>40.0</u>
L <sub>1</sub>	<u>38.0</u>	<u>58.0</u>	<u>43.0</u>
Minimum L	<u>29.9</u>	<u>29.9</u>	<u>29.9</u>
Maximum L	<u>38.6</u>	<u>58.8</u>	<u>42.7</u>
Sounds heard	<u>BIRDS</u> <u>INSECTS</u> <u>TRACTOR</u>	<u>TRAW</u> <u>INSECTS</u> <u>COW</u>	<u>BIRDS</u> <u>insects</u> <i>sample</i> <u>tree, grass</u> <u>traffic w/ distance</u>
Temperature	<u>87°F RH=51%</u>	<u>77°F RH=69%</u>	<u>85°F RH=70%</u>
Weather	<u>MOSTLY SUNNY</u>	<u>Clear</u>	<u>MOSTLY SUNNY</u>
Windspeed	<u>3-5 mph</u>	<u>3-5 mph</u>	<u>5-7 mph</u>
Wind direction	<u>0</u>	<u>5</u>	<u>5</u>

Other comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## 24-HOUR MEASUREMENT LOG

Monitoring Location: NS-4 Operator: RGT/TAB  
 Start Date: 6/10/91 Day of Week: MONDAY  
 Survey Meter Model/Serial No.: LARSON DAVIS 870/870 A0155  
 Calibrator Model/Serial No.: LARSON DAVIS CA 250-0702  
 Start Time: 1:00 PM Stop Time: 1:00 PM 6/11/91

CALIBRATED OK

QUEST 1000-10022/  
 Collocated Measurement Data (Survey Meter Model/Serial No. HP0030023)  
 CALIBRATOR QUEST CA-22 / J0040028

Parameter	Collocated Measurement Period		
	Beginning	Middle	End
Date	<u>6/10/91</u>	<u>6/10/91</u>	<u>6/11/91</u>
Calibration level	<u>109.6</u>	<u>109.6</u>	<u>109.9</u>
Start time	<u>1:00 PM</u>	<u>9:42 PM</u>	<u>12:55 PM</u>
End time	<u>1:05 PM</u>	<u>9:47 PM</u>	<u>1:00 PM</u>
L <sub>eq</sub>	<u>48.0</u>	<u>37.5</u>	<u>40.4</u>
L <sub>99</sub>	<u>31.0</u>	<u>31.0</u>	<u>30.0</u>
L <sub>90</sub>	<u>32.0</u>	<u>32.0</u>	<u>37.0</u>
L <sub>50</sub>	<u>33.0</u>	<u>35.0</u>	<u>39.0</u>
L <sub>10</sub>	<u>54.0</u>	<u>37.0</u>	<u>44.0</u>
L <sub>1</sub>	<u>55.0</u>	<u>49.0</u>	<u>42.0</u>
Minimum L	<u>30.3</u>	<u>30.7</u>	<u>35.2</u>
Maximum L	<u>55.1</u>	<u>49.4</u>	<u>45.7</u>
Sounds heard	<u>MINE OPERATION BIRDS TREES RUSTLING TRAIL BEING LOADED</u>	<u>MINE OPERATION INSECTS TRAIL OR ENHANCE</u>	<u>MINE OPERATION BIRDS INSECTS</u>
Temperature	<u>80°F RH=51%</u>	<u>75°F RH=69%</u>	<u>80°F RH=53%</u>
Weather	<u>MOSTLY SUNNY</u>	<u>Clear</u>	<u>PARTLY &amp; CLOUDY</u>
Windspeed	<u>8-10 mph</u>	<u>1-2 mph</u>	<u>3-5 mph</u>
Wind direction	<u>W</u>	<u>NE</u>	<u>NE</u>
Other comments:	<u></u>		

*Traffic on road*

Period 01:00 h:m

Time	LVL	SEL	Lmin	Lmax	Lpk	Lwpk	Ex	Pk	Ov
12:00:00	49.9	85.4	40.9	66.4	80.2	110.5	1	6	0
13:00:00	49.5	84.9	40.9	68.9	83.7	111.0	1	12	0
14:00:00	48.1	83.6	39.9	68.9	80.7	109.0	3	10	0
15:00:00	49.4	84.8	41.1	62.3	80.2	111.0	0	4	0
16:00:00	50.4	85.8	42.1	66.4	84.7	115.0	1	7	0
17:00:00	51.6	87.0	45.1	60.2	80.3	115.0	0	4	0
18:00:00	51.6	87.0	45.2	53.2	80.3	108.7	0	2	0
19:00:00	50.9	86.3	44.4	61.4	82.7	108.7	0	4	0
20:00:00	49.3	84.7	41.8	55.8	80.2	99.0	0	3	0
21:00:00	52.1	87.6	44.0	57.7	82.6	95.0	0	3	0
22:00:00	52.3	87.7	46.2	55.7	84.1	92.7	0	4	0
23:00:00	51.6	87.0	44.9	56.6	76.5	92.7	0	0	0
00:00:00	50.9	86.3	44.6	52.9	70.4	96.5	0	0	0
01:00:00	51.8	87.2	44.8	52.8	68.4	96.5	0	0	0
02:00:00	51.4	86.8	44.8	57.6	85.4	96.5	0	5	0
03:00:00	51.2	86.6	42.8	58.5	79.4	104.5	0	0	0
04:00:00	50.3	85.7	41.7	52.8	79.4	106.5	0	0	0
05:00:00	48.8	84.3	40.5	52.7	79.8	108.7	0	0	0
06:00:00	50.4	85.9	41.5	68.5	79.8	115.0	2	0	0
07:00:00	48.3	83.7	40.4	52.7	70.3	111.0	0	0	0
08:00:00	49.3	84.7	42.5	66.5	79.8	108.7	1	0	0
09:00:00	49.5	85.0	42.6	52.9	79.4	108.7	0	0	0
10:00:00	47.8	83.2	40.7	58.1	79.5	108.7	0	0	0
11:00:00	48.4	82.6	39.7	70.7	96.1	108.7	8	13	0

OVERALL LEQ: 50.4

$$L_d = 49.9$$

$$L_n = 51.1$$

$$L_{dn} = 57.4$$

Period 01:00 h:m

Time	LVL	SEL	Lmin	Lmax	Lpk	Lwpk	Ex	Pk	Ov	L5	L10	L33	L50	L67	L90
10:00:00	55.0	90.4	27.6	74.7	162.4	151.9	0	0	1	61	58	52	50	48	46
11:00:00	56.2	91.6	41.9	75.9	91.5	111.2	0	0	0	60	59	56	52	49	45
12:00:00	53.8	89.3	38.5	70.3	88.7	108.7	0	0	0	60	58	51	48	46	43
13:00:00	54.1	89.6	37.6	73.4	90.8	112.5	0	0	0	60	58	51	48	46	42
14:00:00	52.8	88.2	39.6	76.2	92.5	112.2	1	0	0	58	55	50	47	46	43
15:00:00	55.6	91.1	40.6	74.9	87.8	116.4	0	0	0	61	59	53	51	49	45
16:00:00	54.4	89.8	39.4	69.5	82.7	110.0	0	0	0	60	59	53	50	46	45
17:00:00	55.6	91.0	42.6	70.5	84.3	112.2	0	0	0	61	59	55	52	50	46
18:00:00	55.5	90.9	42.9	72.4	86.6	109.6	0	0	0	62	59	53	51	49	47
19:00:00	56.0	91.4	40.8	73.1	91.7	105.6	0	0	0	63	59	52	49	47	44
20:00:00	56.9	92.3	40.1	73.1	86.7	101.0	0	0	0	64	60	54	52	47	43
21:00:00	56.9	92.3	41.3	73.3	87.3	96.3	0	0	0	63	60	56	54	52	46
22:00:00	57.3	92.7	40.7	75.2	95.3	102.0	0	0	0	64	60	54	53	52	49
23:00:00	55.8	91.2	37.9	73.9	90.3	98.4	0	0	0	63	58	53	50	42	40
00:00:00	53.7	89.1	38.1	71.4	86.8	101.4	0	0	0	60	55	45	41	40	39
01:00:00	54.2	89.6	37.9	73.6	86.7	97.3	0	0	0	60	56	46	43	41	40
02:00:00	55.1	90.6	37.6	74.4	91.7	99.3	0	0	0	61	57	51	45	41	40
03:00:00	52.6	88.0	38.4	73.1	87.7	101.4	0	0	0	57	51	45	43	42	41
04:00:00	48.7	84.1	36.6	69.6	84.9	103.7	0	0	0	51	45	43	41	40	38
05:00:00	50.6	86.1	36.1	68.8	81.9	106.7	0	0	0	58	54	45	42	41	38
06:00:00	58.5	94.0	40.8	86.2	103.4	112.7	1	0	0	64	61	54	50	48	44
07:00:00	56.0	91.5	41.1	74.1	87.6	114.4	0	0	0	63	58	50	48	47	44
08:00:00	56.8	92.3	40.6	74.8	93.7	111.4	0	0	0	63	59	51	48	46	44
09:00:00	57.1	92.5	42.3	75.6	94.4	107.7	0	0	0	63	59	52	51	50	47

OVERALL LEQ: 55.4

$L_d = 55.7$

$L_n = 54.9$

$L_{dn} = 61.4$

Period 01:00 h:m

Time	LVL	SEL	Lmin	Lmax	Lpk	Lwpk	Ex	Pk	Dv	L5	L10	L33	L50	L67	L90
11:00:00	45.0	80.4	32.7	66.9	97.8	117.4	0	0	0	50	48	42	40	38	36
12:00:00	43.1	78.5	32.5	65.3	84.2	114.1	0	0	0	49	47	42	40	38	35
13:00:00	44.7	80.1	32.2	62.8	82.1	115.6	0	0	0	51	48	43	41	38	35
14:00:00	45.1	80.5	32.4	60.0	79.2	114.2	0	0	0	53	49	42	39	37	34
15:00:00	41.5	76.9	32.4	59.0	80.8	114.9	0	0	0	47	45	42	40	38	35
16:00:00	41.4	76.8	32.9	60.6	75.7	112.1	0	0	0	47	45	41	39	38	35
17:00:00	42.9	78.3	32.9	66.3	86.2	117.3	0	0	0	48	46	42	40	38	35
18:00:00	42.7	78.1	33.0	69.8	83.2	113.8	0	0	0	47	44	40	39	38	35
19:00:00	47.7	83.2	33.3	68.1	94.3	114.0	0	0	0	55	51	44	40	39	37
20:00:00	44.2	79.7	33.9	59.7	74.8	106.4	0	0	0	51	48	43	42	40	36
21:00:00	48.6	84.0	42.5	69.0	93.1	105.7	0	0	0	50	50	49	49	48	46
22:00:00	60.1	95.5	46.7	67.2	81.1	102.4	0	0	0	66	65	61	57	54	49
23:00:00	48.9	84.4	46.1	53.6	68.3	97.0	0	0	0	50	50	50	49	49	48
00:00:00	48.6	84.0	45.5	49.9	72.4	101.0	0	0	0	50	50	49	49	48	48
01:00:00	49.4	84.9	44.0	60.7	78.9	101.7	0	0	0	56	50	48	48	48	45
02:00:00	46.2	81.7	43.6	48.2	70.1	108.8	0	0	0	48	48	47	46	46	45
03:00:00	51.2	86.6	44.1	60.1	80.0	131.4	0	0	0	58	54	50	48	47	46
04:00:00	52.9	88.3	41.5	68.7	94.9	139.5	0	0	0	61	50	46	45	44	43
05:00:00	48.3	83.7	41.5	54.1	72.2	133.2	0	0	0	52	52	50	46	45	44
06:00:00	48.3	83.7	39.0	59.1	74.2	126.3	0	0	0	55	54	47	44	43	41
07:00:00	50.7	86.1	36.0	77.4	96.2	121.8	1	0	0	58	56	45	43	41	39
08:00:00	43.7	79.1	34.6	59.8	74.8	106.7	0	0	0	50	47	43	41	39	37
09:00:00	59.9	95.3	34.4	78.6	98.8	113.0	4	0	0	66	59	49	44	42	38
10:00:00	55.4	90.0	36.0	69.5	95.0	110.4	0	0	0	62	60	54	52	48	42

OVERALL LEQ: 51.7

$L_d = 50.8$

$L_n = 52.9$

$L_{dn} = 59.1$

Period 01:00 h:m

Time	LVL	SEL	Lmin	Lmax	Lpk	Lwpk	Ex	Pk	Ov
13:00:00	56.2	91.6	53.1	77.2	96.3	108.7	53	255	0
14:00:00	53.3	88.8	52.9	69.1	88.2	108.7	1	9	0
15:00:00	55.0	90.4	53.0	69.1	88.2	108.7	19	162	0
16:00:00	53.5	88.9	53.0	69.0	80.1	108.7	5	12	0
17:00:00	53.4	88.9	52.9	69.0	80.1	108.7	4	3	0
18:00:00	53.8	89.3	52.9	69.0	80.0	108.7	6	9	0
19:00:00	54.2	89.6	52.9	68.9	96.0	112.7	10	34	0
20:00:00	55.8	91.3	52.9	68.9	88.0	104.7	13	3	0
21:00:00	58.2	93.6	52.9	76.9	96.0	104.5	20	8	0
22:00:00	57.1	92.5	52.8	68.9	79.9	92.7	9	0	0
23:00:00	58.2	93.6	56.5	68.9	79.9	92.7	8	0	0
00:00:00	57.4	92.9	52.8	68.8	79.9	98.1	10	0	0
01:00:00	56.2	91.7	52.8	72.8	87.9	104.7	13	6	0
02:00:00	56.8	92.2	52.7	72.8	87.9	104.7	26	11	0
03:00:00	54.1	89.5	52.7	72.7	87.8	108.7	5	1	0
04:00:00	53.9	89.4	52.7	68.7	79.8	112.7	8	0	0
05:00:00	53.2	88.7	52.6	68.7	87.8	112.7	5	3	0
06:00:00	53.5	89.0	51.9	68.7	79.7	120.7	8	0	0
07:00:00	58.2	93.6	52.0	73.3	88.3	120.7	29	255	0
08:00:00	55.5	90.9	51.8	73.5	88.6	116.7	11	79	0
09:00:00	54.1	89.6	51.6	68.7	87.8	108.7	10	7	0
10:00:00	56.3	91.8	52.6	72.7	87.8	104.7	10	7	0
11:00:00	55.3	90.8	52.7	72.7	87.8	108.7	14	5	0
12:00:00	55.6	87.3	52.7	68.7	79.9	108.7	5	0	0

OVERALL LEQ: 55.7

$L_d = 55.5$

$L_n = 56.0$

$L_{dn} = 62.3$

Period 01:00 h:m

Time	LVL	SEL	Lmin	Lmax	Lpk	Lwupk	Ex	Pk	Ov
14:00:00	46.5	81.9	37.3	69.3	80.4	104.5	5	18	0
15:00:00	45.1	80.5	37.3	60.4	80.4	108.5	0	5	0
16:00:00	49.6	85.1	37.3	69.3	96.4	104.5	37	255	0
17:00:00	53.2	88.6	41.1	69.3	96.4	108.6	85	255	0
18:00:00	50.4	85.9	41.2	73.3	96.4	103.7	8	26	0
19:00:00	49.3	84.8	41.1	69.2	88.3	108.7	36	75	0
20:00:00	47.5	82.9	41.0	53.2	80.2	92.7	0	3	0
21:00:00	49.7	85.1	45.0	53.1	80.1	102.7	0	20	0
22:00:00	50.0	85.5	44.9	57.0	80.1	108.7	0	83	0
23:00:00	50.8	86.2	44.9	53.0	72.1	92.7	0	0	0
00:00:00	50.3	85.7	44.3	52.9	80.0	88.7	0	0	0
01:00:00	49.6	85.1	44.7	52.9	71.9	88.7	0	0	0
02:00:00	49.7	85.1	44.7	62.8	87.9	92.7	0	1	0
03:00:00	51.5	87.0	44.8	60.8	79.9	96.9	0	0	0
04:00:00	51.3	86.7	44.7	72.7	95.8	116.7	1	5	0
05:00:00	50.0	85.4	43.5	62.4	72.4	120.7	0	0	0
06:00:00	51.1	86.5	44.3	68.7	80.2	128.7	1	1	0
07:00:00	48.7	84.1	40.5	68.6	79.7	132.7	3	0	0
08:00:00	47.6	83.0	39.7	57.4	73.2	116.7	0	0	0
09:00:00	47.4	82.9	40.6	56.8	71.9	104.7	0	0	0
10:00:00	47.2	82.6	36.9	69.0	88.0	92.7	2	3	0
11:00:00	44.1	79.5	37.0	57.0	80.1	104.5	0	1	0
12:00:00	46.1	81.5	37.0	73.1	88.2	104.2	1	25	0
13:00:00	49.6	82.0	37.1	81.1	104.2	97.7	2	47	0

OVERALL LEQ: 49.5

$$L_d = 48.7$$

$$L_n = 50.5$$

$$L_{dn} = 56.7$$

Period 01:00 h:m

Time	LVL	SEL	Lmin	Lmax	Lpk	Lwpk	Ex	Pk	Ov	L5	L10	L33	L50	L67	L90
12:00:00	29.7	65.1	29.6	30.3	45.1	69.4	0	0	0	30	30	30	30	30	30
13:00:00	29.7	65.1	29.6	29.9	45.6	66.0	0	0	0	30	30	30	30	30	30
14:00:00	29.7	65.1	29.6	29.9	45.0	62.5	0	0	0	30	30	30	30	30	30
15:00:00	29.7	65.1	29.6	29.9	45.4	58.1	0	0	0	30	30	30	30	30	30
16:00:00	29.7	65.1	29.6	29.9	45.3	54.7	0	0	0	30	30	30	30	30	30
17:00:00	29.7	65.1	29.6	29.9	45.1	52.2	0	0	0	30	30	30	30	30	30
18:00:00	29.7	65.1	29.6	29.8	45.1	50.3	0	0	0	30	30	30	30	30	30
19:00:00	29.6	65.1	29.6	29.8	44.9	48.5	0	0	0	30	30	30	30	30	30
20:00:00	29.6	65.0	29.5	29.8	44.8	46.6	0	0	0	30	30	30	30	30	30
21:00:00	29.5	65.0	29.5	29.8	44.9	45.0	0	0	0	30	30	30	30	30	30
22:00:00	29.5	64.9	29.4	29.7	45.2	43.8	0	0	0	30	30	30	30	30	29
23:00:00	29.5	64.9	29.4	29.7	44.8	42.6	0	0	0	30	30	29	29	29	29
00:00:00	29.5	64.9	29.4	29.6	45.1	41.5	0	0	0	30	30	29	29	29	29
01:00:00	29.4	64.8	29.3	29.6	44.8	41.3	0	0	0	30	30	29	29	29	29
02:00:00	29.4	64.8	29.3	29.6	44.9	40.2	0	0	0	30	30	29	29	29	29
03:00:00	29.4	64.8	29.3	29.6	44.5	39.4	0	0	0	30	30	29	29	29	29
04:00:00	29.4	64.8	29.3	29.5	44.6	38.9	0	0	0	30	30	29	29	29	29
05:00:00	29.3	64.8	29.2	29.5	44.5	39.3	0	0	0	30	30	29	29	29	29
06:00:00	29.3	64.7	29.2	29.6	44.7	38.7	0	0	0	30	30	29	29	29	29
07:00:00	29.3	64.7	29.2	29.6	44.6	38.7	0	0	0	30	30	29	29	29	29
08:00:00	29.3	64.7	29.2	29.5	44.8	38.7	0	0	0	30	30	29	29	29	29
09:00:00	29.4	64.8	29.2	29.6	45.2	38.7	0	0	0	30	30	29	29	29	29
10:00:00	29.5	64.9	29.3	29.7	44.7	38.7	0	0	0	30	30	30	30	30	29
11:00:00	29.6	65.1	29.5	29.8	45.1	38.9	0	0	0	30	30	30	30	30	30

