Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603

October 25, 1999

9939525

RECEIVED
OCT 26 1999
BUREAU OF AIR REGULATION

Florida Department of Environmental Protection
New Source Review Section; Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Attention: Mr. A. A. Linero, P.E. Administrator

RE: IPS-Shady Hills Generating Station
Air Permit Application

1010373-001-AC
PSD-FL-280

Dear Al:

Please find enclosed 7 copies of the air permit application for the Shady Hills Generating Station. Also enclosed is a check for $7,500 to cover the permit fee applicable for Prevention of Significant Deterioration review. As described in the permit application, the project consists of three General Electric Frame 7FA combustion turbines operating in simple cycle mode. The primary fuel will be natural gas with low sulfur distillate oil as backup.

Please call if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

Kennard F. Kosky, P.E.
Principal

KFK/arz

Enclosures

cc: Richard Zwolak w/o enclosures
John Ellis, IPS Avon Park Corporation

P:\Projects\99\9939\9939525Y\F1\WP\#01-lot.doc

CC: SWD
EPA
NPS

Prudential Securities COMMAND™ Account

IPS AVON PARK CORP
1560 GULF BLVD UNIT 701
CLEARWATER, FL 33767

258

25-80/440

Date 10-13-99

Pay to the order of FLORIDA DEPT OF ENVIRONMENTAL Protection $ 7,500.00

Seven thousand Five hundred no/100 Dollars

Security features included. Details on back.

1 2 3 4 5 6 7 8 9 0
CHECK ONE BOX

Prudential Bank
PAYABLE THROUGH BANK ONE, COLUMBUS NA
COLUMBUS, OHIO 43271

For PASCO County Air Permit fee John J Ellis MP

⑆044000804⑆ 434000123524⑈0258

property of
DEP, DARM

AIR PERMIT APPLICATION AND PREVENTION OF SIGNIFICANT DETERIORATION ANALYSIS FOR THE IPS AVON PARK CORPORATION'S SHADY HILLS GENERATING STATION

Prepared For:

IPS Avon Park Corporation
1560 Gulf Blvd., #701
Clearwater, Florida 32767

Prepared By:

Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

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DISTRIBUTION:
7 Copies - Florida Department of Environmental Protection
2 Copies – IPS Avon Park Corporation
2 Copies – Golder Associates Inc.

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LIST OF ACROYNMS AND ABBREVIATIONS

AAQS	ambient air quality standards
acfm	actual cubic feet per minute
ARC	ambient reference concentrations
BACT	best available control technology
BPIP	Building Profile Input Program
Btu/yr	British thermal units per year
CAA	Clean Air Act
CEM	continuous emission monitoring
CFR	Code of Federal Regulations
CO	carbon monoxide
CT	combustion turbine
DEP	Department of Environmental Protection
DLN	dry-low NO_x
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
F.A.C.	Florida Administrative Code
FGT	Florida Gas Transmission
ft	foot
g/s	grams per second
GEP	good engineering practice
Golder	Golder Associates Inc.

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LIST OF ACROYNMS AND ABBREVIATIONS

HAP	hazardous air pollutant
HRSG	heat-recovery steam generator
HSH	highest, second-highest
ISCST3	Industrial Source Complex Short-term
km	kilometer
kPa	kilopascal
kWh	kilowatt hours
kV	kilovolt
LAER	lowest achievable emission rate
lb/hr	pounds per hour
m	meter
m^3	cubic meters
MMBtu/hr	million British thermal units per hour
m/s	meters per second
MW	megawatt
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
NPS	National Park Service
NSPS	new source performance standards
NSR	new source review

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LIST OF ACROYNMS AND ABBREVIATIONS

NWA	National Wilderness Area
NWS	National Weather Service
O_3	ozone
OSHA	Occupational Safety and Health Administration
PM	particulate matter
PM_{10}	particulate matter with aerodynamic diameter of 10 microns or less
ppmvd	parts per million volume dry
ppmvw	parts per million volume wet
PSD	prevention of significant deterioration
psi	pound per square inch
QA/QC	quality assurance/quality control
SCRAM	Support Center for Regulatory Air Models
SO_2	sulfur dioxide
TPY	tons per year
TSP	total suspended particulate matter
TTN	Technical Transfer Network
$\mu g/m^3$	micrograms per cubic meter
USC	United States Code
VOC	volatile organic compound

PART A

AIR PERMIT APPLICATION

Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: **IPS Avon Park Corporation**	
2. Site Name: **Shady Hills Generating Station**	
3. Facility Identification Number:	[X] Unknown
4. Facility Location: Street Address or Other Locator: City: **Unincorporated** County: **Pasco** Zip Code:	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [ ] Yes [X] No

Application Contact

1. Name and Title of Application Contact: **John S. Ellis, President**
2. Application Contact Mailing Address: Organization/Firm: **IPS Avon Park Corporation** Street Address: **1560 Gulf Blvd., #701** City: **Clearwater** State: **FL** Zip Code: **32767**
3. Application Contact Telephone Numbers: Telephone: (**727**) **517 - 7140** Fax: (**727**) **517 - 1255**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	October 26, 1999
2. Permit Number:	1010373-001-AC
3. PSD Number (if applicable):	PSD-FL-280
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial Title V air operation permit for an existing facility which is classified as a Title V source.

[ ] Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number:_____

[ ] Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected:_____

[ ] Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[X] Air construction permit to construct or modify one or more emissions units.

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   John S. Ellis, President

2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: **IPS Avon Park Corporation**
   Street Address: **1560 Gulf Blvd., #701**
   City: **Clearwater** State: **FL** Zip Code: **33767**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (**727**) **517** - **7140** Fax: (**727**) **517** - **1255**

4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative(check here [ ], if so) or the responsible official (check here [ ], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

John S Ellis — Signature

10-13-99 — Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **Kennard F. Kosky**
   Registration Number: **14996**

2. Professional Engineer Mailing Address:
   Organization/Firm: **Golder Associates Inc.**
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**

3. Professional Engineer Telephone Numbers:
   Telephone: (**352**) **336** - **5600** Fax: (**352**) **336** - **6603**

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Bernard F. Kuhn — Signature

10/25/99 — Date

(seal) PE

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
1R	GE Frame 7FA Combustion Turbine	AC1A	
2R	GE Frame 7FA Combustion Turbine	AC1A	
3R	GE Frame 7FA Combustion Turbine	AC1A	
4	Unregulated Emissions	AC1A	

Application Processing Fee

Check one: [X] Attached - Amount: $: 7,500 [ ] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Construction of 3 170-MW 'F' Class combustion turbines. See Attachment PSD-SPC.

2. Projected or Actual Date of Commencement of Construction: **1 Jan 2001**

3. Projected Date of Completion of Construction: **1 Jul 2002**

Application Comment

See Attachment PSD-SPC

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **17** East (km): **347.0** North (km): **3139.0**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): **28 / 22 / 00** Longitude (DD/MM/SS): **82 / 30 / 00**			
3. Governmental Facility Code: **0**	4. Facility Status Code: **C**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment (limit to 500 characters): **Project consists of three 170-MW dual-fuel, General Electric Frame 7FA combustion turbines(CT) that will use dry low-nitrogen oxide combustion technology when firing natural gas and water injection when firing distillate fuel oil. Each CT will operate up to 3,390 hours per year. The fuel oil tank will hold approximately 2.8 million gallons of very low sulfur content fuel oil.**			

Facility Contact

1. Name and Title of Facility Contact: **John S. Ellis, President**
2. Facility Contact Mailing Address: Organization/Firm: **IPS Avon Park Corporation** Street Address: **1560 Gulf Blvd., #701** City: **Clearwater** State: **FL** Zip Code: **33767**
3. Facility Contact Telephone Numbers: Telephone: **(727) 517 - 7140** Fax: **(727) 517 - 1255**

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [ ] Major Source of Hazardous Air Pollutants (HAPs)?	
5. [ ] Synthetic Minor Source of HAPs?	
6. [X] One or More Emissions Units Subject to NSPS?	
7. [ ] One or More Emission Units Subject to NESHAP?	
8. [ ] Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters): **CT is subject to NSPS Subpart GG. The fuel oil tank is subject to Subpart Kb.**	

List of Applicable Regulations

Not Applicable	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lb/hour	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment
PM	A				Particulate Matter-Total
VOC	B				Volatile Organic Compounds
SO_2	A				Sulfur Dioxide
NO_x	A				Nitrogen Oxides
CO	A				Carbon Monoxides
PM_{10}	A				Particulate Matter-PM_{10}

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [X] Attached, Document ID: PSD-SPC [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [X] Attached, Document ID: PSD-SPC [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [X] Attached, Document ID: PSD-SPC [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [X] Attached, Document ID: PSD-SPC [ ] Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [ ] Attached, Document ID:_____ [ ] Not Applicable

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [ ] Not Applicable

10. Alternative Methods of Operation:
    [ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading):
    [ ] Attached, Document ID:_____ [ ] Not Applicable

12. Identification of Additional Applicable Requirements:
    [ ] Attached, Document ID:_____ [ ] Not Applicable

13. Risk Management Plan Verification:
    [ ] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID:_____) or previously submitted to DEP (Date and DEP Office:_____)
    [ ] Plan to be submitted to CEPPO (Date required:_____)
    [ ] Not Applicable

14. Compliance Report and Plan:
    [ ] Attached, Document ID:_____ [ ] Not Applicable

15. Compliance Certification (Hard-copy Required):
    [ ] Attached, Document ID:_____ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
GE Frame 7FA Combustion Turbine

4. Emissions Unit Identification Number:
ID:
[ ] No ID
[X] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		49	[X]

9. Emissions Unit Comment: (Limit to 500 Characters)
This emission unit is a GE Frame 7FA combustion turbine operating in simple cycle mode. See Attachment PSD-SPC.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Dry Low NO_x combustion - Natural gas firing

2. Control Device or Method Code(s): **25**

Emissions Unit Details

1. Package Unit:
   Manufacturer: **General Electric** Model Number: **7FA**
2. Generator Nameplate Rating: **172** MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Water injection - distillate oil firing

2. Control Device or Method Code(s): **28**

Emissions Unit Details

1. Package Unit:
   Manufacturer: **General Electric** Model Number: **7FA**
2. Generator Nameplate Rating: **172** MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		**1,612**	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/year	**3,390**	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

Maximum heat input at ISO conditions and natural gas firing (LHV); maximum for oil firing is 1,806 MMBtu/hr (ISO-LHV) and 182 MW.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment IPS-EU1-D for operational requirements	
See Attachment PSD-SPC for permitting requirements	

ATTACHMENT IPS-EU1-D

Applicable Requirements Listing

EMISSION UNIT ID: EU1

FDEP Rules:

Air Pollution Control-General Provisions:	
62-204.800(7)(b)37. (State Only)	NSPS Subpart GG
62-204.800(7)(c) (State Only)	NSPS authority
62-204.800(7)(d)(State Only)	NSPS General Provisions
62-204.800(12) (State Only)	Acid Rain Program
62-204.800(13) (State Only)	Allowances
62-204.800(14) (State Only)	Acid Rain Program Monitoring
62-204.800(16) (State Only)	Excess Emissions (Potentially applicable over term of permit)
Stationary Sources-General:	
62-210.650	Circumvention; EUs with control device
62-210.700(1)	Excess Emissions;
62-210.700(4)	Excess Emissions; poor maintenance
62-210.700(6)	Excess Emissions; notification
Acid Rain:	
62-214.300	All Acid Rain Units (Applicability)
62-214.320(1)(a),(2)	All Acid Rain Units (Application Shield)
62-214.330(1)(a)1.	Compliance Options (if 214.430)
62-214.340	Exemptions (new units, retired units)
62-214.350(2);(3);(6)	All Acid Rain Units (Certification)
62-214.370	All Acid Rain Units (Revisions; correction; potentially applicable if a need arises)
62-214.430	All Acid Rain Units (Compliance Options-if required)
Stationary Sources-Emission Standards:	
62-296.320(4)(b)(State Only)	CTs/Diesel Units
Stationary Sources-Emission Monitoring (where stack test is required):	
62-297.310(1)	All Units (Test Runs-Mass Emission)
62-297.310(2)(b)	All Units (Operating Rate; other than CTs;no CT)
62-297.310(3)	All Units (Calculation of Emission)
62-297.310(4)(a)	All Units (Applicable Test Procedures;Sampling time)
62-297.310(4)(b)	All Units (Sample Volume)
62-297.310(4)(c)	All Units (Required Flow Rate Range-PM/H2SO4/F)
62-297.310(4)(d)	All Units (Calibration)
62-297.310(4)(e)	All Units (EPA Method 5-only)
62-297.310(5)	All Units (Determination of Process Variables)

62-297.310(6)(a)	All Units (Permanent Test Facilities-general)
62-297.310(6)(c)	All Units (Sampling Ports)
62-297.310(6)(d)	All Units (Work Platforms)
62-297.310(6)(e)	All Units (Access)
62-297.310(6)(f)	All Units (Electrical Power)
62-297.310(6)(g)	All Units (Equipment Support)
62-297.310(7)(a)1.	Applies mainly to CTs/Diesels
62-297.310(7)(a)2.	FFSG excess emissions
62-297.310(7)(a)3.	Permit Renewal Test Required
62-297.310(7)(a)4.a	Annual Test
62-297.310(7)(a)5.	PM exemption if <400 hrs/yr
62-297.310(7)(a)6.	PM FFSG semi annual test required if >200 hrs/yr
62-297.310(7)(a)7.	PM quarterly monitoring if >100 hrs/yr
62-297.310(7)(a)9.	FDEP Notification - 15 days
62-297.310(7)(c)	Waiver of Compliance Tests (Fuel Sampling)
62-297.310(8)	Test Reports

Federal Rules:

NSPS Subpart GG:

40 CFR 60.332(a)(1)	NO_x for Electric Utility CTs
40 CFR 60.332(a)(3)	NO_x for Electric Utility CTs
40 CFR 60.333	SO_2 limits
40 CFR 60.334	Monitoring of Operations (Custom Monitoring for Gas)
40 CFR 60.335	Test Methods

NSPS General Requirements:

40 CFR 60.7(a)(1)	Notification of Construction
40 CFR 60.7(a)(2)	Notification of Initial Start-Up
40 CFR 60.7(a)(3)	Notification of Actual Start-Up
40 CFR 60.7(a)(4)	Notification and Recordkeeping (Physical/Operational Cycle)
40 CFR 60.7(a)(5)	Notification of CEM Demonstration
40 CFR 60.7(b)	Notification and Recordkeeping (startup/shutdown/malfunction)
40 CFR 60.7(c)	Notification and Recordkeeping (startup/shutdown/malfunction)
40 CFR 60.7(d)	Notification and Recordkeeping (startup/shutdown/malfunction)
40 CFR 60.7(f)	Notification and Recordkeeping (maintain records-2 yrs)
40 CFR 60.8(a)	Performance Test Requirements
40 CFR 60.8(b)	Performance Test Notification
40 CFR 60.8(c)	Performance Tests (representative conditions)
40 CFR 60.8(e)	Provide Stack Sampling Facilities
40 CFR 60.8(f)	Test Runs
40 CFR 60.11(a)	Compliance (ref. S. 60.8 or Subpart; other than opacity)
40 CFR 60.11(b)	Compliance (opacity determined EPA Method 9)
40 CFR 60.11(c)	Compliance (opacity; excludes startup/shutdown/malfunction)
40 CFR 60.11(d)	Compliance (maintain air pollution control equip.)
40 CFR 60.11(e)(2)	Compliance (opacity; ref. S. 60.8)
40 CFR 60.12	Circumvention

40 CFR 60.13(a)	Monitoring (Appendix B; Appendix F)
40 CFR 60.13(c)	Monitoring (Opacity COMS)
40 CFR 60.13(d)(1)	Monitoring (CEMS; span, drift, etc.)
40 CFR 60.13(d)(2)	Monitoring (COMS; span, system check)
40 CFR 60.13(e)	Monitoring (frequency of operation)
40 CFR 60.13(f)	Monitoring (frequency of operation)
40 CFR 60.13(h)	Monitoring (COMS; data requirements)
Acid Rain-Permits:	
40 CFR 72.9(a)	Permit Requirements
40 CFR 72.9(b)	Monitoring Requirements
40 CFR 72.9(c)(1)	SO_2 Allowances-hold allowances
40 CFR 72.9(c)(2)	SO_2 Allowances-violation
40 CFR 72.9(c)(3)(iii)	SO_2 Allowances-Phase II Units (listed)
40 CFR 72.9(c)(4)	SO_2 Allowances-allowances held in ATS
40 CFR 72.9(c)(5)	SO_2 Allowances-no deduction for 72.9(c)(1)(i)
40 CFR 72.9(d)	NO_x Requirements
40 CFR 72.9(e)	Excess Emission Requirements
40 CFR 72.9(f)	Recordkeeping and Reporting
40 CFR 72.9(g)	Liability
40 CFR 72.20(a)	Designated Representative; required
40 CFR 72.20(b)	Designated Representative; legally binding
40 CFR 72.20(c)	Designated Representative; certification requirements
40 CFR 72.21	Submissions
40 CFR 72.22	Alternate Designated Representative
40 CFR 72.23	Changing representatives; owners
40 CFR 72.24	Certificate of representation
40 CFR 72.30(a)	Requirements to Apply (operate)
40 CFR 72.30(b)(2)	Requirements to Apply (Phase II-Complete)
40 CFR 72.30(c)	Requirements to Apply (reapply before expiration)
40 CFR 72.30(d)	Requirements to Apply (submittal requirements)
40 CFR 72.31	Information Requirements; Acid Rain Applications
40 CFR 72.32	Permit Application Shield
40 CFR 72.33(b)	Dispatch System ID;unit/system ID
40 CFR 72.33(c)	Dispatch System ID;ID requirements
40 CFR 72.33(d)	Dispatch System ID;ID change
40 CFR 72.40(a)	General; compliance plan
40 CFR 72.40(b)	General; multi-unit compliance options
40 CFR 72.40(c)	General; conditional approval
40 CFR 72.40(d)	General; termination of compliance options
40 CFR 72.51	Permit Shield
40 CFR 72.90	Annual Compliance Certification
Allowances:	
40 CFR 73.33(a),(c)	Authorized account representative
40 CFR 73.35(c)(1)	Compliance: ID of allowances by serial number

Monitoring Part 75:

40 CFR 75.4	Compliance Dates;
40 CFR 75.5	Prohibitions
40 CFR 75.10(a)(1)	Primary Measurement; SO_2;
40 CFR 75.10(a)(2)	Primary Measurement; NO_x;
40 CFR 75.10(a)(3)(iii)	Primary Measurement; CO_2; O_2 monitor
40 CFR 75.10(b)	Primary Measurement; Performance Requirements
40 CFR 75.10(c)	Primary Measurement; Heat Input; Appendix F
40 CFR 75.10(e)	Primary Measurement; Optional Backup Monitor
40 CFR 75.10(f)	Primary Measurement; Minimum Measurement
40 CFR 75.10(g)	Primary Measurement; Minimum Recording
40 CFR 75.11(d)	SO_2 Monitoring; Gas- and Oil-fired units
40 CFR 75.11(e)	SO_2 Monitoring; Gaseous firing
40 CFR 75.12(a)	NO_x Monitoring; Coal; Non-peaking oil/gas units
40 CFR 75.12(b)	NO_x Monitoring; Determination of NO_x emission rate; Appendix F
40 CFR 75.13(b)	CO_2 Monitoring; Appendix G
40 CFR 75.13(c)	CO_2 Monitoring; Appendix F
40 CFR 75.14(c)	Opacity Monitoring; Gas units; exemption
40 CFR 75.20(a)	Initial Certification Approval Process; Loss of Certification
40 CFR 75.20(b)	Recertification Procedures (if recertification necessary)
40 CFR 75.20(c)	Certification Procedures (if recertification necessary)
40 CFR 75.20(d)	Recertification Backup/portable monitor
40 CFR 75.20(f)	Alternate Monitoring system
40 CFR 75.21(a)	QA/QC; CEMS; Appendix B (Suspended 7/17/95-12/31/96)
40 CFR 75.21(c)	QA/QC; Calibration Gases
40 CFR 75.21(d)	QA/QC; Notification of RATA
40 CFR 75.21(e)	QA/QC; Audits
40 CFR 75.21(f)	QA/QC; CEMS (Effective 7/17/96-12/31/96)
40 CFR 75.22	Reference Methods
40 CFR 75.24	Out-of-Control Periods; CEMS
40 CFR 75.30(a)(3)	General Missing Data Procedures; NO_x
40 CFR 75.30(a)(4)	General Missing Data Procedures; SO_2
40 CFR 75.30(b)	General Missing Data Procedures; certified backup monitor
40 CFR 75.30(c)	General Missing Data Procedures; certified backup monitor
40 CFR 75.30(d)	General Missing Data Procedures; SO_2 (optional before 1/1/97)
40 CFR 75.30(e)	General Missing Data Procedures; bypass/multiple stacks
40 CFR 75.31	Initial Missing Data Procedures (new/re-certified CMS)
40 CFR 75.32	Monitoring Data Availability for Missing Data
40 CFR 75.33	Standard Missing Data Procedures
40 CFR 75.36	Missing Data for Heat Input
40 CFR 75.40	Alternate Monitoring Systems-General
40 CFR 75.41	Alternate Monitoring Systems-Precision Criteria
40 CFR 75.42	Alternate Monitoring Systems-Reliability Criteria
40 CFR 75.43	Alternate Monitoring Systems-Accessability Criteria
40 CFR 75.44	Alternate Monitoring Systems-Timeliness Criteria
40 CFR 75.45	Alternate Monitoring Systems-Daily QA
40 CFR 75.46	Alternate Monitoring Systems-Missing data
40 CFR 75.47	Alternate Monitoring Systems-Criteria for Class

40 CFR 75.48	Alternate Monitoring Systems-Petition
40 CFR 75.53	Monitoring Plan; revisions
40 CFR 75.54(a)	Recordkeeping-general
40 CFR 75.54(b)	Recordkeeping-operating parameter
40 CFR 75.54(c)	Recordkeeping-SO_2
40 CFR 75.54(d)	Recordkeeping- NO_x
40 CFR 75.54(e)	Recordkeeping-CO_2
40 CFR 75.54(f)	Recordkeeping-Opacity
40 CFR 75.55(c)	General Recordkeeping (Specific Situations)
40 CFR 75.55(e)	General Recordkeeping (Specific Situations)
40 CFR 75.56	Certification; QA/QC Provisions
40 CFR 75.60	Reporting Requirements-General
40 CFR 75.61	Reporting Requirements-Notification cert/recertification
40 CFR 75.62	Reporting Requirements-Monitoring Plan
40 CFR 75.63	Reporting Requirements-Certification/Recertification
40 CFR 75.64(a)	Reporting Requirements-Quarterly reports; submission
40 CFR 75.64(b)	Reporting Requirements-Quarterly reports; DR statement
40 CFR 75.64(c)	Rep. Req.; Quarterly reports; Compliance Certification
40 CFR 75.64(d)	Rep. Req.; Quarterly reports; Electronic format
40 CFR 75.66	Petitions to the Administrator (if required)
Appendix A-1	Installation and Measurement Locations
Appendix A-2.	Equipment Specifications
Appendix A-3.	Performance Specifications
Appendix A-4.	Data Handling and Acquisition Systems
Appendix A-5.	Calibration Gases
Appendix A-6.	Certification Tests and Procedures
Appendix A-7.	Calculations
Appendix B	QA/QC Procedures
Appendix C-1.	Missing Data; SO_2/ NO_x for controlled sources
Appendix C-2.	Missing Data; Load-Based Procedure; NO_x & flow
Appendix D	Optional SO_2; Oil-/gas-fired units
Appendix F	Conversion Procedures
Appendix H	Traceability Protocol

Acid Rain Program-Excess Emissions (these are future requirements):

40 CFR 77.3	Offset Plans (future)
40 CFR 77.5(b)	Deductions of Allowances (future)
40 CFR 77.6	Excess Emissions Penalties (SO_2 and NO_x;future)

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **See Att. PSD-SPC**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Exhausts through a single stack.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **60** feet	7. Exit Diameter: **22** feet
8. Exit Temperature: **1,113** °F	9. Actual Volumetric Flow Rate: **2,645,000** acfm	10. Water Vapor: **8.6** %
11. Maximum Dry Standard Flow Rate: **800,000** dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: **17** East (km): **347.0** North (km): **3139.0**		
14. Emission Point Comment (limit to 200 characters): **Stack parameters for ISO operating condition firing natural gas; for oil 1,094°F and 2,731,000 ACFM.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Distillate (No. 2) Fuel Oil		
2. Source Classification Code (SCC): **20100101**	3. SCC Units: **1,000 gallons used**	
4. Maximum Hourly Rate: **13.7**	5. Maximum Annual Rate: **13,700**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **132**
10. Segment Comment (limit to 200 characters): **Million Btu per SCC Unit = 131.8 (rounded to 132). Based on 7.1 lb/gal; LHV of 18,560 Btu/lb, - ISO conditions, 1,000 hrs/yr operation.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Natural Gas		
2. Source Classification Code (SCC): **20100201**	3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: **1.70**	5. Maximum Annual Rate: **5,752**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **950**
10. Segment Comment (limit to 200 characters): **Based on 950 Btu/cf (LHV); ISO conditions and 3,390 hrs/yr operation.**		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
SO_2			EL
NO_x	026	028	EL
CO			EL
VOC			EL
PM_{10}			EL

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **17** lb/hour **20.5** tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference: **GE, 1998; Golder**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **See Attachment PSD-SPC; Section 2.0; Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Lb/hr based on oil firing, all loads. Tons/yr based on 2,390 hrs/yr gas firing and 1,000 hrs/yr oil firing; ISO conditions.**	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **17 lb/hr**	4. Equivalent Allowable Emissions: **17** lb/hour **8.5** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test; EPA Methods 5 or 17; if < 400 hours**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Oil firing - all loads; 1,000 hrs/yr. See Attachment PSD-SPC; Section 2.0; Appendix A.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **17** lb/hour **20.5** tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference: **GE, 1998; Golder**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **See Attachment PSD-SPC; Section 2.0; Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Lb/hr based on oil firing; all loads. Tons/yr based on 2,390 hrs/yr gas firing and 1,000 hrs/yr oil firing; ISO conditions.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10 lb/hr**	4. Equivalent Allowable Emissions: **10** lb/hour **17** tons/year
5. Method of Compliance (limit to 60 characters): **VE Test < 20% opacity**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Gas firing - all loads; 3,390 hrs/yr. See Attachment PSD-SPC; Section 2.0; Appendix A.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **101.5** lb/hour **55.3** tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference: **GE, 1998; Golder**	7. Emissions Method Code: **2**
8. Calculation of Emissions (limit to 600 characters): **See Attachment PSD-SPC; Section 2.0; Appendix A.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Emission Factor: 1 grain S per 100 CF gas; 0.05% S oil; lb/hr based on oil firing at 100% load and 32°F. Tons/yr based on 2,390 hrs/yr gas firing and 1,000 hrs/yr oil firing; ISO conditions.**	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.05% Sulfur Oil**	4. Equivalent Allowable Emissions: **101.5** lb/hour **49.3** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Sampling**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Oil firing - 32°F; 100% load; 1,000 hrs/yr. See Attachment PSD-SPC; Section 2.0; Appendix A.**	

Table A-5. Design Information and Stack Parameters for the Shady Hills Generating Station Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Combustion Turbine Performance			
Net power output (MW)	134.2	126.4	111.1
Net heat rate (Btu/kWh, LHV)	10,261	10,396	10,882
(Btu/kWh, HHV)	11,045	11,289	11,765
Heat Input (MMBtu/hr, LHV)	1,377	1,314	1,209
(MMBtu/hr, HHV)	1,482	1,427	1,307
Fuel heating value (Btu/lb, LHV)	20,751	20,751	20,751
(Btu/lb, HHV)	23,006	23,006	23,006
(HHV/LHV)	1.110	1.110	1.110
CT Exhaust Flow			
Mass Flow (lb/hr)- with margin of 10%	3,285,700	3,190,000	3,039,300
- provided	2,987,000	2,900,000	2,763,000
Temperature (°F)	1,170	1,179	1,193
Moisture (% Vol.)	8.1	8.4	9.6
Oxygen (% Vol.)	12.50	12.50	12.50
Molecular Weight	28.41	28.38	28.21
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,377	1,314	1,209
Heat content (Btu/lb, LHV)	20,751	20,751	20,751
Fuel usage (lb/hr)- calculated	66,358	63,322	58,262
CT Stack			
Stack height (ft)	60	60	60
Diameter (ft)	22	22	22
Turbine Flow Conditions			
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F)+ 460°F)] / [Molecular weight x 2116.8] / 60 min/hr			
Mass flow (lb/hr)	3,285,700	3,190,000	3,039,300
Temperature (°F)	1,170	1,179	1,193
Molecular weight	28.41	28.38	28.21
Volume flow (acfm)- calculated	2,292,951	2,240,823	2,166,041
(ft3/s)- calculated	38,216	37,347	36,101
Velocity (ft/sec)	100.5	98.2	95.0

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3

Source: GE, 1998.