OVERALL LEQ: 29.5

$L_d = 29.8$

$L_n = 29.4$

$L_{dn} = 35.9$



Period 01:00 h:m

Time	LVL	SEL	Lmin	Lmax	Lpk	Lwpk	Ex	Pk	Dv	L5	L10	L33	L50	L67	L90
12:00:00	42.3	77.8	32.3	60.3	74.7	111.5	0	0	0	49	46	41	39	37	34
13:00:00	47.7	83.2	33.3	61.9	74.7	114.1	0	0	0	54	53	47	44	42	37
14:00:00	47.1	82.6	35.4	61.9	77.8	117.8	0	0	0	54	51	46	44	42	39
15:00:00	45.3	80.8	32.9	70.8	88.6	113.0	0	0	0	47	45	42	41	38	36
16:00:00	43.2	78.6	33.0	69.1	82.1	114.8	0	0	0	48	46	41	39	37	35
17:00:00	45.3	80.8	34.0	65.7	80.5	117.7	0	0	0	52	48	44	41	40	36
18:00:00	48.6	84.0	33.8	63.6	79.5	115.4	0	0	0	55	49	42	40	38	36
19:00:00	42.8	78.3	33.5	59.1	77.3	119.0	0	0	0	49	46	41	39	38	36
20:00:00	44.4	79.8	33.4	62.8	77.3	112.5	0	0	0	48	45	42	41	39	36
21:00:00	52.6	88.1	41.5	69.4	97.0	107.5	0	0	0	58	56	53	49	47	44
22:00:00	55.0	90.5	45.8	66.3	78.1	95.6	0	0	0	60	60	55	55	53	47
23:00:00	50.1	85.5	44.5	61.6	79.6	92.8	0	0	0	57	52	48	47	47	46
00:00:00	44.7	80.1	40.8	47.9	69.0	101.1	0	0	0	48	47	47	44	44	44
01:00:00	44.8	80.2	42.2	51.5	71.8	111.4	0	0	0	46	46	45	45	44	44
02:00:00	44.1	79.5	41.0	50.6	70.6	123.4	0	0	0	47	46	45	44	43	43
03:00:00	42.0	77.4	39.4	46.6	72.5	124.4	0	0	0	44	44	43	43	41	41
04:00:00	43.0	78.4	39.9	49.4	76.3	129.2	0	0	0	48	46	43	42	42	42
05:00:00	40.3	75.7	38.0	47.4	68.0	120.5	0	0	0	43	42	41	41	40	40
06:00:00	49.0	84.5	37.9	76.2	92.6	112.6	1	0	0	54	50	46	44	42	40
07:00:00	47.9	83.3	37.4	65.9	80.7	106.0	0	0	0	56	53	43	42	41	39
08:00:00	49.3	84.7	35.0	67.4	85.2	103.1	0	0	0	56	53	46	43	42	38
09:00:00	44.4	79.8	34.1	65.8	81.8	111.2	0	0	0	49	48	45	43	40	37
10:00:00	46.8	82.2	32.8	69.1	99.2	114.8	0	0	0	54	50	44	42	39	36
11:00:00	41.1	70.5	32.5	57.2	90.3	112.2	0	0	0	47	45	41	39	37	35

OVERALL LEQ: 47.6

$L_d = 47.0$

$L_n = 48.5$

$L_{dn} = 54.7$

Period 01:00 h:m

Time	LVL	SEL	Lmin	Lmax	Lpk	Lwvpk	Ex	Pk	Ov
13:00:00	56.1	91.5	52.3	73.3	88.4	108.7	199	199	0
14:00:00	55.2	90.6	49.2	73.2	88.3	112.7	60	88	0
15:00:00	55.8	91.2	50.7	81.2	96.3	108.7	19	74	0
16:00:00	58.6	94.0	53.1	84.7	96.3	112.7	31	111	0
17:00:00	55.3	90.8	53.1	69.1	96.2	108.7	37	48	0
18:00:00	58.3	93.8	53.1	77.1	96.2	112.7	114	229	0
19:00:00	56.1	91.6	53.1	73.4	96.2	112.7	18	100	0
20:00:00	57.5	92.9	53.1	69.1	88.2	108.7	143	115	0
21:00:00	62.7	98.1	56.5	81.0	96.1	96.8	255	255	0
22:00:00	60.1	95.6	53.0	69.0	80.1	96.8	255	255	0
23:00:00	57.4	92.8	53.0	69.0	80.1	88.7	12	20	0
00:00:00	57.0	92.5	52.9	69.0	80.1	91.2	12	47	0
01:00:00	57.4	92.8	52.9	72.9	88.1	96.7	35	139	0
02:00:00	57.0	92.4	52.5	68.9	88.0	104.7	11	29	0
03:00:00	56.7	92.1	52.8	69.6	80.8	115.0	10	11	0
04:00:00	55.2	90.6	52.9	68.9	80.0	124.7	7	0	0
05:00:00	54.2	89.6	52.8	69.3	88.3	128.7	15	23	0
06:00:00	55.3	90.7	52.4	69.6	80.9	124.7	21	15	0
07:00:00	53.8	89.3	50.7	68.8	79.9	128.7	16	0	0
08:00:00	55.2	90.6	50.8	72.9	95.9	104.7	33	72	0
09:00:00	53.7	89.2	52.4	69.1	80.4	104.8	2	9	0
10:00:00	55.5	90.9	52.6	72.9	88.0	108.7	25	25	0
11:00:00	57.8	93.2	52.0	76.7	89.0	112.7	93	89	0
12:00:00	53.9	89.4	50.8	69.2	96.0	104.7	8	79	0

OVERALL LEB: 57.1

$L_d = 57.1$

$L_n = 57.0$

$L_{dn} = 63.4$

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/8/91 Day of week: SATURDAY Season: SPRING

Location number/description: N5-1 W of PROPOSED SITE CLOSE TO HILLSBOROUGH COUNTY

Windspeed: 5-6 mph 6.10 Wind direction: NE Temperature: 86°F

Weather: MOSTLY SUNNY

Survey meter model/serial number: QUEST 1800-100 22 / OB-100 HP0030023 (SLM) HW0100007 (OCTAVE BAND)

Calibrator model/serial number: QUEST CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 11:47 am

Data:

Octave Band Levels (dB)										A-weighted (dBA)
Center Frequency (Hertz)										
<u>31.5 Hz</u>	<u>63</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1K</u>	<u>2K</u>	<u>4K</u>	<u>8K</u>	<u>16K</u>	
<u>51.0</u>	<u>32.5</u>	<u>37.3</u>	<u>36.5</u>	<u>42.0</u>	<u>51.6</u>	<u>13.4</u>	<u>39.6</u>	<u>37.5</u>	<u>30.3</u>	<u>53.0</u>

Sources of noise: WIND IN TREES, TRAFFIC IN DISTANCE, BIRDS,  
DRAGLINE IN PROGRESS

Comments: COLLOCATED WITH LARSON DAVIS 870 AT BEGINNING  
OF ROW

J.A. Baird  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/8/91 Day of week: SATURDAY Season: SPRING

Location number/description: NS-1

Windspeed: 2 mph Wind direction: NE Temperature: 78° F

Weather: Clear

Survey meter model/serial number: OB-100 / HP0030023 (SLM)  
Quest 1800-10022 / HW 0100007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 947 PM

Data:

Octave Band Levels (dB)										A-weighted (dBA)
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
<u>30.3</u>	<u>30.7</u>	<u>44.8</u>	<u>58.5</u>	<u>48.6</u>	<u>50.8</u>	<u>57.0</u>	<u>41.4</u>	<u>43.1</u>	<u>30.7</u>	<u>59.8</u>

Sources of noise: Insects, dragline, traffic in distance

Comments: Collocated with Larson Davis in the middle of the run.

J. Bernard  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 4/9/91 Day of week: Sunday Season: Spring

Location number/description: N5-1

Windspeed: 5-8 mph Wind direction: N-NW Temperature: 88°F

Weather: Mostly Sunny

Survey meter model/serial number: Quest 1800-10022 / HP0030023 (SLM)  
OB-100 / HW 0100007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 1141 am

Data:

Octave Band Levels (dB)										A-weighted (dBA)
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
45.1	32.6	31.2	35.2	34.7	37.9	44.9	59.7	37.9	32.3	60.9

Sources of noise: Insects, Birds, Maguire, Wind in Trees

Comments: Collocated with Larson Davis at end of run

[Signature]  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/8/91 Day of week: SATURDAY Season: SPRING

Location number/description: N-S W EDGE OF SITE

Windspeed: 3-4 mph @ 10 Wind direction: NE Temperature: 81°F

Weather: MOSTLY SUNNY

Survey meter model/serial number: QUEST 1800-10022 / <sup>OB-100</sup>HP0030023 (SLM) <sup>HW0100007</sup> (OCTAVE BAND)

Calibrator model/serial number: QUEST CA-22 / 10040028

Meter response to calibrator: 110.0 dB

Time of survey: 1030 AM

Data:

										A-weighted
										(dBA)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
30.4	33.9	40.4	42.0	40.2	49.2	38.6	44.6	43.6	32.1	52.3

Sources of noise: TRAFFIC ON SR 37, BIRDS, INSECTS,  
GRASS RUSTLING

Comments: COLLOCATED W/ LARSON DAVIS. 870 30 MINUTES  
INTO ITS RUN

*[Signature]*  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/8/91 Day of week: Saturday Season: Spring

Location number/description: NS-2

Windspeed: 2 mph Wind direction: NE Temperature: 75°F

Weather: Clear

Survey meter model/serial number: Quest OB-100 1800-10022 / HP 0030023 (SLM)  
HW 01 00007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22/50040028

Meter response to calibrator: 110.0 dB

Time of survey: 1015 PM

Data:

Octave Band Levels (dB)										
Center Frequency (Hertz)										
31.5 Hz	125	250	500	1000	1K	2K	4K	8K	16K	A-weighted (dBA)
	<del>63</del> <sup>125</sup>	<del>125</del> <sup>250</sup>	<del>250</del> <sup>500</sup>	<del>500</del> <sup>1000</sup>						
<u>45.3</u>	<u>40.0</u>	<u>33.5</u>	<u>40.0</u>	<u>52.8</u>		<u>38.3</u>	<u>45.7</u>	<u>46.7</u>	<u>43.4</u>	<u>54.7</u>

Sources of noise: Traffic, Insects

Comments: Collocated with Larson Dams at middle of run.

LaBoeuf  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/9/91 Day of week: Sunday Season: Spring

Location number/description: NS-2

Windspeed: 3-6 mph @ 6'0" Wind direction: NE Temperature: 82°F

Weather: Mostly Sunny

Survey meter model/serial number: Quest 1800-10022 / HP 0030023 (SLM)  
OB-100 / HW 01 00007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 9:54 am

Data:

										A-weighted
										(dBA)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
37.6	34.0	34.5	30.2	33.1	45.3	46.7	39.1	40.2	30.3	50.6

Sources of noise: Traffic, Birds, Insects, wind in trees  
and Grass

Comments: Collocated with Larson Davis at the  
end of its run.

JA Baurand  
 Operator's signature



# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/9/91 Day of week: SUNDAY Season: SPRING

Location number/description: MS-3 1 1/2 MI N 6 SOF 630, 1/4 MI <sup>W</sup> <sup>PT</sup> E OF GREEN RD

Windspeed: 4-7 mph Wind direction: S Temperature: 83°F

Weather: MOISTLY SUNNY

Survey meter model/serial number: QUEST 1800-10022 / <sup>OB-100</sup> HP0030023 (SLM) / HW0100007 (OCTAVE BAND)

Calibrator model/serial number: QUEST CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 1103 am

Data:

Octave Band Levels (dB)										A-weighted (dBA)
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
42.7	32.3	34.6	32.1	30.8	32.1	34.7	36.8	37.4	30.3	42.3

Sources of noise: BIRDS, INSECTS, AIRPLANE, GRASS & TREES  
RUSTLING, TRAFFIC ON PT GREEN RD

Comments: COLLOCATED WITH 870 AT BEGINNING OF RWY.

*sa Barnard*  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/9/91 Day of week: Sunday Season: Spring

Location number/description: N5-3

Windspeed: 1-2 mph Wind direction: S-SW Temperature: 78°F

Weather: Mostly Cloudy

Survey meter model/serial number: Quest 1800-10022 / HP 0030023 (SLM)  
OB-100 / HW 0100007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 9:5 PM

Data:

Octave Band Levels (dB)										A-weighted (dBA)
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
66.1	29.9	40.4	46.6	31.2	38.0	37.2	50.6	43.0	30.6	52.4

Sources of noise: Insects, Frogs, Traffic in Distance, Airplane

Comments: Collocated with Larson Davis at middle of the run.

J. Bernard  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/10/91 Day of week: Monday Season: Spring

Location number/description: NS-3

Windspeed: 3-6 mph Wind direction: S Temperature: 85°F

Weather: Partly Cloudy

Survey meter model/serial number: Quest OB-100 1800-10022 / HP0030023 (SLM) / HW0100007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 109.7 dB

Time of survey: 1040 am

Data:

										Octave Band Levels (dB)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
30.7	31.7	37.1	31.1	36.4	40.7	34.2	36.8	37.0	30.3	44.4

Sources of noise: Birds, Insects, Tractor, Airplane, Train in distance.

Comments: Collocated with Larson Davis at end of run.

J. A. Baird  
Operator's signature

## OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/9/91 Day of week: SUNDAY Season: SPRING

Location number/description: NS-4 AT AGRICO FT GREEN MINE

Windspeed: 5-7 mph Wind direction: NE Temperature: 88°F

Weather: MOSTLY SUNNY

Survey meter model/serial number: QUEST 1800-10022 / HP0030023 (SCM)  
OB-100 / HW0100007 (OCTAVE BAND)

Calibrator model/serial number: QUEST CA-22 / 10040028

Meter response to calibrator: 110.0 dB

Time of survey: 1225 PM

Data:

Octave Band Levels (dB)										
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
40.9	40.0	37.7	42.6	50.1	48.2	45.6	43.2	38.5	30.5	53.0

Sources of noise: BIRDS, MINE OPERATION, TRAFFIC ON  
ENTRANCE ROAD

Comments: COLLOCATED WITH 870 AT BEGINNING OF RUN.

*M. Baird*  
 Operator's signature

## OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/9/91 Day of week: Sunday Season: Spring

Location number/description: NS-4

Windspeed: 1-2 mph Wind direction: N Temperature: 77°F

Weather: Partly Cloudy

Survey meter model/serial number: Quest 1800-10022 / HP0030023 (SLM)  
OB-100 / HPO030023 (SLM)

Calibrator model/serial number: QUEST CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 9:50 PM

Data:

Octave Band Levels (dB)										
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
38.5	42.1	40.8	43.0	52.3	51.3	45.7	43.0	45.3	31.1	55.1

Sources of noise: Insects, Traffic, Mine Operation

Comments: Collocated w/ Larson Davis at middle of the run

M. Bernard  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 4/10/91 Day of week: Monday Season: Spring

Location number/description: N3-4

Windspeed: 8-10 mph Wind direction: W Temperature: 88°F

Weather: Mostly Sunny

Survey meter model/serial number: Quest 1800-10022 / HP00 30023 (SLM)  
HW01 00007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 109.6 dB

Time of survey: 1220 PM

Data:

										A-weighted
										(dBA)
										Center Frequency (Hertz)
										Octave Band Levels (dB)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
41.9	43.2	36.9	52.9	49.5	44.8	47.2	42.3	38.7	30.3	52.9

Sources of noise: Mine Operation, Train being Loaded, Birds

Comments: Collocated with Larson Davis at the end of the run.

M. Baird  
Operator's signature

## OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/11/91 Day of week: TUESDAY Season: SPRING

Location number/description: NS-1

Windspeed: 5-7 mph Wind direction: N Temperature: 90°F

Weather: PARTLY CLOUDY

Survey meter model/serial number: QUEST 1800-100-22 / HW0100007 (OCTAVE BAND)  
OB-100 HP0030023 (SLM)

Calibrator model/serial number: QUEST CA-22 / J0040028

Meter response to calibrator: 109.9 dB

Time of survey: 130 PM

Data:

										A-weighted
										(dBA)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
40.8	32.9	45.0	39.1	35.6	34.1	37.3	36.6	37.0	30.3	43.6

Sources of noise: BIRDS, PLANES, DRAGLINE, TRAFFIC

Comments: COLLOCATED W/ 870 AT BEGINNING OF RUN

*M. Barnard*  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/11/91 Day of week: Tuesday Season: Spring

Location number/description: NS-1

Windspeed: 3-5 mph Wind direction: N Temperature: 77°F

Weather: Clear

Survey meter model/serial number: QWST 0B-100 1800-10022 / HP 00300 23 (SLM) / HW 01,00047 (OCTAVE BAND)

Calibrator model/serial number: QWST CA-22 / J0040028

Meter response to calibrator: 109.9 dB

Time of survey: 9 35 PM

Data:

Octave Band Levels (dB)										
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
55.6	30.3	34.0	35.0	42.7	40.0	33.6	42.1	40.0	34.2	47.1

Sources of noise: Dragline, Insects, Airplane, Birds

Comments: collocated with Larson Davis at middle of run.

W. Bassard  
Operator's signature



# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/12/91 Day of week: Wednesday Season: Spring

Location number/description: NS-1

Windspeed: 3-5 mph Wind direction: NE Temperature: 90°F

Weather: Mostly Sunny

Survey meter model/serial number: Quest 1800-10022 / HP 0030023 (S.M.)  
OB-100 / HW 0100007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 125 PM

Data:

										A-weighted
										(dBA)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
<u>42.6</u>	<u>37.8</u>	<u>35.9</u>	<u>39.3</u>	<u>44.6</u>	<u>40.4</u>	<u>41.7</u>	<u>39.3</u>	<u>36.8</u>	<u>30.2</u>	<u>47.8</u>

Sources of noise: Dragline, Birds, Insects

Comments: Collocated with Larson Davis at the end of the run.

*[Signature]*  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 0/11/91 Day of week: TUESDAY Season: SPRING

Location number/description: NS-2

Windspeed: 3-5 mph Wind direction: NE Temperature: 85°F

Weather: MOSTLY CLOUDY

Survey meter model/serial number: QUEST 1300-10022 <sup>OB-100</sup> / HP 003 0023 <sup>(5M)</sup> (OCTAVE BAND)

Calibrator model/serial number: QUEST CA-22/J0040028

Meter response to calibrator: 109.9 dB

Time of survey: 1200 PM

Data:

										Octave Band Levels (dB)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
38.8	31.6	48.8	38.8	36.0	41.7	37.1	37.1	41.2	31.4	46.4

Sources of noise: BIRDS, INSECTS, TREES & GRASS RUSTLING  
TRAFFIC ON SR 37

Comments: COLLOCATED WITH 870 AT BEGINNING  
OF RUN

*J. A. Bussard*  
Operator's signature



# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/12/91 Day of week: Wednesday Season: Spring

Location number/description: NS-2

Windspeed: 3-5 mph Wind direction: NE Temperature: 89°F

Weather: Mostly Sunny

Survey meter model/serial number: QUIST <sup>OB-100</sup> 1800-10022 / <sup>HP0030023 (SLM)</sup> HW 0100007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 110.0 dB

Time of survey: 1155 AM

Data:

										A-weighted
										(dBA)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
<u>40.3</u>	<u>41.5</u>	<u>41.6</u>	<u>41.0</u>	<u>45.6</u>	<u>44.7</u>	<u>43.1</u>	<u>40.8</u>	<u>41.6</u>	<u>31.5</u>	<u>50.1</u>

Sources of noise: Traffic, Birds, Insects, Airplane

Comments: Collocated with Larson Davis at the end of the run.

J. J. Barard  
Operator's signature

## OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/10/91 Day of week: MONDAY Season: SPRING

Location number/description: NS-3

Windspeed: 3-5 MPH Wind direction: S Temperature: 87°F

Weather: MOSTLY SUNNY

Survey meter model/serial number: QUEST 1800-10022 / 17P0030023 (SLM)  
OB-100 / HW 0100007 (OCTAVE BAND)

Calibrator model/serial number: QUEST CA-22 / J0040028

Meter response to calibrator: 109.6 dB

Time of survey: 1125 AM

Data:

										A-weighted
										(dBA)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
<u>31.5</u>	<u>32.0</u>	<u>30.3</u>	<u>32.0</u>	<u>32.5</u>	<u>32.0</u>	<u>36.8</u>	<u>39.4</u>	<u>37.6</u>	<u>30.4</u>	<u>43.5</u>

Sources of noise: BIRDS, INSECTS, TRACTOR

Comments: COLLOCATED WITH 870 AT BEGINNING OF RUN

M. Barnard  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 4/10/91 Day of week: Monday Season: Spring

Location number/description: NS-3

Windspeed: 3-5 mph Wind direction: S Temperature: 77°F

Weather: clear

Survey meter model/serial number: Quest 100-10022 / TP 0030023 (SUM)  
HW 0100007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 109.4 dB

Time of survey: 9:15 PM

Data:

Octave Band Levels (dB)										A-weighted (dBA)
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
44.5	37.7	30.3	30.7	39.1	36.8	37.2	51.8	42.2	30.5	53.4

Sources of noise: Train, Insects, cow

Comments: Collocated with Larson Davis at middle of the run

J. Barand  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 4/11/91 Day of week: Tuesday Season: Spring

Location number/description: N5-3

Windspeed: 5-7 mph Wind direction: S Temperature: 85°F

Weather: Mostly Sunny

Survey meter model/serial number: Quest <sup>OB-100</sup> 1800-10022 / <sup>HP0030023 (SLM)</sup> HW 010007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 109.9 dB

Time of survey: 1110 am

Data:

Octave Band Levels (dB)  
Center Frequency (Hertz)

31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
<u>35.5</u>	<u>30.3</u>	<u>30.3</u>	<u>30.3</u>	<u>32.8</u>	<u>31.9</u>	<u>38.5</u>	<u>39.2</u>	<u>36.5</u>	<u>30.4</u>	<u>44.2</u>

Sources of noise: Birds, Insects, Air plane, Wind in trees  
and Grass, Traffic in distance

Comments: collocated with Larson Davis at mid-to-end  
the end of the run

J. A. Baurard  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/10/91 Day of week: MONDAY Season: SPRING

Location number/description: NS-4

Windspeed: 8-10 mph Wind direction: W Temperature: 88°F

Weather: MOSTLY SUNNY

Survey meter model/serial number: QUEST OB-100 / HP0030023 (SLM)  
1800-10022 / HW0100007 (OCTAVE BAND)

Calibrator model/serial number: QUEST CA-22 / J0040028

Meter response to calibrator: 109.0 dB

Time of survey: 100 PM

Data:

Octave Band Levels (dB)										
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
48.0	41.7	35.3	37.9	47.8	44.4	42.2	39.0	36.8	30.3	49.7

Sources of noise: MINE OPERATION, BIRDS, TREES RUSTLING,

TRAIN BEING LOADED, TRAFFIC ON ENTRANCE RD

Comments: COLLOCATED W/ 870 AT BEGINNING OF RUN.

*M. Bernard*  
Operator's signature



# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 6/10/91 Day of week: Monday Season: Spring

Location number/description: NS-4

Windspeed: 1-2 mph Wind direction: NE Temperature: 75°F

Weather: Clear

Survey meter model/serial number: Quest 1800-10022 / HP0030023 (S.L.M)  
HP0100007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J0040028

Meter response to calibrator: 109.6 dB

Time of survey: 9:12 PM

Data:

										A-weighted
										(dBA)
										Center Frequency (Hertz)
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	
37.5	41.9	43.3	43.4	51.6	48.6	44.6	41.9	45.2	30.7	57.2

Sources of noise: Mine Operation, Insects, Traffic

Comments: Collocated with Larson Davis at middle of fur

*W. Barnard*  
Operator's signature

# OCTAVE BAND NOISE SURVEY DATA SHEET

Date: 01/11/91 Day of week: Tuesday Season: Spring

Location number/description: NS-4

Windspeed: 3-5 mph Wind direction: NE Temperature: 86°F

Weather: Partly Cloudy

Survey meter model/serial number: Quest 1800-10022 / HP003 0023 (SLM) / HW 010007 (OCTAVE BAND)

Calibrator model/serial number: Quest CA-22 / J6040028

Meter response to calibrator: 109.9 dB

Time of survey: 1255 PM

Data:

Octave Band Levels (dB)										
Center Frequency (Hertz)										
31.5 Hz	63	125	250	500	1K	2K	4K	8K	16K	A-weighted (dBA)
40.4	39.6	36.6	43.3	44.4	48.3	46.3	42.8	37.2	30.3	52.9

Sources of noise: Mine Operator, Birds, Insects

Comments: Collocated at end of the run with the Larson Davis

J. Bourne  
Operator's signature

## **APPENDIX 11.13**

### **HAZARDOUS MATERIALS/WASTES SUPPORTING INFORMATION**

- 11.13.1 PRELIMINARY SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN**
- 11.13.2 PRELIMINARY RESOURCE CONSERVATION AND RECOVERY ACT CONTINGENCY PLAN**
- 11.13.3 TOXICITY CHARACTERISTIC LEACHING PROCEDURE ANALYSES OF GASIFICATION PROCESS MATERIALS**

**11.13.1 PRELIMINARY SPILL  
PREVENTION, CONTROL,  
AND COUNTERMEASURE PLAN**

**PRELIMINARY**

**SPILL PREVENTION, CONTROL, AND  
COUNTERMEASURE PLAN  
FOR  
TAMPA ELECTRIC COMPANY  
POLK POWER STATION**

**July 1992**

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**PRELIMINARY**  
**SPILL PREVENTION, CONTROL, AND**  
**COUNTERMEASURE PLAN (SPCC)**

**FACILITIES COVERED BY SPCC PLAN**

<b>Tank Number</b>	<b>Product Stored</b>	<b>Capacity (gallons)</b>	<b>Containment</b>
1	No. 2 fuel oil	3,000,000	Secondary containment berm
2	No. 2 fuel oil	3,000,000	Secondary containment berm
3	No. 2 fuel oil	3,000,000	Secondary containment berm

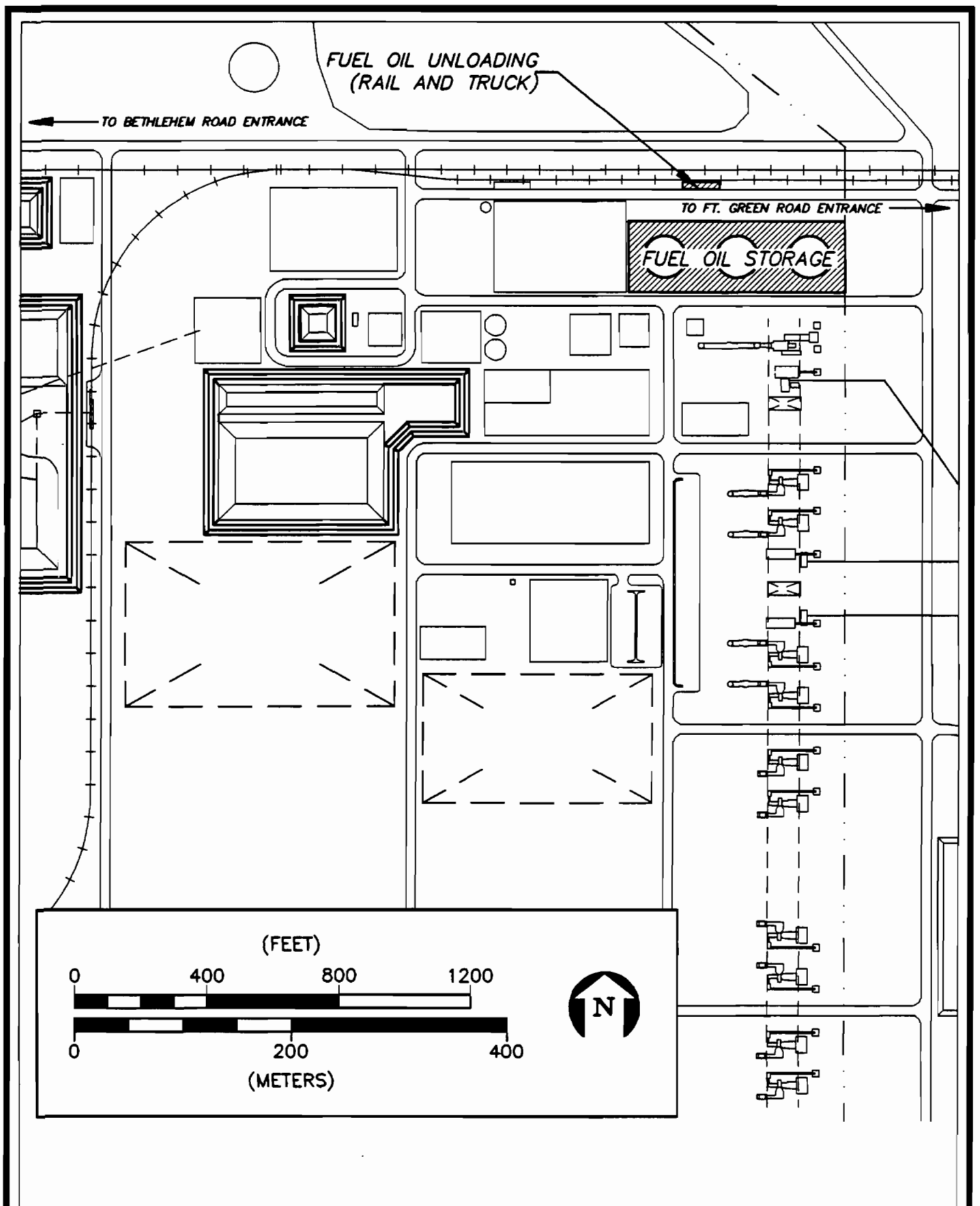


FIGURE 1.

**POLK POWER STATION FUEL OIL STORAGE LOCATION**

Source: ECT, 1992.



**POLK  
POWER  
STATION**



**DISCUSSION OF CONFORMANCE OF SPCC PLAN  
WITH SECTIONS OF 40 CFR 112.7**

Section

Discussion

- 112.7 (a) No spill events have been experienced by Polk Power Station. The facility is scheduled to begin operations in 1995.
- (b) Experience has indicated the potential for a spill due to equipment failure is low. However, any spill due to equipment failure could be controlled by proposed containment structures.
- (c) All fuel oil storage facilities will be surrounded by berms which are sufficiently impervious to prevent discharged oil from reaching a navigable water course. The facilities covered by this SPCC Plan will be equipped with the preventive system identified:

<u>Tank No.</u>	<u>Product Stored</u>	<u>Preventive System</u>
1	No. 2 fuel oil	Secondary containment berm
2	No. 2 fuel oil	Secondary containment berm
3	No. 2 fuel oil	Secondary containment berm

- (d) Not applicable since 112.7(c) is practicable.
- (e) (1) Facility Drainage
- (i) Drainage from bermed areas will be restrained by valves. If the operator detects the presence of oil in the accumulated water, appropriate cleanup procedures would be completed prior to discharge.
- (ii) Valves used for drainage of bermed areas will be of manual, open-and-close design.
- (iii) Not applicable since other preventive measures will be employed.
- (iv) Not applicable since (i), (ii), and (iii) will be met.
- (v) Not applicable since (i), (ii), and (iii) will be met.

(2) Bulk Storage Tanks (No. 2 Fuel Oil Storage Tanks)

- (i) All tanks used for the storage of petroleum products will be constructed of cathodically protected coated steel which is compatible with the material stored and the conditions of storage.
- (ii) Bulk storage tank installations will be constructed so that a secondary means of containment is provided for the entire contents of the single largest tank plus sufficient freeboard to allow for precipitation. Berms will be constructed of material impervious to spilled contents.
- (iii) Accumulated rainwater in the bermed areas will be inspected for the presence of oil prior to being discharged to the drainage system. If water is contaminated, cleanup procedures will be completed prior to pumping.
- (iv) Not applicable since tanks will be aboveground.
- (v) Not applicable since tanks will be aboveground.
- (vi) Aboveground tanks will be frequently observed for signs of deterioration or leaking. Leaks will be immediately reported and repaired.
- (vii) Not applicable since heating lines will be external.
- (viii) A gauger will be present during all unloading or transferring operations. When a tank becomes full, the gauger will either begin filling another tank or contact the pumping station to suspend pumping.
- (ix) Not applicable since there will be no discharge of effluents from facility to navigable waters.
- (x) Visible leaks causing an accumulation of oil in bermed areas will be immediately repaired.
- (xi) Not applicable since no mobile or portable oil storage tanks will be onsite.

(3) Facility Transfer Operations, Pumping, and In-Plant Process

- (i) All buried piping will be protected against corrosion using coatings suitable for the surrounding soils.

- (ii) Pipelines, when out-of-service for an extended period of time, will be blank-flanged and marked as to origin.
  - (iii) Pipe supports for aboveground piping will be designed to minimize abrasion and corrosion and allow for expansion and contraction.
  - (iv) All aboveground valves and pipelines will be inspected at least quarterly.
  - (v) When aboveground piping is located close to roadways, appropriate signs will be placed to warn vehicle operators of their presence.
- (8) Inspections and Records

- (i) Inspection records required by this plan will be made part of this SPCC Plan and will be maintained for a period of 3 years.

Inspections will be conducted according to the following schedule:

Storage tanks--at least quarterly, and  
Transfer facilities--at least quarterly.

(9) Security

- (i) Polk Power Station will be surrounded by a fence. The station and gates will be manned 24 hours per day.
- (ii) Any valves which would allow direct outward flow of oil will be securely locked in the closed position when not in use.
- (iii) The oil transfer pumps will be located in areas of the facility accessible only to authorized personnel.
- (iv) All transfer pipelines which will have a potential for oil spillage will be capped or blank-flanged when not in use.
- (v) The lighting in the areas of the bulk storage facility and oil pipelines will be adequate to detect oil spills and deter vandalism.

(10) Personnel, Training, and Spill Prevention Procedures

- (i) An annual briefing will be conducted for plant operators and fuel-handling personnel to assure adequate understanding of the SPCC Plan.
- (ii) A person will be designated to be responsible for oil spill prevention at Polk Power Station.
- (iii) The annual briefing will emphasize proper operating procedures, maintenance of equipment, inspections, reporting procedures, oil containment and cleanup procedures, and a review of any recent oil spills.

## **WATER POLLUTION CONTINGENCY PLAN**

Tampa Electric Company will establish a contract with a qualified Responding Agent prior to commercial operation of the Polk Power Station. The contract with the Responding Agent will be for the following environmental services which may include, but are not limited to the following:

1. Emergency response;
2. Operation and maintenance of pollution control, containment, and cleanup equipment; and
3. Hazardous material cleanup.

### **RESPONSE PROCEDURES**

#### **DISCOVERY AND NOTIFICATION**

If an accidental, minor, or major oil spill occurs or any person observes an oil spill or sheen of any quantity that was generated by Tampa Electric Company, the Supervisor of Plant Operations (SPO) or Environmental Coordinator will be notified immediately. The SPO or Environmental Coordinator will then notify the following:

1. Responding Agent, and
2. Tampa Electric Company Environmental Department.

Information such as source, quantity, oil type, and whether or not the discharge has been stopped will be provided if possible. When notifying the responding agent, only those individuals designated as representatives of Tampa Electric Company may issue a Notice to Proceed or a Purchase Order.

#### **SOURCE ELIMINATION**

Commensurate with notification, appropriate steps will be taken to stop the discharge. Steps will include, but not be limited to, securing valves, capping lines, damming drainage ditches, etc. Appropriate measures will be taken to minimize any fire hazard should conditions warrant.

## **CONTAINMENT**

In accordance with Section 376.065(3), Florida Statutes, Tampa Electric Company facilities will have the requisite amount of boom to initiate a first response and attempt to contain an oil spill.