Table A-6. Maximum Emissions for Criteria Pollutants for the Shady Hills Generating Station Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	3,390	3,390	3,390
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer			
Basis (excludes H_2SO_4), lb/hr	10	10	10
Emission rate (lb/hr)- provided	10.0	10.0	10.0
(TPY)	17.0	17.0	17.0
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 cf) x 1 lb/7000 gr x (lb SO_2/lb S) /100			
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448
Fuel use (cf/hr)	1,481,744	1,413,951	1,300,964
Sulfur content (grains/ 100 cf)	1	1	1
lb SO_2/lb S (64/32)	2	2	2
Emission rate (lb/hr)	4.2	4.0	3.7
(TPY)	7.18	6.85	6.30
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]			
Basis, ppmvd @15% O_2	9	9	9
Moisture (%)	8.1	8.4	9.6
Oxygen (%)	12.5	12.5	12.5
Turbine Flow (acfm)	2,292,951	2,240,823	2,166,041
Turbine Exhaust Temperature (°F)	1,170	1,179	1,193
Emission rate (lb/hr)	54.4	52.4	48.3
(TPY)	92.2	88.8	81.9
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	12	12	12
Moisture (%)	8.1	8.4	9.6
Turbine Flow (acfm)	2,292,951	2,240,823	2,166,041
Turbine Exhaust Temperature (°F)	1,170	1,179	1,193
Emission rate (lb/hr)	35.7	34.6	32.7
(TPY)	60.5	58.6	55.5
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	1.4	1.4	1.4
Moisture (%)	8.1	8.4	9.6
Turbine Flow (acfm)	2,292,951	2,240,823	2,166,041
Turbine Exhaust Temperature (°F)	1,170	1,179	1,193
Emission rate (lb/hr)	2.38	2.31	2.18
(TPY)	4.0	3.9	3.7
Lead (lb/hr)= NA			
Emission Rate Basis	NA	NA	NA
Emission rate (lb/hr)	NA	NA	NA
(TPY)	NA	NA	NA

Note: ppmvd = parts per million, volume dry; O_2 = oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996

Table A-7. Maximum Emissions for Other Regulated PSD Pollutants for the Shady Hills Generating Station Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	3,390	3,390	3,390
2,3,7,8-TCDD Equivalents (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	1.20E-06	1.20E-06	1.20E-06
Heat Input Rate (MMBtu/hr)	1.48E+03	1.43E+03	1.31E+03
Emission Rate (lb/hr)	1.78E-09	1.71E-09	1.57E-09
(TPY)	3.01E-09	2.90E-09	2.66E-09
Beryllium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Fluoride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Mercury (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	7.48E-04	7.48E-04	7.48E-04
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	1.11E-06	1.07E-06	9.78E-07
(TPY)	1.88E-06	1.81E-06	1.66E-06
Sulfuric Acid Mist = Fuel Use (lb/hr) x sulfur (S) content (fraction) x conversion of S to H_2SO_4 (%) x MW H_2SO_4 /MW S (98/32)			
Fuel Usage (cf/hr)	1,481,744	1,413,951	1,300,964
Sulfur (lb/hr)	2.12	2.02	1.86
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (c)	10	10	10
Emission Rate (lb/hr)	0.65	0.62	0.57
(TPY)	1.10	1.05	0.96

Sources: (a) Golder Associates, 1998; (b) EPA, 1981; (c) Assumed.

Note: No Emission Factors for Hydrogen chloride (HCl) from natural gas firing.

Table A-8. Maximum Emissions for Hazardous Air Pollutants for the Shady Hills Generating Station Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	3,390	3,390	3,390
Antimony (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Benzene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0.8	0.8	0.8
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	1.19E-03	1.14E-03	1.05E-03
(TPY)	2.01E-03	1.93E-03	1.77E-03
Cadmium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0.00E+00	0.00E+00	0.00E+00
Chromium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Formaldehyde (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	34	34	34
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	5.04E-02	4.85E-02	4.44E-02
(TPY)	8.54E-02	8.22E-02	7.53E-02
Cobalt (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1.48E+03	1.43E+03	1.31E+03
Emission Rate (lb/hr)	0.00E+00	0.00E+00	0.00E+00
(TPY)	0	0	0
Manganese (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0	.0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Nickel (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Phosphorous (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Selenium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Toluene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	10	10	10
Heat Input Rate (MMBtu/hr)	1,482	1,427	1,307
Emission Rate (lb/hr)	1.48E-02	1.43E-02	1.31E-02
(TPY)	2.51E-02	2.42E-02	2.22E-02

Sources: (a) Golder Associates, 1998; (b) EPA,1996 (AP-42,Table 3.1-4)

Table A-9. Design Information and Stack Parameters for the Shady Hills Generating Station Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Combustion Turbine Performance			
Net power output (MW)	90.76	85.55	74.6
Net heat rate (Btu/kWh, LHV)	12,054	12,086	12,842
(Btu/kWh, HHV)	13,380	13,416	14,254
Heat Input (MMBtu/hr, LHV)	1,094	1,034	958
(MMBtu/hr, HHV)	1,214	1,148	1,063
Fuel heating value (Btu/lb, LHV)	20,751	20,751	20,751
(Btu/lb, HHV)	23,006	23,006	23,006
(HHV/LHV)	1.110	1.110	1.110
CT Exhaust Flow			
Mass Flow (lb/hr)- with margin of 10%	2,754,400	2,654,300	2,570,700
- provided	2,504,000	2,413,000	2,337,000
Temperature (°F)	1,171	1,186	1,200
Moisture (% Vol.)	7.7	8	9.1
Oxygen (% Vol.)	12.90	13.00	13.00
Molecular Weight	28.44	28.41	28.26
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,094	1,034	958
Heat content (Btu/lb, LHV)	20,751	20,751	20,751
Fuel usage (lb/hr)- calculated	52,720	49,829	46,166
CT Stack			
Stack height (ft)	60	60	60
Diameter (ft)	22	22	22
Turbine Flow Conditions			
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F)+ 460°F)] / [Molecular weight x 2116.8] / 60 min/hr			
Mass flow (lb/hr)	2,754,400	2,654,300	2,570,700
Temperature (°F)	1,171	1,186	1,200
Molecular weight	28.44	28.41	28.26
Volume flow (acfm)- calculated	1,921,470	1,870,642	1,836,829
(ft3/s)- calculated	32,024	31,177	30,614
Velocity (ft/sec)	84.2	82.0	80.5

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3

Source: GE, 1998.

Table A-10. Maximum Emissions for Criteria Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	3,390	3,390	3,390
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer			
Basis (excludes H_2SO_4), lb/hr	10	10	10
Emission rate (lb/hr) - provided	10.0	10.0	10.0
(TPY)	17.0	17.0	17.0
Sulfur Dioxide (lb/hr) = Natural gas (cf/hr) x sulfur content(gr/100 cf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100			
Fuel density (lb/ft^3)	0.0448	0.0448	0.0448
Fuel use (cf/hr)	1,177,217	1,112,653	1,030,872
Sulfur content (grains/ 100 cf)	1	1	1
lb SO_2 /lb S (64/32)	2	2	2
Emission rate (lb/hr)	3.4	3.2	2.9
(TPY)	5.70	5.39	4.99
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]			
Basis, ppmvd @15% O_2	9	9	9
Moisture (%)	7.7	8	9.1
Oxygen (%)	12.9	13	13
Turbine Flow (acfm)	1,921,470	1,870,642	1,836,829
Turbine Exhaust Temperature (°F)	1,171	1,186	1,200
Emission rate (lb/hr)	43.4	40.8	38.3
(TPY)	73.6	69.2	64.9
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	12	12	12
Moisture (%)	7.7	8	9.1
Turbine Flow (acfm)	1,921,470	1,870,642	1,836,829
Turbine Exhaust Temperature (°F)	1,171	1,186	1,200
Emission rate (lb/hr)	30.0	28.9	27.8
(TPY)	50.9	49.0	47.1
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	1.4	1.4	1.4
Moisture (%)	7.7	8	9.1
Turbine Flow (acfm)	1,921,470	1,870,642	1,836,829
Turbine Exhaust Temperature (°F)	1,171	1,186	1,200
Emission rate (lb/hr)	2.00	1.93	1.85
(TPY)	3.4	3.3	3.1
Lead (lb/hr)= NA			
Emission Rate Basis	NA	NA	NA
Emission rate (lb/hr)	NA	NA	NA
(TPY)	NA	NA	NA

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996

Table A-11. Maximum Emissions for Other Regulated PSD Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	3,390	3,390	3,390
2,3,7,8-TCDD Equivalents (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	1.20E-06	1.20E-06	1.20E-06
Heat Input Rate (MMBtu/hr)	1.21E+03	1.15E+03	1.06E+03
Emission Rate (lb/hr)	1.46E-09	1.38E-09	1.28E-09
(TPY)	2.47E-09	2.33E-09	2.16E-09
Beryllium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Fluoride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Mercury (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	7.48E-04	7.48E-04	7.48E-04
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	9.08E-07	8.59E-07	7.95E-07
(TPY)	1.54E-06	1.46E-06	1.35E-06
Sulfuric Acid Mist = Fuel Use (lb/hr) x sulfur (S) content (fraction) x conversion of S to H_2SO_4 (%) x MW H_2SO_4 /MW S (98/32)			
Fuel Usage (cf/hr)	1,177,217	1,112,653	1,030,872
Sulfur (lb/hr)	1.68	1.59	1.47
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (c)	10	10	10
Emission Rate (lb/hr)	0.52	0.49	0.45
(TPY)	0.87	0.83	0.76

Sources: (a) Golder Associates, 1998; (b) EPA, 1981; (c) Assumed.

Note: No Emission Factors for Hydrogen chloride (HCl) from natural gas firing.

Table A-12. Maximum Emissions for Hazardous Air Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Natural Gas, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	3,390	3,390	3,390
Antimony (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Benzene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	0.8	0.8	0.8
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	9.71E-04	9.18E-04	8.51E-04
(TPY)	1.65E-03	1.56E-03	1.44E-03
Cadmium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0.00E+00	0.00E+00	0.00E+00
Chromium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Formaldehyde (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	34	34	34
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	4.13E-02	3.90E-02	3.62E-02
(TPY)	7.00E-02	6.61E-02	6.13E-02
Cobalt (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1.21E+03	1.15E+03	1.06E+03
Emission Rate (lb/hr)	0.00E+00	0.00E+00	0.00E+00
(TPY)	0	0	0
Manganese (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Nickel (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Phosphorous (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b), lb/10^{12} Btu	0.00E+00	0.00E+00	0.00E+00
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Selenium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	0	0	0
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	0	0	0
(TPY)	0	0	0
Toluene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a), lb/10^{12} Btu	10	10	10
Heat Input Rate (MMBtu/hr)	1,214	1,148	1,063
Emission Rate (lb/hr)	1.21E-02	1.15E-02	1.06E-02
(TPY)	2.06E-02	1.95E-02	1.80E-02

Sources: (a) Golder Associates, 1998; (b) EPA,1996 (AP-42,Table 3.1-4)

Table A-13. Design Information and Stack Parameters for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, Base Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Combustion Turbine Performance			
Net power output (MW)	183.9	181.9	171.2
Net heat rate (Btu/kWh, LHV)	10,103	9,929	9,988
(Btu/kWh, HHV)	10,710	10,524	10,588
Heat Input (MMBtu/hr, LHV)	1,858	1,806	1,710
(MMBtu/hr, HHV)	1,969	1,914	1,813
Fuel heating value (Btu/lb, LHV)	18,300	18,300	18,300
(Btu/lb, HHV)	19,398	19,398	19,398
(HHV/LHV)	1.060	1.060	1.060
CT Exhaust Flow			
Mass Flow (lb/hr)- with margin of 10%	4,230,600	4,081,000	3,825,800
- provided	3,846,000	3,710,000	3,478,000
Temperature (°F)	1,076	1,094	1,121
Moisture (% Vol.)	11	11.7	13.3
Oxygen (% Vol.)	11.20	11.04	10.60
Molecular Weight	28.33	28.25	28.06
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,858	1,806	1,710
Heat content (Btu/lb, LHV)	18,300	18,300	18,300
Fuel usage (lb/hr)- calculated	101,530	98,689	93,443
CT Stack			
Stack height (ft)	60	60	60
Diameter (ft)	22	22	22
Turbine Flow Conditions			
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F) + 460°F)] / [Molecular weight x 2116.8] / 60 min/hr			
Mass flow (lb/hr)	4,230,600	4,081,000	3,825,800
Temperature (°F)	1,076	1,094	1,121
Molecular weight	28.33	28.25	28.06
Volume flow (acfm)- calculated	2,790,601	2,731,215	2,622,427
(ft3/s)- calculated	46,510	45,520	43,707
Velocity (ft/sec)	122.4	119.7	115.0

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3

Source: GE, 1999; Golder Associates, 1999

Table A-14. Maximum Emissions for Criteria Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, Base Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer			
Basis (excludes H_2SO_4), lb/hr	17	17	17
Emission rate (lb/hr)- provided	17.0	17.0	17.0
(TPY)	8.5	8.5	8.5
Sulfur Dioxide (lb/hr) = Natural gas (lb/hr) x sulfur content (%/100) x (lb SO_2 /lb S)			
Fuel Sulfur Content	0.05%	0.05%	0.05%
Fuel use (lb/hr)	101,530	98,689	93,443
lb SO_2 /lb S (64/32)	2	2	2
Emission rate (lb/hr)	101.5	98.7	93.4
(TPY)	50.77	49.34	46.72
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]			
Basis, ppmvd @15% O_2	42	42	42
Moisture (%)	11	11.7	13.3
Oxygen (%)	11.2	11.04	10.6
Turbine Flow (acfm)	2,790,601	2,731,215	2,622,427
Turbine Exhaust Temperature (°F)	1,076	1,094	1,121
Emission rate (lb/hr)	362.0	350.8	335.8
(TPY)	181.0	175.4	167.9
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	20	20	20
Moisture (%)	11	11.7	13.3
Turbine Flow (acfm)	2,790,601	2,731,215	2,622,427
Turbine Exhaust Temperature (°F)	1,076	1,094	1,121
Emission rate (lb/hr)	74.4	71.4	66.2
(TPY)	37.2	35.7	33.1
VOCs (lb/hr) = VOC(ppmvw) x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	7	7	7
Turbine Flow (acfm)	2,790,601	2,731,215	2,622,427
Turbine Exhaust Temperature (°F)	1,076	1,094	1,121
Emission rate (lb/hr)	16.73	16.18	15.27
(TPY)	8.4	8.1	7.6
Lead (lb/hr)= NA			
Emission Rate Basis (lb/10^{12} Btu)	10.8	10.8	10.8
Emission rate (lb/hr)	0.0213	0.0207	0.0196
(TPY)	0.0106	0.0103	0.0098

Note: ppmvd = parts per million, volume dry; O_2 = oxygen.
Source: GE, 1998; Golder Associates, 1998; EPA, 1996 (AP-42 draft revisions)

Table A-15. Maximum Emissions for Other Regulated PSD Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, Base Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
2,3,7,8 TCDD Equivalents (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	3.38E-04	3.38E-04	3.38E-04
Heat Input Rate (MMBtu/hr)	1.97E+03	1.91E+03	1.81E+03
Emission Rate (lb/hr)	6.66E-07	6.47E-07	6.13E-07
(TPY)	3.33E-07	3.24E-07	3.06E-07
Beryllium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0.331	0.331	0.331
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	6.52E-04	6.34E-04	6.00E-04
(TPY)	3.26E-04	3.17E-04	3.00E-04
Fluoride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	32.54	32.54	32.54
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	6.41E-02	6.23E-02	5.90E-02
(TPY)	3.20E-02	3.11E-02	2.95E-02
Hydrogen Chloride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (c) , lb/10^{12} Btu	2.12E+02	2.12E+02	2.12E+02
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	4.18E-01	4.06E-01	3.84E-01
(TPY)	2.09E-01	2.03E-01	1.92E-01
Mercury (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	6.26E-01	6.26E-01	6.26E-01
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	1.23E-03	1.20E-03	1.13E-03
(TPY)	6.16E-04	5.99E-04	5.67E-04
Sulfuric Acid Mist = Fuel Use (lb/hr) x sulfur (S) content (fraction) x conversion of S to H_2SO_4 (%) x MW H_2SO_4 /MW S (98/32)			
Fuel Usage (cf/hr)	101,530	98,689	93,443
Sulfur (lb/hr)	50.77	49.34	46.72
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (d)	10	10	10
Emission Rate (lb/hr)	15.55	15.11	14.31
(TPY)	7.77	7.56	7.15

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA, 1981; (c) 4 ppm assumed based on ASTM D2880
(d) assumed based on combustion and HRSG effects.

Table A-16. Maximum Emissions for Hazardous Air Pollutants for the Shady Hills Generating Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, Base Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
Arsenic (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	7.91E+00	7.91E+00	7.91E+00
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	1.56E-02	1.51E-02	1.43E-02
(TPY)	7.79E-03	7.57E-03	7.17E-03
Benzene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	1.1	1.1	1.1
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	2.17E-03	2.11E-03	1.99E-03
(TPY)	1.08E-03	1.05E-03	9.97E-04
Cadmium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	3.24	3.24	3.24
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	6.38E-03	6.20E-03	5.87E-03
(TPY)	3.19E-03	3.10E-03	2.94E-03
Chromium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	6.76	6.76	6.76
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	1.33E-02	1.29E-02	1.23E-02
(TPY)	6.66E-03	6.47E-03	6.13E-03
Formaldehyde (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	2	2	2
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	3.94E-03	3.83E-03	3.63E-03
(TPY)	1.97E-03	1.91E-03	1.81E-03
Cobalt (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	37	37	37
Heat Input Rate (MMBtu/hr)	1.97E+03	1.91E+03	1.81E+03
Emission Rate (lb/hr)	7.29E-02	7.08E-02	6.71E-02
(TPY)	3.64E-02	3.54E-02	3.35E-02
Manganese (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	432	432	432
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	8.51E-01	8.27E-01	7.83E-01
(TPY)	4.25E-01	4.14E-01	3.92E-01
Nickel (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	86.3	86.3	86.3
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	1.70E-01	1.65E-01	1.56E-01
(TPY)	8.50E-02	8.26E-02	7.82E-02
Phosphorous (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	3.00E+02	3.00E+02	3.00E+02
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	0.590844	0.574308	0.54378
(TPY)	0.295422	0.287154	0.27189
Selenium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	23	23	23
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	4.53E-02	4.40E-02	4.17E-02
(TPY)	2.26E-02	2.20E-02	2.08E-02
Toluene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	237	237	237
Heat Input Rate (MMBtu/hr)	1,969	1,914	1,813
Emission Rate (lb/hr)	4.67E-01	4.54E-01	4.30E-01
(TPY)	2.33E-01	2.27E-01	2.15E-01

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA,1996 (AP-42,Table 3.1-4)

Table A-17. Design Information and Stack Parameters for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Combustion Turbine Performance			
Net power output (MW)	136.6	132.3	118.5
Net heat rate (Btu/kWh, LHV)	11,069	11,073	11,553
(Btu/kWh, HHV)	11,733	11,738	12,246
Heat Input (MMBtu/hr, LHV)	1,512	1,465	1,369
(MMBtu/hr, HHV)	1,603	1,553	1,451
Fuel heating value (Btu/lb, LHV)	18,300	18,300	18,300
(Btu/lb, HHV)	19,398	19,398	19,398
(HHV/LHV)	1.060	1.060	1.060
CT Exhaust Flow			
Mass Flow (lb/hr)- with margin of 10%	3,287,900	3,225,200	3,106,400
- provided	2,989,000	2,932,000	2,824,000
Temperature (°F)	1,170	1,176	1,186
Moisture (% Vol.)	11.5	11.8	12.9
Oxygen (% Vol.)	10.70	10.80	10.80
Molecular Weight	28.29	28.26	28.12
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,512	1,465	1,369
Heat content (Btu/lb, LHV)	18,300	18,300	18,300
Fuel usage (lb/hr)- calculated	82,623	80,055	74,809
CT Stack			
Stack height (ft)	60	60	60
Diameter (ft)	22	22	22
Turbine Flow Conditions			
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F)+ 460°F)] / [Molecular weight x 2116.8] / 60 min/hr			
Mass flow (lb/hr)	3,287,900	3,225,200	3,106,400
Temperature (°F)	1,170	1,176	1,186
Molecular weight	28.29	28.26	28.12
Volume flow (acfm)- calculated	2,304,584	2,271,141	2,212,060
(ft3/s)- calculated	38,410	37,852	36,868
Velocity (ft/sec)	101.0	99.6	97.0

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3

Source: GE, 1999; Golder Associates, 1999

Table A-18. Maximum Emissions for Criteria Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer			
Basis (excludes H_2SO_4), lb/hr	17	17	17
Emission rate (lb/hr)- provided	17.0	17.0	17.0
(TPY)	8.5	8.5	8.5
Sulfur Dioxide (lb/hr) = Natural gas (lb/hr) x sulfur content (%/100) x (lb SO_2 /lb S)			
Fuel Sulfur Content	0.05%	0.05%	0.05%
Fuel use (lb/hr)	82,623	80,055	74,809
lb SO_2 /lb S (64/32)	2	2	2
Emission rate (lb/hr)	82.6	80.1	74.8
(TPY)	41.31	40.03	37.40
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]			
Basis, ppmvd @15% O_2	42	42	42
Moisture (%)	11.5	11.8	12.9
Oxygen (%)	10.7	10.8	10.8
Turbine Flow (acfm)	2,304,584	2,271,141	2,212,060
Turbine Exhaust Temperature (°F)	1,170	1,176	1,186
Emission rate (lb/hr)	296.7	285.3	267.8
(TPY)	148.4	142.6	133.9
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	20	20	20
Moisture (%)	11.5	11.8	12.9
Turbine Flow (acfm)	2,304,584	2,271,141	2,212,060
Turbine Exhaust Temperature (°F)	1,170	1,176	1,186
Emission rate (lb/hr)	57.6	56.4	53.9
(TPY)	28.8	28.2	26.9
VOCs (lb/hr) = VOC(ppmvw) x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	7	7	7
Turbine Flow (acfm)	2,304,584	2,271,141	2,212,060
Turbine Exhaust Temperature (°F)	1,170	1,176	1,186
Emission rate (lb/hr)	13.02	12.78	12.37
(TPY)	6.5	6.4	6.2
Lead (lb/hr)= NA			
Emission Rate Basis (lb/10^{12} Btu)	10.8	10.8	10.8
Emission rate (lb/hr)	0.0173	0.0168	0.0157
(TPY)	0.0087	0.0084	0.0078

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996 (AP-42 draft revisions)

Table A-19. Maximum Emissions for Other Regulated PSD Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
2,3,7,8 TCDD Equivalents (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	3.80E-04	3.80E-04	3.80E-04
Heat Input Rate (MMBtu/hr)	1.60E+03	1.55E+03	1.45E+03
Emission Rate (lb/hr)	6.09E-07	5.90E-07	5.51E-07
(TPY)	3.05E-07	2.95E-07	2.76E-07
Beryllium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0.331	0.331	0.331
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	5.31E-04	5.14E-04	4.80E-04
(TPY)	2.65E-04	2.57E-04	2.40E-04
Fluoride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	32.54	32.54	32.54
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	5.22E-02	5.05E-02	4.72E-02
(TPY)	2.61E-02	2.53E-02	2.36E-02
Hydrogen Chloride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (c) , lb/10^{12} Btu	2.12E+02	2.12E+02	2.12E+02
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	3.40E-01	3.29E-01	3.08E-01
(TPY)	1.70E-01	1.65E-01	1.54E-01
Mercury (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	6.26E-01	6.26E-01	6.26E-01
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	1.00E-03	9.72E-04	9.08E-04
(TPY)	5.02E-04	4.86E-04	4.54E-04
Sulfuric Acid Mist = Fuel Use (lb/hr) x sulfur (S) content (fraction) x conversion of S to H_2SO_4 (%) x MW H_2SO_4 /MW S (98/32)			
Fuel Usage (cf/hr)	82,623	80,055	74,809
Sulfur (lb/hr)	41.31	40.03	37.40
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (d)	10	10	10
Emission Rate (lb/hr)	12.65	12.26	11.46
(TPY)	6.33	6.13	5.73

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA, 1981; (c) 4 ppm assumed based on ASTM D2880
(d) assumed based on combustion and HRSG effects.

Table A-20. Maximum Emissions for Hazardous Air Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 75% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
Arsenic (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	7.91E+00	7.91E+00	7.91E+00
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	1.27E-02	1.23E-02	1.15E-02
(TPY)	6.34E-03	6.14E-03	5.74E-03
Benzene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	1.1	1.1	1.1
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	1.76E-03	1.71E-03	1.60E-03
(TPY)	8.81E-04	8.54E-04	7.98E-04
Cadmium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	3.24	3.24	3.24
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	5.19E-03	5.03E-03	4.70E-03
(TPY)	2.60E-03	2.52E-03	2.35E-03
Chromium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	6.76	6.76	6.76
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	1.08E-02	1.05E-02	9.81E-03
(TPY)	5.42E-03	5.25E-03	4.90E-03
Formaldehyde (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	2	2	2
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	3.21E-03	3.11E-03	2.90E-03
(TPY)	1.60E-03	1.55E-03	1.45E-03
Cobalt (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	37	37	37
Heat Input Rate (MMBtu/hr)	1.60E+03	1.55E+03	1.45E+03
Emission Rate (lb/hr)	5.93E-02	5.75E-02	5.37E-02
(TPY)	2.97E-02	2.87E-02	2.68E-02
Manganese (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	432	432	432
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	6.92E-01	6.71E-01	6.27E-01
(TPY)	3.46E-01	3.35E-01	3.13E-01
Nickel (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	86.3	86.3	86.3
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	1.38E-01	1.34E-01	1.25E-01
(TPY)	6.92E-02	6.70E-02	6.26E-02
Phosphorous (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	3.00E+02	3.00E+02	3.00E+02
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	0.480816	0.46587	0.435342
(TPY)	0.240408	0.232935	0.217671
Selenium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	23	23	23
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	3.69E-02	3.57E-02	3.34E-02
(TPY)	1.84E-02	1.79E-02	1.67E-02
Toluene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	237	237	237
Heat Input Rate (MMBtu/hr)	1,603	1,553	1,451
Emission Rate (lb/hr)	3.80E-01	3.68E-01	3.44E-01
(TPY)	1.90E-01	1.84E-01	1.72E-01

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA,1996 (AP-42,Table 3.1-4)

Table A-21. Design Information and Stack Parameters for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Combustion Turbine Performance			
Net power output (MW)	90.2	87.3	77.6
Net heat rate (Btu/kWh, LHV)	13,304	13,162	13,892
(Btu/kWh, HHV)	14,102	13,951	14,725
Heat Input (MMBtu/hr, LHV)	1,200	1,149	1,078
(MMBtu/hr, HHV)	1,272	1,218	1,143
Fuel heating value (Btu/lb, LHV)	18,300	18,300	18,300
(Btu/lb, HHV)	19,398	19,398	19,398
(HHV/LHV)	1.060	1.060	1.060
CT Exhaust Flow			
Mass Flow (lb/hr)- with margin of 10%	2,737,900	2,655,400	2,586,100
- provided	2,489,000	2,414,000	2,351,000
Temperature (°F)	1,200	1,200	1,200
Moisture (% Vol.)	11.2	11.6	12.7
Oxygen (% Vol.)	11.10	11.20	11.30
Molecular Weight	28.29	28.24	28.10
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,200	1,149	1,078
Heat content (Btu/lb, LHV)	18,300	18,300	18,300
Fuel usage (lb/hr)- calculated	65,574	62,787	58,907
CT Stack			
Stack height (ft)	60	60	60
Diameter (ft)	22	22	22
Turbine Flow Conditions			
Turbine Flow (acfm) = [(Mass Flow (lb/hr) x 1,545 x (Temp. (°F)+ 460°F)] / [Molecular weight x 2116.8] / 60 min/hr			
Mass flow (lb/hr)	2,737,900	2,655,400	2,586,100
Temperature (°F)	1,200	1,200	1,200
Molecular weight	28.29	28.24	28.10
Volume flow (acfm)- calculated	1,954,205	1,898,809	1,858,599
(ft3/s)- calculated	32,570	31,647	30,977
Velocity (ft/sec)	85.7	83.3	81.5

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3

Source: GE, 1999; Golder Associates, 1999

Table A-22. Maximum Emissions for Criteria Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
Particulate (lb/hr) = Emission rate (lb/hr) from manufacturer			
Basis (excludes H_2SO_4), lb/hr	17	17	17
Emission rate (lb/hr)- provided	17.0	17.0	17.0
(TPY)	8.5	8.5	8.5
Sulfur Dioxide (lb/hr) = Natural gas (lb/hr) x sulfur content (%/100) x (lb SO_2 /lb S)			
Fuel Sulfur Content	0.05%	0.05%	0.05%
Fuel use (lb/hr)	65,574	62,787	58,907
lb SO_2 /lb S (64/32)	2	2	2
Emission rate (lb/hr)	65.6	62.8	58.9
(TPY)	32.79	31.39	29.45
Nitrogen Oxides (lb/hr) = NOx(ppm) x {[20.9 x (1 - Moisture(%)/100)] - Oxygen(%)} x 2116.8 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 5.9 x 1,000,000 (adj. for ppm)]			
Basis, ppmvd @15% O_2	42	42	42
Moisture (%)	11.2	11.6	12.7
Oxygen (%)	11.1	11.2	11.3
Turbine Flow (acfm)	1,954,205	1,898,809	1,858,599
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200
Emission rate (lb/hr)	236.4	224.0	209.3
(TPY)	118.2	112.0	104.7
Carbon Monoxide (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	30	30	30
Moisture (%)	11.2	11.6	12.7
Turbine Flow (acfm)	1,954,205	1,898,809	1,858,599
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200
Emission rate (lb/hr)	72.2	69.8	67.5
(TPY)	36.1	34.9	33.7
VOCs (lb/hr) = VOC(ppmvw) x 2116.8 lb/ft2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	7	7	7
Turbine Flow (acfm)	1,954,205	1,898,809	1,858,599
Turbine Exhaust Temperature (°F)	1,200	1,200	1,200
Emission rate (lb/hr)	10.84	10.53	10.31
(TPY)	5.4	5.3	5.2
Lead (lb/hr)= NA			
Emission Rate Basis (lb/10^{12} Btu)	10.8	10.8	10.8
Emission rate (lb/hr)	0.0137	0.0132	0.0123
(TPY)	0.0069	0.0066	0.0062

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 1998; Golder Associates, 1998; EPA, 1996 (AP-42 draft revisions)

Table A-23. Maximum Emissions for Other Regulated PSD Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
2,3,7,8 TCDD Equivalents (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	3.80E-04	3.80E-04	3.80E-04
Heat Input Rate (MMBtu/hr)	1.27E+03	1.22E+03	1.14E+03
Emission Rate (lb/hr)	4.83E-07	4.63E-07	4.34E-07
(TPY)	2.42E-07	2.31E-07	2.17E-07
Beryllium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	0.331	0.331	0.331
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	4.21E-04	4.03E-04	3.78E-04
(TPY)	2.11E-04	2.02E-04	1.89E-04
Fluoride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	32.54	32.54	32.54
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	4.14E-02	3.96E-02	3.72E-02
(TPY)	2.07E-02	1.98E-02	1.86E-02
Hydrogen Chloride (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (c) , lb/10^{12} Btu	2.12E+02	2.12E+02	2.12E+02
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	2.70E-01	2.58E-01	2.42E-01
(TPY)	1.35E-01	1.29E-01	1.21E-01
Mercury (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	6.26E-01	6.26E-01	6.26E-01
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	7.96E-04	7.62E-04	7.15E-04
(TPY)	3.98E-04	3.81E-04	3.58E-04
Sulfuric Acid Mist = Fuel Use (lb/hr) x sulfur (S) content (fraction) x conversion of S to H_2SO_4 (%) x MW H_2SO_4 /MW S (98/32)			
Fuel Usage (cf/hr)	65,574	62,787	58,907
Sulfur (lb/hr)	32.79	31.39	29.45
lb H_2SO_4 /lb S (98/32)	3.0625	3.0625	3.0625
Conversion to H_2SO_4 (%) (d)	10	10	10
Emission Rate (lb/hr)	10.04	9.61	9.02
(TPY)	5.02	4.81	4.51

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA, 1981; (c) 4 ppm assumed based on ASTM D2880
(d) assumed based on combustion and HRSG effects.

Table A-24. Maximum Emissions for Hazardous Air Pollutants for the Shady Hills Generatng Station Project
GE Frame 7FA, Dry Low NOx Combustor, Distillate Oil, 50% Load

Parameter	Ambient Temperature 32 °F	59 °F	95 °F
Hours of Operation	1,000	1,000	1,000
Arsenic (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	7.91E+00	7.91E+00	7.91E+00
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	1.01E-02	9.63E-03	9.04E-03
(TPY)	5.03E-03	4.82E-03	4.52E-03
Benzene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	1.1	1.1	1.1
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	1.40E-03	1.34E-03	1.26E-03
(TPY)	7.00E-04	6.70E-04	6.28E-04
Cadmium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	3.24	3.24	3.24
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	4.12E-03	3.95E-03	3.70E-03
(TPY)	2.06E-03	1.97E-03	1.85E-03
Chromium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	6.76	6.76	6.76
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	8.60E-03	8.23E-03	7.72E-03
(TPY)	4.30E-03	4.12E-03	3.86E-03
Formaldehyde (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	2	2	2
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	2.54E-03	2.44E-03	2.29E-03
(TPY)	1.27E-03	1.22E-03	1.14E-03
Cobalt (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	37	37	37
Heat Input Rate (MMBtu/hr)	1.27E+03	1.22E+03	1.14E+03
Emission Rate (lb/hr)	4.71E-02	4.51E-02	4.23E-02
(TPY)	2.35E-02	2.25E-02	2.11E-02
Manganese (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	432	432	432
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	5.50E-01	5.26E-01	4.94E-01
(TPY)	2.75E-01	2.63E-01	2.47E-01
Nickel (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	86.3	86.3	86.3
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	1.10E-01	1.05E-01	9.86E-02
(TPY)	5.49E-02	5.26E-02	4.93E-02
Phosphorous (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (b) , lb/10^{12} Btu	3.00E+02	3.00E+02	3.00E+02
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	0.3816	0.365382	0.342804
(TPY)	0.1908	0.182691	0.171402
Selenium (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	23	23	23
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	2.93E-02	2.80E-02	2.63E-02
(TPY)	1.46E-02	1.40E-02	1.31E-02
Toluene (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Basis (a) , lb/10^{12} Btu	237	237	237
Heat Input Rate (MMBtu/hr)	1,272	1,218	1,143
Emission Rate (lb/hr)	3.01E-01	2.89E-01	2.71E-01
(TPY)	1.51E-01	1.44E-01	1.35E-01

Sources: (a) EPA, 1998 (AP-42 draft revisions); (b) EPA,1996 (AP-42,Table 3.1-4)

APPENDIX B

BEST AVAILABLE CONTROL TECHNOLOGY FOR THE PROPOSED COMBUSTION TURBINES

B.1 NEW SOURCE PERFORMANCE STANDARDS

The NSPS regulations (40 CFR, Subpart GG) applicable to gas turbines apply to:

1. Electric utility stationary gas turbines with a heat input at peak load of greater than 100 x 10^6 Btu/hr [40 CFR 60.332 (b)];
2. Stationary gas turbines with a heat input at peak load between 10 and 100 x 10^6 Btu/hr [40 CFR 60.332 (c)]; or
3. Stationary gas turbines with a manufacturer's rate base load at ISO conditions of 30 MW or less [40 CFR 60.332 (d)].

The electric utility stationary gas turbine provisions apply to stationary gas turbines constructed for the purpose of supplying more than one-third of their potential electric output capacity for sale to any utility power distribution system [40 CFR 60.331 (q)]. The requirements for electric utility stationary gas turbines are applicable to the 501F turbines proposed for the project and are the most stringent provision of the NSPS. These requirements are summarized in Table B-1 and were considered in the BACT analysis.

As noted from Table B-1, the NSPS NO_x emission limit can be adjusted upward to allow for fuel-bound nitrogen (FBN). For a fuel-bound nitrogen concentration of 0.015 percent or less, no increase in the NSPS is provided; for a fuel-bound nitrogen concentration of 0.03 percent, the NSPS is increased by 0.0012 percent or 12 parts per million (ppm). The NSPS NO_x emission limit adjustment is not affected by natural gas combustion.

B.2 BEST AVAILABLE CONTROL TECHNOLOGY

B.2.1 NITROGEN OXIDES

Advanced dry low-NO_x combustion alone has increasingly been approved by regulatory agencies as BACT and is technically feasible for the proposed project. Available information suggests that "hot" SCR with dry low-NO_x combustor technology or with wet injection is also available.

Identification of NO_x Control Technologies

NO_x emissions from combustion of fossil fuels consist of thermal NO_x and fuel-bound NO_x. Thermal NO_x is formed from the reaction of oxygen and nitrogen in the combustion air at combustion temperatures. Formation of thermal NO_x depends on the flame temperature, residence time, combustion pressure, and air-to-fuel ratios in the primary combustion zone. The design and operation of the combustion chamber dictates these conditions. Fuel-bound NO_x is created by the oxidation of volatilized nitrogen in the fuel. Nitrogen content in the fuel is the primary factor in its formation.

Table B-2 presents a listing of the lowest achievable emission rates/best available control technology (LAER/BACT) decisions made by state environmental agencies and EPA regional offices for gas turbines. This table was developed from the information obtained from BACT/LAER Information System (BLIS) database maintained at EPA's National Computer Center located at Research Triangle Park, North Carolina.

Historically, the most stringent NO_x controls for CTs established as LAER/BACT by state agencies were selective catalytic reduction (SCR) with wet injection and wet injection alone. When SCR has been employed, wet injection is used initially to reduce NO_x emissions. However, advanced dry low-NO_x technology has only recently been developed and made available for gas turbines. SCR is a post-combustion control, while advanced dry low-NO_x combustors minimize the formation of NO_x in the combustion process.

SCR has been installed or permitted in over 100 projects. The majority of these projects (more than 90 percent) were initially cogeneration facilities with capacities of 50 MW or less. Most of these projects have been in California. Many of these projects have installed SCR have been in the Southern California NO_2 nonattainment area where SCR was required not as BACT but as LAER, a more stringent requirement. LAER is distinctly different from BACT in that there is no consideration of economic, energy, or environmental impacts; if a control technology has previously been installed, it must be required as LAER. LAER is defined as follows:

> Lowest achievable emission rate means, for any source, the more stringent rate of emissions based on the following: (i) The most stringent emissions limitation which is contained in the implementation plan of any State of such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or (ii) The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new modified stationary source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance (40 CFR 51, Appendix S.II, A.18).

As noted previously, there are distinct regulatory and policy differences between LAER and BACT.

As discussed in Section 3.0, BACT involves an evaluation of the economic, environmental, and energy impacts of alternative control technologies. In contrast, LAER only considers the technical aspects of control.

All the projects in California have natural gas as the primary fuel, and less than 15 percent of the SCR applications in California have distillate fuel as backup.

There are also projects with SCR located in Vermont, Massachusetts, Connecticut, New Jersey, New York, Rhode Island, and Virginia. A majority of these projects are also cogenerators or independent power producers. The size of these projects ranges from 22 MW to 450 MW, with a majority less than 100 MW in size. While almost all of the facilities have distillate oil as backup fuel, distillate oil generally is restricted by permit to 1,000 hours or less per CT.

Reported and permitted NO_x removal efficiencies of SCR range from 40 to 80 percent of NO_x in the exhaust gas stream. The most common emission limiting standards associated with SCR are approximately 9 ppm for natural gas firing. However, a few facilities have reported emission limits of 3.5 ppm and less.

Wet injection historically (pre-1990's) has been the primary method of reducing NO_x emissions from CTs. Indeed, this method of control was first mandated by the NSPS to reduce NO_x levels to 75 parts per million by volume, dry (ppmvd) (corrected to 15 percent O_2 and heat rate). Development of improved wet injection combustors reduced NO_x concentrations to 25 ppmvd (corrected to 15 percent O_2) when burning natural gas. More recently, however, CT manufacturers have developed dry low-NO_x combustors that can reduce NO_x concentrations to 15 ppmvd (corrected to 15 percent O_2) or less when firing natural gas.

Technology Description and Feasibility

Wet Injection

The injection of water or steam in the combustion zone of CTs reduces the flame temperature with a corresponding decrease of NO_x emissions. The amount of NO_x reduction possible depends on the combustor design and the water-to-fuel ratio employed. An increase in the water-to-fuel ratio will cause a concomitant decrease in NO_x emissions until flame instability occurs. At this point, operation of the CT becomes inefficient and unreliable, and significant increases in products of incomplete combustion results (i.e., CO and VOC emissions). In "F" Class turbines using wet injection with gas firing, the NO_x emission rates in the 30 ppm have been demonstrated. However, wet injection is no longer offered for gas firing in "F" Class turbine. Wet injection is the only current feasible means of reducing NO_x emissions in the combustion process when firing oil.

Dry Low-NO_x Combustor

In the past several years, CT manufacturers have offered and installed machines with dry low-NO_x combustors. These combustors, which are offered on conventional machines manufactured by Westinghouse, GE, Kraftwork Union, and ABB, can achieve NO_x concentrations of 25 ppmvd or less when firing natural gas. Westinghouse and GE have offered dry low-NO_x combustors on advanced heavy-duty industrial machines. Thermal NO_x formation is inhibited by using combustion techniques where the natural gas and combustion air are premixed before ignition. For the CT being considered for the project, the combustion chamber design includes the use of dry low-NO_x combustor technology. The NO_x emission level when firing natural gas at baseload conditions is 9 ppmvd (corrected

to 15 percent O_2), a level which is guaranteed by the selected vendor (Westinghouse or equivalent) for the project.

Selective Catalytic Reduction

Selective Catalytic Reduction (SCR) uses ammonia (NH_3) to react with NO_x in the gas stream in the presence of a catalyst. NH_3, which is diluted with air to about 5 percent by volume, is introduced into the gas stream at reaction temperatures between 600°F and 750°F. The reactions are as follows:

$$4NH_3 + 4NO + O_2 = 4N_2 + 6H_2O$$

$$4NH_3 + 2NO_2 + O_2 = 3N_2 + 6H_2O$$

SCR operating experience, as applied to gas turbines, consists primarily of baseload natural-gas-fired installations either of cogeneration or combined cycle configuration; no simple cycle facilities have SCR. Exhaust gas temperatures of simple cycle CTs generally are in the range of 1,000°F, which exceeds the optimum range for SCR with base metal catalysts. All current SCR applications have the catalyst placed in the HRSG to achieve proper reaction conditions. This allows a relatively constant temperature for the reaction of NH_3 and NO_x on the catalyst surface.

The use of SCR has been primarily limited to combined-cycle facilities that burn natural gas with small amounts of fuel oil, since SCR catalysts are contaminated by sulfur-containing fuels . For most fuel-oil-burning facilities, catalyst operation is discontinued, or the exhaust bypasses the SCR system. While the operating experience with SCR has not been extensive, certain cost, technical, and environmental considerations have surfaced for units firing both natural gas and oil while using SCR.

Ammonium salts (ammonium sulfate and bisulfate) are formed by the reaction of NH_3 and sulfur combustion products. Ammonium bisulfate can be corrosive and could cause damage to the HRSG surfaces that follow the catalyst, as well as to the stack. Corrosion protection for these areas would be required with concomitant cost and technical requirements. Ammonium sulfate is emitted as particulate matter. While the formation of ammonium salts is primarily associated with oil firing, sulfur combustion products from natural gas also could form small amounts of ammonium salts.

Zeolite and specially designed high temperature catalysts, which are reported to be capable of withstanding temperature ranges up to 1,100°F, have become available commercially only recently. Their application with SCR primarily has been limited to internal combustion engines. Optimum performance of an SCR system using a zeolite catalyst is reported to range from about 800°F to 900°F. At temperatures of 1,100°F and above, the high-temperature catalyst will be irreparably damaged.

In the 1990s there are four simple cycle combustion turbine projects that have installed SCR with operating experience. These projects are:

- Redding Municipal Power – 3 GE Frame 5 CTs fired with natural gas. The CTs are operated as a peaking facility.
- SoCal Gas Company – 4 Solar Centaur CTs (4MW equivalent each) fired with natural gas. The CTs are operated in intermediate cycling duty.
- UnoCal Brea Research Center – a single 4 MW CT firing natural gas. The CT operates in intermediate to base load duty.
- Puerto Rico Electric Power Authority (Cambalache Facility) – 3 ABB Type 11 N (83 MW each) firing No. 2 distillate oil.

The SCRs for all these CTs were designed to operate at temperatures less than 1,000 °F. Many of the smaller CTs have exhaust temperatures less than 1,000 °F. The Cambalache Facility had a once through steam generator in the ductwork leading to SCR used for power augmentation that reduced the catalyst temperature to less than 1,000 °F. Experience on these systems has shown significant catalyst deactivation occurs with peaking and intermediate cycling duty while firing natural gas. Under these conditions catalyst deactivation has occurred after operating from 350 to 4,000 hours. For intermediate-base load duty and firing natural gas, catalyst deactivation improved but still occurred after 8,000 hour of operation and well less the catalyst guarantee. When firing distillate oil, catalyst deactivation occurred after 600 hours. Due to the problems with oil firing, the SCR system for the Cambalache Facility has been removed. This experience suggests that SCR for simple cycle CTs while available from vendors has not been demonstrated as feasible.

$SCONO_x^{TM}$ Process

$SCONO_x^{TM}$ is a NO_x and CO control system exclusively offered by Goal Line Environmental Technologies (GLET). GLET is a partnership formed by Sunlaw Energy Corporation and Advanced Catalyst Systems, Inc.

The $SCONO_x^{TM}$ system employs a single catalyst to simultaneously oxidize CO to CO_2 and NO to NO_2. NO_2 formed by the oxidation of NO is subsequently absorbed onto the catalyst surface through the use of a potassium carbonate absorber coating. The $SCONO_x^{TM}$ oxidation/absorption cycle reactions are:

$$CO + \tfrac{1}{2} O_2 \rightarrow CO_2 \quad (1)$$

$$NO + \tfrac{1}{2} O_2 \rightarrow NO_2 \quad (2)$$

$$2NO_2 + K_2CO_3 \rightarrow CO_2 + KNO_2 + KNO_3 \quad (3)$$

CO_2 produced by reaction (1) and (2) is released to the atmosphere as part of the CT/HRSG exhaust gas stream.

As shown in Reaction (3), the potassium carbonate catalyst coating reacts with NO_2 to form potassium nitrites and nitrates. Prior to saturation of the potassium carbonate coating, the catalyst must be regenerated. This regeneration is accomplished by passing a dilute hydrogen-reducing gas across the surface of the catalyst in the absence of O_2. Hydrogen in the reducing gas reacts with the nitrites and nitrates to form water and elemental nitrogen. CO_2 in the regeneration gas reacts with potassium nitrites and nitrates to form potassium carbonate; this compound is the catalyst absorber coating present on the surface of the catalyst at the start of the oxidation/absorption cycle. The $SCONO_x^{TM}$ regeneration cycle reaction is:

$$KNO_2 + KNO_3 + 4\,H_2 + CO_2 \rightarrow K_2CO_3 + 4\,H_2O_{(g)}) + N_2 \quad (4)$$

Water vapor and elemental nitrogen are released to the atmosphere as part of the CT/HRSG exhaust stream. Following regeneration, the $SCONO_x^{TM}$ catalyst has a fresh coating of potassium carbonate, allowing the oxidation/absorption cycle to begin again. There is no net

gain or loss of potassium carbonate after both the oxidation/absorption and regeneration cycles have been completed.

Since the regeneration cycle must take place in an oxygen-free environment, the section of catalyst undergoing regeneration is isolated from the exhaust gas stream using a set of louvers. Each catalyst section is equipped with a set of upstream and downstream louvers. During the regeneration cycle, these louvers close and valves open allowing fresh regeneration gas to enter and spent regeneration gas to exit the catalyst section being regenerated. At any given time, 75 percent of the catalyst sections will be in the oxidation/absorption cycle, while 25 percent will be in regeneration mode. A regeneration cycle is typically set to last for 3 to 5 minutes.

Regeneration gas is produced by reacting natural gas with O_2 present in ambient air. The SCONO$_x$™ system uses a gas generator produced by Surface Combustion. This unit uses a two-stage process to produce hydrogen and carbon dioxide. In the first stage, natural gas and ambient air are reacted across a partial oxidation catalyst at 1,900°F to form CO and hydrogen. Steam is added and the gas mixture is then passed across a low temperature shift catalyst, forming CO_2 and additional hydrogen. The resulting gas stream is diluted to less than 4 percent hydrogen using steam or another inert gas. The regeneration gas reactions are:

$$CH_4 + \tfrac{1}{2} O_2 + 1.88\, N_2 \rightarrow CO + 2\, H_2 + 1.88\, N_2 \quad (5)$$

$$CO + 2\, H_2 + H_2O + 1.88\, N2_2 \rightarrow CO_2 + 3\, H_2 + 1.88\, N_2 \quad (6)$$

The SCONO$_x$™ operates at a temperature range of 300 to 700°F and, therefore, must be installed in the appropriate temperature section of a HRSG. For SCONO$_x$™ systems installed in locations of the HRSG above 500°F, a separate regeneration gas generator is not required. Instead, regeneration gas is produced by introducing natural gas directly across the SCONO$_x$™ catalyst that reforms the natural gas.

The SCONO$_x$™ system catalyst is subject to reduced performance and deactivation due to exposure to sulfur oxides. For this reason, an additional catalytic oxidation/absorption

system ($SCONO_x$™) to remove sulfur compounds is installed upstream of the $SCONO_x$™ catalyst. During regeneration of the $SCONO_x$™ catalyst, either hydrogen sulfide or SO_2 is released to the atmosphere as part of the CT/HRSG exhaust gas stream. The absorption portion of the $SCONO_x$™ process is proprietary. $SCONO_x$™ oxidation/absorption and regeneration reactions are:

$$CO + \tfrac{1}{2} O_2 \rightarrow CO_2 \quad (7)$$

$$SO_2 + \tfrac{1}{2} O_2 \rightarrow SO_3 \quad (8)$$

$$SO_3 + SORBER \rightarrow [SO_3 + SORBER] \quad (9)$$

$$[SO_3 + SORBER] + 4\,H_2 \rightarrow H_2S + 3\,H_2O \quad (10)$$

Utility materials needed for the operation of the $SCONO_x$™ control system include ambient air, natural gas, water, steam, and electricity. The primary utility material is natural gas used for regeneration gas production. Steam is used as the carrier/dilution gas for the regeneration gas. Electricity is required to operate the computer control system, control valves, and louver actuators.

Commercial experience to date with the $SCONO_x$™ control system is limited to one small combined cycle (CC) power plant located in Los Angeles. This power plant, owned by GLET partner Sunlaw Energy Corporation, utilizes a GE LM2500 turbine (30 MW size) equipped with water injection to control NO_x emissions to approximately 25 ppmvd. The $SCONO_x$™ control system was installed at the Sunlaw Energy facility in December 1996 and has achieved a NO_x exhaust concentration of 3.5 ppmv resulting in an approximate 85 percent NO_x removal efficiency.

The $SCONO_x$™ control technology is not considered to be technically feasible because it has not been commercially demonstrated on large CTs. The CTs planned for the project, Westinghouse 501 F units, each have a nominal generating capacity of 170 MW which are approximately six times larger than the nominal 25-MW GE LM2500 utilized at the Sunlaw Energy Corporation Los Angeles facility. Technical problems associated with scale-up of the $SCONO_x$™ technology given the large differences in machine flow rates are unknown. Additional concerns with the $SCONO_x$™ control technology include process complexity

(multiple catalytic oxidation / absorption / regeneration systems), reliance on only one supplier, and the relatively brief (approximately 18 months) operating history of the technology.

NO_xOUT Process

The NO_xOUT process originated from the initial research by the Electric Power Research Institute (EPRI) in 1976 on the use of urea to reduce NO_x. EPRI licensed the proprietary process to Fuel Tech, Inc., for commercialization. In the NO_xOUT process, aqueous urea is injected into the flue gas stream ideally within a temperature range of 1,600°F to 1,900°F. In the presence of oxygen, the following reaction results:

$$CO(NH_2)_2 + 2NO + \tfrac{1}{2} O_2 \rightarrow 2N_2 + CO_2 + 2H_2O$$

The amount of urea required is most cost-effective when the treatment rate is 0.5 to 2 moles of urea per mole of NO_x. In addition to the original EPRI urea patents, Fuel Tech claims to have a number of proprietary catalysts capable of expanding the effective temperature range of the reaction to between 1,600°F and 1,950°F. Advantages of the system are as follows:

1. Low capital and operating costs as a result of use of urea injection, and
2. The proprietary catalysts used are nontoxic and nonhazardous, thus eliminating potential disposal problems.

Disadvantages of the system are as follows:

1. Formation of ammonia from excess urea treatment rates and/or improper use of reagent catalysts, and
2. Sulfur trioxide (SO_3), if present, will react with ammonia created from the urea to form ammonium bisulfate, potentially plugging the cold end equipment downstream.

Commercial application of the NO_xOUT system is limited and the NO_xOUT system has not been demonstrated on any combustion turbine/HRSG unit.

The NO_xOUT process is not technically feasible for the proposed project because of the high application temperature of 1,600°F to 1,950°F. The maximum exhaust gas temperature of the 501F CT is about 1,000°F. Raising the exhaust temperature the required amount essentially would require installation of a heater. This would be economically prohibitive and would result in an increase in fuel consumption, an increase in the volume of gases that must be treated by the control system, and an increase in uncontrolled air emissions, including NO_x.

Thermal DeNO$_x$

Thermal DeNO$_x$ is Exxon Research and Engineering Company's patented process for NO_x reduction. The process is a high temperature selective noncatalytic reduction (SNCR) of NO_x using ammonia as the reducing agent. Thermal DeNO$_x$ requires the exhaust gas temperature to be above 1,800°F. However, use of ammonia plus hydrogen lowers the temperature requirement to about 1,000°F. For some applications, this must be achieved by additional firing in the exhaust stream before ammonia injection.

The only known commercial applications of Thermal DeNO$_x$ are on heavy industrial boilers, large furnaces, and incinerators that consistently produce exhaust gas temperatures above 1,800°F. There are no known applications on or experience with CTs. Temperatures of 1,800°F require alloy materials constructed with very large piping and components since the exhaust gas volume would be increased by several times. As with the NO_xOUT process, high capital, operating, and maintenance costs are expected because of material requirements, an additional duct burner system, and fuel consumption. Uncontrolled emissions would increase because of the additional fuel burning.

Thus, the Thermal DeNO$_x$ process will not be considered for the proposed project since its high application temperature makes it technically infeasible. The maximum exhaust gas temperature of a 501 F combustion turbine is typically 1,100°F; the cost to raise the exhaust gas to such a high temperature is prohibitively expensive.

Nonselective Catalytic Reduction

Certain manufacturers, such as Engelhard, market a nonselective catalytic reduction system (NSCR) for NO_x control on reciprocating engines. The NSCR process requires a low oxygen

content in the exhaust gas stream and high temperature (700°F to 1,400°F) in order to be effective. CTs have the required temperature but also have high oxygen levels (greater than 12 percent) and, therefore, cannot use the NSCR process. As a result, NSCR is not a technically feasible add-on NO_x control device for CTs.

Technology Demonstration and Feasibility

The technical evaluation of post-combustion gas controls that include NO_xOUT, Thermal DeNO_x, NSCR, and SCONO™ indicate that these processes have not been applied to simple-cycle turbines and are technically infeasible for the project because of process constraints (e.g., temperature). While high-temperature SCR is feasible, it has not been demonstrated on simple-cycle "F" class turbines in peaking service. Wet injection cannot achieve emission rates lower than 25 ppm when firing natural gas in an "F" Class machine and is not offered by the preferred vendor.

For the BACT analysis, dry low-NO_x combustion technology is technically feasible when firing natural gas and SCR in combination with combustion controls is a potentially feasible alternative that can achieve a maximum degree of emission reduction. The advanced dry low-NO_x combustor alone can achieve 9 ppm (corrected) and the SCR with dry low-NO_x combustor is capable of achieving a NO_x emission level of 3.6 ppm when firing natural gas (corrected to 15 percent O_2 dry conditions).

Below is a summary of the technical demonstration and feasibility for the proposed project.

Technology	Simple Cycle
Dry Low-NO_x Combustors	Demonstrated and Feasible – Gas Firing
Wet Injection	Not Feasible/Available – Gas Firing
Wet Injection	Feasible/Available – Oil Firing
Selective Catalytic Reduction	Not Demonstrated on "F" Class turbines in peaking service
Thermal De NO_x	Not Feasible
NO_x Out	Not Feasible
SCO NO_x	Not Feasible
NSCR	Not Feasible

SCR Cost Estimates

Tables B-3 and B-4 present the total capital and annualized cost for SCR applied to simple cycle operation, respectively. The costs were developed using EPA Cost Control Manual (EPA, 1990 & 1993). Vendor based estimates were used for the SCR system. Standard EPA recommended cost factors were used. A capital recovery period of 15 years was used for the capital costs and 3 years for the reoccurring capital costs (i.e., catalyst). SCR system in simple-cycle operation would be subjected to temperatures exceeding 1,000°F where considerable wear can take place resulting in lower life of equipment. Capital recovery periods in this case may be much lower.

B.2.2 Carbon Monoxide

Identification of CO Control Technologies

CO emissions are a result of incomplete or partial combustion of fossil fuel. Combustion design and catalytic oxidation are the control alternatives that are viable for the project. Table B-5 presents a listing of LAER/BACT decisions for CO emissions from combustion turbines. Combustion design is the more common control technique used in CTs. Sufficient time, temperature, and turbulence is required within the combustion zone to maximize combustion efficiency and minimize the emissions of CO. Combustion efficiency is dependent upon combustor design. For the CTs being evaluated, CO emissions will not exceed 12 ppmvd, corrected to 15 percent O_2, dry conditions when firing natural gas under full load conditions.