## **CLEANUP**

Facility cleanup capability will be limited to a potential first containment response. The designated Responding Agent will be retained for actual cleanup. Cleanup will include, but not be limited to, the following:

1. Use of available oil skimmers, vacuum pumps, oil separators, etc.;
2. Transfer of contaminated water to other containment such as slop tanks, tank trucks, barges, unused storage tanks, etc.; and
3. Manual removal of contamination from the water-using absorbents.

**11.13.2 PRELIMINARY RESOURCE CONSERVATION  
AND RECOVERY ACT CONTINGENCY PLAN**

**PRELIMINARY**

**RESOURCE CONSERVATION AND RECOVERY ACT**  
**CONTINGENCY PLAN**  
**FOR**  
**TAMPA ELECTRIC COMPANY**  
**POLK POWER STATION**

**July 1992**



**PRELIMINARY  
RESOURCE CONSERVATION AND RECOVERY ACT  
CONTINGENCY PLAN**

In the event of a fire or explosion involving hazardous wastes, the Emergency Response Plan for the Plant will be implemented to contain, control, and extinguish the fire. In the event of a spill or other release to the land or stormwater drainage system, the employee who observes the event will first take steps to contain or control the spill until additional assistance is obtained. At this time, the Spill Prevention Countermeasures and Control (SPCC) Plan for Polk Power Station will be implemented to contain and control the release. In the event of a fire or explosion, the Emergency Response Plan for Polk Power Station will be implemented. The following sequence of actions are followed in response to a spill, fire, explosion, or other release of hazardous wastes:

- In all cases, the Plant Environmental Coordinator is the primary Emergency Coordinator. The Emergency Coordinator will activate the onsite communications system in order to direct cleanup activities, as needed. In the absence of the Emergency Coordinator, the Supervisor of Plant Operations will carry out immediate activities until the Emergency Coordinator arrives at the release location.
- The Emergency Coordinator or Supervisor of Plant Operations will identify the character, source, amount, and areal extent of released materials by any means appropriate.
- The Emergency Coordinator will make arrangements with emergency response teams, police, and fire departments and hospitals, as required, to obtain appropriate emergency services.
- The Emergency Coordinator will notify Tampa Electric Company Environmental Department with information regarding the incident.
- The Emergency Coordinator will supervise cleanup activities at the site ensuring that all hazardous wastes and contaminated materials are collected and disposed of properly. Emergency equipment will be rehabilitated before normal operations resume.

- Environmental Department will notify appropriate local, State, and Federal agencies with a written report within 15 days of the event.

Prior to commencement of operation of the Polk Power Station, the following will be incorporated in addition to the previous discussion in order to make this a final Contingency Plan:

- The final arrangements agreed with local police, fire departments, hospitals, and emergency response contractors;
- Names, addresses, and phone numbers of all personnel qualified to act as emergency coordinator;
- List of available emergency equipment; and
- Evacuation plan.

**11.13.3 TOXICITY CHARACTERISTIC LEACHING  
PROCEDURE ANALYSES OF GASIFICATION  
PROCESS MATERIALS**

Worn Refractory

CHEMICAL DATA

Ignitability	No
Corrosivity	No
Reactivity	No

Solid Trace Elements

Aluminum	ug/g	1.0E+3
Antimony	ug/g	<2.0E-01
Arsenic	ug/g	<4.0E-01
Barium	ug/g	5.6E+00
Beryllium	ug/g	<2.0E-01
Boron	ug/g	9.5E+01
Cadmium	ug/g	<4.0E-01
Calcium	ug/g	2.9E+03
Chromium +6	ug/g	<9.0E-02
Chromium, total	ug/g	
Cobalt	ug/g	<1.2E+00
Copper	ug/g	1.9E+00
Iron	ug/g	2.5E+03
Lead	ug/g	3.0E-01
Magnesium	ug/g	8.8E+04
Manganese	ug/g	5.4E+01
Mercury	ug/g	1.3E-01
Molybdenum	ug/g	1.4E+00
Nickel	ug/g	2.9E+01
Potassium	ug/g	1.2E+03
Selenium	ug/g	<3.0E+00
Silicon	ug/g	1.1E+03
Silver	ug/g	6.1E-01
Sodium	ug/g	1.3E+03
Strontium	ug/g	5.1E+00
Thallium	ug/g	<2.0E-03
Tin	ug/g	2.6E+01
Titanium	ug/g	2.0E+01
Vanadium	ug/g	9.4E+02
Zinc	ug/g	1.3E+00

EP Leachate Parameters

Arsenic	mg/L	<6.0E-02
Barium	mg/L	2.2E-02
Cadmium	mg/L	<2.0E-03
Chromium, total	mg/L	1.5E-01
Hydrogen Ion (pH)	pH	4.1E+00
Lead	mg/L	<8.0E-02
Mercury	mg/L	1.2E-03
Selenium	mg/L	<8.0E-02
Silver	mg/L	3.0E-03

## PARAMETER

## UNITS

Worn Refractory Slag

## CHEMICAL DATA

## Solid Trace Elements

Aluminum	ug/g	7.2E+03
Antimony	ug/g	<2.0E-01
Arsenic	ug/g	<4.0E-03
Barium	ug/g	7.3E+01
Beryllium	ug/g	2.8E-01
Boron	ug/g	5.9E+01
Cadmium	ug/g	<4.0E-01
Calcium	ug/g	1.3E+04
Chromium, +6	ug/g	<1.3E-01
Chromium, total	ug/g	1.5E+05
Cobalt	ug/g	2.1E+00
Copper	ug/g	6.1E+00
Iron	ug/g	5.3E+03
Lead	ug/g	<3.0E-01
Magnesium	ug/g	8.5E+04
Manganese	ug/g	7.3E+01
Mercury	ug/g	<5.0E-02
Molybdenum	ug/g	6.7E-01
Nickel	ug/g	6.7E+00
Potassium	ug/g	1.8E+03
Selenium	ug/g	<3.0E+00
Silicon	ug/g	2.3E+04
Silver	ug/g	1.8E+00
Sodium	ug/g	4.3E+03
Strontium	ug/g	9.3E+01
Thallium	ug/g	<2.0E-03
Tin	ug/g	5.2E+01
Titanic	ug/g	3.6E+02
Vanadium	ug/g	1.1E+03
Zinc	ug/g	1.2E+01

## PARAMETER

## UNITS

Worn Refractory

## WET Leachate Parameters

Antimony	mg/L	1.1E-01
Arsenic	mg/L	<2.0E-03
Barium	mg/L	4.4E-01
Beryllium	mg/L	<1.0E-03
Cadmium	mg/L	<2.0E-03
Chromium +6	mg/L	5.0E-02
Chromium, total	mg/L	4.9E+00
Cobalt	mg/L	<6.0E-03
Cooper	mg/L	<1.0E-03
Fluoride	mg/L	6.0E-02
Iron	mg/L	9.4E+00
Lead	mg/L	<2.0E-03
Mercury	mg/L	1.8E-03
Molybdenum	mg/L	6.8E-02
Nickel	mg/L	5.7E-02
Selenium	mg/L	<2.0E-03
Silver	mg/L	<2.0E-03
Thallium	mg/L	<6.0E-03
Vanadium	mg/L	5.8E-01
Zinc	mg/L	2.9E-02

No: SAMPLE DID NOT EXHIBIT THIS CHARACTERISTIC.

Spent Sulfur Recovery Unit Catalyst Typical Reactor Bed

CHEMICAL DATA

Ignitability			No
Corrosivity			No
Reactivity			No

Chlorine	wt.%	1.0E-02	
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Total Extractable Loading

GRAV	ug/g	1.1E+03	
TCO	ug/g	4.4E+01	
Total Extractable Loading	ug/g	1.1E+03	

EP Leachate Parameters

Arsenic	mg/L	<6.0E-02	
Barium	mg/L	2.2E-02	
Cadmium	mg/L	<2.0E-03	
Chromium, total	mg/L	<5.0E-03	
Lead	mg/L	1.1E+00	
Mercury	mg/L	8.0E.04	
Selenium	mg/L	<8.0E-02	
Silver	mg/L	<2.0E-03	

WET Leachate Parameters

Antimony	mg/L	2.9E-01	
Arsenic	mg/L	2.6E-01	
Barium	mg/L	<1.0E-03	
Beryllium	mg/L	5.5E-03	
Cadmium	mg/L	8.0E-03	
Chromium+6	mg/L	<1.0E-02	
Chromium, total	mg/L	2.5E-02	
Cobalt	mg/L	<6.0E-03	
Copper	mg/L	<1.0E-03	
Fluoride	mg/L	<1.0E-01	
Hydrogen Ion (pH)	pH	1.4E+00	
Iron	mg/L	2.0E+01	
Lead	mg/L	2.6E-01	
Mercury	mg/L	<4.0E-04	
Molybdenum	mg/L	6.2E-02	
Nickel	mg/L	2.2E-02	
Selenium	mg/L	8.5E-01	
Silver	mg/L	<2.0E-03	
Thallium	mg/L	2.7E-01	
Vanadium	mg/L	<3.0E-03	
Zinc	mg/L	1.2E-01	

ASTM Leachate Parameters

GRAV	mg/L	2.0E+01	
TCO	mg/L	6.6E+00	
Total Extractable Loading	mg/L	2.7E+01	

Semivolatile Organic Compounds

ND

No: SAMPLE DID NOT EXHIBIT THIS CHARACTERISTIC.

ND: NOT DETECTED

Spent Sulfur Recovery Unit Catalyst - Reactor Bed #1

Solid Trace Elements

Aluminum	ug/g	3.2E+05
Antimony	ug/g	<1.0E+00
Arsenic	ug/g	<4.0E+00
Barium	ug/g	<2.0E+01
Beryllium	ug/g	<2.0E+00
Boron	ug/g	<2.0E+01
Cadmium	ug/g	<2.0E+00
Calcium	ug/g	6.3E+04
Chromium, total	ug/g	1.1E+01
Cobalt	ug/g	3.6E+01
Cooper	ug/g	5.2E+00
Iron	ug/g	3.5E+03
Lead	ug/g	<2.0E+01
Magnesium	ug/g	2.5E+03
Manganese	ug/g	2.2E+01
Mercury	ug/g	6.0E-02
Molybdenum	ug/g	1.9E+01
Nickel	ug/g	1.0E+01
Potassium	ug/g	6.1E+02
Selenium	ug/g	<8.0E+00
Silicon	ug/g	7.1E+03
Silver	ug/g	2.9E+00
Sodium	ug/g	<7.0E+01
Strontium	ug/g	4.5E+01
Thallium	ug/g	<2.0E+01
Tin	ug/g	1.2E+00
Titanium	ug/g	2.2E+02
Vanadium	ug/g	<4.0E+01
Zinc	ug/g	6.7E+01



Spent Sulfur Recovery Unit Catalyst - Reactor Bed #2

Solid Trace Elements

Aluminum	ug/g	3.0E+05
Antimony	ug/g	<1.0E+00
Arsenic	ug/g	<4.0E+00
Barium	ug/g	<2.0E+01
Beryllium	ug/g	<2.0E+00
Boron	ug/g	<2.0E+01
Cadmium	ug/g	<2.0E+00
Calcium	ug/g	5.9E+04
Chromium, total	ug/g	2.1E+01
Cobalt	ug/g	3.8E+01
Copper	ug/g	6.6E+00
Iron	ug/g	8.7E+02
Lead	ug/g	<2.0E+01
Magnesium	ug/g	2.6E+03
Manganese	ug/g	7.3E+00
Mercury	ug/g	2.6E-01
Molybdenum	ug/g	<9.0E+00
Nickel	ug/g	<4.0E+01
Potassium	ug/g	2.1E+01
Selenium	ug/g	<7.0E+00
Silicon	ug/g	4.3E+03
Silver	ug/g	4.5E+00
Sodium	ug/g	<6.0E+01
Strontium	ug/g	3.8E+01
Thallium	ug/g	<2.0E+01
Tin	ug/g	1.0E+00
Titanium	ug/g	5.0E+01
Vanadium	ug/g	<4.0E+01
Zinc	ug/g	6.2E+01

# Spent Sulfur Recovery Unit Catalyst - Reactor Bed #3

## Solid Trace Elements

Aluminum	ug/g	3.1E+05
Antimony	ug/g	<1.0E+00
Arsenic	ug/g	<4.0E+00
Barium	ug/g	<2.0E+01
Beryllium	ug/g	<2.0E+00
Boron	ug/g	<2.0E+01
Cadmium	ug/g	<2.0E+00
Calcium	ug/g	6.0E+04
Chromium, total	ug/g	1.5E+01
Cobalt	ug/g	4.1E+01
Cooper	ug/g	7.3E+00
Iron	ug/g	1.1E+03
Lead	ug/g	<2.0E+01
Magnesium	ug/g	2.2E+03
Manganese	ug/g	2.2E+01
Mercury	ug/g	1.4E-01
Molybdenum	ug/g	<9.0E+00
Nickel	ug/g	2.9E+01
Potassium	ug/g	7.0E+01
Selenium	ug/g	<7.0E+00
Silicon	ug/g	2.2E+03
Silver	ug/g	2.7E+00
Sodium	ug/g	<6.0E+01
Strontium	ug/g	4.4E+01
Thallium	ug/g	<2.0E+01
Tin	ug/g	5.0E-01
Titanium	ug/g	<5.0E+01
Vanadium	ug/g	<4.0E+01
Zinc	ug/g	6.6E+01

## PARAMETER

## UNITS

## Spent Hydrogenation Reactor Catalyst

## CHEMICAL DATA

Ignitability	No	No
Corrosivity	No	No
Reactivity	No	No

## Solid Trace Elements

Aluminum	ug/g	4.1E+05	3.6E+05
Antimony	ug/g	<1.0E+01	7.7E+00
Arsenic	ug/g	6.1E+02	5.5E+02
Barium	ug/g	<2.0E+02	4.6E+01
Beryllium	ug/g	<4.0E+00	<2.0E+00
Boron	ug/g	<4.0E+01	9.2E+00
Cadmium	ug/g	<4.0E+00	3.9E+00
Calcium	ug/g	2.4E+02	1.0E+02
Chromium, total	ug/g	<2.0E+01	<2.2E+01
Cobalt	ug/g	1.1E+00	1.5E+04
Cooper	ug/g	<4.0E+00	<2.0E+01
Iron	ug/g	1.2E+03	4.6E+03
Lead	ug/g	<2.0E+01	4.9E+01
Magnesium	ug/g	6.1E+02	<1.0E+02
Manganese	ug/g	9.0E+00	1.2E+01
Mercury	ug/g	1.4E-01	5.0E-02
Molybdenum	ug/g	5.0E+00	4.5E+04
Nickel	ug/g	5.3E+03	3.1E+02
Potassium	ug/g	1.5E+02	1.7E+03
Selenium	ug/g	<1.0E+01	7.7E+00
Silicon	ug/g	5.8E+02	2.5E+04
Silver	ug/g	<4.0E+00	3.9E+00
Sodium	ug/g	1.8E+02	2.6E-01
Strontium	ug/g	<4.0E+01	1.9E+01
Thallium	ug/g	<4.0E+00	3.9E+00
Tin	ug/g	<1.0E+01	7.7E+00
Titanium	ug/g	1.1E+02	1.5E+03
Vanadium	ug/g	<4.0E+01	1.4E+01
Zinc	ug/g	7.3E+01	6.2E+01

## EP Leachate Parameters

Arsenic	mg/L	6.8E-01	1.4E-01
Barium	mg/L	1.2E-02	7.0E-03
Cadmium	mg/L	1.8E-01	2.0E-02
Chromium, total	mg/L	1.2E-01	<7.0E-03
Hydrogen Ion (pH)	pH	3.9E+00	4.6E+00
Lead	mg/L	<2.0E-03	<2.0E-02
Mercury	mg/L	<2.0E-04	2.0E-04
Selenium	mg/L	<3.0E-02	<3.0E-02
Silver	mg/L	1.2E-01	<7.0E-03

## PARAMETER

## UNITS

## Spent Hydrogenation Reactor Catalyst

## WET Leachate Parameters

Antimony	mg/L	1.2E+00	<2.4E-02
Arsenic	mg/L	4.6E+00	3.0E+00
Barium	mg/L	<9.0E-03	<3.0E-03
Beryllium	mg/L	5.1E-02	<1.0E-03
Cadmium	mg/L	5.4E-01	1.5E-01
Chromium +6	mg/L	.	<2.0E-02
Chromium, total	mg/L	5.2E-01	<3.0E-03
Cobalt	mg/L	4.1E+02	7.5E+02
Cooper	mg/L	8.8E.01	1.2E+00
Fluoride	ag/L		8.0E-02
Hydrogen Ion (pH)	pH	4.9E+00	4.6E+00
Iron	mg/L	5.3E+01	1.5E+02
Lead	mg/L	<4.0E-03	<4.0E-03
Mercury	mg/L	<2.0E-04	<1.2E-04
Molybdenum	mg/L	1.5E+03	2.1E+03
Nickel	mg/L	1.4E+02	1.4E+01
Selenium	mg/L	<1.0E-01	<3.0E-01
Silver	mg/L	4.2E-01	4.1E-01
Thallium	mg/L	<3.0E-03	1.8E+00
Vanadium	mg/L	8.4E-01	5.4E+00
Zinc	mg/L	7.3E-01	<3.0E-03

No: SAMPLE DID NOT EXHIBIT THIS CHARACTERISTIC.

**APPENDIX 11.14**

**NEED DETERMINATION**

**11.14.1 NEED DETERMINATION PETITION**

**11.14.2 FLORIDA PUBLIC SERVICE COMMISSION ORDER  
DETERMINING NEED**

**11.14.1 NEED DETERMINATION PETITION**



3. Tampa Electric is a Commission regulated investor-owned electric utility providing electric service to approximately 460,000 retail Customers located in Hillsborough and portions of Polk, Pinellas and Pasco Counties.

#### Proposed Electrical Power Plant

4. The company's current Power Resource Plan reflects the need for an additional 440 MW of generating capacity during the period 1995-2000. Tampa Electric plans to meet this need through the construction of two 220 MW<sup>1/</sup> units with in-service dates of 1996 and 2000. This application requests the certification of need for the first unit, Polk Unit One, as a 220 MW integrated coal gasification combined cycle unit ("IGCC") with a projected commercial operation date of July 1996. This state-of-the-art unit will be constructed with modular components consisting of a 150 MW advanced combustion turbine ("CT") with an in-service date of July 1995 followed by a heat recovery steam generator ("HRSG"), steam turbine and coal gasifier to be placed in service in July 1996 to complete the 220 MW IGCC. The 150 MW CT was selected for its greater efficiency and its compatibility with the coal gasification system.