Catalytic oxidation is a post-combustion control that has been employed in CO nonattainment areas where regulations have required CO emission levels to be less than those associated with wet injection. These installations have been required to use LAER technology and typically have CO limits in the 10 ppm range (corrected to dry conditions).

Technology Description

In an oxidation catalyst control system, CO emissions are reduced by allowing unburned CO to react with oxygen at the surface of a precious metal catalyst, such as platinum. Combustion of CO starts at about 300°F, with efficiencies above 90 percent occurring at

temperatures above 600°F. Catalytic oxidation occurs at temperatures 50 percent lower than that of thermal oxidation, which reduces the amount of thermal energy required.

For CTs, the oxidation catalyst can be located directly after the CT. Catalyst size depends upon the exhaust flow, temperature, and desired efficiency. The existing oxidation catalyst applications primarily have been limited to smaller cogeneration facilities burning natural gas. Oxidation catalysts have not been used on fuel-oil-fired CTs or combined cycle facilities. The use of sulfur-containing fuels in an oxidation catalyst system would result in an increase of SO_3 emissions and concomitant corrosive effects to the stack. In addition, trace metals in the fuel could result in catalyst poisoning during prolonged periods of operation.

Since the units likely will require numerous startups, during simple-cycle operation, variations in exhaust conditions will influence catalyst life and performance. Very little technical data exist to demonstrate the effect of such cycling.

Oxidation Catalyst Costs

Tables B-6 and B-7 present the capital and annualized cost for an oxidation catalyst applied to simple cycle operation. The maximum CO impacts are less than 0.1 percent of the applicable ambient air quality standards. There would also be no secondary benefits, such as reducing acidic deposition, to reducing CO.

Table B-1. Federal NSPS for Electric Utility Stationary Gas Turbines

Pollutant	Emission Limitation[a]
Nitrogen Oxides[b]	0.0075 percent by volume (75 ppm) at 15 percent O_2 on a dry basis adjusted for heat rate and fuel nitrogen

[a] Applicable to electric utility gas turbines with a heat input at peak load of greater than 100×10^6 Btu/hr.

[b] Standard is multiplied by 14.4/Y; where Y is the manufacturer's rated heat rate in kilojoules per watt at rated load or actual measured heat rate based on the lower heating value of fuel measured at actual peak load; Y cannot be greater than 14.4. Standard is adjusted upward (additive) by the percent of nitrogen in the fuel:

Fuel-Bound Nitrogen (percent by weight)	Allowed Increase NO_x Percent by Volume
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	0.04(N)
$0.1 < N \leq 0.25$	0.004+0.0067(N-0.1)
$N > 0.25$	0.005

where: N = the nitrogen content of the fuel (percent by weight).

Source: 40 CFR 60 Subpart GG.

Table B-2 Summary of Best Available Control Technology (BACT) Determinations for Nitrogen Oxide (NOx) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	NOx Emission Limit	Control Method	Efficiency (%)	Type
WYANDOTTE ENERGY	MI	Feb-99	TURBINE, COMBINED CYCLE, POWER PLANT	500 MW	4.5 PPM	SCR	70	BACT
MOBILE ENERGY LLC	AL	Jan-99	TURBINE, GAS, COMBINED CYCLE	188 MW	0.018 LB/MMBTU	*SCR & DLN COMBUSTORS DURING GAS FIRING STEAM/WATER* INJECTION DURING OIL FIRING	0	BACT-PSD
COLORADO SPRINGS UTILITIES	CO	Jan-99	TURBINE, COMBINE, NATURAL GAS FIRED	30 MW EACH	15 PPMVD ABOVE 70% LOA	POLLUTION PREVENTION BUILT INTO EQUIPMENT.	0	BACT-PSD
TENUSKA GEORGIA PARTNERS, L.P.	GA	Dec-98	TURBINE, COMBUSTION, SIMPLE CYCLE, 6	160 MW EA	15 PPMVD @ 15% O2	USING 15% EXCESS AIR. NOX EMISSION IS BECAUSE OF NAT. GAS	0	BACT-PSD
TENUSKA GEORGIA PARTNERS, L.P.	GA	Dec-98	TURBINE, COMBUSTION, SIMPLE CYCLE, 6	160 MW EA	42 PPMVD @ 15% O2	USING 15% EXCESS AIR NOX EMISSION IS BECAUSE OF FUEL OIL	0	BACT-PSD
SANTA ROSA ENERGY LLC	FL	Dec-98	TURBINE, COMBUSTION, NATURAL GAS	241 MW	9.5 PPM@15%O2 DB ON	DRY LOW NOX BURNER	0	BACT-PSD
CITY OF LOMPOC (PORTABLE TUBGRINDER IC ENGINE)	CA	Dec-98	IC ENGINE, DIESEL-FIRED, PORTABLE 460 BHP, CATERPI	460 BHP	580 PPMVD @ 15% O2	DIRECT INJECTION, TURBOCHARGED, INTAKE INTERCOOLER	0	BACT-OTHER
LSP - COTTAGE GROVE, L.P.	MN	Nov-98	ENGINE, DIESEL, EMERGENCY FIRE PUMP	2.7 MMBTU/H	1.85 LB/MMBTU	LIMITED TO BURN DIESEL 150 HR/YR.	0	BACT-PSD
LSP - COTTAGE GROVE, L.P.	MN	Nov-98	GENERATOR, COMBUSTION TURBINE & DUCT BURNER	1988 MMBTU/H (CTG)	4.5 PPMDV @15%O2 (NG)	SELECTIVE CATALYTIC REDUCTION (SCR) WITH A NOX CEM AND PEM	0	BACT-PSD
WESTERN GAS RESOURCES - HILIGHT GAS PLANT	WY	Oct-98	ENGINES, COMPRESSOR, 2 EA	1650 HP	1 G/HP-H	3 - WAY CATALYST SYSTEM AND AIR/FUEL RATIO CONTRO-LLER.	0	BACT-PSD
SABA PETROLEUM, INC. (BELL COMPRESSOR PLANT)	CA	Oct-98	IC ENGINE, COMPRESSOR, NATURAL GAS-FIRED	747 BHP	0.15 G/B-HP-H	3-WAY CATALYTIC CONVERTER. MFGR: DCU, INC; MODEL:DC67/77-10 WITH ELECTRONIC AIR/FUEL RATIO CONTROLLER	0	BACT-OTHER
CHAMPION INTERNATL CORP & CHAMP. CLEAN ENERGY	ME	Sep-98	TURBINE, COMBINED CYCLE, NATURAL GAS	175 MW	9 PPMVD @15% O2 GAS	DRY LOW NOX BURNER-1 OPTION IS CONSIDERED FOR OIL AND IS SELECTED.	0	BACT-OTHER
TNP TECHN, LLC (FORMERLY TX-NM POWER CO)	NM	Aug-98	GAS TURBINES	375 MMBTU/H	15 PPM	WATER INJECTION FOLLOWED BY SELECTIVE CATALYTIC REDUCTION	95	BACT-PSD
CASCO RAY ENERGY CO	ME	Jul-98	TURBINE, COMBINED CYCLE, NATURAL GAS, TWO	170 MW EACH	3.5 PPM @15% O2	SELECTIVE CATALYTIC REDUCTION	0	BACT-PSD
CITY OF LAKELAND ELECTRIC AND WATER UTILITIES	FL	Jul-98	TURBINE, COMBUSTION, GAS FIRED W/ FUEL OIL ALSO	2174 MMBTU/H	25 PPM @ 15% O2	DRY LOW NOX BURNERS FOR SIMPLE CYCLE, SCR WHEN COMBINED CYCLE	0	BACT-PSD
COLORADO SPRINGS UTILITIES-NIXON *POWER PLANT*	CO	Jun-98	*SIMPLE CYCLE TURBINE*, NATURAL GAS	1122 MM BTU/HR	25 PPM @ 15% O2	DRY LOW NOX COMBUSTION	0	BACT-PSD
BRIDGEPORT ENERGY, LLC	CT	Jun-98	TURBINES, COMBUSTION MODEL V84 3A, 2 SIEMES	260 MWHRSG PER TURBINE	8 PPM NAT. GAS	DRY LOW NOX BURNER WITH SCR	80	*BACT-PSD*
UNION PACIFIC RESOURCES - PATRICK DRAW GAS PLANT	WY	May-98	ENGINE, COMPRESSOR, 9 EA	3200 HP	0.5 G/HP-H	ULTRA LOW NOX LEAN BURN TECHNOLOGY	0	BACT-PSD
UNION PACIFIC RESOURCES - PATRICK DRAW GAS PLANT	WY	May-98	ENGINES, COMPRESSOR, 2 EA	1200 HP	0.9 G/B-HP-H	ULTRA LOW NOX LEAN BURN TECHNOLOGY	0	BACT-PSD
UNION PACIFIC RESOURCES - PATRICK DRAW GAS PLANT	WY	May-98	ENGINES, COMPRESSOR, 9 EA	3200 HP	0.9 G/B-HP-H	ULTRA LOW NOX LEAN BURN TECHNOLOGY.	0	BACT-PSD
UNION PACIFIC RESOURCES - PATRICK DRAW GAS PLANT	WY	May-98	COMPRESSOR, ENGINES, 2 EA	1200 HP	0.9 G/HP-H	ULTRA LOW NOX LEAN BURNTECHNOLOGY.	0	BACT-PSD
RUMFORD POWER ASSOCIATES	ME	May-98	TURBINE GENERATOR, COMBUSTION, NATURAL GAS	1908 MMBTU/H	3.5 PPM @ 15% O2	SCR AMMONIA INJECTION SYSTEM AND CATALYTIC REACTORTO REDUCE NOX.	85	BACT-PSD
ANDROSCOGGIN ENERGY LIMITED	ME	Mar-98	GAS TURBINES, COGEN, W/DUCT BURNERS	675 MMBTU/H TURBINE	6 PPM @ 15% O2 NG	LOW NOX BURNERS. LOW NOX COMBUSTORS SCR DURING GAS FIRING ONLY.	85	BACT-PSD
ANDROSCOGGIN ENERGY LIMITED	ME	Mar-98	GAS TURBINES, COGEN, W/DUCT BURNERS	675 MMBTU/H TURBINE	42 PPM @ 15% O2 NG OIL	LOW NOX COMBUSTORS, LOW NOX BURNERS, WATER INJECTION DURING OIL FIRING.	85	BACT-PSD
TWO ELK GENERATION PARTNERS, LIMITED PARTNERSHIP	WY	2/27/98	TURBINE, STATIONARY	33.3 MW	25 PPM @ 15% O2	DRY LOW NOX BURNERS	40	BACT-PSD
AIR LIQUIDE AMERICA CORPORATION	LA	2/13/98	TURBINE GAS, GE, 7ME 7	986 MMBTU/H	9 PPMV	DRY LOW NOX TO LIMIT NOX EMISSION TO 9PPMV	0	BACT-PSD
MILLENNIUM POWER PARTNER, LP	MA	2/2/98	TURBINE, COMBUSTION, WESTINGHOUSE MODEL 501G	2534 MMBTU/H	0.013 LB/MMBTU	DRY LOW-NOX COMBUSTION TECHNOLOGY IN CONJUNCTION WITH SCR ADD-ON NOX CONTROLS	0	BACT-PSD
MINNESOTA METHANE TAURUS CORPORATION	CA	1/9/98	EQUIPMENT, LANDFILL GAS TO ENERGY PRODUCTION	43.66 MMBTU/H	0.59 G/B-HP-H	LEAN BURN, EXHAUST ROUTED THROUGH AFTERBURNER TO FURTHER COMBUST ENGINE CO AND UNBURNED HYDROCARBONS	0	BACT
BASF CORPORATION	LA	12/30/97	TURBINE, COGEN UNIT 2, GE FRAME 6	42.4 MW	8 PPMV NAT. GAS	STEAM INJECTION AND SCR TO LIMIT NOX TO 8 PPM FOR NATURAL GAS AND 25 PPM FOR WASTE GAS (80% H2)	0	BACT-PSD
ARCHIE CRIPPEN	CA	12/9/97	IC ENGINE, DETROIT DIESEL MODEL 8V-92TA	500 BHP	6.2 G/B-HP-H	NO CONTROL	0	BACT
WILLIAMS FIELD SERVICES--MIDDLE MESA CDP	NM	12/3/97	NATURAL GAS COMPRESSOR STATION, 14 ENGINES	1478 HP, EACH	4.51 LB/HR EACH ENGINE	CLEAN/LEAN BURN COMBUSTION	0	BACT-PSD
SOUTHERN NATURAL GAS	AL	Mar-98	2-9160 HP GE MODEL MS3002G NATURAL GAS TURBINES	9,160 HP	53 LB/HR		0	BACT-PSD
SOUTHERN NATURAL GAS	AL	Mar-98	9160 HP GE MODEL MS3002G NATURAL GAS FIRED TURBINE	9,160 HP	53 LB/HR		0	BACT-PSD
ALABAMA POWER COMPANY	AL	Dec-97	COMBUSTION TURBINE W/ DUCT BURNER (COMBINED CYCLE)	100 MW	15 PPM	DRY LOW NOX BURNERS	0	BACT-PSD
BUCKNELL UNIVERSITY	PA	Nov-97	NG FIRED TURBINE, SOLAR TAURUS T-7300S	5.0 MW	25 PPMV@15%O2	SOLONOX BURNER. LOW NOX BURNER	0	BACT-OTHER
NORTHERN CALIFORNIA POWER AGENCY	CA	Oct-97	GE FRAME 5 GAS TURBINE	325 MMBTU/HR	25 PPMVD @ 15% O2	DRY LOW NOX BURNERS	0	LAER
LORDSBURG L.P.	NM	Jun-97	TURBINE, NATURAL GAS-FIRED, ELEC. GEN.	100 MW	74.4 LBS/HR	DRY LOW-NOX TECHNOLOGY WHICH ADOPTS STAGED OR SCHEDULED COMBUSTION	80	BACT-PSD
SOUTHERN CALIFORNIA GAS COMPANY	CA	May-97	VARIABLE LOAD NATURAL GAS FIRED TURBINE COMPRESSOR	50 MMBTU/HR	25 PPMVD @ 15% O2	DRY LOW NOX COMBUSTOR	0	LAER
MEAD COATED BOARD, INC.	AL	Mar-97	COMBINED CYCLE TURBINE (25 MW)	568 MMBTU/HR	25 PPMVD@ 15% O2 (GAS)	FUEL OIL SULFUR CONTENT <=0.05% BY WEIGHT, DRY LOW NOX COMBUSTOR DESIGN FIRING GAS AND DRY LOW NOX COMBUSTOR WITH WATER INJECTION FIRING OIL	0	BACT-PSD
FORMOSA PLASTICS CORPORATION, BATON ROUGE PLANT	LA	Mar-97	TURBINE/HSRG, GAS COGENERATION	450 MM BTU/HR	9 PPMV	DRY LOW NOX BURNER/COMBUSTION DESIGN AND CONSTRUCTION	0	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE COMPANY/CUNNINGHAM STA	NM	Feb-97	COMBUSTION TURBINE, NATURAL GAS	100 MW	0 SEE FACILITY NOTES	DRY LOW NOX COMBUSTION	0	BACT-PSD
CALRESOURCES LLC	CA	Jan-97	SOLAR MODEL 1100 SATURN GAS TURBINE	14 MMBTU/HR	68 PPMVD @15% O2	NO CONTROL	0	LAER
TEMPO PLASTICS	CA	Dec-96	GAS TURBINE COGENERATION UNIT	0.0	0.109 LB/MMBTU	LOW-NOX COMBUSTOR	0	LAER
SOUTHERN NATURAL GAS COMPANY	MS	Dec-96	*TURBINE, NATURAL GAS-FIRED*	9,160 HORSEPOWER	110 PPMV @ 15% O2, DRY	PROPER TURBINE DESIGN AND OPERATION	0	BACT-PSD
SOUTHERN NATURAL GAS COMPANY-SELMA COMPRESSOR STAT	AL	Dec-96	9160 HP GE MS3002G NATURAL GAS FIRED TURBINE	0.0	53 LB/HR		0	*BACT-PSD*
SOUTHWESTERN PUBLIC SERVICE CO/CUNNINGHAM STATION	NM	Nov-96	COMBUSTION TURBINE, NATURAL GAS	100 MW	15 PPM; SEE FAC NOTES	DRY LOW NOX COMBUSTION	0	BACT-PSD
ECOELECTRICA, L.P.	PR	Oct-96	TURBINES, COMBINED-CYCLE COGENERATION	461 MW	80 LB/HR (GAS)	STEAM/WATER INJECTION AND SELECTIVE CATALYTIC REDUCTION (SCR).	72	BACT-PSD
ECOELECTRICA, L.P.	PR	Oct-96	TURBINES, COMBINED-CYCLE COGENERATION	461 MW	73 LB/HR (OIL)	STEAM/WATER INJECTION AND SELECTIVE CATALYTIC REDUCTION (SCR).	72	BACT-PSD
BLUE MOUNTAIN POWER, LP	PA	Jul-96	COMBUSTION TURBINE WITH HEAT RECOVERY BOILER	153 MW	4 PPM @ 15% O2	DRY LNB WITH SCR WATER INJECTION IN PLACE WHEN FIRING OIL OIL FIRING LIMITS SET TO 8.4 PPM @15% O2	84	LAER
CITY OF ST.PAUL POWER PLANT	AK	Jun-96	INTERNAL COMBUSTION	3.4 MW	427 TPY	AFTERCOOLERS	0	BACT-PSD
CITY OF UNALASKA	AK	Jun-96	INTERNAL COMBUSTION	6.5 MW	633 TPY	LIMIT OF OPERATION HOURS AND AFTERCOOLERS	0	BACT-PSD
GENERAL ELECTRIC GAS TURBINES	SC	Apr-96	I.C. TURBINE	2,700 MMBTU/HR	895 LB/HR	GOOD COMBUSTION PRACTICES TO MINIMIZE EMISSIONS	0	BACT-PSD
CAROLINA POWER & LIGHT	NC	Apr-96	COMBUSTION TURBINE, 4 EACH	1,908 MMBTU/HR	512 LB/HR (OIL)	WATER INJECTION; FUEL SPEC: 0.04% N FUEL OIL	0	BACT-PSD
CAROLINA POWER & LIGHT	NC	Apr-96	COMBUSTION TURBINE, 4 EACH	1908 MMBTU/HR	158 LB/HR (GAS)	WATER INJECTION	0	BACT-PSD
MID-GEORGIA COGEN.	GA	Apr-96	COMBUSTION TURBINE (2), FUEL OIL	116 MW	20 PPMVD	WATER INJECTION WITH SCR	0	BACT-PSD
MID-GEORGIA COGEN.	GA	Apr-96	COMBUSTION TURBINE (2), NATURAL GAS	116 MW	9 PPMVD	DRY LOW NOX BURNER WITH SCR	0	BACT-PSD
GEORGIA GULF CORPORATION	LA	Mar-96	GENERATOR, NATURAL GAS FIRED TURBINE	1,123 MM BTU/HR	25 PPMV-CORR. TO 15%O2	CONTROL NOX USING STEAM INJECTION	0	BACT-PSD
SEMINOLE HARDEE UNIT 3	FL	Jan-96	COMBINED CYCLE COMBUSTION TURBINE	140 MW	15 PPM @ 15% O2	DRY LNB STAGED COMBUSTION	0	BACT-PSD
KEY WEST CITY ELECTRIC SYSTEM	FL	Sep-95	TURBINE, EXISTING CT RELOCATION TO A NEW PLANT	23 MW	75 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
UNION CARBIDE CORPORATION	LA	Sep-95	GENERATOR, GAS TURBINE	1,313 *MM BTU/HR*	25 PPMV CORR. TO 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
PUERTO RICO ELECTRIC POWER AUTHORITY (PREPA)	PR	Jul-95	COMBUSTION TURBINES (3), 83 MW SIMPLE-CYCLE EACH	248 MW	35 LB/HR AS NO2	STEAM INJECTION PLUS SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM. USE OF NO. 2 FUEL OIL WITHNITROGEN CONTENT NOT TO EXCEED 0.10% BY WEIGHT.	0	BACT-PSD
HIGGINSVILLE MUNICIPAL POWER FACILITY	MO	Jul-95	ADD OF A DUAL FUEL FIRED TWIN-PAC TURBINE	49 MW	42 PPM BY VOL 1 HR AVG (	CONTROLS TO REGULATE THE FUEL CONSUMPTION AND THE RATIO OF WATER TO FUEL BEING FIRED IN THE TURBINES	0	BACT-PSD
HIGGINSVILLE MUNICIPAL POWER FACILITY	MO	Jul-95	ADD OF A DUAL FUEL FIRED TWIN-PAC TURBINE	49 MW	75 PPM BY VOL 1 HR AVG (	CONTROLS TO REGULATE THE FUEL CONSUMPTION AND THE RATIO OF WATER TO FUEL BEING FIRED IN THE TURBINES	0	BACT-PSD

Table B-2 Summary of Best Available Control Technology (BACT) Determinations for Nitrogen Oxide (NOx) Emissions

BROOKLYN NAVY YARD COGENERATION PARTNERS L.P.	NY	Jun-95	TURBINE, NATURAL GAS FIRED	240 MW	3.5 PPM @ 15% O2	SCR	0	LAER
PANDA-KATHLEEN, L.P.	FL	Jun-95	COMBINED CYCLE COMBUSTION TURBINE (TOTAL 115MW)	75 MW	15 PPM @ 15% O2	DRY LOW NOX BURNER	0	BACT-PSD
PROCTOR AND GAMBLE PAPER PRODUCTS CO (CHARMIN)	PA	May-95	TURBINE, NATURAL GAS	580 MMBTU/HR	55 PPM @ 15% O2	STEAM INJECTION	75	RACT
MILAGRO, WILLIAMS FIELD SERVICE	NM	May-95	TURBINE/COGEN, NATURAL GAS (2)	900 MMCF/DAY	9 PPM @ 15% O2	DRY LOW NOX (GENERAL ELECTRIC MODEL PG6541B)	94	BACT-PSD
GAINESVILLE REGIONAL UTILITIES	FL	Apr-95	SIMPLE CYCLE COMBUSTION TURBINE, GAS/NO 2 OIL B-UP	74 MW	15 PPM AT 15% OXYGEN	DRY LOW NOX BURNERS GE FRAME UNIT, CAN ANNULAR COMBUSTORS	0	BACT-PSD
GAINESVILLE REGIONAL UTILITIES	FL	Apr-95	OIL FIRED COMBUSTION TURBINE	74 MW	42 PPM AT 15% OXYGEN	WATER INJECTION	0	BACT-PSD
LEDERLE LABORATORIES	NY	Apr-95	(2) GAS TURBINES (EP #S 00101&102)	110 MMBTU/HR	42 PPM, 18 LB/HR	STEAM INJECTION	0	BACT-PSD
PILGRIM ENERGY CENTER	NY	Apr-95	(2) WESTINGHOUSE W501D5 TURBINES (EP #S 00001&2)	1,400 MMBTU/HR	4.5 PPM, 22.8 LB/HR	STEAM INJECTION FOLLOWED BY SCR	0	BACT
BALTIMORE GAS & ELECTRIC - PERRYMAN PLANT	MD	Mar-95	TURBINE, 140 MW NATURAL GAS FIRED ELECTRIC	140 MW	15 PPM @ 15% O2	DRY BURN LOW NOX BURNERS	91	BACT-PSD
FORMOSA PLASTICS CORPORATION, LOUISIANA	LA	Mar-95	TURBINE/HRSG, GAS COGENERATION	450 MM BTU/HR	9 PPMV	DRY LOW NOX BURNER/COMBUSTION DESIGN AND CONTROL	0	LAER
LSP-COTTAGE GROVE, L.P.	MN	Mar-95	COMBUSTION TURBINE/GENERATOR	1,970 MMBTU/HR	4.5 PPM @ 15% O2 GAS	SELECTIVE CATALYTIC REDUCTION (SCR)	70	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	Feb-95	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	89 MW	360 TPY	WATER INJECTION	0	BACT-PSD
MARATHON OIL CO - INDIAN BASIN N G PLAN	NM	Jan-95	TURBINES, NATURAL GAS (2)	5,500 HP	7.4 LBS/HR	LEAN-PREMIXED COMBUSTION TECHNOLOGY DRY/LOW NOX	66	BACT-PSD
KAMINE/BESICORP SYRACUSE LP	NY	Dec-94	SIEMENS V84.3 GAS TURBINE (EP #00001)	650 MMBTU/HR	25 PPM	WATER INJECTION	70	BACT
INDECK-OSWEGO ENERGY CENTER	NY	Oct-94	GE FRAME 6 GAS TURBINE	533 LB/MMBTU	42 PPM, 75.00 LB/HR	STEAM INJECTION	53	BACT
FULTON COGEN PLANT	NY	Sep-94	GE LM5000 GAS TURBINE	500 MMBTU/HR	38 PPM, 65 LB/HR	WATER INJECTION	59	BACT
CAROLINA POWER AND LIGHT	SC	Aug-94	STATIONARY GAS TURBINE	1,520 MMBTU/H	25 PPMDV @ 15% O2 (GAS)	WATER INJECTION	30	BACT-PSD
CAROLINA POWER AND LIGHT	SC	Aug-94	STATIONARY GAS TURBINE	1,520 MMBTU/H	62 PPMDV @ 15% O2 (OIL)	WATER INJECTION	30	BACT-PSD
BRUSH COGENERATION PARTNERSHIP	CO	Jul-94	TURBINE	350 MMBTU/H	25 PPM @ 15% O2	DRY LOW NOX BURNER	74	BACT-PSD
COLORADO POWER PARTNERSHIP	CO	Jul-94	TURBINES, 2 NAT GAS & 2 DUCT BURNERS	385 MMBTU/H EACH TURBINE	42 PPM @ 15% O2	WATER INJECTION	66	BACT-PSD
MUDDY RIVER L.P.	NV	Jun-94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140 MEGAWATT	303 LB/HR	LOW NOX BURNER	0	BACT-PSD
CSW NEVADA, INC	NV	Jun-94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140 MEGAWATT	273 LB/HR	DRY LOW NOX COMBUSTOR	0	BACT-PSD
PORTLAND GENERAL ELECTRIC CO	OR	May-94	TURBINES, NATURAL GAS (2)	1,720 MMBTU	4.5 PPM @ 15% O2	SCR	82	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO	MO	May-94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1345 MMBTU/HR	25 PPM BY VOL 1 HR AVG (	LOW NOX BURNERS, AND WATER INJECTION	0	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO	MO	May-94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1,345 MMBTU/HR	1,135 TPY (NO. 2 OIL)	LOW NOX BURNERS, AND WATER INJECTION	0	BACT-PSD
GEORGIA POWER COMPANY, ROBINS TURBINE PROJECT	GA	May-94	TURBINE, COMBUSTION, NATURAL GAS	80 MW	25 PPM	WATER INJECTION, FUEL SPEC: NATURAL GAS	0	BACT-PSD
WEST CAMPUS COGENERATION COMPANY	TX	May-94	GAS TURBINES	75 MW (TOTAL POWER)	200 TPY	INTERNAL COMBUSTION CONTROLS	0	BACT-PSD
FLEETWOOD COGENERATION ASSOCIATES	PA	Apr-94	NG TURBINE (GE LM6000) WITH WASTE HEAT BOILER	360 MMBTU/HR	21 LB/HR	SCR WITH LOW NOX COMBUSTORS	47	BACT-OTHER
HERMISTON GENERATING CO	OR	Apr-94	TURBINES, NATURAL GAS (2)	1,696 MMBTU	4.5 PPM @ 15% O2	SCR	82	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	Feb-94	TURBINE, NATURAL GAS (2)	1,510 MMBTU/H	12 PPMVD @15 % O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	Feb-94	TURBINE, FUEL OIL (2)	1,730 MMBTU/H	42 PPMVD @ 15 %O2	WATER INJECTION	0	BACT-PSD
TECO POLK POWER STATION	FL	Feb-94	TURBINE, SYNGAS (COAL GASIFICATION)	1,755 MMBTU/H	25 PPMVD @ 15 % O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
TECO POLK POWER STATION	FL	Feb-94	TURBINE, FUEL OIL	1,765 MMBTU/H	42 PPMVD @ 15 % O2	WET INJECTION	0	BACT-PSD
INTERNATIONAL PAPER	LA	Feb-94	TURBINE/HRSG, GAS COGEN	338 MM BTU/HR TURBINE	25 PPMV 15% O2 TURBINE	DRY LOW NOX COMBUSTOR/COMBUSTION CONTROL	0	BACT
KAMINE/BESICORP CARTHAGE L.P.	NY	Jan-94	GE FRAME 6 GAS TURBINE	491 BTU/HR	42 PPM, 78.6 LB/HR	STEAM INJECTION	63	BACT
ORANGE COGENERATION LP	FL	Dec-93	TURBINE, NATURAL GAS, 2	368 MMBTU/H	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
PROJECT ORANGE ASSOCIATES	NY	Dec-93	GE LM-5000 GAS TURBINE	550 MMBTU/HR	25 PPM, 47 LB/HR	STEAM INJECTION, FUEL SPEC; NATURAL GAS ONLY	80	BACT
WILLIAMS FIELD SERVICES CO - EL CEDRO COMPRESSOR	NM	Oct-93	TURBINE, GAS-FIRED	11,257 HP	42 PPM @ 15% O2	SOLONOX COMBUSTOR, DRY LOW NOX TECHNOLOGY	88	BACT-PSD
FLORIDA GAS TRANSMISSION	FL	Sep-93	TURBINE, GAS	132 MMBTU/H	25 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
PATOWMACK POWER PARTNERS, LIMITED PARTNERSHIP	VA	Sep-93	TURBINE, COMBUSTION, SIEMENS MODEL V84 2, 3	10.2 X109 SCF/YR NAT GAS	131 LB/HR(GAS); 339 OIL	DRY LOW NOX COMBUSTOR, DESIGN, WATER INJECTION	0	BACT-PSD
FLORIDA GAS TRANSMISSION COMPANY	AL	Aug-93	TURBINE, NATURAL GAS	12,600 BHP	0.58 GM/HP HR	AIR-TO-FUEL RATIO CONTROL, DRY LOW NOX COMBUSTION	71	BACT-PSD
LOCKPORT COGEN FACILITY	NY	Jul-93	(6) GE FRAME 6 TURBINES (EP #S 00001-00006)	424 MMBTU/HR	42 PPM	STEAM INJECTION	78	BACT
ANITEC COGEN PLANT	NY	Jul-93	GE LM5000 COMBINED CYCLE GAS TURBINE EP #00001	451 MMBTU/HR	25 PPM, 41 LB/HR	NO CONTROLS	0	BACT-OTHER
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	Jun-93	TURBINES, COMBUSTION, KEROSENE-FIRED (2)	640 MMBTU/H (EACH)	18 PPMDV	SCR	0	BACT-PSD
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	Jun-93	TURBINES, COMBUSTION, NATURAL GAS-FIRED (2)	617 MMBTU/HR (EACH)	8.3 PPMDV	SCR	0	BACT-PSD
TIGER BAY LP	FL	May-93	TURBINE, OIL	1,850 MMBTU/H	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
TIGER BAY LP	FL	May-93	TURBINE, GAS	1,615 MMBTU/H	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
INDECK ENERGY COMPANY	NY	May-93	GE FRAME 6 GAS TURBINE EP #00001	491 MMBTU/HR	32 PPM	STEAM INJECTION	58	BACT
PHOENIX POWER PARTNERS	CO	May-93	TURBINE (NATURAL GAS)	311 MMBTU/HR	22 PPM @ 15% O2	DRY LOW NOX COMBUSTION	0	BACT-OTHER
TRIGEN MITCHEL FIELD	NY	Apr-93	GE FRAME 6 GAS TURBINE	425 MMBTU/HR	60 PPM, 90 LB/HR	STEAM INJECTION	20	BACT
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, FUEL OIL	926 MMBTU/H	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, FUEL OIL	371 MMBTU/H	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, NATURAL GAS	869 MMBTU/H	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, NATURAL GAS	367 MMBTU/H	15 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
EAST KENTUCKY POWER COOPERATIVE	KY	Mar-93	TURBINES (5), #2 FUEL OIL AND NAT. GAS FIRED	1,492 MMBTU/H (EACH)	42 PPM @ 15% O2 (OIL)	WATER INJECTION	46	SEE NOTES
INTERNATIONAL PAPER CO RIVERDALE MILL	AL	Jan-93	TURBINE, STATIONARY (GAS-FIRED) WITH DUCT BURNER	40 MW	0.08 LB/MMBTU (GAS)	LOW NOX BURNERS (ON THE DUCT BURNER) STEAM INJECTION INTO THE TURBINE	0	BACT-PSD
OKLAHOMA MUNICIPAL POWER AUTHORITY	OK	Dec-92	TURBINE, COMBUSTION	58 MW	65 PPM @ 15% O2 (OIL)	COMBUSTION CONTROLS	83	BACT-OTHER
OKLAHOMA MUNICIPAL POWER AUTHORITY	OK	Dec-92	TURBINE, COMBUSTION	58 MW	25 PPM @ 15% O2 (GAS)	COMBUSTION CONTROLS	83	BACT-OTHER
AUBURNDALE POWER PARTNERS, LP	FL	Dec-92	TURBINE, OIL	1,170 MMBTU/H	42 PPMVD @ 15 % O2	STEAM INJECTION	0	BACT-PSD
AUBURNDALE POWER PARTNERS, LP	FL	Dec-92	TURBINE,GAS	1,214 MMBTU/H	15 PPMVD @ 15 % O2	DRY LOW NOX COMBUSTOR	0	BACT-PSD
SITHE/INDEPENDENCE POWER PARTNERS	NY	Nov-92	TURBINES, COMBUSTION (4) (NATURAL GAS) (1012 MW)	2,133 MMBTU/HR (EACH)	4.5 PPM	SCR AND DRY LOW NOX	0	BACT-OTHER
KAMINE/BESICORP BEAVER FALLS COGENERATION FACILITY	NY	Nov-92	TURBINE, COMBUSTION (NAT. GAS & OIL FUEL) (79MW)	650 MMBTU/HR	9 PPM (GAS)	DRY LOW NOX OR SCR	0	BACT-OTHER
KAMINE/BESICORP BEAVER FALLS COGENERATION FACILITY	NY	Nov-92	TURBINE, COMBUSTION (NAT. GAS & OIL FUEL) (79MW)	650 MMBTU/HR	55 PPM (OIL)	DRY LOW NOX OR SCR	0	BACT-OTHER
KAMINE/BESICORP CORNING L.P.	NY	Nov-92	TURBINE, COMBUSTION (79 MW)	653 MMBTU/HR	9 PPM	DRY LOW NOX OR SCR	0	BACT-OTHER
GRAYS FERRY CO GENERATION PARTNERSHIP	PA	Nov-92	TURBINE (NATURAL GAS & OIL)	1,150 MMBTU	9 PPMVD (NAT. GAS)*	DRY LOW NOX BURNER, COMBUSTION CONTROL	0	BACT-OTHER
GOAL LINE, LP ICEFLOE	CA	Nov-92	TURBINE, COMBUSTION (NATURAL GAS) (42.4 MW)	366 MMBTU/HR	5 PPMVD @ 15% OXYGEN	WATER INJECTION & SCR W/ AUTOMATIC AMMONIA INJECT.	88	BACT-OTHER
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS	468 X10(6) BTU/HR #2 OIL	15 PPM	SCR	81	BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS (TOTAL)	0.0	89.7 TPY	SCR	0	BACT-PSD
BEAR ISLAND PAPER COMPANY, L.P.	VA	Oct-92	TURBINE, COMBUSTION GAS	474 X10(6) BTU/HR N. GAS	9 PPM	SELECTIVE CATALYTIC REDUCTION (SCR)	75	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINE FACILITY, GAS	7.4 X10(7) GPY FUEL OIL	245 TOTAL TPY	SELECTIVE CATALYTIC REDUCTION (SCR)	80	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINES (2) [EACH WITH A SF]	1.4 X10(9) BTU/H #2 OIL	66 LBS/HR/UNIT	WATER INJECTION AND SCR	80	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINE FACILITY, GAS	1,331 X10(7) SCF/Y NAT GAS	245 TOTAL TPY	SELECTIVE CATALYTIC REDUCTION (SCR) W/ WATER INJEC	80	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINES (2) [EACH WITH A SF]	1.5 X10(9) BTU/HR N GAS	9 PPMDV/UNIT @ 15% O2	SCR WITH WATER INJECTION	80	BACT-PSD
NEVADA POWER COMPANY, HARRY ALLEN PEAKING PLANT	NV	Sep-92	COMBUSTION TURBINE ELECTRIC POWER GENERATION	600 MW (8 UNITS 75 EACH)	86.6 TPY (EACH TURBINE)	LOW NOX COMBUSTOR	0	BACT-PSD
KAMINE SOUTH GLENS FALLS COGEN CO	NY	Sep-92	GE FRAME 6 GAS TURBINE	498 MMBTU/HR	42 PPM, 78.8 LB/HR	WATER INJECTION	50	BACT
NORTHERN STATES POWER COMPANY	SD	Sep-92	TURBINE, SIMPLE CYCLE, 4 EACH	129 MW	24 PPM @ 15% O2 GAS	WATER INJECTION FOR GAS & DISTILLATION	0	BACT-PSD
PASNY/HOLTSVILLE COMBINED CYCLE PLANT	NY	Sep-92	TURBINE, COMBUSTION GAS (150 MW)	1,146 MMBTU/HR (GAS)*	9 PPM (GAS)	DRY LOW NOX	0	BACT-OTHER
PASNY/HOLTSVILLE COMBINED CYCLE PLANT	NY	Sep-92	TURBINE, COMBUSTION GAS (150 MW)	1,146 MMBTU/HR (GAS)*	42 PPM (OIL)	WATER INJECTOR	0	BACT-OTHER
WEPCU, PARIS SITE	WI	Aug-92	TURBINES, COMBUSTION (4)	0.0	65 PPM @ 15% O2 (OIL)	GOOD COMBUSTION PRACTICES	0	BACT-PSD
WEPCU, PARIS SITE	WI	Aug-92	TURBINES, COMBUSTION (4)	0.0	25 PPM @ 15% O2 (GAS)	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER CORPORATION	FL	Aug-92	TURBINE, OIL	1,029 MMBTU/H	42 PPMVD @ 15 % O2	WET INJECTION	0	BACT-PSD
FLORIDA POWER CORPORATION	FL	Aug-92	TURBINE, OIL	1,866 MMBTU/H	42 PPMVD @ 15 % O2	WET INJECTION	0	BACT-PSD
NORTHWEST PIPELINE COMPANY	WA	Aug-92	TURBINE, GAS-FIRED	12,100 HP	196 PPM @ 15% O2	ADVANCED DRY LOW NOX COMBUSTOR (BY 07/01/95)	78	BACT-PSD
CNG TRANSMISSION	OH	Aug-92	TURBINE (NATURAL GAS) (3)	5,500 HP (EACH)	1.6 G/HP-HR*	LOW NOX COMBUSTION	0	BACT-OTHER
SARANAC ENERGY COMPANY	NY	Jul-92	TURBINES, COMBUSTION (2) (NATURAL GAS)	1,123 MMBTU/HR (EACH)	9 PPM	SCR	0	BACT-OTHER
HARTWELL ENERGY LIMITED PARTNERSHIP	GA	Jul-92	TURBINE, OIL FIRED (2 EACH)	1,840 M BTU/HR	25 PPMVD, FUEL N AFLOW	MAXIMUM WATER INJECTION	0	BACT-PSD
MAUI ELECTRIC COMPANY, LTD /MAALAEA GENERATING STA	HI	Jul-92	TURBINE, COMBINED-CYCLE COMBUSTION	28 MW	42.3 LB/HR	WATER INJECTION	69	BACT-OTHER
HARTWELL ENERGY LIMITED PARTNERSHIP	GA	Jul-92	TURBINE, GAS FIRED (2 EACH)	1,817 M BTU/HR	25 PPM @ 15% O2	MAXIMUM WATER INJECTION	0	BACT-PSD

Table B-2 Summary of Best Available Control Technology (BACT) Determinations for Nitrogen Oxide (NOx) Emissions

INDECK-YERKES ENERGY SERVICES	NY	Jun-92	GE FRAME 6 GAS TURBINE (EP #00001)	432 MMBTU/HR	42 PPM, 74 LB/HR	STEAM INJECTION	35	BACT
SELKIRK COGENERATION PARTNERS, L.P.	NY	Jun-92	COMBUSTION TURBINES (2) (252 MW)	1,173 MMBTU/HR (EACH)	9 PPM GAS	STEAM INJECTION AND SCR	0	BACT-OTHER
SELKIRK COGENERATION PARTNERS, L.P.	NY	Jun-92	COMBUSTION TURBINE (79 MW)	1,173 MMBTU/HR	25 PPM GAS	STEAM INJECTION	0	BACT-OTHER
NORTHWEST PIPELINE CORPORATION	CO	May-92	TURBINE, SOLAR TAURUS	45 MMBTU/HR	95 PPMVD (UNTIL 11/98)	DRY LOW NOX COMBUSTOR (BY 11/01/98)	0	BACT-PSD
NARRAGANSETT ELECTRIC/NEW ENGLAND POWER CO.	RI	Apr-92	TURBINE, GAS AND DUCT BURNER	1,380 MMBTU/H EACH	9 PPM @ 15% O2, GAS	SCR	0	BACT-PSD
KENTUCKY UTILITIES COMPANY	KY	Mar-92	TURBINE, #2 FUEL OIL/NATURAL GAS (8)	1,500 MM BTU/HR (EACH)	42 PPM @ 15% O2, N GAS	WATER INJECTION	0	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION	1,175 MMBTU/H NAT. GAS	9 PPM @ 15% O2	SCR, STEAM INJECTION	91	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION	1,117 MMBTU/H NO2 FUEL OIL	15 PPM @ 15% O2	SCR, STEAM INJ.	91	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION, 2	0.0	191 T/YR/UNIT		0	BACT-PSD
THERMO INDUSTRIES, LTD.	CO	Feb-92	TURBINE, GAS FIRED, 5 EACH	246 MMBTU/H	25 PPM @ 15% O2	DRY LOW NOX TECH.	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	42 3 LB/HR	COMBUSTOR WATER INJECTOR, WATER INJECTION	70	BACT-PSD
SAVANNAH ELECTRIC AND POWER CO	GA	Feb-92	TURBINES, 8	1,032 MMBTU/H, NAT GAS	25 PPM @ 15% O2	MAX WATER INJECTION	0	BACT-PSD
SAVANNAH ELECTRIC AND POWER CO.	GA	Feb-92	TURBINES, 8	972 MMBTU/H, #2 OIL	0 SEE NOTES	MAX WATER INJECTION	0	BACT-PSD
LINDEN COGENERATION TECHNOLOGY	NJ	Jan-92	TURBINE, NATURAL GAS FIRED	50 X E12 BTU/YR	33 8 LB/HR	STEAM INJECTION AND SCR	95	BACT-PSD
ALYESKA PIPELINE SERVICE COMPANY	AK	Jan-92	SOLAR CENTAUR, 3	800 KW	150 PPMVD @ 15% O2	LOW NOX BURNERS	0	NSPS
KAMINE/BESICORP NATURAL DAM LP	*NY*	*Dec-91*	*GE FRAME 6 GAS TURBINE*	500 MMBTU/HR	42 PPM, 80 1 LB/HR	STEAM INJECTION	35	BACT
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	Dec-91	TURBINE, COMBUSTION	1,247 MM BTU/HR	287 LB/HR	*MULTINOZZLE COMBUSTOR, MAXIMUM WATER INJECTION*	*0*	BACT-PSD
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	Dec-91	TURBINE, COMBUSTION	1,313 MM BTU/HR	119 LB/HR	MULTINOZZLE COMBUSTOR, MAXIMUM WATER INJECTION	0	BACT-PSD
MAUI ELECTRIC COMPANY, LTD	HI	Dec-91	TURBINE, FUEL OIL #2	28 MW	42 PPM	WATER INJECTION	71	BACT-PSD
KALAMAZOO POWER LIMITED	MI	Dec-91	TURBINE, GAS-FIRED, 2, W/ WASTE HEAT BOILERS	1,808 MMBTU/H	15 PPMV	DRY LOW NOX TURBINES	0	BACT-PSD
LAKE COGEN LIMITED	FL	Nov-91	TURBINE, OIL, 2 EACH	42 MW	42 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
LAKE COGEN LIMITED	FL	Nov-91	TURBINE, GAS, 2 EACH	42 MW	25 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
SHELL PIPELINE CORPORATION	CA	Nov-91	GENERATOR, EMERGENCY, PROPANE FIRED	82 BHP	0 28 LB/H	3-WAY CATALYTIC CONVERTER	80	BACT-PSD
DE LA GUERRA POWER, INC	CA	Nov-91	ENGINE IC & GEN (1 OF 3)	380 HP	6.34 LB/D	NON-SELECTIVE CATALYTIC CONVERTER	90	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	Nov-91	TURBINE, GAS, 4 EACH	35 MW	42 PPM @ 15% O2	WET INJECTION	70	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	Nov-91	TURBINE, OIL, 4 EACH	35 MW	65 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
SOUTHERN CALIFORNIA GAS	CA	Oct-91	TURBINE, GAS FIRED, SOLAR MODEL H	5,500 HP	8 PPM @ 15% O2	HIGH TEMP SELECT CAT REDUCTION	93	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	84 9 PPM @ 15% O2	LEAN BURN	0	NSPS
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	42 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	51	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	85 1 PPM @ 15% O2	FUEL SPEC LEAN FUEL MIX	0	NSPS
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5600 HP	42 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	51	BACT-PSD
FLORIDA POWER GENERATION	FL	Oct-91	TURBINE, OIL, 6 EACH	93 MW	42 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, NAT. GAS TRANSM , GE FRAME 3	12,000 HP	225 PPM @ 15% O2	LEAN BURN	0	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, NAT. GAS TRANSM., GE FRAME 3	12,000 HP	42 PPM @ 15% O2	DRY LOW NOX COMBUSTOR	80	BACT-PSD
NUGGET OIL CO.	CA	Oct-91	GENERATOR, STEAM, GAS FIRED	63 MMBTU/H	0 043 LB/MMBTU	LOW NOX BURNER AND FLUE GAS RECIRCULATION*	57	BACT-PSD
CAROLINA POWER AND LIGHT CO	SC	Sep-91	TURBINE, I C.	80 MW	292 LB/H	WATER INJECTION	50	BACT-PSD
ENRON LOUISIANA ENERGY COMPANY	LA	Aug-91	TURBINE, GAS, 2	39 MMBTU/H	40 PPM @ 15% O2	H2O INJECT 0.67 LB/LB	71	BACT-PSD
ALGONQUIN GAS TRANSMISSION CO	RI	Jul-91	TURBINE, GAS, 2	49 MMBTU/H	100 PPM @ 15% O2	LOW NOX COMBUSTION	0	BACT-OTHER
CHARLES LARSEN POWER PLANT	FL	Jul-91	TURBINE, OIL, 1 EACH	80 MW	42 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
CHARLES LARSEN POWER PLANT	FL	Jul-91	TURBINE, GAS, 1 EACH	80 MW	25 PPM @ 15% O2	WET INJECTION	0	BACT-PSD
SUMAS ENERGY INC.	WA	Jun-91	TURBINE, NATURAL GAS	88 MW	6 PPM @ 15% O2	SCR	90	BACT-PSD
SAGUARO POWER COMPANY	NV	Jun-91	COMBUSTION TURBINE GENERATOR	35 MW	18.9 PPH (WINTER)	SELECTIVE CATALYTIC REDUCTION (SCR)	80	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, OIL, 2 EACH	400 MW	65 PPM @ 15% O2	LOW NOX COMBUSTORS	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, GAS, 4 EACH	400 MW	25 PPM @ 15% O2	LOW NOX COMBUSTORS	0	BACT-PSD
FLORIDA POWER AND LIGHT	*FL*	*Jun-91*	*TURBINE, CG, 4 EACH*	400 MW	42 PPM @ 15% O2	LOW NOX COMBUSTORS	0	BACT-PSD
GRANITE ROAD LIMITED	CA	May-91	TURBINE, GAS, ELECTRIC GENERATION	461 MMBTU/H*	3.5 PPMVD @ 15% O2	*SCR, STEAM INJECTION*	*97*	*BACT-PSD*
NORTHERN CONSOLIDATED POWER	PA	May-91	TURBINES, GAS, 2	35 KW EACH	25 PPM @ 15% O2	STEAM INJECTION/+SCR IN 1997	65	OTHER
CIMARRON CHEMICAL	CO	Mar-91	TURBINE #1, GE FRAME 6	33 MW	25 PPM @ 15% O2	WATER INJECTION	0	OTHER
CIMARRON CHEMICAL	CO	Mar-91	TURBINE #2, GE FRAME 6	33 MW	9 PPM @ 15% O2	SCR	0	OTHER
SEMINOLE FERTILIZER CORPORATION	FL	Mar-91	TURBINE, GAS	28 MW	9 PPM @ 15% O2	SCR	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Mar-91	TURBINE, GAS, 4 EACH	240 MW	42 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Mar-91	TURBINE, OIL, 4 EACH	0 0	65 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
CITY UTILITIES OF SPRINGFIELD	MO	Mar-91	GENERATION OF ELECTRICAL POWER	752 MMBTU/HR	42 PPM BY VOL 1 HR AVG (	WATER INJECTION	0	BACT-PSD
CITY UTILITIES OF SPRINGFIELD	MO	Mar-91	GENERATION OF ELECTRICAL POWER	752 MMBTU/HR	65 PPM BY VOL 1 HR AVG (	WATER INJECTION	0	BACT-PSD
CITY UTILITIES OF SPRINGFIELD	MO	Mar-91	GENERATION OF ELECTRICAL POWER	585 MMBTU/HR.	42 PPM BY VOL 1 HR AVG (	WATER INJECTION	0	BACT-PSD
CITY UTILITIES OF SPRINGFIELD	MO	Mar-91	GENERATION OF ELECTRICAL POWER	585 MMBTU/HR	65 PPM BY VOL 1 HR AVG (	WATER INJECTION	0	BACT-PSD
NEVADA COGENERATION ASSOCIATES #2	NV	Jan-91	COMBINED-CYCLE POWER GENERATION	85 MW POWER OUTPUT	61 3 LBS/HR	SELECTIVE CATALYTIC SYSTEM ON ONE UNIT	0	BACT-PSD
NEVADA COGENERATION ASSOCIATES #1	NV	Jan-91	COMBINED-CYCLE POWER GENERATION	85 MW TOTAL OUTPUT	61.3 LBS/HR	SELECTIVE CATALYTIC SYSTEM ON ONE UNIT	0	BACT-PSD
NEWARK BAY COGENERATION PARTNERSHIP	NJ	Nov-90	TURBINE, NATURAL GAS FIRED	585 MMBTU/HR	0 033 LB/MMBTU	STEAM INJECTION AND SCR	94	BACT-PSD
NORTHERN NATURAL GAS COMPANY	IA	Sep-90	ENGINE, COMPRESSOR	4,000 HP	1 6 G/B-HP-H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
NORTHERN NATURAL GAS COMPANY	IA	Sep-90	ENGINES, COMPRESSOR, 2	2,000 HP EACH	1 8 G/B-HP-H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
TBG COGEN COGENERATION PLANT	NY	Aug-90	GE LM2500 GAS TURBINE	215 MMBTU/HR	75 PPM + FBN CORRECTIO	WATER INJECTION	80	BACT
PEPCO - CHALK POINT PLANT	MD	Jun-90	TURBINE, 105 MW NATURAL GAS FIRED ELECTRIC	105 MW	77 PPM @ 15% O2	DRY PREMIX AND WATER INJECTION	0	BACT-PSD
PEPCO - CHALK POINT PLANT	MD	Jun-90	TURBINE, 84 MW NATURAL GAS FIRED ELECTRIC	84 MW	25 PPM @ 15% O2	QUIET COMBUSTION AND WATER INJECTION	0	BACT-PSD
PACIFIC GAS TRANSMISSION COMPANY	OR	Jun-90	TURBINE GAS, COMPRESSOR STATION	110 MMBTU/HR	199 PPM @ 15% O2	LOW NOX BURNER DESIGN	30	NSPS
PEPCO - STATION A	MD	May-90	TURBINE, 124 MW NATURAL GAS FIRED	125 MW	42 PPM @ 15% O2	WATER INJECTION	0	BACT-PSD
PEDRICKTOWN COGENERATION LIMITED PARTNERSHIP	NJ	Feb-90	TURBINE, NATURAL GAS FIRED	1,000 MMBTU/HR	0 044 LB/MMBTU	STEAM INJECTION AND SCR	93	BACT-PSD
SC ELECTRIC AND GAS COMPANY - HAGOOD STATION	SC	Dec-89	INTERNAL COMBUSTION TURBINE	110 MEGAWATTS	308 LBS/HR	WATER INJECTION	0	BACT-PSD
PEABODY MUNICIPAL LIGHT PLANT	MA	Nov-89	TURBINE, 38 MW NATURAL FAS FIRED	412 MMBTU/HR	25 PPM @ 15% O2	WATER INJECTION	0	BACT-OTHER
PACIFIC GAS TRANSMITION	OR	Nov-89	TURBINE, NAT. GAS	14,600 HP	42 PPM @ 15% O2	LOW NOX BURNERS	75	BACT-PSD
SOUTHERN MARYLAND ELECTRIC COOPERATIVE (SMECO)	MD	Oct-89	TURBINE, NATURAL GAS FIRED ELECTRIC	90 MW	199 LB/HR	WATER INJECTION	0	BACT-PSD
KINGSBURG ENERGY SYSTEMS	CA	Sep-89	TURBINE, NATURAL GAS FIRED, DUCT BURNER	35 MW	6 PPM @ 15% O2	SCR, STEAM INJECTION	90	BACT-PSD
MEGAN-RACINE ASSOCIATES, INC	NY	Aug-89	GE LM5000-N COMBINED CYCLE GAS TURBINE	401 LB/MMBTU	42 PPMDV @ 15% O2	WATER INJECTION	80	BACT

Note: PSD= Prevention of Significant Deterioration
BACT= Best Available Control Technology
LAER= Lowest Achievable Emission Rate

Table B-3. Capital Cost for Selective Catalytic Reduction for General Electric Frame "F" Simple Cycle Combustion Turbine

Cost Component	Costs	Basis of Cost Component
Direct Capital Costs		
SCR Associated Equipment	$825,252	Vendor Based Estimate
Ammonia Storage Tank	$134,225	$35 per 1,000 lb mass flow developed from vendor quotes
Flue Gas Cooling	$260,000	Vendor Based Estimate (110,000 acfm)
Instrumentation	$82,525	10% of SCR Associated Equipment
Taxes	$197,007	6% of SCR Associated Equipment and Catalyst
Freight	$164,172	5% of SCR Associated Equipment and Catalyst
Total Direct Capital Costs (TDCC)	$1,663,182	
Recurring Capital Costs (RCC)	$2,458,197	Catalyst; Vendor Based Estimate
TOTAL CAPITAL COSTS (TCC)	$2,919,595	Sum of TDCC and RCC
Direct Installation Costs		
Foundation and supports	$329,710	8% of TCC; OAQPS Cost Control Manual
Handling & Erection	$576,993	14% of TCC; OAQPS Cost Control Manual
Electrical	$164,855	4% of TCC; OAQPS Cost Control Manual
Piping	$82,428	2% of TCC; OAQPS Cost Control Manual
Insulation for ductwork	$41,214	1% of TCC; OAQPS Cost Control Manual
Painting	$41,214	1% of TCC; OAQPS Cost Control Manual
Site Preparation	$5,000	Engineering Estimate
Buildings	$15,000	Engineering Estimate
Total Direct Installation Costs (TDIC)	$1,256,414	
Total Direct Capital Costs (TDCC)	$4,176,009	
Indirect Costs		
Engineering	$291,960	10% of Total Capital Costs; OAQPS Cost Control Manual
PSM/RMP Plan	$25,000	Engineering Estimate
Construction and Field Expense	$145,980	5% of Total Capital Costs; OAQPS Cost Control Manual
Contractor Fees	$291,960	10% of Total Capital Costs; OAQPS Cost Control Manual
Start-up	$58,392	2% of Total Capital Costs; OAQPS Cost Control Manual
Performance Tests	$29,196	1% of Total Capital Costs; OAQPS Cost Control Manual
Allowance for Funds Used During Construction (AFU	$157,111	2.5% of Total Capital Costs; borrowed at a rate of 7.0% for 9 months.
Contingencies	$87,588	3% of Total Capital Costs; OAQPS Cost Control Manual
TOTAL INDIRECT CAPITAL COST (TICC)	$1,087,185	
TOTAL DIRECT and INDIRECT CAPITAL COSTS (TDICC)	$5,263,194	Sum of TDCC and TDIC

Table B-4. Annualized Cost for Selective Catalytic Reduction for General Electric Frame "F" Simple Cycle Operation