5. Tampa Electric's proposal in this docket is consistent with its plan submitted in Docket No. 910004-EU that required the construction of two 220 MW combined cycle ("CC") generating units phased in over the period

<sup>1/</sup> All unit MW ratings as used in this Petition, the Polk Unit One Need Determination Study and in the testimony and exhibits of Tampa Electric's witnesses in this proceeding are "nominal" ratings which reflect the expected average output of the rated unit.



1995-2000. However in Docket No. 910004-EU the Company projected that the first CC unit was to have been comprised of a 75 MW CT with an in-service date of January 1995, followed by a second 75 MW CT addition in 1996 and a 70 MW HRSG in 1997. The company has modified its plan to take advantage of \$120 million in funding provided by DOE under a cooperative agreement which will contribute to \$62 million in net savings for Tampa Electric's customers. This project will demonstrate state-of-the-art hot gas clean up technology in an integrated coal gasification combined cycle system as an environmentally acceptable means of generating electricity with coal.

6. The clean-coal project will not change any requirements for the site itself since the company plans to build a CC power plant. Instead of pairing two natural gas-fired CT's and one HRSG, the company will build one larger 150 MW CT and a single HRSG. The entire facility will be more efficient.

7. The IGCC technology selected has been proven to be a technically viable way to use coal more efficiently as a primary fuel source while protecting the environment. The IGCC technology is the right choice for Polk Unit One based on sound engineering, fuel choice, economic principles, the availability of DOE funding and environmental considerations.

8. Tampa Electric projects that Polk Unit Two, a 220 MW CC, will be needed in the year 2000 with the addition of CTs in 1998 and 1999 and an HRSG in the year 2000. However, authority to construct Polk Unit Two is not sought in this Petition because such action would be premature.

9. The above described units, their associated facilities, and their directly associated 230 kv transmission lines (collectively, "the proposed

electrical power plant") are subject to the Florida Electrical Power Plant Siting Act (the "Act"), §403.501 to 403.519, Fla. Stat.

### Proposed Site

10. Tampa Electric plans to construct the proposed electric power plant at a 4,300 acre site located in Polk County, Florida. The company decided to utilize this property following an exhaustive year-long effort by the Tampa Electric Power Plant Siting Task Force which last year recommended that Tampa Electric build its next power plants inland in Polk County rather than adjacent to Tampa Bay. This independent group was comprised of community leaders, environmentalists, and policy makers, all of whom were dedicated to insuring that the need for electricity would be balanced with community needs and the protection of the environment. After approximately three months of review the siting task force unanimously concurred with Tampa Electric's assessment that the additional generating capacity was needed.

11. The task force went on to analyze approximately 40 potential sites in a six-county study area, and ultimately recommended a group of three alternative inland sites to Tampa Electric in September of 1990. The three sites were all located in southwestern Polk County on phosphate mining land that was soon to be vacated by the phosphate industry. Tampa Electric accepted the recommendation and initiated steps to acquire the Polk Power Station site at which Polk Unit One will be constructed. The entire siting task force process took over a year to complete.

12. Approximately 3,572 acres of the Polk Power Station site are under contract to be acquired by Tampa Electric and the company is

negotiating to acquire the remainder. The site will also accommodate the company's next projected base load needs which will not be required until beyond the year 2000.

**Construction Plans**

13. Tampa Electric proposes to competitively bid the construction of components of the 220 MW IGCC unit that will be owned and operated by Tampa Electric.

14. Pursuant to the Florida Electrical Power Plant Siting Act, including §403.519, Fla. Stat., and to Fla. Admin. Code Rules 25-22.080 to 25-22.081, the Commission has jurisdiction to determine the need for the proposed electrical power plant, applying the standards set forth in §403.519, Fla. Stat.

15. As authorized by Rule 25-22.080(1), Tampa Electric has elected to commence this proceeding for a determination of need prior to the filing with DER of an application for site certification of the proposed electrical power plant.

**The Need for the Proposed Electrical Power Plant**

16. The information supporting this petition is contained in Tampa Electric's Polk Unit One Need Determination Study and the Appendices thereto (collectively, the "Study"), which are filed hereith and incorporated herein by reference. The Study contains Tampa Electric's analysis of the need for the proposed electrical power plant and includes the information required by Fla. Admin. Code Rule 25-22.081. The 1995 through 1997 need should be met through the DOE funded coal gasification

project. Tampa Electric requests that the Commission fully certify the need for the first 220 MW IGCC at the Polk County site, to be placed in service during the 1995-1996 time frame.

17. The accompanying information demonstrates the need for the proposed electrical power plant in the proposed time frame as constituting the most cost-effective alternative available, taking into account the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, the lead time necessary to put the plant into operation and other relevant matters.

18. Tampa Electric requests that a public hearing be scheduled in this matter and that it be conducted as a formal hearing pursuant to §120.57(1), Fla. Stat.

WHEREFORE, Tampa Electric Company respectfully requests that:

(1) pursuant to Fla. Admin. Code Rule 25-22.080(2), the Commission within seven days set a date for hearing on this Petition not more than 90 days after the date of filing hereof;

(2) the hearing in this matter be held as a formal hearing pursuant to §120.57(1), Fla. Stat.;

(3) the Commission give notice of the proceeding as required by §403.519, Fla. Stat. (Supp. 1990) and Fla. Admin. Code Rule 25-22.080(3);

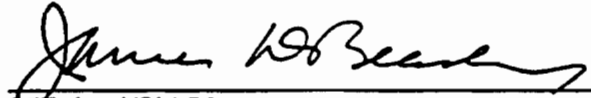
(4) the Commission submit a preliminary statement of issues to DER pursuant to §403.507(1), Fla. Stat. (Supp. 1990); and

(5) the Commission determine that there is a need for the proposed 220 MW IGCC to be placed in service in 1995 and 1996, along with the

associated facilities and directly associated four 230 kv transmission lines, and submit its report making such determination to the DER pursuant to §403.507(2)(a)2, Fla. Stat. (Supp. 1990).

DATED this 5<sup>th</sup> day of September, 1991.

Respectfully submitted,



LEE L. WILLIS  
JAMES D. BEASLEY  
Ausley, McMullen, McGehee,  
Carothers and Proctor  
Post Office Box 391  
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(904) 224-9115

Attorneys for Tampa Electric Company

**11.14.2 FLORIDA PUBLIC SERVICE COMMISSION  
ORDER DETERMINING NEED**

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for Determination) DOCKET NO. 910883-EI  
of Need for a Proposed Electrical) ORDER NO. PSC-92-0002-FOF-EI  
Power Plant and Related ) ISSUED: 03/02/92  
Facilities in Polk County by )  
Tampa Electric Company. )  
\_\_\_\_\_)

The following Commissioners participated in the disposition of this matter:

SUSAN F. CLARK  
BETTY EASLEY

ORDER DETERMINING THE NEED  
FOR A PROPOSED ELECTRICAL POWER PLANT

BY THE COMMISSION:

Pursuant to Notice, a formal hearing was held in this docket on December 10-11, 1991 in Tallahassee, Florida. Having considered the record in this proceeding, the Commission now enters its Final Order.

BACKGROUND

Tampa Electric Company (TECO or Tampa Electric) filed a Petition for Determination of Need with the Commission on September 5, 1991. In that petition TECO requested that the Commission approve the construction of a 220 MW Integrated Coal Gasification Combined Cycle (IGCC) unit and related facilities at a site located in Polk County. The proposed IGCC project will consist of a 150 MW advanced combustion turbine (CT) unit to be placed in service in July, 1995, and a 70 MW heat recovery steam generator (HRSG) and coal gasifier to be placed in service in July, 1996. Transmission facilities associated with the construction of the plant include two circuits looping the Pebbledale-Hardee Power Station circuit and two circuits looping the Pebbledale-Mines circuit into a transmission switching station at Polk Unit One. Fuel transportation facilities associated with the construction of the plant include a natural gas lateral to the adjacent FGT pipeline for economy gas purchases, and an oil pipeline lateral to the GATX oil pipeline under construction next to the plant site.

The coal gasifier will employ a new technology that efficiently cleans coal gas at high temperatures. This technology will be a demonstration project for the U. S. Department of Energy (DOE). DOE has signed a cooperative agreement with TECO to provide

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a \$120 million grant to offset some of the costs associated with the construction of the plant and the demonstration of the new technology.

In Docket No. 910004-EU, TECO's 220 MW phased combined cycle unit was designated as its avoided unit for pricing cogeneration. Upon learning of the availability of the \$120 million grant from DOE to build the coal gasification plant, TECO estimated the cost of the IGCC unit and compared the project's impact on TECO's expansion plan with eight other expansion plans. When TECO determined that the IGCC unit, with the benefit of \$120 million of DOE funding, cost less than the "avoided unit" proposed in Docket No. 910004-EU, TECO initiated this proceeding to determine the need for the IGCC unit.

Destec Energy (Destec), Ark Energy (Ark), Florida Industrial Cogeneration Association (FICA), and Floridians for Responsible Utility Growth (FRG) intervened in this proceeding. Prior to the pre-hearing conference, held on November 20, 1991, Destec and Ark withdrew from this proceeding. Prior to the hearing, held on December 10-11, 1991, FICA also withdrew from the case.

Post-hearing briefs were filed by Tampa Electric Company and Floridians for Responsible Utility Growth on January 3, 1992. FRG filed proposed findings of fact with its brief, and a ruling on each proposed finding is included in Appendix A attached to this order.

The basic issue we are called upon to decide in this proceeding is whether under the provisions of section 403.519, Florida Statutes, Tampa Electric Company has adequately demonstrated the need to construct its proposed plant. The Florida Public Service Commission is the sole forum to determine the need for the proposed power plant, and only issues relating to that need were considered in this proceeding. Separate public hearings will be held by the Department of Environmental Regulation before the Division of Administrative Hearings to consider environmental and other impacts of the proposed plant and its associated facilities.

Section 403.519 delineates five major topics for our consideration in making a determination of need:

1. the need for electric system reliability and integrity;
2. the need for adequate electricity at a reasonable cost;
3. whether the proposed plant is the most cost-effective alternative available;



4. conservation measures taken by or reasonably available to the applicant which might mitigate the need for the proposed power plant; and
5. other matters within the Commission's jurisdiction which it deems relevant.

We have considered all issues relevant to those topics and we hold, for the reasons set out below, that Tampa Electric has demonstrated the need for the proposed 220 MW IGCC plant. We approve the plant's construction on the condition that TECO does receive the \$120 million dollar grant from the Department of Energy to help defray the costs of the project.

The Need for Electric System Reliability and Integrity.

TECO used a combination of criteria to determine its need for 220 MW of additional capacity in the 1995-1997 time frame, including a minimum 20% winter reserve margin and assisted Loss of Load Probability (LOLP) of 0.1 days per year. We find these criteria to be reasonably adequate for planning purposes. The 0.1 days per year LOLP criteria is consistent with the LOLP criteria used by the Florida Electric Power Coordinating Group (FCG), and the winter reserve margin is a reasonable one for a utility of Tampa Electric's size. The planning criteria are applied to TECO's load forecast to determine whether TECO will need additional capacity in 1995 and beyond.

In developing its load forecast, TECO first produces a single demand and energy forecast by combining end-use, multi-regression, and trend analysis techniques. A model of demand and energy use of phosphate customers is forecasted separately, as are the effects of TECO's conservation, load management, and cogeneration programs. The final forecast is a combination of all these methods. It includes projections of population, income, employment, appliance energy use, appliance saturations, appliance efficiency standards, price elasticity, weather (including temperature sensitivities), and residential, commercial and industrial consumption patterns. We believe that the forecasting methodology has produced a reasonably adequate prediction of TECO's future load. The forecast demonstrates that TECO does have a need for additional capacity beginning in 1995 to meet its reliability criteria.

To meet its reliability criteria, TECO shows a need for 65 MW of capacity in 1995, 66 MW in 1996, and 43 MW in 1997. TECO's proposed need for capacity is similar to the need demonstrated in TECO's expansion plan in Docket No. 910004-EU. That plan provided

for 75 MW in 1995, 75 MW in 1996, and 70 MW in 1997. Since TECO's proposed unit consists of a 150 MW advanced combustion turbine and a 70 MW heat recovery steam generator, TECO will build a large portion (150 MW) of the needed 220 MWs of capacity at one time, somewhat earlier than needed. TECO had planned to phase in a 220 MW combined cycle unit by bringing a 75 MW combustion turbine (CT) on line in each of the years 1995 and 1996 with a 70 MW heat recovery steam generator being added in 1997. Given the participation of the DOE in the IGCC demonstration project, Tampa Electric will construct some portion of the needed 220 MW slightly sooner and some portion slightly later than under the old plan, but it will do so at a significantly lower cost. Since TECO does not anticipate any adverse effects on the reliability of its system by placing some of the capacity into service earlier than needed, and since early construction of part of the needed capacity is reasonable in order to obtain DOE funding for a substantial portion of the project and thus lower the cost, we believe early construction is justified.

It is clear from the record that if additional capacity is not placed into service by 1996, TECO's winter reserve margin is expected to fall below 20 percent and its LOLP is projected to rise above the 0.1 days per year maintained for system reliability. The first 150 MW of the IGCC unit is due to be put into service in just over three years, in mid-1995. Given the lead time necessary for utilities to construct new generating facilities, TECO's petition was filed at a reasonable time.

TECO's reliability criteria will not be met unless the proposed IGCC unit is completed in the time frame requested. TECO would also risk losing the DOE funding it will receive for design, construction, and operation of the unit. Thus any delays in the construction of the plant could ultimately cost TECO its most cost-effective alternative for meeting future capacity needs.

TECO's reliability criteria of 0.1 days per year LOLP and minimum winter reserve margin of 20 percent would be violated with a delay in the in-service date of the proposed unit (Exhibit 1, p. 60). If no capacity is added to TECO's system in 1995, TECO's Loss of Load Probability (LOLP) is estimated to be 0.140 days per year and its winter reserve margin will be 19.1 percent. If no capacity is added in 1996, the net LOLP will deteriorate to 0.199 days per year and the winter reserve margin will drop to 16.2 percent. Thus, the addition of capacity from the proposed IGCC unit is needed for TECO to maintain acceptable reliability criteria.

TECO's proposed 220 MW IGCC unit is also needed to contribute to the reliability and integrity of the electric system of the State as a whole. Shahla Speck, of the Florida Electric Power Coordinating Group (FCG) testified in this proceeding that the phased-in capacity from Polk Unit One is consistent with the needs of Peninsular Florida, and will provide a portion of the additional generating capacity that is needed between 1995 and 1997 for the peninsula to maintain an adequate level of reliability.

Ms. Speck based her conclusion on an analysis of FCG's 1989 Planning Hearing document entitled "Generation Expansion Planning Studies", with consideration of all known changes which have occurred since that study was performed. Peninsular Florida's utilities plan to have 39,050 MW of total capacity, not including the proposed Polk Unit One, in the winter of 1996/1997 to meet a projected firm winter peak demand of 34,310 MW. The reserve margin is expected to be 4,740 MW. With the addition of TECO's proposed IGCC, the reserve margin will increase to 4,960 MW (14.5%), and with the projected capacity increase from 220 MW to 260 MW in the IGCC unit, Peninsular Florida's reserve margin will be 5000 MW (14.6%) in the winter of 1996/1997. We believe the addition of the proposed IGCC plant will contribute to the reliability of the electric system of the State of Florida by providing capacity in the time frame in which it is needed.

The proposed IGCC unit, which will burn gas extracted from coal, will not contribute to the fuel diversity of TECO's system, which is already heavily reliant on coal as a fuel. We are not persuaded by TECO's argument that coal gas is a new fuel that will contribute to fuel diversity on TECO's system. Regardless of the fact that gas is the end product of a coal gasification process, the source fuel is still coal. Currently, about 99% of the energy generated by TECO's units comes from coal. The IGCC unit will only increase TECO's reliance on coal as a major fuel source.

Furthermore, the proposed unit will not contribute to the fuel diversity of peninsular Florida. Peninsular Florida has a wide variety of generating technologies that use a diverse range of fuels, including coal, natural gas, oil, and nuclear. TECO's proposed IGCC unit will not significantly affect the fuel mix of Peninsular Florida's generating units, and therefore will not contribute to fuel diversity.

Nevertheless, in this proceeding the determinative issue is whether it is cost-effective for TECO and TECO's ratepayers to incur the higher capital cost of an IGCC unit to enable use of lower cost coal fuel. That appears to be the case here, because the DOE grant significantly lowers the total capital cost of the

project. As we will explain in detail below, the IGCC unit is the most cost-effective alternative to meet TECO's capacity needs. That fact drives our decision to grant TECO's petition.

### The Need for Adequate Electricity at a Reasonable Cost

#### Fuel forecasts and Fuel Costs

With certain reservations we find that TECO's fuel price forecast is reasonably adequate for planning purposes. TECO Witness Mr. Smith stated that coal prices are expected to remain relatively stable through the year 2000, while natural gas and oil prices are projected to increase rapidly. TECO's forecasting methodology includes reliance on data from government sources and industry association forecasts, trends, and two independent outside consultants. Forecasted transportation prices are added to obtain total delivered prices.

It appears that different fuel price forecasts have little impact on the proposed IGCC project's cost effectiveness. We are concerned, though, that TECO's forecast favors the use of coal over oil or natural gas over the long term for projects with similar costs. An extremely low natural gas price forecast favors an expansion plan which contains just combustion turbine and combined cycles. A low natural gas price forecast does not favor an expansion plan that includes the DOE IGCC project.

The type of new generating unit chosen is not necessarily driven by fuel cost per se; rather, it is the difference in cost among competing fuels. TECO's fuel forecast projects a widening cost differential between coal and natural gas or oil, when in fact for many years the cost differential between the cost of coal and the cost of natural gas and oil has remained relatively constant. In the future, TECO should pay close attention to this differential, and must be ready to substantiate continued reliance upon fuel price forecasts that have not accurately predicted the relationship between the price of coal and the price of natural gas and oil.

TECO provided sufficient assurance in this case that primary and secondary fuel will be available for the proposed plant on a long and short term basis at a reasonable cost. Fuel purchases will be made at market prices. TECO proposes to use the following fuels at its IGCC facility:

- Natural Gas

TECO is proposing to use natural gas on an interruptible basis to the extent available from Florida Gas Transmission. Dependence on interruptible gas means interruptions during peak demand or when the gas is most needed, and it is therefore practical to have on-site storage of No. 2 oil.

- No. 2 Oil

TECO proposes to use No. 2 oil as the primary fuel in the first year and a backup or secondary fuel in all subsequent years. The Tampa Bay area is one of the key distribution areas for No. 2 oil. Delivery of No. 2 oil will be by truck from Port Manatee or by the GATX oil pipeline adjacent to the project site.