Cost Component	Costs	Basis of Cost Component
Direct Annual Costs		
Operating Personnel	$24,960	24 hours/week at $20/hr
Supervision	$3,744	15% of Operating Personnel;OAQPS Cost Control Manual
Maintenance - Labor	$13,104	0.5 hr per shift, $24/hr; OAQPS Cost Manual
- Materials	$13,104	100% of maintenance labor; OAQPS Cost Manual
Ammonia	$65,856	$300 per ton NH3 Aqueous
PSM/RMP Update	$5,000	Engineering Estimate
Inventory Cost	$89,970	Capital Recovery (10.98%) for 1/3 catalyst
Catalyst Disposal Cost	$35,793	$28/1,000 lb/hr mass flow over 3 years; developed from vendor quotes
Contingency	$7,546	3% of Direct Annual Costs
Total Direct Annual Costs (TDAC)	$259,078	
Energy Costs		
Electrical	$47,460	80kW/h for SCR; 200 kW/h for cooling fan@ $0.05/kWh times Capacity Factor
Heat Rate Penalty	$241,210	0.5% of MW output; EPA, 1993 (Page 6-20); plus fuel costs at $3/mmBtu
MW Loss Penalty	$78,611	3 days lost energy costs @ $0.05 kWh each three period; minus fuel costs at $3/mmBtu
Fuel Escalation	$8,660	Escalation of fuel over inflation; 3% of energy costs
Contingency	$11,278	3% of Energy Costs
Total Energy Costs (TEC)	$387,219	
Indirect Annual Costs		
Overhead	$17,222	60% of Operating/Supervision Labor and Ammonia
Property Taxes, Insurance, Admin.	$210,528	4% of Total Capital Costs
Annualized Total Direct Capital	$439,944	10.98% Capital Recovery Factor of 7% over 15 years times sum of TDCC, TDIC and TI
Annualized Total Direct Recurring	$936,700	38.11% Capital Recovery Factor of 7% over 3 years times RCC
Total Indirect Annual Costs (TIAC)	$1,604,395	
TOTAL ANNUALIZED COSTS	$2,250,692	Sum of TDAC, TEC and TIAC
COST EFFECTIVENESS ($ per ton removed)	$14,886	NO_x Only
	$25,267	All Pollutants

Table B-5. Summary of Best Available Control Technology (BACT) Determinations for Carbon Monoxide (CO) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	CO Emission Limit	Control Method	Efficiency (%)	Type
PDC EL PASO MILFORD LLC	CT	Apr-99	TURBINE, COMBUSTION, ABB GT-24E,#2 WITH 2 CHILLERS	1.97 MMCF/H	13 LB/H NAT GAS	OXIDATION CATALYST	0	BACT-PSD
PDC EL PASO MILFORD LLC	CT	Apr-99	TURBINE, COMBUSTION, ABB GT-24, #1 WITH 2 CHILLERS	1.97 MMCF/H	13 LB/H NAT GAS	OXIDATION CATALYST	0	BACT-PSD
ALABAMA POWER COMPANY - THEODORE COGENERATION	AL	Mar-99	TURBINE, WITH DUCT BURNER	170 MW	0.080 LB/MMBTU	EFFICIENT COMBUSTION	0	BACT-PSD
MOBILE ENERGY LLC	AL	Jan-99	TURBINE, GAS, COMBINED CYCLE	188 MW	0.04 LB/MMBTU	GOOD COMBUSTION PRACTICES	0	BACT-PSD
TENASKA GEORGIA PARTNERS, L.P.	GA	Dec-98	TURBINE, COMBUSTION, SIMPLE CYCLE, 6	160 MW EA	15 PPMVD @ 15% O2	USING 15% EXCESS AIR. CO EMISSION IS BECAUSE OFNATURAL GAS. CO EMISSION IS BECAUSE OF FUEL OIL. WHEN OUTPUT ISBELOW 123	0	BACT-PSD
TENUSKA GEORGIA PARTNERS, L.P.	GA	Dec-98	TURBINE, COMBUSTION, SIMPLE CYCLE, 6	160 MW EA	33 PPMVD	MW LIMIT IS 33 PPMVD AND ABOVE 123 MW LIMIT IS 20 PPMVD	0	BACT-PSD
WESTBROOK POWER LLC	ME	Dec-98	TURBINE, COMBINED CYCLE, TWO	528 MW TOTAL	15 PPM @15% O2	USING 15 % EXCESS AIR.	0	BACT-PSD
SANTA ROSA ENERGY LLC	FL	Dec-98	TURBINE, COMBUSTION, NATURAL GAS	241 MW	0	DRY LOW NOX BURNER GOOD COMBUSTION PRACTICE	0	BACT-PSD
GORHAM ENERGY LIMITED PARTNERSHIP	ME	Dec-98	TURBINE, COMBINED CYCLE	900 MW TOTAL	5 PPM @ 15% O2 (NAT G)	0.05% SULFUR DISTILLATE OIL #2 IS USED. EMISSION IS FROM EACH 300 MW SYSTEM.	0	BACT-PSD
WESTERN GAS RESOURCES - HILIGHT GAS PLANT	WY	Oct-98	ENGINES, COMPRESSOR, 2 EA	1850 HP	2 G/HP-H	3 - WAY CATALYST SYSTEM AND AIR/FUEL RATIO CONTRO-LLER.	0	BACT-PSD
WILLIAMS FIELD SERVICES	NM	Sep-98	IC ENGINE, COMPRESSOR	27240 HP	2.65 G/B-HP-H	LEAN-BURN ENGINE DESIGN	0	BACT-PSD
CHAMPION INTERNATL CORP. & CHAMP. CLEAN ENERGY	ME	Sep-98	TURBINE, COMBINED CYCLE, NATURAL GAS	175 MW	9 PPMVD @15% O2 GAS		0	BACT-OTHER
TNP TECHN. LLC (FORMERLY TX-NM POWER CO.)	NM	Aug-98	GAS TURBINES	375 MMBTU/H	18 PPM	GOOD COMBUSTION PRACTICES	0	BACT-PSD
WILLIAMS FIELD SERVICES CO.	NM	Jul-98	RECIPROCATING ENGINE, NAT. GAS	1375 HP	2.65 G/B-HP-H	CLEAN BURN COMBUSTION TECHNOLOGY	0	BACT-PSD
CASCO BAY ENERGY CO	ME	Jul-98	TURBINE, COMBINED CYCLE, NATURAL GAS, TWO	170 MW EACH	20 PPM @ 15% O2	15% EXCESS AIR	0	BACT-PSD
CITY OF LAKELAND ELECTRIC AND WATER UTILITIES	FL	Jul-98	TURBINE, COMBUSTION, GAS FIRED W/ FUEL OIL ALSO	2174 MMBTU/H	25 PPM	GOOD COMBUSTION WITH DRY LOW NOX BURNERS OXIDATION CATALYST MAY BE USED	0	BACT-PSD
COLORADO SPRINGS UTILITIES-NIXON POWER PLANT	CO	Jun-98	SIMPLE CYCLE TURBINE, NATURAL GAS	1122 MM BTU/HR	0.8 DRE	CATALYTIC OXIDATION	80	BACT-PSD
BRIDGEPORT ENERGY, LLC	CT	Jun-98	TURBINES, COMBUSTION MODEL V84.3A, 2 SIEMES	280 MW/HRSG PER TURBINE	10 PPM GAS & OIL	PRE-MIX FUEL FAIR TO OPTIMIZE EFFICIENCY ACTUAL EMISSIONS EXPECTED BETWEEN 5-7PPM	0	BACT-PSD
WILLIAMS FIELD SERVICES CO.	NM	Jun-98	RECIPROCATING ENGINES, NAT. GAS	21920 HP	2.65 G/B-HP-H	LEAN BURN ENGINE DESIGN	0	BACT-PSD
ENCOGEN HAWAII, L.P.	HI	Jun-98	TURBINES, COMBUSTION, 2 EA	23 MW	57.5 PPMVD @ 15% O2	GOOD COMBUSTION DESIGN AND OPERATION	0	BACT-PSD
GENERAL ELECTRIC PLASTICS	AL	May-98	COMBINED CYCLE (TURBINE AND DUCT BURNER)	0	0.08 LBS/MMBTU	PROPER COMBUSTION	0	BACT-PSD
UNION PACIFIC RESOURCES - PATRICK DRAW GAS PLANT	WY	May-98	ENGINES, COMPRESSOR, 2 EA	1200 HP	2.8 G/B-HP-H	ULTRA LOW NOX LEAN BURN TECHNOLOGY.	0	BACT-PSD
UNION PACIFIC RESOURCES - PATRICK DRAW GAS PLANT	WY	May-98	ENGINE, COMPRESSOR, 9 EA	3200 HP	0.5 G/HP-H	ULTRA LOW NOX LEAN BURN TECHNOLOGY AND CATALYTIC CRACKING.	0	BACT-PSD
UNION PACIFIC RESOURCES - PATRICK DRAW GAS PLANT	WY	May-98	ENGINES, COMPRESSOR, 9 EA	3200 HP	0.5 G/B-HP-H	ULTRA LOW NOX LEAN BURN TECHNOLOGY. CATALYTIC CONVERTER.	0	BACT-PSD
UNION PACIFIC RESOURCES - PATRICK DRAW GAS PLANT	WY	May-98	COMPRESSOR, ENGINES, 2 EA	1200 HP	2.8 G/HP-H	ULTRA LOW NOX LEAN BURN TECHNOLOGY.	0	BACT-PSD
RUMFORD POWER ASSOCIATES	ME	May-98	TURBINE GENERATOR, COMBUSTION, NATURAL GAS	1906 MMBTU/H	15 PPM @ 15% O2	GE DRY LOW-NOX COMBUSTOR DESIGN. GOOD COMBUSTION CNTRL.	0	BACT-PSD
WILLIAMS FIELD SERVICES CO.	NM	Apr-98	NATURAL GAS RECIPROCATING ENGINE	1478 HP	2.65 G/B-HP-H	LEAN BURN DESIGN	0	BACT-PSD
WILLIAMS FIELD SERVICES CO	NM	Apr-98	ENGINE, IC RECIPROCATING, NAT. GAS	1374 HP	2.65 G/B-HP-H	CLEAN BURN COMBUSTION TECHNOLOGY	0	BACT-PSD
ANDROSCOGGIN ENERGY LIMITED	ME	Mar-98	GAS TURBINES, COGEN, W/DUCT BURNERS	675 MMBTU/H TURBINE	74.21 LB/H NG	CATALYTIC OXIDATION, GOOD COMBUSTION PRACTICES	0	BACT-PSD
ANDROSCOGGIN ENERGY LIMITED	ME	Mar-98	GAS TURBINES, COGEN, W/DUCT BURNERS	675 MMBTU/H TURBINE	43.73 LB/H NG OIL	CATALYTIC OXIDATION, GOOD COMBUSTION PRACTICES	0	BACT-PSD
TIVERTON POWER ASSOCIATES	RI	Feb-98	COMBUSTION TURBINE, NATURAL GAS	285 MW	12 PPM @ 15% O2	GOOD COMBUSTION	0	BACT-PSD
AIR LIQUIDE AMERICA CORPORATION	LA	Feb-98	TURBINE GAS, GE, 7ME 7	988 MMBTU/H	25 PPMV	GOOD EQUIPMENT DESIGN, PROPER COMBUSTION TECHNIQUEAND MIN. 2% EXCESS O2	0	BACT-PSD
MILLENNIUM POWER PARTNER, LP	MA	Feb-98	TURBINE, COMBUSTION, WESTINGHOUSE MODEL 501G	2534 MMBTU/H	0.07 LB/MMBTU	DRY LOW NOX COMBUSTION TECHNOLOGY IN CONJUNCTION WITH SCR ADD-ON NOX CONTROL.	0	BACT-PSD
MAUI ELECTRIC COMPANY	HI	Jan-98	TURBINE, COMBUSTION, 2 EA	20 MW	44 PPMVD @ 15% O2	GOOD COMBUSTION DESIGN AND OPERATION	0	BACT-PSD
BASF CORPORATION	LA	Dec-97	TURBINE, COGEN UNIT 2, GE FRAME 6	42.4 MW	83.93 LB/MMBTU	GOOD DESIGN, PROPER COMBUSTION TECHNIQUES, 2% EXCESS O2	0	BACT-PSD
ARCHIE CRIPPEN	CA	Dec-97	IC ENGINE, DETROIT DIESEL MODEL 8V-92TA	500 BHP	0.51 G/B-HP-H	NO CONTROL	0	BACT
WILLIAMS FIELD SERVICES--MIDDLE MESA CDP	NM	Dec-97	NATURAL GAS COMPRESSOR STATION, 14 ENGINES	1478 HP, EACH	8 LB/HR EACH ENGINE	CLEAN/LEAN BURN TECHNOLOGY	0	BACT-PSD
BUCKNELL UNIVERSITY	PA	Nov-97	NG FIRED TURBINE, SOLAR TAURUS T-7300S	5 MW	50 PPMV@15%O2	GOOD COMBUSTION	0	BACT-OTHER
LORDSBURG L.P.	NM	Jun-97	TURBINE, NATURAL GAS-FIRED, ELEC. GEN.	100 MW	27 LBS/HR	DRY LOW-NOX TECHNOLOGY BY MAINTAINING PROPER AIR- FUEL RATIO	0	BACT-PSD
MEAD COATED BOARD, INC.	AL	Mar-97	COMBINED CYCLE TURBINE (25 MW)	568 MMBTU/HR	26 PPMVD@15% O2 (GAS)	PROPER DESIGN AND GOOD COMBUSTION PRACTICES	0	BACT-PSD
FORMOSA PLASTICS CORPORATION, BATON ROUGE PLANT	LA	Mar-97	TURBINE/HSRG, GAS COGENERATION	450 MM BTU/HR	70 LB/HR	COMBUSTION DESIGN AND CONSTRUCTION	0	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE COMPANY/CUNNINGHAM STA	NM	Feb-97	COMBUSTION TURBINE, NATURAL GAS	100 MW	0 SEE FACILITY NOTES	GOOD COMBUSTION PRACTICES	0	BACT-PSD
SOUTHWESTERN PUBLIC SERVICE CO/CUNNINGHAM STATION	NM	Nov-96	COMBUSTION TURBINE, NATURAL GAS	100 MW	0 SEE P2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
ECOELECTRICA, L.P.	PR	Oct-96	TURBINES, COMBINED-CYCLE COGENERATION	461 MW	33 PPMDV	COMBUSTION CONTROLS.	0	BACT-PSD
ECOELECTRICA, L.P.	PR	Oct-96	TURBINES, COMBINED-CYCLE COGENERATION	461 MW	100 PPMDV AT MIN LOAD	COMBUSTION CONTROLS.	0	BACT-PSD
BLUE MOUNTAIN POWER, LP	PA	Jul-96	COMBUSTION TURBINE WITH HEAT RECOVERY BOILER	153 MW	3.1 PPM @ 15% O2	OXIDATION CATALYST 16 PPM @ 15% O2 WHEN FIRING NO. 2 OIL AT 75% NG LIMIT SET TO 22.1 PPM	80	OTHER
COMMONWEALTH CHESAPEAKE CORPORATION	VA	May-96	3 COMBUSTION TURBINES (OIL-FIRED)	6,000 HRS/YR	98 TPY	GOOD COMBUSTION OPERATING PRACTICES	0	BACT/NSPS
PORTSIDE ENERGY CORP.	IN	May-96	TURBINE, NATURAL GAS-FIRED	83 MEGAWATT	40 LBS/HR	GOOD COMBUSTION AND EMISSIONS NOT TO EXCEED 40 PPMVD AT 15% OXYGEN	0	BACT-PSD
PORTSIDE ENERGY CORP.	IN	May-96	TURBINE, NATURAL GAS-FIRED	83 MEGAWATT	12 LBS/HR	GOOD COMBUSTION AND EMISSIONS NOT TO EXCEED 10 PPMVD AT 15% OXYGEN.	0	BACT-PSD
GENERAL ELECTRIC GAS TURBINES	SC	Apr-96	I.C. TURBINE	2,700 MMBTU/HR	27.189 LB/HR	GOOD COMBUSTION PRACTICES TO MINIMIZE EMISSIONS	0	BACT-PSD
CAROLINA POWER & LIGHT	NC	Apr-96	COMBUSTION TURBINE, 4 EACH	1,908 MMBTU/HR	81 LB/HR	COMBUSTION CONTROL	0	BACT-PSD
CAROLINA POWER & LIGHT	NC	Apr-96	COMBUSTION TURBINE, 4 EACH	1,908 MMBTU/HR	80 LB/HR	COMBUSTION CONTROL	0	BACT-PSD
SOUTH MISSISSIPPI ELECTRIC POWER ASSOC	MS	Apr-96	COMBUSTION TURBINE, COMBINED CYCLE	1,299 MMBTU/HR NAT GAS	26.3 PPM @ 15% O2, GAS	GOOD COMBUSTION CONTROLS	0	BACT-PSD
MID-GEORGIA COGEN.	GA	Apr-96	COMBUSTION TURBINE (2), FUEL OIL	116 MW	30 PPMVD	COMPLETE COMBUSTION	0	BACT-PSD
MID-GEORGIA COGEN.	GA	Apr-96	COMBUSTION TURBINE (2), NATURAL GAS	116 MW	10 PPMVD	COMPLETE COMBUSTION	0	BACT-PSD
GEORGIA GULF CORPORATION	LA	Mar-96	GENERATOR, NATURAL GAS FIRED TURBINE	1,125 MM BTU/HR	972 TPY CAP FOR 3 TURB.	GOOD COMBUSTION PRACTICE AND PROPER OPERATION	0	BACT-PSD
SEMINOLE HARDEE UNIT 3	FL	Jan-96	COMBINED CYCLE COMBUSTION TURBINE	140 MW	20 PPM (NAT. GAS)	DRY LNB GOOD COMBUSTION PRACTICES	0	BACT-PSD
KEY WEST CITY ELECTRIC SYSTEM	FL	Sep-95	TURBINE, EXISTING CT RELOCATION TO A NEW PLANT	23 MW	20 PPM @ 15% O2 FULL LD	GOOD COMBUSTION	0	BACT-PSD
UNION CARBIDE CORPORATION	LA	Sep-95	GENERATOR, GAS TURBINE	1,313 MM BTU/HR	199 LB/HR	NO ADD-ON CONTROL GOOD COMBUSTION PRACTICE	0	BACT-PSD
PUERTO RICO ELECTRIC POWER AUTHORITY (PREPA)	PR	Jul-95	COMBUSTION TURBINES (3), 83 MW SIMPLE-CYCLE EACH	248 MW	20 LB/HR	MAINTAIN EACH TURBINE IN GOOD WORKING ORDER AND IMPLEMENT GOOD COMBUSTION PRACTICES.	0	BACT-PSD
PUERTO RICO ELECTRIC POWER AUTHORITY (PREPA)	PR	Jul-95	COMBUSTION TURBINES (3), 83 MW SIMPLE-CYCLE EACH	248 MW	104 LB/HR	MAINTAIN EACH TURBINE IN GOOD WORKING ORDER AND IMPLEMENT GOOD COMBUSTION PRACTICES.	0	BACT-PSD
BROOKLYN NAVY YARD COGENERATION PARTNERS L.P.	NY	Jun-95	TURBINE, NATURAL GAS FIRED	240 MW	4 PPM @ 15% O2		0	LAER
PANDA-KATHLEEN, L.P.	FL	Jun-95	COMBINED CYCLE COMBUSTION TURBINE (TOTAL 115MW)	75 MW	25 PPM @ 15% O2	COMBUSTION CONTROLS STANDARD ONLY APPLIES IF GE CT IS SELECTED, THE ABB CT WAS LESS THAN SIGNIFICANT EMIS. INCR FOR CO	0	BACT-PSD
MILAGRO, WILLIAMS FIELD SERVICE	NM	May-95	TURBINE/COGEN, NATURAL GAS (2)	800 MMCF/DAY	28 PPM @ 15% O2		0	BACT-PSD
LEDERLE LABORATORIES	NY	Apr-95	(2) GAS TURBINES (EP #3 00101&102)	110 MMBTU/HR	40 PPM, 12.6 LB/HR		0	BACT-OTHER
PILGRIM ENERGY CENTER	NY	Apr-95	(2) WESTINGHOUSE W501D5 TURBINES (EP #3 00001&2)	1,400 MMBTU/HR	10 PPM, 29.0 LB/HR		0	BACT-OTHER
BALTIMORE GAS & ELECTRIC - PERRYMAN PLANT	MD	Mar-95	TURBINE, 140 MW NATURAL GAS FIRED ELECTRIC	140 MW	20 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FORMOSA PLASTICS CORPORATION, LOUISIANA	LA	Mar-95	TURBINE/HRSG, GAS COGENERATION	450 MM BTU/HR	28 LB/HR	PROPER OPERATION	0	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO	MO	Feb-95	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	80 MW	428 TPY	GOOD COMBUSTION CONTROL	0	BACT-PSD
MARATHON OIL CO. - INDIAN BASIN N.G. PLAN	NM	Jan-95	TURBINES, NATURAL GAS (2)	5,500 HP	13 LBS/HR	LEAN-PREMIXED COMBUSTION TECHNOLOGY.	66	BACT-PSD
KAMINE/BESICORP SYRACUSE LP	NY	Dec-94	SIEMENS V64.3 GAS TURBINE (EP #00001)	850 MMBTU/HR	9.5 PPM	NO CONTROLS	0	BACT-OTHER
INDECK-OSWEGO ENERGY CENTER	NY	Oct-94	GE FRAME 6 GAS TURBINE	533 LB/MMBTU	10 PPM, 10.00 LB/HR	NO CONTROLS	0	BACT-OTHER
FULTON COGEN PLANT	NY	Sep-94	GE LM5000 GAS TURBINE	500 MMBTU/HR	107 PPM, 120 LB/HR	NO CONTROLS	0	BACT-OTHER
CAROLINA POWER AND LIGHT	SC	Aug-94	STATIONARY GAS TURBINE	1,520 MMBTU/H	702 LB/H	PROPER OPERATION TO ACHIEVE GOOD COMBUSTION	0	BACT-PSD
CAROLINA POWER AND LIGHT	SC	Aug-94	STATIONARY GAS TURBINE	1,520 MMBTU/H	414 LB/H	PROPER OPERATION TO ACHIEVE GOOD COMBUSTION	0	BACT-PSD
SNYDER OIL CORPORATION-RIVERTON DOME GAS PLANT	WY	Jul-94	NATURAL GAS-FIRED COMPRESSOR ENGINE	520 HORSEPOWER	1.7 LBS/HR	GOOD COMBUSTION	0	BACT
SNYDER OIL CORPORATION-RIVERTON DOME GAS PLANT	WY	Jul-94	2 GAS-FIRED GENERATOR ENGINES	385 HORSEPOWER	1.3 LBS/HR	GOOD COMBUSTION	0	BACT
SNYDER OIL CORPORATION-RIVERTON DOME GAS PLANT	WY	Jul-94	1 GAS-FIRED GENERATOR ENGINE	577 HORSEPOWER	1.9 LBS/HR	GOOD COMBUSTION	0	BACT
COLORADO POWER PARTNERSHIP	CO	Jul-94	TURBINES, 2 NAT GAS & 2 DUCT BURNERS	385 MMBTUH EACH TURBINE	22 PPM @ 15% O2		0	BACT-PSD
MUDDY RIVER L.P.	NV	Jun-94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140 MEGAWATT	77 LB/HR	FUEL SPEC: NATURAL GAS	0	BACT-PSD
CSW NEVADA, INC.	NV	Jun-94	COMBUSTION TURBINE, DIESEL & NATURAL GAS	140 MEGAWATT	83 LB/HR	FUEL SPEC. NATURAL GAS	0	BACT-PSD
PORTLAND GENERAL ELECTRIC CO.	OR	May-94	TURBINES, NATURAL GAS (2)	1,720 MMBTU	15 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD

Table B-5. Summary of Best Available Control Technology (BACT) Determinations for Carbon Monoxide (CO) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	CO Emission Limit	Control Method	Efficiency (%)	Type
EMPIRE DISTRICT ELECTRIC CO.	MO	May-94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1,345 MMBTU/HR	120 TPY	NONE	0	BACT-PSD
EMPIRE DISTRICT ELECTRIC CO.	MO	May-94	INSTALL TWO NEW SIMPLE-CYCLE TURBINES	1,345 MMBTU/HR	1290 TPY	NONE	0	BACT-PSD
NAVY PUBLIC WORKS CENTER	VA	May-94	1 EMERGENCY GENERATOR	1,500 KW	14 4 TPY	RETARD TIMING 6 DEGREES	0	NSPS
WEST CAMPUS COGENERATION COMPANY	TX	May-94	GAS TURBINES	75 MW (TOTAL POWER)	300 TPY	INTERNAL COMBUSTION CONTROLS	0	BACT
HERMISTON GENERATING CO.	OR	Apr-94	TURBINES, NATURAL GAS (2)	1,696 MMBTU	15 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	Feb-94	TURBINE, NATURAL GAS (2)	1,510 MMBTU/H	25 PPMVD	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER CORPORATION POLK COUNTY SITE	FL	Feb-94	TURBINE, FUEL OIL (2)	1,730 MMBTU/H	30 PPMVD	GOOD COMBUSTION PRACTICES	0	BACT-PSD
TECO POLK POWER STATION	FL	Feb-94	TURBINE, SYNGAS (COAL GASIFICATION)	1,755 MMBTU/H	25 PPMVD	GOOD COMBUSTION	0	BACT-PSD
TECO POLK POWER STATION	FL	Feb-94	TURBINE, FUEL OIL	1,765 MMBTU/H	40 PPMVD	GOOD COMBUSTION	0	BACT-PSD
INTERNATIONAL PAPER	LA	Feb-94	TURBINE/HRSG, GAS COGEN	336 MM BTU/HR TURBINE	166 LB/HR	COMBUSTION CONTROL	0	BACT
KAMINE/BESICORP CARTHAGE L.P	NY	Jan-94	GE FRAME 6 GAS TURBINE	491 BTU/HR	10 PPM, 11.0 LB/HR	NO CONTROLS	0	BACT-OTHER
ORANGE COGENERATION LP	FL	Dec-93	TURBINE, NATURAL GAS, 2	388 MMBTU/H	30 PPMVD	GOOD COMBUSTION	0	BACT-PSD
PROJECT ORANGE ASSOCIATES	NY	Dec-93	GE LM-5000 GAS TURBINE	550 MMBTU/HR	92 LB/HR TEMP > 20F	NO CONTROLS	0	BACT-OTHER
WILLIAMS FIELD SERVICES CO. - EL CEDRO COMPRESSOR	NM	Oct-93	TURBINE, GAS-FIRED	11,257 HP	50 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
PATOWMACK POWER PARTNERS, LIMITED PARTNERSHIP	VA	Sep-93	TURBINE, COMBUSTION, SIEMENS MODEL V84 2, 3	10 2 X100 SCF/YR NAT GAS	26 LB/HR	GOOD COMBUSTION OPERATING PRACTICES	0	BACT-PSD
FLORIDA GAS TRANSMISSION COMPANY	AL	Aug-93	TURBINE, NATURAL GAS	12,800 B+P	0 42 GM/HP HR	AIR-TO-FUEL RATIO CONTROL, DRY COMBUSTION CONTROLS	0	BACT-PSD
LOCKPORT COGEN FACILITY	NY	Jul-93	(6) GE FRAME 6 TURBINES (EP #S 00001-00006)	424 MMBTU/HR	10 PPM	NO CONTROLS	0	BACT-OTHER
ANITEC COGEN PLANT	NY	Jul-93	GE LM5000 COMBINED CYCLE GAS TURBINE EP #00001	451 MMBTU/HR	30 PPM, 33 LB/HR	BAFFLE CHAMBER	60	SEE NOTE #4
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	Jun-93	TURBINES, COMBUSTION, KEROSENE-FIRED (2)	640 MMBTU/H (EACH)	2 6 PPMDV	OXIDATION CATALYST	0	OTHER
NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NJ	Jun-93	TURBINES, COMBUSTION, NATURAL GAS-FIRED (2)	617 MMBTU/HR (EACH)	1 8 PPMDV	OXIDATION CATALYST	0	OTHER
PSI ENERGY, INC WABASH RIVER STATION	IN	May-93	COMBINED CYCLE SYNGAS TURBINE	1,775 MMBTU/HR	15 LESS THAN PPM	OPERATION PRACTICES AND GOOD COMBUSTION, COMBINED CYCLE SYNGAS TURBINE	0	BACT-PSD
TIGER BAY LP	FL	May-93	TURBINE, OIL	1,850 MMBTU/H	98 4 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
TIGER BAY LP	FL	May-93	TURBINE, GAS	1,615 MMBTU/H	49 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
INDECK ENERGY COMPANY	NY	May-93	GE FRAME 6 GAS TURBINE EP #00001	491 MMBTU/HR	40 PPM	NO CONTROLS	0	BACT-OTHER
TRIGEN MITCHEL FIELD	NY	Apr-93	GE FRAME 6 GAS TURBINE	425 MMBTU/HR	10 PPM, 10 0 LB/HR	NO CONTROLS	0	BACT-OTHER
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, FUEL OIL	928 MMBTU/H	85 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, FUEL OIL	371 MMBTU/H	76 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, NATURAL GAS	889 MMBTU/H	54 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
KISSIMMEE UTILITY AUTHORITY	FL	Apr-93	TURBINE, NATURAL GAS	367 MMBTU/H	40 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
EAST KENTUCKY POWER COOPERATIVE	KY	Mar-93	TURBINES (5), #2 FUEL OIL AND NAT. GAS FIRED	1,492 MMBTU/H (EACH)	75 LBS/H (EACH)	PROPER COMBUSTION TECHNIQUES	0	BACT-OTHER
INTERNATIONAL PAPER CO. RIVERDALE MILL	AL	Jan-93	TURBINE, STATIONARY (GAS-FIRED) WITH DUCT BURNER	40 MW	22 LB/HR	DESIGN	0	BACT-PSD
AUBURNDALE POWER PARTNERS, LP	FL	Dec-92	TURBINE, OIL	1,170 MMBTU/H	25 PPMVD	GOOD COMBUSTION PRACTICES	0	BACT-PSD
AUBURNDALE POWER PARTNERS, LP	FL	Dec-92	TURBINE,GAS	1,214 MMBTU/H	15 PPMVD	GOOD COMBUSTION PRACTICES	0	BACT-PSD
SITHE/INDEPENDENCE POWER PARTNERS	NY	Nov-92	TURBINES, COMBUSTION (4) (NATURAL GAS) (1012 MW)	2,133 MMBTU/HR (EACH)	13 PPM	COMBUSTION CONTROLS	0	BACT-OTHER
KAMINE/BESICORP BEAVER FALLS COGENERATION FACILITY	NY	Nov-92	TURBINE, COMBUSTION (NAT. GAS & OIL FUEL) (79MW)	650 MMBTU/HR	9 5 PPM	COMBUSTION CONTROLS	0	BACT-OTHER
GRAYS FERRY CO. GENERATION PARTNERSHIP	PA	Nov-92	TURBINE (NATURAL GAS & OIL)	1,150 MMBTU	0 0055 LBAMMBTU (GAS)*	COMBUSTION	0	BACT-OTHER
BEAR ISLAND PAPER COMPANY, L P.	VA	Oct-92	TURBINE, COMBUSTION GAS	468 X10(6) BTU/HR #2 OIL	11 LBS/HR	GOOD COMBUSTION	0	BACT-PSD
BEAR ISLAND PAPER COMPANY, L P.	VA	Oct-92	TURBINE, COMBUSTION GAS (TOTAL)	0	48 TPY	GOOD COMBUSTION	0	BACT-PSD
BEAR ISLAND PAPER COMPANY, L P.	VA	Oct-92	TURBINE, COMBUSTION GAS	474 X10(6) BTU/HR N GAS	11 LBS/HR	GOOD COMBUSTION	0	BACT-PSD
PHILADELPHIA SOUTHWEST WATER TREATMENT PLANT	PA	Oct-92	ENGINES (2) (NATURAL GAS)	443 KW (EACH)	0	LEAN BURN ENGINE	0	OTHER
PHILADELPHIA NORTHEAST WATER TREATMENT PLANT	PA	Oct-92	ENGINES (3) (NATURAL GAS)	443 KW (EACH)	0	LEAN BURN ENGINE	0	OTHER
GORDONSVILLE ENERGY L.P	VA	Sep-92	TURBINE FACILITY, GAS	7 44 X10(7) GPY FUEL OIL	250 TOTAL TPY	GOOD COMBUSTION PRACTICES	0	BACT-PSD
GORDONSVILLE ENERGY L P	VA	Sep-92	TURBINES (2) [EACH WITH A SF]	1 36 X10(9) BTU/H #2 OIL	68 LBS/HR/UNIT	GOOD COMBUSTION PRACTICES	0	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	TURBINE FACILITY, GAS	1,331 X10(7) SCF/Y NAT GAS	250 TOTAL TPY	GOOD COMBUSTION PRACTICES	0	BACT-PSD
GORDONSVILLE ENERGY L.P.	VA	Sep-92	*TURBINES (2) [EACH WITH A SF]*	*1 51 X10(9) BTU/HR N GAS*	*57 LBS/HR/UNIT*	*GOOD COMBUSTION PRACTICES*	0	BACT-PSD
NEVADA POWER COMPANY, HARRY ALLEN PEAKING PLANT	NV	Sep-92	COMBUSTION TURBINE ELECTRIC POWER GENERATION	600 MW (8 UNITS 75 EACH)	153 TPY (EACH TURBINE)	PRECISION CONTROL FOR THE LOW NOX COMBUSTOR	0	BACT-PSD
KAMINE SOUTH GLENS FALLS COGEN CO	NY	Sep-92	GE FRAME 6 GAS TURBINE	496 MMBTU/HR	9 PPM, 11 0 LB/HR	NO CONTROLS	0	BACT-OTHER
NORTHERN STATES POWER COMPANY	SD	Sep-92	TURBINE, SIMPLE CYCLE, 4 EACH	129 MW	50 PPM FOR GAS	GOOD COMBUSTION TECHNIQUES	0	BACT-PSD
PASNY/HOLTSVILLE COMBINED CYCLE PLANT	NY	Sep-92	TURBINE, COMBUSTION GAS (150 MW)	1,146 MMBTU/HR (GAS)*	6 5 PPM	COMBUSTION CONTROL	0	BACT-OTHER
WEPCU, PARIS SITE	WI	Aug-92	TURBINES, COMBUSTION (4)	0	25 LBS/HR (SEE NOTES)		0	BACT-PSD
FLORIDA POWER CORPORATION	FL	Aug-92	TURBINE, OIL	1,029 MMBTU/H	54 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
FLORIDA POWER CORPORATION	FL	Aug-92	TURBINE, OIL	1,866 MMBTU/H	79 LB/H	GOOD COMBUSTION PRACTICES	0	BACT-PSD
CNG TRANSMISSION	OH	Aug-92	TURBINE (NATURAL GAS) (3)	5,500 HP (EACH)	0 015 G/HP-HR	FUEL SPEC. USE OF NATURAL GAS	0	OTHER
SARANAC ENERGY COMPANY	NY	Jul-92	TURBINES, COMBUSTION (2) (NATURAL GAS)	1,123 MMBTU/HR (EACH)	3 PPM	OXIDATION CATALYST	0	BACT-OTHER
HARTWELL ENERGY LIMITED PARTNERSHIP	GA	Jul-92	TURBINE, OIL FIRED (2 EACH)	1,840 M BTU/HR	25 PPMVD @ FULL LOAD	FUEL SPEC. CLEAN BURNING FUELS	0	BACT-PSD
MAUI ELECTRIC COMPANY, LTD./MAALAEA GENERATING STA	HI	Jul-92	TURBINE, COMBINED-CYCLE COMBUSTION	28 MW	27 LB/HR	COMBUSTION TECHNOLOGY/DESIGN	0	BACT-OTHER
HARTWELL ENERGY LIMITED PARTNERSHIP	GA	Jul-92	TURBINE, GAS FIRED (2 EACH)	1,817 M BTU/HR	25 PPMVD @ FULL LOAD	FUEL SPEC. CLEAN BURNING FUELS	0	BACT-PSD
INDECK-YERKES ENERGY SERVICES	NY	Jun-92	GE FRAME 6 GAS TURBINE (EP #00001)	432 MMBTU/HR	10 PPM, 10 LB/HR	NO CONTROLS	0	BACT-OTHER
SELKIRK COGENERATION PARTNERS, L.P.	NY	Jun-92	COMBUSTION TURBINES (2) (252 MW)	1,173 MMBTU/HR (EACH)	10 PPM	COMBUSTION CONTROLS	0	BACT-OTHER
SELKIRK COGENERATION PARTNERS, L.P	NY	Jun-92	COMBUSTION TURBINE (79 MW)	1,173 MMBTU/HR	25 PPM	COMBUSTION CONTROL	0	BACT-OTHER
TENASKA WASHINGTON PARTNERS, L.P.	WA	May-92	COGENERATION PLANT, COMBINED CYCLE	1 83 MMBTU/HR	20 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
NARRAGANSETT ELECTRIC/NEW ENGLAND POWER CO.	RI	Apr-92	TURBINE, GAS AND DUCT BURNER	1,360 MMBTU/H EACH	11 PPM @ 15% O2, GAS		0	BACT-PSD
KENTUCKY UTILITIES COMPANY	KY	Mar-92	TURBINE, #2 FUEL OIL/NATURAL GAS (5)	1,500 MM BTU/HR (EACH)	75 LB/HR (EACH)	COMBUSTION CONTROL	0	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION	1,175 MMBTU/H NAT. GAS	62 LBA/HUNIT	FURNACE DESIGN	91	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION	1,117 MMBTU/H NO2 FUEL OIL	62 LBA/UNIT	FURNACE DESIGN	91	BACT-PSD
BERMUDA HUNDRED ENERGY LIMITED PARTNERSHIP	VA	Mar-92	TURBINE, COMBUSTION, 2	0	229 T/YR/UNIT		0	BACT-PSD
THERMO INDUSTRIES, LTD.	CO	Feb-92	TURBINE, GAS FIRED, 5 EACH	246 MMBTU/H	25 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	27 LB/HR @ 100% PEAK/LD	COMBUSTION DESIGN	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	56 LB/H @ 75-<100% PK/LD	COMBUSTION DESIGN	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	161 LB/H @ 50-<75% PK/LD	COMBUSTION DESIGN	0	BACT-PSD
HAWAII ELECTRIC LIGHT CO., INC.	HI	Feb-92	TURBINE, FUEL OIL #2	20 MW	475 LB/H @ 25-<50% PK/LD	COMBUSTION DESIGN	0	BACT-PSD
SAVANNAH ELECTRIC AND POWER CO.	GA	Feb-92	TURBINES, 8	1,032 MMBTU/H, NAT GAS	9 PPM @ 15% O2	FUEL SPEC. LOW SULFUR FUEL OIL	0	BACT-PSD
SAVANNAH ELECTRIC AND POWER CO.	GA	Feb-92	TURBINES, 8	972 MMBTU/H, #2 OIL	9 PPM @ 15% O2	FUEL SPEC. LOW SULFUR FUEL OIL	0	BACT-PSD
KAMINE/BESICORP NATURAL DAM LP	NY	Dec-91	GE FRAME 6 GAS TURBINE	500 MMBTU/HR	0 02 LB/MMBTU, 10 LB/HR	NO CONTROLS	0	BACT-OTHER
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	Dec-91	TURBINE, COMBUSTION	1,247 MM BTU/HR	60 LB/HR	COMBUSTION CONTROL	0	BACT-PSD
DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	NC	Dec-91	TURBINE, COMBUSTION	1,313 MM BTU/HR	59 LB/HR	COMBUSTION CONTROL	0	BACT-PSD
MAUI ELECTRIC COMPANY, LTD	HI	Dec-91	TURBINE, FUEL OIL #2	28 MW	0 SEE NOTES	GOOD COMBUSTION PRACTICES	0	BACT-PSD
KALAMAZOO POWER LIMITED	MI	Dec-91	TURBINE, GAS-FIRED, 2, W/ WASTE HEAT BOILERS	1,808 MMBTU/H	20 PPMV	DRY LOW NOX TURBINES	0	BACT-PSD
LAKE COGEN LIMITED	FL	Nov-91	TURBINE, OIL, 2 EACH	42 MW	76 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
LAKE COGEN LIMITED	FL	Nov-91	TURBINE, GAS, 2 EACH	42 MW	42 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	Nov-91	TURBINE, GAS, 4 EACH	35 MW	10 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
ORLANDO UTILITIES COMMISSION	FL	Nov-91	TURBINE, OIL, 4 EACH	35 MW	10 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
SOUTHERN CALIFORNIA GAS	CA	Oct-91	TURBINE, GAS-FIRED	48 MMBTU/H	7.7 PPM @ 15% O2	HIGH TEMPERATURE OXIDATION CATALYST	80	BACT-PSD
SOUTHERN CALIFORNIA GAS	CA	Oct-91	TURBINE, GAS FIRED, SOLAR MODEL H	5,500 HP	7.74 PPM @ 15% O2	HIGH TEMP OXIDATION CATALYST	80	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	10 5 PPM @ 15% O2	FUEL SPEC: LEAN FUEL MIX	0	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, GAS, SOLAR CENTAUR H	5,500 HP	10.5 PPM @ 15% O2	FUEL SPEC: LEAN FUEL MIX	0	BACT-PSD
FLORIDA POWER GENERATION	FL	Oct-91	TURBINE, OIL, 6 EACH	93 MW	54 LB/H	COMBUSTION CONTROL	0	BACT-PSD
EL PASO NATURAL GAS	AZ	Oct-91	TURBINE, NAT. GAS TRANSM., GE FRAME 3	12,000 HP	60 PPM @ 15% O2	LEAN BURN	0	BACT-PSD
CAROLINA POWER AND LIGHT CO.	SC	Sep-91	TURBINE, I.C.	80 MW	60 LB/H		0	BACT-PSD
ENRON LOUISIANA ENERGY COMPANY	LA	Aug-91	TURBINE, GAS, 2	39 MMBTU/H	60 PPM @ 15% O2	BASE CASE, NO ADDITIONAL CONTROLS	0	BACT-PSD
ALGONQUIN GAS TRANSMISSION CO	RI	Jul-91	TURBINE, GAS, 2	49 MMBTU/H	0 114 LB/MMBTU	GOOD COMBUSTION PRACTICES	0	BACT-OTHER
CHARLES LARSEN POWER PLANT	FL	Jul-91	TURBINE, OIL, 1 EACH	80 MW	25 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
CHARLES LARSEN POWER PLANT	FL	Jul-91	TURBINE, GAS, 1 EACH	80 MW	25 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
SUMAS ENERGY INC.	WA	Jun-91	TURBINE, NATURAL GAS	86 MW	6 PPM @ 15% O2	CO CATALYST	80	BACT-PSD
SAGUARO POWER COMPANY	NV	Jun-91	COMBUSTION TURBINE GENERATOR	34 5 MW	9 PPH	CONVERTER (CATALYTIC)	90	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, OIL, 2 EACH	400 MW	33 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, GAS, 4 EACH	400 MW	30 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Jun-91	TURBINE, CG, 4 EACH	400 MW	33 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
NORTHERN CONSOLIDATED POWER	PA	May-91	TURBINES, GAS, 2	34.6 KW EACH	110 T/YR	OXIDATION CATALYST	90	OTHER

Table B-5 Summary of Best Available Control Technology (BACT) Determinations for Carbon Monoxide (CO) Emissions

Facility Name	State	Permit Issue Date	Unit/Process Description	Capacity (size)	CO Emission Limit	Control Method	Efficiency (%)	Type
LAKEWOOD COGENERATION, L.P.	NJ	Apr-91	TURBINES (#2 FUEL OIL) (2)	1,190 MMBTU/HR (EACH)	0.06 LB/MMBTU	TURBINE DESIGN	0	BACT-OTHER
LAKEWOOD COGENERATION, L.P.	NJ	Apr-91	TURBINES (NATURAL GAS) (2)	1,190 MMBTU/HR (EACH)	0.026 LB/MMBTU	TURBINE DESIGN	0	BACT-OTHER
CIMARRON CHEMICAL	CO	Mar-91	TURBINE #2, GE FRAME 6	33 MW	250 T/YR, LESS THAN	CO CATALYST	0	OTHER
FLORIDA POWER AND LIGHT	FL	Mar-91	TURBINE, GAS, 4 EACH	240 MW	30 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
FLORIDA POWER AND LIGHT	FL	Mar-91	TURBINE, OIL, 4 EACH	0	33 PPM @ 15% O2	COMBUSTION CONTROL	0	BACT-PSD
NEVADA COGENERATION ASSOCIATES #2	NV	Jan-91	COMBINED-CYCLE POWER GENERATION	85 MW POWER OUTPUT	40 LBS/HR	CATALYTIC CONVERTER	0	BACT-PSD
NEVADA COGENERATION ASSOCIATES #1	NV	Jan-91	COMBINED-CYCLE POWER GENERATION	85 MW TOTAL OUTPUT	40 LBS/HR	CATALYTIC CONVERTER	0	BACT-PSD
NEWARK BAY COGENERATION PARTNERSHIP	NJ	Nov-90	TURBINE, NATURAL GAS FIRED	585 MMBTU/HR	0.0055 LB/MMBTU	CATALYTIC OXIDATION	80	BACT-PSD
TBG COGEN COGENERATION PLANT	NY	Aug-90	GE LM2500 GAS TURBINE	215 MMBTU/HR	0.181 LB/MMBTU	CATALYTIC OXIDIZER	80	BACT
SC ELECTRIC AND GAS COMPANY - HAGOOD STATION	SC	Dec-89	INTERNAL COMBUSTION TURBINE	110 MEGAWATTS	23 LBS/HR	GOOD COMBUSTION PRACTICES	0	BACT-PSD
PEABODY MUNICIPAL LIGHT PLANT	MA	Nov-89	TURBINE, 38 MW NATURAL FAS FIRED	412 MMBTU/HR	40 PPM @ 15% O2	GOOD COMBUSTION PRACTICES	0	BACT-OTHER
MEGAN-RACINE ASSOCIATES, INC	NY	Aug-89	GE LM5000-N COMBINED CYCLE GAS TURBINE	401 LB/MMBTU	0.026 LB/MMBTU, 11 LB/HR	NO CONTROLS	0	BACT-OTHER
UNOCAL	CA	Jul-89	TURBINE, GAS (SEE NOTES)	0	10 PPM @ 15% O2	OXIDATION CATALYST	75	BACT-OTHER

Note: PSD= Prevention of Significant Deterioration
BACT= Best Available Control Technology
LAER= Lowest Achievable Emission Rate

Table B-6. Direct and Indirect Capital Costs for CO Catalyst for Frame "F" Simple Cycle Operation

Cost Component	Costs	Basis of Cost Component
Direct Capital Costs		
CO Associated Equipment	$235,000	Vendor Quote
Instrumentation	$23,500	10% of SCR Associated Equipment
Sales Tax	$14,100	6% of SCR Associated Equipment/Catalyst
Freight	$47,965	5% of SCR Associated Equipment/Catalyst
Total Direct Capital Costs (TDCC)	$320,565	
Recurring Capital Costs (RCC)	$724,290	Catalyst; Vendor Based Estimate
TOTAL CAPITAL COSTS	$1,044,855	Sum of TDCC, TDIC and RCC
Direct Installation Costs		
Foundation and supports	$83,588	8% of Total Capital Costs; OAQPS Cost Control Manual
Handling & Erection	$146,280	14% of Total Capital Costs; OAQPS Cost Control Manual
Electrical	$41,794	4% of Total Capital Costs; OAQPS Cost Control Manual
Piping	$20,897	2% of Total Capital Costs; OAQPS Cost Control Manual
Insulation for ductwork	$10,449	1% of Total Capital Costs; OAQPS Cost Control Manual
Painting	$10,449	1% of Total Capital Costs; OAQPS Cost Control Manual
Site Preparation	$5,000	Engineering Estimate
Buildings	$0	
Total Direct Installation Costs (TDIC)	$318,456	
Indirect Costs		
Engineering	$104,485	10% of Total Capital Costs; OAQPS Cost Control Manual
Construction and Field Expense	$52,243	5% of Total Capital Costs; OAQPS Cost Control Manual
Contractor Fees	$104,485	10% of Total Capital Costs; OAQPS Cost Control Manual
Start-up	$20,897	2% of Total Capital Costs; OAQPS Cost Control Manual
Performance Tests	$10,449	1% of Total Capital Costs; OAQPS Cost Control Manual
Allowance for Funds Used During Constructi	$56,226	2.5% of Total Capital Costs; borrowed at a rate 7.0% for 9 months
Contingencies	$31,346	3% of Total Capital Costs; OAQPS Cost Control Manual
TOTAL INDIRECT CAPITAL COST (TICC)	$380,131	
TOTAL DIRECT and INDIRECT CAPITAL COSTS (TDICC)	$1,743,442	Sum of TDCC, TDIC and TICC

Table B-7. Annualized Cost for CO Catalyst for Frame "F" Simple Cycle Operation

Cost Component	Cost	Basis of Cost Estimate
Direct Annual Costs		
Operating Personnel	$8,320	8 hours/week at $20/hr
Supervision	$1,248	15% of Operating Personnel;OAQPS Cost Control Manual
Maintenance - Labor	$4,368	0.5 hr per shift, $24/hr; OAQPS Cost Manual
- Materials	$4,368	100% of maintenance labor; OAQPS Cost Manual
Inventory Cost	$26,509.02	Capital Recovery (11.74%) for 1/3 catalyst
Catalyst Disposal Cost	$37,025	$28/1,000 lb/hr mass flow over 3 years; developed from vendor quotes
Contingency	$2,455	3% of direct costs
Total Direct Annual Costs (TDAC)	$84,293	
Energy Costs		
Heat Rate Penalty	$59,346	0.2% of MW output; EPA, 1993 (Page 6-20)
MW Loss Penalty	$42,015	2 days replacement energy costs @ $0.01 kWh each three period
Fuel Escalation	$3,041	Escalation of fuel over inflation; 3% of energy costs
Contingency	$3,132	3% of energy costs
Total Energy Costs (TEC)	$107,533	
Indirect Annual Costs		
Overhead	$8,362	60% of Operating/Supervision Labor and Ammonia
Property Taxes, insurance, admin.	$69,738	4% of Total Capital Costs
Annualized Total Direct Capital	$111,903	10.98% Capital Recovery Factor of 7% over 15 years times sum of TDCC, TDIC and TICC
Annualized Total Direct Recurring	$276,027	38.11% Capital Recovery Factor of 7% over 3 years times RCC
Total Indirect Annual Costs (TIAC)	$466,029	
TOTAL ANNUALIZED COSTS	$657,856	Sum of TDAC, TEC and TIAC
COST EFFECTIVENESS	$9,508	

APPENDIX C

BUILDING DOWNWASH INFORMATION FROM BPIP

```
'BPIP data for Sonat Power Project, Pasco County Site'
'ST'
'FEET' 0.3048
'UTMN' 0
 6
'InlFilt1' 1 0.0
4 47
-94 104
-94 140
-58 140
-58 104
'InlFilt2' 1 0.0
4 47
 22 104
 22 140
 58 140
 58 104
'InlFilt3' 1 0.0
4 47
138 104
138 140
174 140
174 104
'Turb1' 1 0.0
4 22.
-131 34
-131 76
-101 76
-101 34
'Turb2' 1 0.0
4 22.
-15  34
-15  76
15   76
15   34
'Turb3' 1 0.0
4 22.
101  34
101  76
131  76
131  34
3
'CT1' 0.0 60 -116 0
'CT2' 0.0 60    0 0
'CT3' 0.0 60  116 0
0
```

BPIP (Dated: 95086)

DATE : 10/08/99
TIME : 18:15:34
BPIP data for Sonat Power Project, Pasco County Site

```
============================
BPIP PROCESSING INFORMATION:
============================

   The ST flag has been set for processing for an ISCST2 run.

   Inputs entered in FEET       will be converted to meters using
    a conversion factor of    0.3048.  Output will be in meters.

   UTMP is set to UTMN.  The input is assumed to be in a local
    X-Y coordinate system as opposed to a UTM coordinate system.
    True North is in the positive Y direction.

   Plant north is set to   0.00 degrees with respect to True North.
```

BPIP data for Sonat Power Project, Pasco County Site

PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
(Output Units: meters)

Stack Name	Stack Height	Stack-Building Base Elevation Differences	GEP** EQN1	Preliminary* GEP Stack Height Value
CT1	18.29	0.00	35.81	65.00
CT2	18.29	0.00	35.81	65.00
CT3	18.29	0.00	35.81	65.00

* Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration.

** Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences.

Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the GEP Technical Support Document.

BPIP (Dated: 95086)

DATE : 10/08/99
TIME : 18:15:34

BPIP data for Sonat Power Project, Pasco County Site

BPIP output is in meters

SO BUILDHGT CT1	6.71	6.71	6.71	14.33	0.00	0.00
SO BUILDHGT CT1	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT CT1	0.00	6.71	6.71	6.71	6.71	6.71
SO BUILDHGT CT1	14.33	14.33	14.33	14.33	14.33	14.33
SO BUILDHGT CT1	6.71	6.71	0.00	0.00	0.00	0.00
SO BUILDHGT CT1	0.00	6.71	6.71	6.71	6.71	6.71
SO BUILDWID CT1	11.23	12.97	14.32	15.46	0.00	0.00
SO BUILDWID CT1	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID CT1	0.00	15.23	14.32	12.97	11.23	9.14
SO BUILDWID CT1	12.71	14.06	14.99	15.46	15.46	14.99
SO BUILDWID CT1	15.16	14.19	0.00	0.00	0.00	0.00
SO BUILDWID CT1	0.00	15.23	14.32	12.97	11.23	9.14
SO BUILDHGT CT2	6.71	6.71	6.71	14.33	0.00	0.00
SO BUILDHGT CT2	0.00	0.00	0.00	6.71	6.71	6.71
SO BUILDHGT CT2	14.33	14.33	14.33	14.33	6.71	6.71
SO BUILDHGT CT2	14.33	14.33	14.33	14.33	14.33	14.33
SO BUILDHGT CT2	6.71	6.71	0.00	0.00	0.00	0.00

SO BUILDHGT CT2	0.00	6.71	6.71	6.71	6.71	6.71
SO BUILDWID CT2	11.23	12.97	14.32	15.46	0.00	0.00
SO BUILDWID CT2	0.00	0.00	0.00	14.19	15.16	15.66
SO BUILDWID CT2	15.46	15.46	14.99	14.06	11.23	9.14
SO BUILDWID CT2	12.71	14.06	14.99	15.46	15.46	14.99
SO BUILDWID CT2	15.16	14.19	0.00	0.00	0.00	0.00
SO BUILDWID CT2	0.00	15.23	14.32	12.97	11.23	9.14
SO BUILDHGT CT3	6.71	6.71	6.71	14.33	0.00	0.00
SO BUILDHGT CT3	0.00	0.00	0.00	6.71	6.71	14.33
SO BUILDHGT CT3	14.33	14.33	14.33	14.33	6.71	6.71
SO BUILDHGT CT3	14.33	14.33	14.33	14.33	0.00	0.00
SO BUILDHGT CT3	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT CT3	0.00	6.71	6.71	6.71	6.71	6.71
SO BUILDWID CT3	11.23	12.97	14.32	15.46	0.00	0.00
SO BUILDWID CT3	0.00	0.00	0.00	14.19	15.16	14.99
SO BUILDWID CT3	15.46	15.46	14.99	14.06	11.23	9.14
SO BUILDWID CT3	12.71	14.06	14.99	15.46	0.00	0.00
SO BUILDWID CT3	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID CT3	0.00	15.23	14.32	12.97	11.23	9.14

APPENDIX D

DETAILED SUMMARY OF ISCST MODEL RESULTS

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :PCNGC2.087
ISCST3 OUTPUT FILE NUMBER 2 :PCNGC2.088
ISCST3 OUTPUT FILE NUMBER 3 :PCNGC2.089
ISCST3 OUTPUT FILE NUMBER 4 :PCNGC2.090
ISCST3 OUTPUT FILE NUMBER 5 :PCNGC2.091
First title for last output file is: 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99
Second title for last output file is: NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	BASE32				
Annual					
	1987	0.01250	240.	15000.	87123124
	1988	0.01203	220.	15000.	88123124
	1989	0.01200	210.	300.	89123124
	1990	0.01548	250.	15000.	90123124
	1991	0.01387	240.	15000.	91123124
HIGH 24-Hour					
	1987	0.14986	80.	7000.	87040624
	1988	0.20016	220.	20000.	88091324
	1989	0.20057	180.	20000.	89012324
	1990	0.19059	230.	20000.	90011624
	1991	0.14603	270.	7000.	91061124
HIGH 8-Hour					
	1987	0.40941	60.	20000.	87120408
	1988	0.39224	240.	20000.	88011524
	1989	0.43474	180.	20000.	89012308
	1990	0.39973	180.	20000.	90041208
	1991	0.32971	190.	20000.	91120424
HIGH 3-Hour					
	1987	0.80356	110.	20000.	87031003
	1988	0.75844	220.	20000.	88091324
	1989	0.65210	350.	20000.	89060824
	1990	0.62812	250.	10000.	90041312
	1991	0.82157	70.	2000.	91051215
HIGH 1-Hour					
	1987	1.67977	90.	1500.	87082614
	1988	1.61780	20.	2000.	88082914
	1989	1.72393	20.	1500.	89091413
	1990	1.67867	30.	2000.	90042312
	1991	1.75901	290.	1500.	91083113
SOURCE GROUP ID:	BASE95				
Annual					
	1987	0.01323	240.	15000.	87123124
	1988	0.01275	220.	15000.	88123124
	1989	0.01207	210.	300.	89123124
	1990	0.01646	250.	15000.	90123124
	1991	0.01470	240.	15000.	91123124
HIGH 24-Hour					
	1987	0.15384	230.	7000.	87042724
	1988	0.20962	220.	15000.	88091324
	1989	0.21031	180.	20000.	89012324
	1990	0.20367	240.	15000.	90102724
	1991	0.15041	270.	7000.	91061124
HIGH 8-Hour					
	1987	0.43046	60.	20000.	87120408
	1988	0.41153	240.	20000.	88011524
	1989	0.45722	180.	20000.	89012308
	1990	0.42038	180.	20000.	90041208
	1991	0.34719	240.	20000.	91122608
HIGH 3-Hour					
	1987	0.84237	110.	20000.	87031003
	1988	0.79569	220.	20000.	88091324
	1989	0.68454	350.	20000.	89060824
	1990	0.96421	270.	2000.	90061315
	1991	0.82886	70.	2000.	91051215
HIGH 1-Hour					
	1987	1.87654	280.	1500.	87070113
	1988	1.63082	20.	2000.	88082914
	1989	1.77930	30.	1500.	89081114
	1990	1.83473	260.	1500.	90071913
	1991	1.87601	330.	1500.	91052413
SOURCE GROUP ID:	LD7532				
Annual					
	1987	0.01474	240.	15000.	87123124
	1988	0.01406	220.	15000.	88123124
	1989	0.01241	200.	15000.	89123124
	1990	0.01830	250.	12000.	90123124
	1991	0.01647	240.	15000.	91123124