- Coal

Coal will be the primary fuel for the IGCC unit. The coal to be used will be similar in sulfur content and price to that burned at TECO Big Bend Unit 4, and is the cheapest of all fuels. Delivery of coal to the plant will be by rail. Partial water borne delivery may be possible depending on the total delivered cost. Tests done using Eastern United States coals during the first two years will aid selecting the more cost-effective sources.

In conjunction with our semi-annual fuel cost recovery proceedings, we will of course evaluate all fuel related expenses to determine that the costs are reasonable and justified. We are satisfied here, though, that TECO has provided adequate assurances on the availability of primary and secondary fuel to the proposed facility on a long and short term basis at a reasonable cost.

Costs of Clean Air Act Compliance

The record in this case demonstrates that TECO adequately took into account the costs of environmental compliance associated with the Clean Air Act when it evaluated its future generation needs. TECO plans to comply with the Clean Air Act by one or more of the following: fuel switching; installing scrubbers; alternative technologies; and, purchasing allowances. Phase I compliance with the Clean Air Act will not be affected by the proposed IGCC plant, but the plant will be an asset to TECO in Phase II compliance. The Company estimates savings in the range of \$50 to \$100 million over the life of the proposed IGCC unit, compared to fuel switching or other Clean Air Act compliance strategies.

Site, Design, and Engineering Characteristics

TECO provided sufficient information on the site, design and engineering characteristics of its 220 MW IGCC unit to enable us to adequately evaluate its proposal. A Power Plant Site Selection Task Force, consisting of private citizens from environmental groups, businesses and universities, provided guidance and recommendations to TECO throughout the site selection process. The task force recommended the Polk County site, consisting of 3572 acres of mined out phosphate land. The site is located near the FGT/Hardee Power Station natural gas lateral and close to rail transportation for coal delivery. Distillate (No. 2) oil can be made available to the site by truck or pipeline.

Originally, TECO's proposed unit was to be a 220 MW IGCC with an estimated heat rate of 9060 BTU/kWh. Results from the FLUOR Engineering Study, received after TECO's need petition was filed on September 5, 1991, showed that the projected capacity of the unit increased to 260 MW and the heat rate dropped to 8486 BTU/kWh. These improvements result largely from two factors: TECO's decision to use a more efficient General Electric 7F turbine instead of a 7EA turbine, and TECO's determination that the heating value of natural gas is greater than that of coal gas.

TECO's proposed IGCC unit will present a demonstration of hot gas clean-up on a large scale. Hot gas clean-up technology has been successfully demonstrated on a 2 MW scale, but not on the scale TECO will attempt to demonstrate. No evidence was presented by any party that a scale-up in size was not viable. Rather, DOE Witness Bechtel's rebuttal testimony stated that "Tampa Electric has this capability as well as the presence in the industry to showcase effectively the project's results, thereby resulting in the successful commercialization of this technology".

The project will have redundant (hot and cold) gas clean-up capabilities to offset the risk that the hot gas clean-up technology will not perform as expected. No evidence was presented that showed that the back-up cold gas clean-up technology is not a reliable procedure. Although no utility currently has in its rate base a plant the size of TECO's proposed IGCC using cold gas clean-up, TECO presented evidence that cold gas clean-up has been successfully demonstrated in the United States with a number of projects, including:

- The 120 MW Cool Water Facility, located in California. Based on the Texaco gasification process and a General Electric combustion turbine unit, this plant operated for over 26,000 hours and achieved a capacity factor of 87%

in its final quarter of operation. This plant will be expanded and returned to commercial operation in a few years.

- The 160 MW facility owned by Dow Chemical in Louisiana. Consisting of a Dow gasifier and a combustion turbine that originally burned natural gas prior to being modified to burn gasified coal, this plant achieved a success similar to that experienced at the Cool Water Facility.

We therefore believe that TECO's proposed project is commercially viable. The record in this proceeding shows that TECO will be able to demonstrate the technical and economic viability of oxygen-blown, entrained-bed IGCC with hot gas clean-up, and generate clean, efficient, coal based power for the increasing demands of the region.

#### Most Cost-Effective Alternative

TECO has demonstrated that the proposed IGCC unit is the most cost-effective alternative to provide the additional needed capacity for TECO and peninsular Florida. Using TECO's most recent financial estimates, the proposed IGCC unit is estimated to save TECO's ratepayers \$195 million over the life of the unit compared to TECO's next best option. These savings are primarily attributable to fuel savings (resulting from the use of coal) and the \$120 million DOE contribution. The unit is projected to have an installed cost of \$389 million dollars (1996), including the DOE funding. This estimate does not include the economic effects of potential EPRI funding for the project, which would result in even more savings. Clearly the \$120 million in DOE funding and the potential for some additional assistance from EPRI have favorably affected the cost-effectiveness of the IGCC project.

#### The DOE Grant

Of the \$120 million grant to be awarded to TECO by DOE, \$100 million will go toward plant construction and \$20 million will go toward the first two years of operation and maintenance of the proposed unit. TECO estimates that the hot gas clean-up equipment for its proposed unit will cost approximately \$11.5 million (\$1991). If the hot gas clean-up experiment fails and TECO is required to fully operate the cold gas clean-up system, TECO predicts a minimal reduction in plant efficiency that would result

in a \$3 million reduction in savings associated with the IGCC plant. This financial penalty is extremely low, considered in light of the \$62 million savings (\$195 million based on revised estimates) expected to result from choosing the IGCC plant.

DOE Witness Bechtel testified that the \$120 million grant money is not refundable by TECO under any condition, and thus we believe TECO's ratepayers are adequately protected if the demonstration technology fails. If TECO profits from the sale of the plant to another party or utility, or if TECO profits from the commercialization of the technology by other utilities for future projects, TECO would typically be expected to pay 5% of future profits in royalties to DOE. We note that in the future if TECO does profit from the commercialization of the hot gas clean-up technology, we would expect TECO's ratepayers to share in the project's profits, just as they will have shared in the project's costs.

A final version of the DOE Cooperative Agreement was not available for our review in this proceeding. TECO is awaiting DOE approval of certain modifications to the agreement. These modifications include a change in the original site location to the Polk County site and use of the Texaco coal gasification technology. We were assured by the Department of Energy and TECO at the hearing that the final agreement will be forthcoming shortly and that it will issue in substantially the same form that it presently exists. We are confident that the grant will be available to TECO to defray a significant portion of the costs of the IGCC project, and therefore we approve the project. Because of the importance of the DOE grant to the cost-effectiveness of the project, however, we must condition our approval on TECO's receipt of the \$120 million grant with no requirement that TECO repay any part of the \$120 million grant.

#### Fuel forecast Comparisons

Due to concerns regarding the sensitivity of TECO's fuel forecasts, our staff asked TECO to perform an economic comparison of its proposed IGCC unit (using coal) and the phased combined cycle unit from Docket No. 910004-EU (using five different gas forecasts for the phased CC unit). The five fuel forecast scenarios used to compare TECO's proposed IGCC Unit and its phased combined cycle unit were:

1. TECO base fuel forecast;
2. FCG fuel forecast;
3. City of Tallahassee's latest (9/91) fuel forecast;



4. FPC base case and high case fuel forecast; and
5. Fuel forecast specified by staff. Because our staff believes that the price of natural gas will not escalate as rapidly as TECO estimated, TECO was asked to compare the economics of the IGCC unit and the phased combined cycle unit by using currently projected costs for coal and natural gas in 1995 and holding the 1995 cost differential between the two fuels constant over the life of the IGCC unit. Our staff considered this fuel forecast to be the "acid test", or "worst-case" forecast.

TECO also performed both a "break-even capacity factor" analysis and a "revenue requirements" analysis using the above mentioned fuel forecasts. In the "break-even capacity factor" analysis, the levelized in-service cost of the two plants (IGCC and CC) was determined at various capacity factors ranging from 30% to 100%. Throughout the capacity factor range in which TECO plans to operate its IGCC unit (around 80%), the IGCC plant was cost-effective under all fuel price scenarios.

In the "revenue requirements" analysis, the nominal costs of the two plants (IGCC and CC) were determined at a capacity factor of both 60% and 80% for each year of the life of the plant. The analysis concluded that TECO's proposed IGCC unit is cost-effective under all fuel price scenarios, including our staff's "acid test", at both the low capacity factor of 60% and the expected operating capacity factor of 80%.

TECO also performed a cost comparison between its proposed IGCC project and FPL's current avoided unit, a 1997 IGCC unit. Compared to FPL's avoided unit, TECO's proposed project is more cost-effective.

The cost savings testified to by TECO Witness Ramil do not include the estimated \$50 to \$100 million of savings (over the unit's life) which will derive from the fact that the IGCC unit will assist TECO in meeting the stringent requirements of Phase II of the Clean Air Act amendments. It is not possible at this time to determine a firm estimate of TECO's cost of complying with Phase II requirements. It is clear at this time, however, that the IGCC unit will enable TECO to back down on the dispatch of dirtier units on its system, and thus save TECO some costs of Phase II compliance.

### Alternative Generating Technologies

TECO demonstrated in this proceeding that it adequately explored the construction of alternative generating technologies. TECO initially evaluated 46 different generating technologies to meet its future capacity needs. Each of these technologies were screened on the basis of geographic viability, construction lead time required, public acceptance, environmental compliance, cost, safety, and proven demonstration and commercialization. After performing a screening curve analysis, TECO selected the following seven technologies for an economic optimization analysis:

1. Conventional Pulverized Coal
2. Integrated Coal Gasification Combined Cycle (IGCC)
3. Combustion Turbine (CT)
4. Combined Cycle (CC)
5. Phosphoric Acid Fuel Cell
6. Solar Thermal
7. Photovoltaic Solar Cell

After evaluating the economics of expansion plans involving the technologies that passed the initial screening, TECO found that the expansion plan which included the IGCC unit - with the \$120 million grant from the Department of Energy - was the most cost-effective plan. In other words, the IGCC unit had the lowest present worth revenue requirements (PWRR) of the other generating alternatives available.

### Conservation

TECO projects that its 1996 winter peak demand will be reduced by 205 MW as a result of load management, and 277 MW as a result of its conservation programs. This 482 MW total represents 13% of TECO's projected 1996 winter peak demand (3703 MW). TECO currently spends 95% of its demand-side management dollars on programs targeted at residential customers. Between 1981 and 1990, 94% of the demand reductions TECO achieved through conservation were achieved through its residential programs, and it appears that TECO's residential conservation programs are doing a reasonable job of saturating the eligible market. The participation rates for some of TECO's commercial and industrial programs, however, appear to be low.

None of the parties in this proceeding presented quantitative evidence regarding the possibility of expanding participation in TECO's approved programs that are projected to have a participation rate of less than 10%. There is little evidence in the record to conclusively demonstrate either the feasibility or the difficulty

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of increasing participation rates in those programs. Furthermore, TECO's conservation programs appear to be deferring peaking units only, not baseload or intermediate load units.

We do believe TECO has adequately considered the conservation measures that would be reasonably available to avoid the need for this proposed plant. It does not appear that additional timely and cost effective conservation measures can reliably defer the need for capacity in 1995. System savings due to conservation programs are difficult to measure, and it is difficult to project the achievable penetration rate for each program. However, we also believe that TECO needs to demonstrate to us why it cannot be more aggressive in pursuing conservation, particularly for its commercial and industrial customers. We will therefore require TECO to resubmit its conservation plan no later than one year prior to filing its next need determination petition. This resubmission shall explain in a detailed and definitive manner why market penetration cannot be increased for each of TECO's approved conservation programs. We expect TECO to conduct market achievability studies, and to experiment with control and test groups. We will not accept conjecture about market penetration feasibility. In addition, TECO should consider expanding its conservation plan to include programs that would defer the need for baseload and intermediate load units.

Floridians for Responsible Utility Growth does not agree that TECO has adequately demonstrated that the proposed IGCC unit is the most cost-effective alternative to meet its future capacity needs. FRG urges us to deny TECO's petition because the company has failed to meet its statutory obligation to take available conservation measures and propose the most cost-effective resource alternative.

FRG argues that under section 403.519, the phrase "most cost-effective alternative" available means "least cost" option or combination of options available, and under that section utilities must demonstrate that proposed power plants are the least cost options available to meet system requirements. FRG states that because section 403.519 requires the Commission to take into account the need for adequate electricity "at a reasonable cost", as well as whether the proposed plant is "the most cost effective alternative," it follows that "cost-effective" must be given a meaning that is congruent with "reasonable cost" as well as with its common usage meanings. By common usage definition, FRG states, "cost-effective" means that an investment's benefits are equal to or greater than its costs and that the costs are less than those of other reasonable alternatives. In the context of resource options to meet electricity needs, then, the requirement to provide "reasonable cost electricity must be deemed to require electricity

that can be provided at the lowest cost because it would not be "reasonable" to pay more than what is necessary for electric resources.

FRG acknowledges that there are other matters to consider besides cost in choosing a resource option, and FRG mentions that system reliability and integrity are two examples specifically mentioned in the statute. FRG concludes though that because TECO did not propose an alternative standard to assist us in determining what is "most cost-effective", and because "least cost" is the most logical standard in light of the provisions of section 403.519, we should adopt the interpretation that the terms "most cost-effective alternative" and "least cost option or combination of options" are synonymous.

We do not agree with FRG's interpretation of the phrase "most cost-effective alternative available". We believe that the Florida Legislature contemplated our consideration of a broad range of factors to determine the need for a proposed power plant, including electric system integrity and reliability and other strategic matters that might be relevant to a particular case. If the Legislature intended that the Commission use the more restrictive analysis contemplated by the term "least cost" in its determination of the need for a proposed power plant, the Legislature would have adopted that phrase. Rules of statutory construction require the inference that the phrase that the Legislature did use does not mean simply "least cost option". Our disagreement with FRG over the interpretation of section 403.519 may be more a matter of semantics than substance, because we believe that either interpretation attempts to reach the same result - the provision of adequate and reliable electric service at a reasonable cost.

FRG has asked us to determine what obligation TECO has under section 403.519 to demonstrate what measures have been taken or were reasonably available to TECO which might mitigate the need for TECO's proposed unit. FRG proposes that section 403.519 requires that utilities seeking a determination of need for new power plants must demonstrate that they have fully examined the energy efficiency and other DSM alternatives reasonably available to them, based on their own research and experience, the studies and experience of other Florida utilities, and the research and DSM programs of utilities nationwide. FRG contends that the statute also requires utilities to demonstrate that they have reasonably implemented (i.e., have undertaken well designed programs that are comprehensive in their coverage of customer market segments and electric end-uses) the cost-effective DSM measures available to mitigate the need for proposed plants.

It is our opinion that TECO, the petitioner in this case, has the burden to prove to the Commission by a preponderance of the evidence that it has a need to construct an IGCC unit in Polk County by 1996, taking into account all the factors set out in section 403.519, Florida Statutes. Specifically, TECO has the obligation to show the conservation measures it has taken to mitigate the need for the proposed unit, and it has the obligation to show that the measures taken were consistent with its conservation plans required by section 366.81, Florida Statutes, and approved by Commission order.

Section 403.519, Florida Statutes specifically directs the Commission to consider "the conservation measures taken by or reasonably available to the applicant . . . that might mitigate the need for the proposed plant. . . ." This provision of section 403.519 should be construed in a manner that is consistent with and gives effect to the terms of FEECA, specifically sections 366.81 and 366.82(3) and (4). We are of the opinion that a consistent construction of the two statutes is achieved by requiring a utility in a need determination proceeding to show that it has reasonably implemented conservation measures included in its conservation plans, as directed by section 366.82(3) and as approved by Commission order, and that it has reasonably considered conservation measures that might mitigate the need for this proposed plant.

While the record in this proceeding shows that TECO can improve its conservation efforts, the record in this proceeding does not show that additional conservation can be implemented quickly enough to avoid construction of this particular power plant, and thus additional conservation cannot "mitigate the need" for the IGCC plant. FRG's proposal to expand our review and analysis of TECO's conservation efforts may have merit in another forum, but they exceed the scope of our review of those efforts here.

#### Purchased Power Alternatives

The record demonstrates that TECO adequately explored and evaluated the availability of purchased power from other electric utilities. TECO currently plans to purchase firm capacity from TECO Power Service (TPS) in 1993. At that time, TECO and SEC will share 295 MW of firm capacity generated at Hardee Power Station. The availability of this 295 MW is based on the projected backup energy requirements of SEC.

TECO also evaluated the possibility of importing capacity from the Southern Company via the 500 kV transmission line with a capacity of 3200 MW, 50% participation in an 800 MW coal unit, with a 1998 in-service date, and the possibility of purchasing 100 MW of firm capacity in both 1998 and 1999. These evaluations indicated that the proposed IGCC plan was still the most cost-effective alternative.

We note that all the cogenerators that intervened initially in this proceeding withdrew their intervention prior to the hearing. Thus the record does not show that any cogenerator offered to build capacity which would avoid the need for the IGCC project, or that cogeneration projects could fill TECO's capacity needs in a cost-effective manner. The \$120 million DOE grant lowered the avoided cost of the project, thereby lowering the potential payments to cogenerators. It is, we suppose, theoretically possible that the DOE grant would be transferable to a cogenerator to demonstrate the new coal gasification technology, but practically speaking it is not likely that would happen. The transfer could not be made without DOE approval and it is clear from the record that DOE expects TECO to construct and demonstrate the project. Furthermore, a cogenerator, or any other party, would have difficulty securing a site, gaining permits and completing the construction of capacity in the short amount of time remaining to meet TECO's capacity needs.

TECO currently has a total of 289 MW of cogeneration on its system, with 41 MW from firm purchase contracts with three cogenerators and 248 MW from self service generation. TECO forecasts a total of 364 MW of cogeneration by 1996, with 68 MW of firm power purchases from cogenerators and 296 MW from phosphate mine self-service generation. A large percentage of the industrial load on TECO's system comes from phosphate mining operations.

We encourage TECO to actively pursue non-utility generation for its next needed capacity, particularly through negotiations for firm capacity purchases from qualifying facilities. Cogenerators who do not get satisfactory results by negotiating with TECO may intervene in TECO's next need determination proceeding. Here we will not require TECO to allow outside parties an opportunity to bid against its proposed IGCC unit. Currently, there is no Commission rule that requires bidding. Furthermore, TECO's IGCC unit with DOE funding is more cost effective than the combined cycle unit in Docket No. 910004-EU. It is unlikely that a bid lower than the cost of TECO's proposed IGCC could be obtained.

Conclusion

Based on our resolution of the factual and legal issues presented in this case, for the reasons explained above, and with the conditions explained above, we grant TECO's petition for determination of need for a 220 MW IGCC unit, with 150 MW on-line in 1995 and 70 MW on-line in 1996. We believe that TECO's petition satisfies the statutory requirements of section 403.519, Florida Statutes. The addition of 150 MW in 1995 and 70 MW in 1996 will serve TECO's capacity needs and contribute to meeting its reliability criteria of 0.1 days/year LOLP and 20% winter reserve margin. Phased-in capacity from Polk Unit One is consistent with the needs of Peninsular Florida, and will provide a portion of the additional generating capacity needed between 1995 and 1997 for the peninsula to maintain an adequate level of reliability. As a result of receiving \$120 million in funding from DOE, TECO's proposed IGCC facility is the most cost-effective generation alternative. TECO estimates its proposed plant will save customers \$195 million over the life of the unit, compared to the next best (most cost-effective) alternative. Operation of the IGCC will allow TECO to back down the dispatch of dirtier units, thereby assisting TECO with compliance with Phase II requirements of the Clean. It appears that further timely and cost effective conservation measures cannot reliably defer the need for the IGCC unit.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that, for the reasons, and with the conditions, set out in the body of this order, Tampa Electric Company's Petition for Determination of Need for a Proposed Electrical Power Plant and Related Facilities in Polk County is hereby granted. It is further

ORDERED that this Docket shall be closed.

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By ORDER of the Florida Public Service Commission this 2nd  
day of MARCH, 1992.

  
STEVE TRIBBLE, Director  
Division of Records and Reporting

( S E A L )

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NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.59(4), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Director, Division of Records and Reporting within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water or sewer utility by filing a notice of appeal with the Director, Division of Records and Reporting and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900 (a), Florida Rules of Appellate Procedure.



APPENDIX

Responses to FRG's Proposed Findings of Fact

ISSUE 16 -- Conservation Measures Taken By & Available to TECO

A. EXAMINATION OF CONSERVATION OPTIONS:

1. TECO's reliance on the RIM test for economic screening of DSM leads to the rejection of economical savings opportunities. (Chernick, TR 344-345)

We reject the above proposed finding of fact because this statement is a conclusion drawn by FRG, not a fact.

2. TECO uses the Rate Impact Measure (RIM) test as its primary cost-effectiveness screen for DSM. (Kordecki, TR 520)

We accept the above proposed finding of fact.

3. TECO knows that the Commission has directed the utility to analyze DSM measures and programs with three tests: the RIM, the TRC test, and the "Participant" test, and that the Commission has not directed it eliminate measures that fail the RIM. (Kordecki, TR 522)

We reject the above proposed finding of fact because the Commission has directed utilities to use these three tests to analyze only programs proposed for Commission approval, not all programs. The Commission has not directed utilities to screen DSM programs with these three tests.

4. Contrary to the Commission directive, TECO only used the RIM test to screen most DSM measures; and measures that failed the "revenue losses" part of the RIM were eliminated from further consideration. (Kordecki, TR 538 & 552)

We reject the above proposed finding of fact because the Commission does not have a directive which states how a utility should screen DSM programs. The commission directs utilities on how to evaluate programs that they propose as part of the conservation plan.

5. The last "complete" DSM program examination by TECO was done prior to February 12, 1990 -- not as a part of the company's preparation for this need determination proceeding -- and only

22 potential new DSM programs were identified for further investigation and analysis. (Kordecki, TR 497)

We accept the above proposed finding of fact.

6. Five of the 22 potential new programs were eliminated for one reason or another, and two were dropped for reasons unrelated to cost-effectiveness: (1) the Energy Management Systems program, because it did not assure peak demand control -- even though the systems "functioned well for energy savings" -- and (2) residential lighting, because it failed the company's "ten-year life policy." (Kordecki, TR 498-499 & 540)

We accept the above proposed finding of fact.

7. Nine of the remaining 17 DSM measures were eliminated through TECO's application of a "revenue reduction" test (the "lost revenue" portion of the RIM test), excluding from further consideration measures whose cost saving benefits were lower than associated revenue reductions. (Kordecki, TR 499)

We accept the above proposed finding of fact.

8. TECO did not analyze any of these nine eliminated measures in combination with DSM measures that passed the RIM to determine whether the combination would permit greater energy savings and also pass the RIM test. (Kordecki, TR 541-542)

We accept the above proposed finding of fact.

9. Five of the final 8 DSM measures reviewed by TECO were then eliminated by application of the full RIM to determine whether the combination would permit greater energy savings and also pass the RIM test. (Kordecki, TR 499)

We reject the above proposed finding of fact because the statement is vague.

10. Although utility recovery of part or all of a DSM programs's costs from participants could lower the impact of that program on nonparticipants, TECO did not examine cost sharing or DSM financing approaches for measures that failed the RIM. By discarding upfront all DSM that failed the RIM, TECO never examined whether cost recovery or rate design changes could mitigate nonparticipant impacts. (Kordecki, TR 547-548 and

549-550)

We reject the above proposed finding of fact because the first sentence is an opinion, not a fact based on substantial competent evidence.

11. TECO directs its attention to "the most cost-effective" (emphasis added) DSM programs that provide "cost-effective" conservation for the utility ratepayers." (Kordecki, TR 501)

We accept the above proposed finding of fact.

12. TECO's DSM focus is on residential customers because a focus on commercial & industrial customers would yield larger kWh savings; residential applications, by their very nature, "will not save large numbers of kilowatt-hours." (Kordecki, TR 512)

We reject the above proposed finding of fact because this statement is an opinion drawn by FRG, not a fact.

13. TECO did not investigate the option of directly installing DSM measures in residences or facilities. (Kordecki, TR 571)

We accept the above proposed finding of fact.

14. TECO did not examine appliance labeling programs for the residential sector in its last investigation of potential DSM measures (although it had done so in the early 1980's); nor did it examine motor efficiency measures or retail buy-down/deal rebate programs. (Kordecki, TR 572-573)

We accept the above proposed finding of fact.

15. TECO did not consider the development of conservation programs that would reduce the need for baseload capacity or evaluate DSM measures against baseload units. (Kordecki, TR 245)

We accept the above proposed finding of fact.

**B. IMPLEMENTATION OF CONSERVATION MEASURES:**

16. TECO has under-invested in economical energy efficiency resources. (Chernick, TR. 342)

We reject the above proposed finding of fact because it is an

opinion drawn by FRG, not a fact.

17. TECO's DSM planning weaknesses include the failure to target DSM market sectors comprehensively (leaving out customer sectors, end-uses and measures) and the failure to address market barriers adequately (keeping incentives too low, not doing direct installation, and using a fragmented approach). (Chernick, TR 345)

We reject the above proposed finding of fact because it is an opinion drawn by FRG, not a fact.

18. Although TECO is pursuing some "lost opportunity" resources, it is neglecting cost-effective lost opportunity options in all customer sectors -- programs that target appliance replacement, new construction in both the commercial and residential sectors, commercial remodeling and renovation, and C&I equipment replacement. (Chernick, TR 348-349)

We reject the above proposed finding of fact because it is an opinion drawn by FRG, not a fact.

19. TECO does not offer efficiency measures for many end-uses in the residential and C&I sectors -- e.g., for important household appliances and lighting in the residential sector and for HVAC and refrigeration in the C&I sector. (Chernick, TR 353-354)

We accept the above proposed finding of fact.

20. To be reasonably comprehensive, a utility DSM program should attempt to cover all customer segments and end-uses, and it should be comprehensive in terms of technologies treated, the technical and financial assistance offered, and the strategies for overcoming market barriers. (Chernick, TR 306)

We reject the above proposed finding of fact because it is an opinion, not a fact.

21. Many of TECO's current DSM programs are inadequate to overcome the market barriers to customers participation, and the major problems are insufficient incentives, the absence of direct delivery mechanisms, and a fragmented treatment of DSM market sectors. Chernick, TR 356-362)

We reject the above proposed finding of fact because the statement is a conclusion drawn by FRG, not a fact.

22. One of the 3 new DSM programs that survived TECO's RIM screen -- a duct efficiency program -- was not filed with the PSC in February 1990 "because the distribution delivery mechanism was not in place." (Kordecki, TR 500)

We accept the above proposed finding of fact as it is stated. However, Witness Kordecki testified that TECO will be filing the program soon. Furthermore, the finding is duplicative in substance to FRG proposed finding 24.

23. The duct efficiency program has significant potential for both peak and energy savings in TECO's service territory -- with at least 50% of the homes needing the service and with .9 kW of peak and 650 kWh of energy savings available per household (significantly lower than the Florida Solar Energy Center's estimates of 1.6 kW of peak reduction on average); and the cost would average only \$150 to \$250 per residence, depending on the severity of duct leakage. (Kordecki, TR 577-579)

We accept the above proposed finding of fact.

24. As of November 1991, nearly 3 years after the Solar Center study and 2 years after the duct service was examined by the company and passed the RIM test, TECO had not yet filed for PSC approval of the program. (Kordecki, TR 577)

We accept the above proposed finding of fact.

25. Among the reasons for the low customer penetration of certain TECO DSM programs, the company cited customer cost (in the case of the comprehensive C&I audit), tenant/owner differences or split incentives (with commercial indoor lighting), and performance bond requirements (with the conservation value program). (Kordecki, TR 573-574)

We accept the above proposed finding of fact.

26. TECO's HVAC program had an incentive for purchasers which was discontinued and then reinstated when customer participation fell dramatically. The reinstatement resulted in higher

customer participation, and a high incentive would tend to increase participation even more. (Kordecki, TR 575-577)

We reject the above proposed finding of fact because Witness Kordecki stated that, generally, an increased incentive would increase participation but that for this specific program it would not (Kordecki, TR 576).

27. TECO saved about 133 gigawatt hours of energy use during the 1980's, approximately 4% of the growth experienced over the 10 years, and expects to capture approximately 4% of the likely growth during the 1990's. (Kordecki, TR 240-241)

We reject the above proposed finding of fact because the record is unclear and confusing on this finding.

28. The low customer participation levels in TECO's commercial indoor lighting program for 1991 and 1996 are defended as reasonable on the basis of "the conditions of that program and what is involved in the program" -- not on the basis of other utility experience or industry standards. (Kordecki, TR 255-256)

We reject the above proposed finding of fact because Witness Kordecki does not state that the reasonableness of TECO's programs is not judged on the basis on other utility experience or industry standards. This is an assumption made by FRG.

29. The DSM program designs, savings results, and projected energy savings of other utilities clearly indicate that TECO could be implementing many additional conservation measures that could displace or postpone the Polk Unit. (Chernick, TR 321-341)

We reject the above proposed finding of fact because the projected savings from other utilities that Witness Chernick discussed are not yet proven savings and therefore cannot be considered to be completely reliable estimates of savings that might displace or postpone the Polk Unit.

ISSUE 21 -- Most Cost-Effective Alternative

C. EVALUATION OF DEMAND-SIDE AND SUPPLY-SIDE OPTIONS:

30. Conservation and other DSM measures that failed the rim test were excluded from further consideration by TECO, even if they passed the total resource cost (TRC) test. (Kordecki, TR 521)

We accept the above proposed finding of fact.

31. Although treated as a "cost" in the RIM evaluation, the "lost revenue" or "stranded investment" part of the RIM calculation does not represent an additional "cost" of DSM to the utility on its customers; rather, it is a transfer between customers within the utility system that does not affect utility revenue requirements or total system costs. (Kordecki, TR 526)

We accept the above proposed finding of fact.

32. TECO's goal in using the RIM to screen DSM is to assure that nonparticipants are not worse off with DSM than without DSM; that nonparticipants' electric bills will be no higher with DSM than without it; and that nonparticipants do not suffer inequity from participants' enjoyment of DSM benefits. (Kordecki, TR 527, 528)

We accept the above proposed finding of fact.

33. No nonparticipant analysis is made of supply options -- no examination of whether customers who did not need additional power are worse off with new supply than without it or suffer inequity from other customers' enjoyment of the new supply. (Ramil, TR 81-82)

We reject the above proposed finding of fact because Witness Ramil stated that he was unsure whether TECO noted every single criteria it used on pages 70 and 71 of the Need Study (TR 80). FRG did not ask specifically if this criteria was used. Instead, FRG concluded that TECO did not analyze supply-side options based on this criteria.

34. TECO does not eliminate supply options from further review solely on the basis that they would increase rates to some degree or raise revenue requirements. (Ramil, TR 81-82)

We accept the above proposed finding of fact.

35. In evaluating supply options TECO attempts to determine which option is "least cost" -- has the lowest present worth revenue

requirements -- and uses a model called PROVIEW that optimizes on the basis of lowest revenue requirements. (Ramil, TR 78-79)

We accept the above proposed finding of fact.

36. No DSM portfolio or individual conservation program was evaluated alongside the final supply options to determine whether DSM measures would have lower present worth revenue requirements and lower system costs to customers. (Ramil, Part 7, Exhibit 1, pages 66-73)

We reject the above proposed finding of fact because Witness Ramil did not make the above statement anywhere in the Need Study, particularly the pages referenced.

**D. LEAST COST/MOST COST-EFFECTIVE ALTERNATIVE:**

37. The goal of utility resource planning is to minimize the long-run costs of providing adequate and reliable energy services to customers, and cost minimization requires that utilities choose the resources with the lowest costs first, adding progressively more expensive options until demand is satisfied. (Chernick, TR 297-298)

We reject the above proposed finding of fact because it is a general statement of policy, not a fact.

38. Least cost utility planning requires utilities to pursue the most cost-effective resource plan. Such a plan would include all cost-effective DSM that is available for less than the cost of the supply it would avoid. Not pursuing all cost-effective DSM would obligate a utility to purchase more costly supply to make up for energy savings foregone. (Chernick, TR 299)

We reject the above proposed finding of fact because it is a statement of opinion or conclusion drawn by FRG.

39. TECO did not compare the total system costs and rate impacts of the DSM measures that passed the TRC but failed the RIM with the rate impacts and revenue requirements of the final group of supply options evaluated by the company. Nor did TECO determine whether the DSM Measures rejected for failing the RIM would have cost less or had lower revenue requirements



than the proposed new facility. (Kordecki, TR 550)

We reject the above proposed finding of fact because it is a conclusion drawn by FRG. Witness Kordecki stated that the programs that were rejected would increase rates. Therefore, FRG has derived an improper conclusion from Witness Kordecki's other statements.

40. Since TECO did not examine whether measures failing the RIM would pass the TRC, the utility has no estimate of the amount of savings attainable through rejected measures and programs that would be cost-effective under the TRC -- measures which, by definition, would lower revenue requirements and reduce system costs. (Kordecki, TR 552-554)

We reject the above proposed finding of fact because although TECO did not evaluate in detail measures that failed the RIM test, FRG draws the conclusion that TECO has no estimates of the savings attainable from such programs.

ISSUE 26 -- Factual Basis for Granting TECO's Petition

E. RESULTS OF TECO'S USE OF THE "RIM" TO SCREEN DSM:

41. TECO's resource planning and DSM evaluation goal is "to cost effectively reduce revenue requirements, utility cost and lower future potential rates." (Kordecki, TR 239)

We accept the above proposed finding of fact.

42. Average customer costs and utility revenue requirements that result from DSM programs, as compared with new generation, can be lower even when customer rates to pay for the DSM are much higher, but such DSM programs would be rejected by TECO for failure to pass the RIM test. (Kordecki, TR 528-533)

We reject the above proposed finding of fact because even though the above hypothetical situation was proposed by FRG in its cross-examination of witness Kordecki, an actual program of this sort was never mentioned in the record.

43. DSM programs that fail the RIM are excluded by TECO without regard to the number of likely nonparticipants or the reasons

for non-participation. (Kordecki, TR 535)

We accept the above proposed finding of fact.

44. Contrary to the "WIN-WIN" characterization of TECO, rejection of DSM programs for failing the RIM test (i.e., for increasing the rates of nonparticipants) and building new generation instead can result in making only the customers that would not participate in DSM programs "winners" (by increasing their costs less than under a DSM resource approach) but making the customers who would participate "big losers" (by denying them the cost savings from the DSM programs and increasing their costs to pay for the new generation. (Kordecki, TR 535-536)

We reject the above proposed finding of fact because, although Witness Kordecki may have discussed the above subject, FRG incorrectly drew opinions or conclusions from the statement and, therefore, it is not a finding of fact.

45. DSM programs failing the RIM may have a smaller rate impact on nonparticipant customers in the early years of implementation than a proposed new power plant, and nonparticipants who leave the system prior to the break even point would "win" both in terms of rates and costs. (Kordecki, TR 546)

We accept the above proposed finding of fact because the second statement is an opinion FRG drew based on the first statement (which was said in the record).

46. Although greater flexibility in complying with acid rain legislation was described by the company as a key virtue of the proposed new power plant, TECO did not evaluate or model a portfolio of DSM measures to determine whether they would give the company more or less flexibility to meet clean air standards than Polk Unit One. (Ramil. TR 72-75)

We reject the above proposed finding of fact. On the pages cited above, Witness Ramil testified only that he did not perform the analysis described above. He noted only that Witness Kordecki might have.

47. Although company witnesses expressed concern about meeting clean air standards, TECO made no environmental impact comparisons between rejected DSM programs and the final group of supply options evaluated. (Ramil, TR 75-76)

We accept the above proposed finding of fact.

48. The RIM test has no role in the economic screening of DSM programs because it leads to the rejection of cost-effective conservation measures -- measures whose total benefits exceed their total costs. (Chernick, TR 300)

We reject the above proposed finding of fact because it is a conclusion drawn by FRG, not a fact.

**F. CONSERVATION MEASURES TAKEN BY & AVAILABLE TO TECO:**

49. Although Polk Unit One, if built, will be a baseload unit, TECO has focused its DSM efforts on programs that reduce peak demand and mitigate the need for peaking capacity, and the company plans to continue this focus on reducing peak demand in the years ahead. (Kordecki, TR 242-243)

We reject the above proposed finding of fact. Witness Kordecki did state that TECO has focused its DSM efforts on programs which reduce peak demand. However, the last part of the above statement is incorrect, as Witness Kordecki did not state that TECO plans to continue focusing on programs which only reduce peak demand.

50. If TECO had evaluated and developed DSM programs directed at reducing baseload capacity, which it chose not to do, those programs would have reduced its need for additional baseload capacity; and if it now were implementing energy saving DSM programs, they would assist in deferring the need for new baseload capacity. (Kordecki, TR 243-244)

We accept the above proposed finding of fact.

51. Research and utility experience shows that while homeowners finance cars and other things, they have little interest in financing energy efficiency measures. (Kordecki, TR 549)

We accept the above proposed finding of fact.

52. It would be possible for TECO to design a cost-effective residential new construction program that promotes efficiency installations which exceed code, and there is cost-effective potential in some construction market segments that would not

suggest code change. (Kordecki, TR 560-561)

We accept the above proposed finding of fact.

53. Because residential sales constitute about 41% of TECO retail sales and C&I about 52%, with both projected to grow over 2% a year during the next decade, there is likely to be as much potential for energy savings in the C&I sector as in the residential sector. (Kordecki, TR 567-568)

We accept the above proposed finding of fact.

54. TECO analyses show that DSM programs in the C&I sector have significant potential for energy savings but not for peak demand reductions. (Kordecki, TR 568)

We accept the above proposed finding of fact.

55. Most of the savings projected from the collaborative efforts cited by Mr. Chernick come from the C&I sector. (Kordecki, TR 568)

We accept the above proposed finding of fact.

56. There is nothing peculiar about the commercial sector in Florida, as compared with the commercial sector in other states, that would prevent TECO from getting greater energy savings. (Kordecki, TR 569)

We accept the above proposed finding of fact.

57. Although familiar with the federal government's list of some 200 energy conservation measures published under the Clean Air Act amendments, TECO has not investigated and analyzed most of the measure in a specific fashion. (Kordecki, TR 575)

We reject the above proposed finding of fact because it is misleading. Witness Kordecki testified that TECO investigated the measures in a general fashion, but that TECO probably had not analyzed every one of them in specific detail.

58. Although TECO's out-of-state witnesses demonstrated that there are many reasons why the estimated savings from FRG comparison utility programs may be overstated, neither testified that the savings estimates of FRG witness Chernick were too high by any

specific range of amounts (Perl, TR 638 & Kahn, TR 422-425); thus, on the basis of comparison utility projections and Mr. Chernick's conservative analysis of their implications for TECO, it is clear that TECO could have implemented better designed and more comprehensive efficiency programs that would capture significantly greater levels of energy savings during the 1990's. (Chernick, TR 367-376)

We reject the above proposed finding of fact because the second part of the statement is an opinion or conclusion drawn by FRG, not a fact.

59. On the basis of these facts and those listed in Parts A & B above, the Commission finds that TECO has neither adequately examined (investigated, analyzed and compared) nor reasonably implemented (i.e., undertaken well designed programs that are comprehensive in their coverage of customer market segments and electric end-uses) many cost-effective energy conservation measures that are available to mitigate the need for the proposed new power plant. (Chernick, Kordecki & Perl)

We reject the above proposed finding of fact.

**G. MOST COST-EFFECTIVE ALTERNATIVE:**

60. On the basis of the company's testimony, and specifically the facts listed above in parts C & D, the Commission finds that TECO's approach to evaluating demand - and supply-side resource options is inconsistent and inequitable, and that it unfairly discriminates against energy efficiency options in favor of supply options that may be more costly and less equitable to its customers. (Kordecki & Ramil)

We reject the above proposed finding of fact.

61. On the basis of TECO's testimony and the facts highlighted above, the Commission finds that TECO's integrated planning process -- with its inconsistent evaluation of DSM and supply options -- is not capable of demonstrating that the proposed new plant is the most cost-effective alternative available; and the Commission further finds that the company has not shown by a preponderance of the evidence on this record that Polk Unit One is the most cost-effective option. (Chernick, Kordecki & Ramil)

We reject the above proposed finding of fact.

PROPOSED CONCLUSIONS OF LAW

ISSUE 27 -- Does "Most Cost-Effective" Mean "Least Cost"?

1. Reading and interpreting the plain language of Section 403.519 of the Florida Electrical Power Plant Siting Act as a whole, as well as considering it in the context of FEECA's direction to construe this section liberally to help control the growth rates of electric use and demand, and noting that the company analyzes and chooses its supply-side options on the basis of lowest cost, the Commission concludes as follows:
  - a. that adequate electricity at "reasonable cost" means electricity that meets basic system requirements at the lowest possible cost, since it would be "unreasonable" to pay more than necessary for such electricity;
  - b. that "cost-effective" alternative means that a resource option's benefits equal or exceed its costs; and
  - c. that "most cost-effective" alternative means "lowest cost" or "least cost" resource option available to meet system needs.
2. The Commission also concludes that use of a practical standard such as "least cost" for evaluating the "most cost-effective alternative" is necessary in order to carry out its statutory obligation, and that "least cost" is the most logical standard in light of the specific provisions of Sec. 403.519.

We reject proposed conclusions of law 1 and 2 because the terms "most cost-effective alternative available" and "least cost option" are not synonymous. If the Legislature intended that the Commission use the more restrictive analysis contemplated by the term "least cost option" in its determination of the need for a proposed power plant, the Legislature would have adopted that specific term.

ISSUE 28 -- TECO's Obligation to Demonstrate DSM Measures Taken or

Reasonably Available to Mitigate the Need for the Polk Unit

3. The Commission concludes that Section 403.519 of the Siting Act requires that utilities seeking a determination of need for new power plants demonstrate the following:
  - a. that they have fully examined (i.e., investigated, analyzed, and compared) the energy efficiency and other DSM alternatives reasonably available to them, based on their own research and experience, the studies and experience of other Florida utilities, and the research and DSM programs of utilities nationwide; and
  - b. that they have reasonably implemented (i.e., have undertaken well designed programs that are comprehensive in their coverage of customer market segments and electric end-uses) the cost-effective DSM measures available to mitigate the need for proposed plants.
4. The Commission concludes that TECO has not met its statutory obligations under Section 403.519, F.S., having failed to demonstrate by a preponderance of the evidence either that it has fully examined or reasonably implemented the DSM measures reasonably available to mitigate the need for Polk Unit One.

We reject proposed conclusions of law 3 and 4 because they expand the Commission's review and analysis of TECO's conservation efforts beyond the scope of what is required in this need determination proceeding. In this proceeding TECO has the obligation to show, and the Commission has the responsibility to consider, the conservation measures TECO has taken to mitigate the need for the proposed unit. The conservation measures to be considered by the Commission here are those measures that might mitigate the need for this proposed plant. While the record in this proceeding shows that TECO can improve its conservation efforts, the record in this proceeding does not show that additional conservation can be implemented quickly enough to avoid construction of this particular power plant, and thus additional conservation cannot "mitigate the need" for the IGCC plant.

**APPENDIX 11.15**

**POWER PLANT SITE SELECTION ASSESSMENT  
SITING TASK FORCE MEMBERS**



## APPENDIX 11.15

### MEMBERS OF POWER PLANT SITING TASK FORCE\*

#### **Bruce A. Samson; Chairman of Siting Task Force**

Mr. Samson is a former investment banker and has served as chairman of the Southwest Florida Water Management District (SWFWMD) board. A Harvard MBA, he is now president of the University of Tampa.

#### **James (Jim) W. Apthorp**

Mr. Apthorp is a member of the board of 1,000 Friends of Florida, executive vice president of Gulfstream Holding Company, vice president of the Greater Tampa Chamber of Commerce, a director of University Community Hospital, and serves on the Florida Judicial Council.

#### **Dr. Sanford V. Berg**

Dr. Berg is a professor of Economics at the University of Florida (UF). He is also executive director of Public Utility Research Center at UF, and has served as a consultant to various private and public organizations, including the Florida PSC, the Governor's Energy Office, the National Bureau of Standards, and the Office of Technology Assessment. He is widely published on business and economic topics.

#### **Robert T. Bramson, M.D.**

Dr. Bramson has been a radiologist in Tampa since 1974.

#### **Henry Carley**

Professionally, Mr. Carley has been an educator at the college level for the last 17 years, primarily at Hillsborough Community College (HCC). He is presently the coordinator of minority student outreach programs at HCC, which focuses on recruitment and retention. He is president of the Tampa branch of the NAACP and affiliated with a number of Tampa area charities and organizations such as the March of Dimes and American Legion.

#### **Dr. David Denslow**

Dr. Denslow is interim director of the Bureau of Economic and Business Research and a professor in the Department of Economics at UF. He is chairman of the Governor's Council of Economic Advisors for Florida, and was selected as the University Alumni Professor for 1989-1991--an award given by the National Alumni Assn. The award recognized Denslow's influence on students and alumni as a classroom teacher and included a cash award and research assistance.

#### **Ethel Hammer**

Ms. Hammer has been director of planning for Taub & Williams law firm in Tampa since 1985 where she is responsible for coordination of all land use-related activities including zoning petitions, site plans, and developments of regional impact. She was

with the Hillsborough County Department of Development Coordination between 1980 and 1985, much of the time as principal planner. Between 1978 and 1980, she was environmental planner for the Hillsborough County Planning Commission. Ms. Hammer has a masters degree in environmental planning.

**Clayton Lyons**

Mr. Lyons has been president of Master Containers in Lakeland since 1969. He came to that post from eight years with Florida Tile Industries. He has his bachelors from Florida Southern College, and has studied business at the graduate level at University of South Florida (USF). He has a lengthy list of awards and civic activities in the Lakeland area, and is currently an officer with the Polk Museum of Art in Lakeland and on the executive committee of the Boy Scouts of America council in Tampa. He was recently appointed by the governor to the Central Florida Regional Planning Council.

**Richard T. Paul**

Having earned a masters in wildlife ecology, Mr. Paul joined the National Audubon in 1972, first as a research biologist, and since 1980 as manager of Tampa Bay Sanctuaries. Under his protection are large colonies of as many as 25 species of birds. He is currently serving on the Agency on Bay Management and has served on other local environmental advisory committees. His field and research experience is extensive and worldwide, including Antarctica and Thailand.

**Jill E. Pettigrew**

Ms. Pettigrew is a member of the Florida Bar. She is staff attorney to the Second District Court of Appeal of Florida in Lakeland. She reviews trial records, researches issues under appeal, drafts case summaries and analyses, and makes recommendations to the presiding judge.

**Walter L. Preston**

Mr. Preston is owner and president of Manatee Fruit Company in Palmetto, a company founded by his grandfather in 1892. He is a member of the Manatee County Agricultural Advisory Council and is active in a number of professional associations. Gov. Graham appointed him to the Future of Agriculture in Florida task force, and in 1986 he was named Outstanding Florida Agriculturist by the Florida Association of County Agricultural Agents. He is a director of the Manatee County Blood Bank and of First Florida Bank.

**Nathaniel P. Reed**

Mr. Reed is president of the Hobe Sound Company, a real estate and holding company. He is currently president of 1,000 Friends of Florida and is a former member of the National Audubon Board and served on the board of the Nature Conservancy. He is currently on the board of the Natural Resources Defense Council and the National Geographic Society. Mr. Reed was Assistant Secretary of the Interior from 1971-1977 and chairman of the Florida Department of Air and Water Pollution Control from 1968-1971. He is currently chairman of the Commission on the Future of Florida's Environment.

**Dr. Mark Stewart**

Dr. Stewart is a professor in and chairman of the USF Geology Department. At USF since 1976, he is certified as a professional hydrogeologist by the American Institute of Hydrology, and is a registered professional geologist in Florida. He is currently a director of the Association of Ground Water Scientists and Engineers, and is on the editorial board of the Journal of Ground Water. He is extensively published in his field.

**Sally Thompson**

Ms. Thompson is president of the Hillsborough Environmental Coalition, on the board of the Tampa Audubon Society, and a member of Sierra Club and other local environmental groups. Professionally, she is chief of personnel for the Tampa Public Works Department and has been with the City of Tampa for 15 years.

**Victoria Tschinkel**

Ms. Tschinkel is a consultant specializing in environmental matters with the law firm of Landers & Parsons. She was secretary of the Florida Department of Environmental Regulation from 1981 to 1987. She was a board member of 1,000 Friends of Florida and a member of the National Academy of Public Administration. Ms. Tschinkel currently serves on the U.S. Department of Energy's Advisory Committee on Nuclear Facility Safety, on the Advisory Council of the Electric Power Research Institute, as a member of the Tallahassee/Leon County Local Planning Agency, on the board of Florida Defenders of the Environment, and on the board of Environmental and Energy Study Institute. Ms. Tschinkel received the Tropical Audubon Society's Conservation Award and Environmental Protection Agency's Service Award in 1984.

**William J. Webber, AIA**

Mr. Webber is retired from Reynolds, Smith & Hills (RSH), an architectural and engineering firm, where he was a senior vice president in the Tampa office. An architect by profession, Webber was one of the original partners in RSH before it became a corporation.

**Dr. Bernard Yokel**

Dr. Yokel has his doctorate in marine science with a specialization in estuarine ecology, and is currently the president of the Florida Audubon Society. He came to the Florida Audubon in 1984 from a position as director of research and environmental protection in Naples for The Conservancy. In 1974 he came to the Conservancy from a four-year position as director of the Rookery Bay Marine Research Station at Naples. The Rookery Bay project was a demonstration experiment to determine if an essentially unaltered natural system could be conserved in the presence of an expanding population and aggressive development. He has a lengthy list of community services and special appointments and has been extensively published.

**Walker Roberts, Communications Consultant to Task Force**

Roberts & Hice (R&H) provides communications services to the task force. R&H is a full-service firm with clients in several industries; it specializes in hospi-

tal/medical public relations and in Florida issues management. Mr. Roberts edited Florida Trend magazine for about a decade, and, in his career as a business journalist, has started, owned, or worked on numerous other publications, including the Miami Herald. He serves clients with Florida issues management needs for R&H, as well as offering media consulting.

**Mary Kumpe, Senior Consultant to Task Force**

Ms. Kumpe served as senior consultant to the task force. She is a former vice-chairman of the federal Gulf of Mexico Fishery Management Council. She has completed the Harvard University program in Environmental Policy and Management. She is a former governing board member of the SWFWMD, a board member of 1,000 Friends of Florida, and has served as a regional planning commissioner on the Southwest Florida Regional Planning Council. Ms. Kumpe chaired the Sarasota County Chamber of Commerce' committee which formulated the Chamber's contribution to the county comprehensive plan and she served on the 1987 State Comprehensive Plan Committee.

*\*Summaries reflect biographical status at the time of the Power Plant Site Selection Assessment.*

## **APPENDIX 11.16**

### **SUPPORTING INFORMATION FOR CONCEPTUAL RECLAMATION PLAN APPLICATION: MAPS**

- 11.16.1 LAND ACQUISITION LOCATION MAP**
- 11.16.2 MINED, DISTURBED, AND PERMIT AREAS**
- 11.16.3 PRE-MINING TOPOGRAPHY AND DRAINAGE**
- 11.16.4 PRE-MINING VEGETATION AND LAND USE**
- 11.16.5 EXISTING VEGETATION AND LAND USE**
- 11.16.6 POST-RECLAMATION TOPOGRAPHY AND DRAINAGE**
- 11.16.7 POST-RECLAMATION VEGETATION AND LAND USE**
- 11.16.8 AERIAL PHOTOGRAPH OF POLK POWER STATION SITE**

**APPENDIX 11.17**  
**LIST OF PREPARERS**

**APPENDIX 11.17**  
**LIST OF PREPARERS**

The following provides a listing of the persons who served in key management, technical, technical support roles in preparation of the Site Certification Application (SCA) for Tampa Electric Company's proposed Polk Power Station project. Environmental Consulting & Technology, Inc. (ECT) served as the overall environmental consultant to Tampa Electric Company for the preparation of the SCA. Engineering inputs on the various facility systems and processes in support of the SCA were provided by United Engineers & Constructors (UE&C); Texaco, Inc.; and General Electric Company (GE). Although not listed below, numerous individuals from various departments of Tampa Electric Company and TECO Power Services also participated in providing key inputs and the preparation of this SCA.

## LIST OF PREPARERS

### Environmental Consulting & Technology, Inc.

Jack D. Doolittle	Project Director	Project Management
Vilma S. Brueggemeyer	Project Manager	Project Management
Jeffrey L. Meling	Manager, Air Resources	Air Resources
Thomas W. Davis	Air Resources Engineer	Air Resources/BACT
Ivan B. Chou	Manager, Surface Water	Hydrology
Michael S. Tomlinson	Project Hydrologist	Water Quality
Gregory M. Harper	Project Hydrologist	Hydrology
Gary P. Uebelhoer	Manager, Reclamation	Reclamation
Robert S. Hearon	Project Reclamation	Reclamation
Bradley S. Pekas	Manager, Geohydrology	Geohydrology
Juan C. Villa	Project Geologist	Geology
Anthony N. Arcuri	Manager, Ecology	Ecology
Phillip W. Simpson	Project Ecologist	Ecology
Phyllis A. Guthrie	Project Ecologist	Aquatic Ecology
Douglas A. Dean	Environmental Engineer	Water/Wastewater
Nancy D. Bartoletta	Environmental Engineer	Water/Wastewater
Theresa A. Barnard-Hazlett	Meteorologist	Noise
Brian R. Kiraly	Project Planner	Land Use/Socioeconomics
Debra L. Mansell	Project Coordinator	SCA Production
Terri S. Warrington	Document Coordinator	SCA Production
Frank X. Ramirez	Manager, Graphics	SCA Production
Peter S. Sullivan	CADD Operator	SCA Production

### United Engineers and Constructors, Inc.

Raymond A. Rizzi	Project Manager	Project Management
William A. Schwegler	Project Engineering Manager	Overall Mechanical
Dennis J. Mohan	Manager, Geotechnical Services	Geological/Geotechnical
Kim A. Lukens	Supervising Process Engineer	Water Treatment
Dennis E. Ahern	Project Licensing Manager	Overall Licensing
David R. Wegner	Process Engineer	Water Treatment

### Texaco, Inc.

W.E. Preston	Project Manager	Overall Project Management
A.E. Chang	Environmental Specialist	Environmental Coordinator
R.B. Heiman	Engineering Manager	Coordinator
P.S. Wallace	Lead Processing Engineer	Gasification
E.R. Anderson	Lead Project Engineer	Coordinator
R.F. Heyl	Lead Mechanical Engineer	Wastewater Treatment
R.L. Zerda	Lead Electrical Engineer	CC and Gasification I&C
M.K. Anderson	Processing Engineer	BACT/Gasification
R.F. Tyree	Processing Engineer	BACT/Gasification
Al denBlecker	Mechanical Engineer	Wastewater Treatment
A.J. Pertuit	Electrical Engineer	CC and Gasification I&C

### General Electric Company

Eugene H. Broadway	Systems Engineer	Combined Cycle Performance
Raymond F. Racine	Project Engineer	Combined Cycle Performance
William M. Starr	Environmental Engineer	Combustion Turbine Emissions
Terry C. Lynch	Project Engineer	Combined Cycle Performance
Charles S. Cook	Manager, IGCC Technology	Hot Gas Cleanup
Alan Feitelberg	Consulting Engineer	Hot Gas Cleanup