HIGH 24-Hour

1987	0.17837	270.	10000.	87052424
1988	0.22817	220.	15000.	88091324
1989	0.22800	180.	20000.	89012324
1990	0.22115	240.	15000.	90102724
1991	0.17506	270.	10000.	91061124

HIGH 8-Hour

1987	0.46831	60.	20000.	87120408
1988	0.44585	240.	20000.	88011524
1989	0.49772	180.	20000.	89012308
1990	0.45744	180.	20000.	90041208
1991	0.38141	240.	20000.	91122608

HIGH 3-Hour

1987	0.91164	110.	20000.	87031003
1988	0.86268	220.	20000.	88091324
1989	0.74301	350.	20000.	89060824
1990	0.97715	270.	2000.	90061315
1991	0.84142	70.	2000.	91051215

HIGH 1-Hour

1987	2.08723	280.	1500.	87052413
1988	1.95538	20.	1500.	88062313
1989	2.01672	330.	1500.	89032712
1990	2.10306	70.	1500.	90081414
1991	2.11116	190.	1500.	91090612

SOURCE GROUP ID: LD7595

Annual

1987	0.01541	240.	15000.	87123124
1988	0.01465	220.	15000.	88123124
1989	0.01305	200.	15000.	89123124
1990	0.01933	250.	12000.	90123124
1991	0.01730	240.	15000.	91123124

HIGH 24-Hour

1987	0.18474	270.	10000.	87052424
1988	0.23809	220.	15000.	88091324
1989	0.24264	180.	20000.	89012324
1990	0.23077	240.	15000.	90102724
1991	0.18007	270.	10000.	91061124

HIGH 8-Hour

1987	0.48846	60.	20000.	87120408
1988	0.45321	240.	20000.	88011524
1989	0.51941	180.	20000.	89012308
1990	0.47715	180.	20000.	90041208
1991	0.39989	240.	20000.	91122608

HIGH 3-Hour

1987	0.94824	110.	20000.	87031003
1988	0.89810	220.	20000.	88091324
1989	0.77397	350.	20000.	89060824
1990	0.98371	270.	2000.	90061315
1991	0.84777	70.	2000.	91051215

HIGH 1-Hour

1987	2.16525	70.	1500.	87080713
1988	2.15849	160.	1500.	88080712
1989	2.16931	10.	1500.	89061912
1990	2.16125	290.	1500.	90071012
1991	2.15496	320.	1500.	91061514

SOURCE GROUP ID: LD5032

Annual

1987	0.01748	240.	15000.	87123124
1988	0.01645	220.	15000.	88123124
1989	0.01491	200.	15000.	89123124
1990	0.02193	250.	12000.	90123124
1991	0.01968	240.	15000.	91123124

HIGH 24-Hour

1987	0.20940	250.	12000.	87112324
1988	0.24477	220.	20000.	88091324
1989	0.27144	180.	15000.	89012324
1990	0.25914	240.	15000.	90102724
1991	0.19554	270.	10000.	91061124

HIGH 8-Hour

1987	0.54853	60.	15000.	87120408
1988	0.51340	160.	1500.	88080716
1989	0.58095	180.	15000.	89012308
1990	0.56041	160.	1500.	90061716
1991	0.45314	240.	20000.	91122608

HIGH 3-Hour

1987	1.06065	110.	15000.	87031003
1988	0.94509	220.	20000.	88091324
1989	0.86428	350.	15000.	89060824
1990	1.19100	40.	1500.	90042312
1991	0.91482	270.	20000.	91010306

HIGH 1-Hour

1987	2.51606	250.	1500.	87082212
1988	2.55249	360.	1500.	88081913

	1989	2.51463	180.	1500.	89041613
	1990	2.54539	20.	1500.	90050211
	1991	2.44075	330.	1500.	91040612
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.01827	240.	15000.	87123124
	1988	0.01723	220.	15000.	88123124
	1989	0.01593	180.	15000.	89123124
	1990	0.02291	250.	12000.	90123124
	1991	0.02078	240.	15000.	91123124
HIGH 24-Hour					
	1987	0.21713	250.	12000.	87112324
	1988	0.25332	220.	20000.	88091324
	1989	0.28173	180.	15000.	89012324
	1990	0.26876	240.	15000.	90102724
	1991	0.21391	250.	5000.	91090224
HIGH 8-Hour					
	1987	0.56988	60.	15000.	87120408
	1988	0.51708	160.	1500.	88080716
	1989	0.60406	180.	15000.	89012308
	1990	0.56485	160.	1500.	90061716
	1991	0.47092	240.	20000.	91122608
HIGH 3-Hour					
	1987	1.09960	110.	15000.	87031003
	1988	0.98000	220.	20000.	88091324
	1989	0.89692	350.	15000.	89060824
	1990	1.20041	40.	1500.	90042312
	1991	0.94919	270.	20000.	91010306
HIGH 1-Hour					
	1987	2.53071	250.	1500.	87082212
	1988	2.56687	360.	1500.	88081913
	1989	2.52873	180.	1500.	89041613
	1990	2.55945	20.	1500.	90050211
	1991	2.45385	330.	1500.	91040612

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :PCFOC2.087
ISCST3 OUTPUT FILE NUMBER 2 :PCFOC2.088
ISCST3 OUTPUT FILE NUMBER 3 :PCFOC2.089
ISCST3 OUTPUT FILE NUMBER 4 :PCFOC2.090
ISCST3 OUTPUT FILE NUMBER 5 :PCFOC2.091
First title for last output file is: 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99
Second title for last output file is: FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	BASE32				
Annual					
	1987	0.01220	240.	15000.	87123124
	1988	0.01176	220.	15000.	88123124
	1989	0.01197	210.	300.	89123124
	1990	0.01511	250.	15000.	90123124
	1991	0.01348	240.	15000.	91123124
HIGH 24-Hour					
	1987	0.14848	80.	7000.	87040624
	1988	0.19637	220.	20000.	88091324
	1989	0.19650	180.	20000.	89012324
	1990	0.18646	230.	20000.	90011624
	1991	0.14425	270.	7000.	91061124
HIGH 8-Hour					
	1987	0.40055	60.	20000.	87120408
	1988	0.38407	240.	20000.	88011524
	1989	0.42529	180.	20000.	89012308
	1990	0.39103	180.	20000.	90041208
	1991	0.32258	190.	20000.	91120424
HIGH 3-Hour					
	1987	0.78718	110.	20000.	87031003
	1988	0.74278	220.	20000.	88091324
	1989	0.63849	350.	20000.	89060824
	1990	0.62548	250.	10000.	90041312
	1991	0.81844	70.	2000.	91051215
HIGH 1-Hour					
	1987	1.67360	90.	1500.	87082614
	1988	1.61219	20.	2000.	88082914
	1989	1.70797	310.	1500.	89070913
	1990	1.67268	30.	2000.	90042312
	1991	1.62428	270.	2000.	91061113
SOURCE GROUP ID:	BASE95				
Annual					
	1987	0.01281	240.	15000.	87123124
	1988	0.01226	220.	15000.	88123124
	1989	0.01203	210.	300.	89123124
	1990	0.01589	250.	15000.	90123124
	1991	0.01426	240.	15000.	91123124
HIGH 24-Hour					
	1987	0.15146	230.	7000.	87042724
	1988	0.20425	220.	20000.	88091324
	1989	0.20501	180.	20000.	89012324
	1990	0.19506	230.	20000.	90011624
	1991	0.14799	270.	7000.	91061124
HIGH 8-Hour					
	1987	0.41900	60.	20000.	87120408
	1988	0.40107	240.	20000.	88011524
	1989	0.44500	180.	20000.	89012308
	1990	0.40915	180.	20000.	90041208
	1991	0.33743	190.	20000.	91120424
HIGH 3-Hour					
	1987	0.82127	110.	20000.	87031003
	1988	0.77536	220.	20000.	88091324
	1989	0.66682	350.	20000.	89060824
	1990	0.96013	270.	2000.	90061315
	1991	0.82491	70.	2000.	91051215
HIGH 1-Hour					
	1987	1.81249	150.	1500.	87080813
	1988	1.62376	20.	2000.	88082914
	1989	1.77214	30.	1500.	89081114
	1990	1.81690	260.	1500.	90071613
	1991	1.79430	340.	1500.	91050913
SOURCE GROUP ID:	LD7532				
Annual					
	1987	0.01459	240.	15000.	87123124
	1988	0.01383	220.	15000.	88123124
	1989	0.01222	200.	15000.	89123124
	1990	0.01820	250.	12000.	90123124
	1991	0.01632	240.	15000.	91123124

HIGH 24-Hour					
	1987	0.17756	270.	10000.	87052424
	1988	0.22691	220.	15000.	88091324
	1989	0.22680	180.	20000.	89012324
	1990	0.21995	240.	15000.	90102724
	1991	0.17442	270.	10000.	91061124
HIGH 8-Hour					
	1987	0.46575	60.	20000.	87120408
	1988	0.44355	240.	20000.	88011524
	1989	0.49499	180.	20000.	89012308
	1990	0.45494	180.	20000.	90041208
	1991	0.37909	240.	20000.	91122608
HIGH 3-Hour					
	1987	0.90698	110.	20000.	87031003
	1988	0.85813	220.	20000.	88091324
	1989	0.73904	350.	20000.	89060824
	1990	0.97629	270.	2000.	90061315
	1991	0.84059	70.	2000.	91051215
HIGH 1-Hour					
	1987	2.08542	280.	1500.	87052413
	1988	1.95341	20.	1500.	88062313
	1989	2.01472	330.	1500.	89032712
	1990	2.01716	200.	1500.	90081313
	1991	2.10928	190.	1500.	91090612
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.01519	240.	15000.	87123124
	1988	0.01451	220.	15000.	88123124
	1989	0.01284	200.	15000.	89123124
	1990	0.01891	250.	12000.	90123124
	1991	0.01703	240.	15000.	91123124
HIGH 24-Hour					
	1987	0.18232	270.	10000.	87052424
	1988	0.23434	220.	15000.	88091324
	1989	0.23909	180.	20000.	89012324
	1990	0.22712	240.	15000.	90102724
	1991	0.17816	270.	10000.	91061124
HIGH 8-Hour					
	1987	0.48086	60.	20000.	87120408
	1988	0.44614	240.	20000.	88011524
	1989	0.51123	180.	20000.	89012308
	1990	0.46972	180.	20000.	90041208
	1991	0.39290	240.	20000.	91122608
HIGH 3-Hour					
	1987	0.93446	110.	20000.	87031003
	1988	0.88473	220.	20000.	88091324
	1989	0.76228	350.	20000.	89060824
	1990	0.98126	270.	2000.	90061315
	1991	0.84540	70.	2000.	91051215
HIGH 1-Hour					
	1987	2.14442	110.	1500.	87080314
	1988	1.96530	20.	1500.	88062313
	1989	2.15718	330.	1500.	89062212
	1990	2.15566	290.	1500.	90071012
	1991	2.14965	320.	1500.	91061514
SOURCE GROUP ID:	LD5032				
Annual					
	1987	0.01697	240.	15000.	87123124
	1988	0.01600	220.	15000.	88123124
	1989	0.01455	200.	15000.	89123124
	1990	0.02135	250.	12000.	90123124
	1991	0.01922	240.	15000.	91123124
HIGH 24-Hour					
	1987	0.20479	250.	12000.	87112324
	1988	0.23955	220.	20000.	88091324
	1989	0.26540	180.	15000.	89012324
	1990	0.25342	240.	15000.	90102724
	1991	0.19252	270.	10000.	91061124
HIGH 8-Hour					
	1987	0.53570	60.	15000.	87120408
	1988	0.51126	160.	1500.	88080716
	1989	0.56886	180.	20000.	89012308
	1990	0.52192	180.	20000.	90041208
	1991	0.44256	240.	20000.	91122608
HIGH 3-Hour					
	1987	1.03718	110.	15000.	87031003
	1988	0.92348	220.	20000.	88091324
	1989	0.84469	350.	20000.	89060824
	1990	1.18537	40.	1500.	90042312
	1991	0.89405	270.	20000.	91010306
HIGH 1-Hour					
	1987	2.50711	250.	1500.	87082212
	1988	2.37705	260.	1500.	88040513

	1989	2.42552	30.	1500.	89062011
	1990	2.46374	40.	1500.	90082112
	1991	2.38353	130.	1500.	91092113
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.01803	240.	15000.	87123124
	1988	0.01693	220.	15000.	88123124
	1989	0.01539	200.	15000.	89123124
	1990	0.02249	250.	12000.	90123124
	1991	0.02048	240.	15000.	91123124
HIGH 24-Hour					
	1987	0.21441	250.	12000.	87112324
	1988	0.25034	220.	20000.	88091324
	1989	0.27813	180.	15000.	89012324
	1990	0.26538	240.	15000.	90102724
	1991	0.21183	250.	5000.	91090224
HIGH 8-Hour					
	1987	0.56239	60.	15000.	87120408
	1988	0.51573	160.	1500.	88080716
	1989	0.59601	180.	15000.	89012308
	1990	0.56325	160.	1500.	90061716
	1991	0.46470	240.	20000.	91122608
HIGH 3-Hour					
	1987	1.08596	110.	15000.	87031003
	1988	0.96769	220.	20000.	88091324
	1989	0.88536	350.	15000.	89060824
	1990	1.19704	40.	1500.	90042312
	1991	0.93713	270.	20000.	91010306
HIGH 1-Hour					
	1987	2.52544	250.	1500.	87082212
	1988	2.56171	360.	1500.	88081913
	1989	2.52369	180.	1500.	89041613
	1990	2.55440	20.	1500.	90050211
	1991	2.44915	330.	1500.	91040612

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99
CO TITLETWO NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 8 3 1
CO POLLUTID GEN
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
SO LOCATION  BASE32A  POINT  -35.36     0.0       0.0
SO LOCATION  BASE32B  POINT    0.00     0.0       0.0
SO LOCATION  BASE32C  POINT   35.36     0.0       0.0
**
SO LOCATION  BASE95A  POINT  -35.36     0.0       0.0
SO LOCATION  BASE95B  POINT    0.00     0.0       0.0
SO LOCATION  BASE95C  POINT   35.36     0.0       0.0
**
SO LOCATION  LD7532A  POINT  -35.36     0.0       0.0
SO LOCATION  LD7532B  POINT    0.00     0.0       0.0
SO LOCATION  LD7532C  POINT   35.36     0.0       0.0
**
SO LOCATION  LD7595A  POINT  -35.36     0.0       0.0
SO LOCATION  LD7595B  POINT    0.00     0.0       0.0
SO LOCATION  LD7595C  POINT   35.36     0.0       0.0
**
SO LOCATION  LD5032A  POINT  -35.36     0.0       0.0
SO LOCATION  LD5032B  POINT    0.00     0.0       0.0
SO LOCATION  LD5032C  POINT   35.36     0.0       0.0
**
SO LOCATION  LD5095A  POINT  -35.36     0.0       0.0
SO LOCATION  LD5095B  POINT    0.00     0.0       0.0
SO LOCATION  LD5095C  POINT   35.36     0.0       0.0

** Source Parameter Cards:
** POINT:   SRCID          QS       HS        TS        VS        DS
**                        (g/s)     (m)       (K)      (m/s)     (m)
SO SRCPARAM   BASE32A     3.333     18.3      865.0     36.2      6.71
SO SRCPARAM   BASE32B     3.334     18.3      865.0     36.2      6.71
SO SRCPARAM   BASE32C     3.333     18.3      865.0     36.2      6.71
**
SO SRCPARAM   BASE95A     3.333     18.3      886.0     33.9      6.71
SO SRCPARAM   BASE95B     3.334     18.3      886.0     33.9      6.71
SO SRCPARAM   BASE95C     3.333     18.3      886.0     33.9      6.71
**
SO SRCPARAM   LD7532A     3.333     18.3      905.0     30.6      6.71
SO SRCPARAM   LD7532B     3.334     18.3      905.0     30.6      6.71
SO SRCPARAM   LD7532C     3.333     18.3      905.0     30.6      6.71
**
SO SRCPARAM   LD7595A     3.333     18.3      918.0     29.0      6.71
SO SRCPARAM   LD7595B     3.334     18.3      918.0     29.0      6.71
SO SRCPARAM   LD7595C     3.333     18.3      918.0     29.0      6.71
**
SO SRCPARAM   LD5032A     3.333     18.3      906.0     25.7      6.71
SO SRCPARAM   LD5032B     3.334     18.3      906.0     25.7      6.71
SO SRCPARAM   LD5032C     3.333     18.3      906.0     25.7      6.71
**
SO SRCPARAM   LD5095A     3.333     18.3      922.0     24.5      6.71
SO SRCPARAM   LD5095B     3.334     18.3      922.0     24.5      6.71
SO SRCPARAM   LD5095C     3.333     18.3      922.0     24.5      6.71
**
SO BUILDHGT BASE32A-BASE95A     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32A-BASE95A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDHGT BASE32A-BASE95A    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32A-BASE95A     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A     0.00    6.71    6.71    6.71    6.71    6.71
```

```
SO BUILDWID BASE32A-BASE95A    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32A-BASE95A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID BASE32A-BASE95A     0.00   15.23   14.32   12.97   11.23    9.14
SO BUILDWID BASE32A-BASE95A    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID BASE32A-BASE95A    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID BASE32A-BASE95A     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT LD5032A-LD7595A     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDHGT LD5032A-LD7595A    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT LD5032A-LD7595A     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032A-LD7595A    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00   15.23   14.32   12.97   11.23    9.14
SO BUILDWID LD5032A-LD7595A    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID LD5032A-LD7595A    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT BASE32B-BASE95B     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32B-BASE95B     0.00    0.00    0.00    6.71    6.71    6.71
SO BUILDHGT BASE32B-BASE95B    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT BASE32B-BASE95B    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32B-BASE95B     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32B-BASE95B     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32B-BASE95B    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32B-BASE95B     0.00    0.00    0.00   14.19   15.16   15.66
SO BUILDWID BASE32B-BASE95B    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID BASE32B-BASE95B    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID BASE32B-BASE95B    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID BASE32B-BASE95B     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT LD5032B-LD7595B     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032B-LD7595B     0.00    0.00    0.00    6.71    6.71    6.71
SO BUILDHGT LD5032B-LD7595B    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT LD5032B-LD7595B    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT LD5032B-LD7595B     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032B-LD7595B     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032B-LD7595B    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032B-LD7595B     0.00    0.00    0.00   14.19   15.16   15.66
SO BUILDWID LD5032B-LD7595B    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID LD5032B-LD7595B    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID LD5032B-LD7595B    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID LD5032B-LD7595B     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT BASE32C-BASE95C     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32C-BASE95C     0.00    0.00    0.00    6.71    6.71   14.33
SO BUILDHGT BASE32C-BASE95C    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT BASE32C-BASE95C    14.33   14.33   14.33   14.33    0.00    0.00
SO BUILDHGT BASE32C-BASE95C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32C-BASE95C     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32C-BASE95C    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32C-BASE95C     0.00    0.00    0.00   14.19   15.16   14.99
SO BUILDWID BASE32C-BASE95C    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID BASE32C-BASE95C    12.71   14.06   14.99   15.46    0.00    0.00
SO BUILDWID BASE32C-BASE95C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID BASE32C-BASE95C     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT LD5032C-LD7595C     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    0.00    0.00    6.71    6.71   14.33
SO BUILDHGT LD5032C-LD7595C    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT LD5032C-LD7595C    14.33   14.33   14.33   14.33    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032C-LD7595C    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00    0.00    0.00   14.19   15.16   14.99
SO BUILDWID LD5032C-LD7595C    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID LD5032C-LD7595C    12.71   14.06   14.99   15.46    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00   15.23   14.32   12.97   11.23    9.14
**
SO EMISUNIT      .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE32 BASE32A BASE32B BASE32C
SO SRCGROUP BASE95 BASE95A BASE95B BASE95C
SO SRCGROUP LD7532 LD7532A LD7532B LD7532C
SO SRCGROUP LD7595 LD7595A LD7595B LD7595C
SO SRCGROUP LD5032 LD5032A LD5032B LD5032C
SO SRCGROUP LD5095 LD5095A LD5095B LD5095C
**
SO FINISHED
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```
RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  300 500 700 1000 1500 2000 2500 3000 4000 5000
RE GRIDPOLR POL DIST  7000 10000 12000 15000 20000 25000 30000
RE GRIDPOLR POL GDIR  36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE32B      173.        10
RE DISCPOLR BASE32B      200.        10
RE DISCPOLR BASE32B      182.        20
RE DISCPOLR BASE32B      200.        20
RE DISCPOLR BASE32B      171.        30
RE DISCPOLR BASE32B      200.        30
RE DISCPOLR BASE32B      133.        40
RE DISCPOLR BASE32B      200.        40
RE DISCPOLR BASE32B      111.        50
RE DISCPOLR BASE32B      200.        50
RE DISCPOLR BASE32B       99.        60
RE DISCPOLR BASE32B      100.        60
RE DISCPOLR BASE32B      200.        60
RE DISCPOLR BASE32B       91.        70
RE DISCPOLR BASE32B      100.        70
RE DISCPOLR BASE32B      200.        70
RE DISCPOLR BASE32B       87.        80
RE DISCPOLR BASE32B      100.        80
RE DISCPOLR BASE32B      200.        80
RE DISCPOLR BASE32B       85.        90
RE DISCPOLR BASE32B      100.        90
RE DISCPOLR BASE32B      200.        90
RE DISCPOLR BASE32B       87.       100
RE DISCPOLR BASE32B      100.       100
RE DISCPOLR BASE32B      200.       100
RE DISCPOLR BASE32B       91.       110
RE DISCPOLR BASE32B      100.       110
RE DISCPOLR BASE32B      200.       110
RE DISCPOLR BASE32B       99.       120
RE DISCPOLR BASE32B      100.       120
RE DISCPOLR BASE32B      200.       120
RE DISCPOLR BASE32B      111.       130
RE DISCPOLR BASE32B      200.       130
RE DISCPOLR BASE32B      127.       140
RE DISCPOLR BASE32B      200.       140
RE DISCPOLR BASE32B      113.       150
RE DISCPOLR BASE32B      200.       150
RE DISCPOLR BASE32B      104.       160
RE DISCPOLR BASE32B      200.       160
RE DISCPOLR BASE32B       99.       170
RE DISCPOLR BASE32B      100.       170
RE DISCPOLR BASE32B      200.       170
RE DISCPOLR BASE32B       98.       180
RE DISCPOLR BASE32B      100.       180
RE DISCPOLR BASE32B      200.       180
RE DISCPOLR BASE32B       99.       190
RE DISCPOLR BASE32B      100.       190
RE DISCPOLR BASE32B      200.       190
RE DISCPOLR BASE32B      104.       200
RE DISCPOLR BASE32B      200.       200
RE DISCPOLR BASE32B      113.       210
RE DISCPOLR BASE32B      200.       210
RE DISCPOLR BASE32B      127.       220
RE DISCPOLR BASE32B      200.       220
RE DISCPOLR BASE32B      152.       230
RE DISCPOLR BASE32B      200.       230
RE DISCPOLR BASE32B      158.       240
RE DISCPOLR BASE32B      200.       240
RE DISCPOLR BASE32B      146.       250
RE DISCPOLR BASE32B      200.       250
RE DISCPOLR BASE32B      139.       260
RE DISCPOLR BASE32B      200.       260
RE DISCPOLR BASE32B      137.       270
RE DISCPOLR BASE32B      200.       270
RE DISCPOLR BASE32B      139.       280
RE DISCPOLR BASE32B      200.       280
RE DISCPOLR BASE32B      146.       290
RE DISCPOLR BASE32B      200.       290
RE DISCPOLR BASE32B      158.       300
RE DISCPOLR BASE32B      200.       300
RE DISCPOLR BASE32B      179.       310
RE DISCPOLR BASE32B      200.       310
RE DISCPOLR BASE32B      213.       320
RE DISCPOLR BASE32B      197.       330
RE DISCPOLR BASE32B      200.       330
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RE DISCPOLR BASE32B      182.       340
RE DISCPOLR BASE32B      200.       340
RE DISCPOLR BASE32B      173.       350
RE DISCPOLR BASE32B      200.       350
RE DISCPOLR BASE32B      171.       360
RE DISCPOLR BASE32B      200.       360
RE FINISHED

ME STARTING
ME INPUTFIL D:\MET\TPA87D.MET
ME ANEMHGHT   6.700 METERS
ME SURFDATA  12842  1987            TAMPA
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS   1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED

***********************************
*** SETUP Finishes Successfully ***
***********************************

  *** ISCST3 - VERSION 99155 ***     *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        **
                                   *** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES      ***
**MODELOPTs:
CONC                      RURAL  FLAT          DFAULT

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  4 Short Term Average(s) of:  24-HR   8-HR   3-HR   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    18 Source(s);      6 Source Group(s); and     693 Receptor(s)

**The Model Assumes A Pollutant Type of:  GEN

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =     6.70 ;    Decay Coef. =    0.000     ;    Rot. Angle =     0.0
                 Emission Units = (GRAMS/SEC)                                ;  Emission Rate Unit Factor =   0.1
                 Output Units   = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model =     1.5 MB of RAM.
```

**Input Runstream File: PCNGC2.I87
**Output Print File: PCNGC2.O87
*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DEFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMIS SCA
BASE32A	0	0.33330E+01	-35.4	0.0	0.0	18.30	865.00	36.20	6.71	YES	
BASE32B	0	0.33340E+01	0.0	0.0	0.0	18.30	865.00	36.20	6.71	YES	
BASE32C	0	0.33330E+01	35.4	0.0	0.0	18.30	865.00	36.20	6.71	YES	
BASE95A	0	0.33330E+01	-35.4	0.0	0.0	18.30	886.00	33.90	6.71	YES	
BASE95B	0	0.33340E+01	0.0	0.0	0.0	18.30	886.00	33.90	6.71	YES	
BASE95C	0	0.33330E+01	35.4	0.0	0.0	18.30	886.00	33.90	6.71	YES	
LD7532A	0	0.33330E+01	-35.4	0.0	0.0	18.30	905.00	30.60	6.71	YES	
LD7532B	0	0.33340E+01	0.0	0.0	0.0	18.30	905.00	30.60	6.71	YES	
LD7532C	0	0.33330E+01	35.4	0.0	0.0	18.30	905.00	30.60	6.71	YES	
LD7595A	0	0.33330E+01	-35.4	0.0	0.0	18.30	918.00	29.00	6.71	YES	
LD7595B	0	0.33340E+01	0.0	0.0	0.0	18.30	918.00	29.00	6.71	YES	
LD7595C	0	0.33330E+01	35.4	0.0	0.0	18.30	918.00	29.00	6.71	YES	
LD5032A	0	0.33330E+01	-35.4	0.0	0.0	18.30	906.00	25.70	6.71	YES	
LD5032B	0	0.33340E+01	0.0	0.0	0.0	18.30	906.00	25.70	6.71	YES	
LD5032C	0	0.33330E+01	35.4	0.0	0.0	18.30	906.00	25.70	6.71	YES	
LD5095A	0	0.33330E+01	-35.4	0.0	0.0	18.30	922.00	24.50	6.71	YES	
LD5095B	0	0.33340E+01	0.0	0.0	0.0	18.30	922.00	24.50	6.71	YES	
LD5095C	0	0.33330E+01	35.4	0.0	0.0	18.30	922.00	24.50	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DEFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
BASE32	BASE32A , BASE32B , BASE32C ,
BASE95	BASE95A , BASE95B , BASE95C ,
LD7532	LD7532A , LD7532B , LD7532C ,
LD7595	LD7595A , LD7595B , LD7595C ,
LD5032	LD5032A , LD5032B , LD5032C ,
LD5095	LD5095A , LD5095B , LD5095C ,

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DEFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE32A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: BASE32B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: BASE32C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: BASE95A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE95B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: BASE95C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7532A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7532B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0

31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD7532C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7595A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7595B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7595C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5032A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD5032B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD5032C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD5095A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5095B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD5095C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 0.00 ; Y-ORIG = 0.00 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

300.0, 500.0, 700.0, 1000.0, 1500.0, 2000.0, 2500.0, 3000.0, 4000.0, 5000
7000.0, 10000.0, 12000.0, 15000.0, 20000.0, 25000.0, 30000.0,

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0, 20.0, 30.0, 40.0, 50.0, 60.0, 70.0, 80.0, 90.0, 100
110.0, 120.0, 130.0, 140.0, 150.0, 160.0, 170.0, 180.0, 190.0, 200
210.0, 220.0, 230.0, 240.0, 250.0, 260.0, 270.0, 280.0, 290.0, 300
310.0, 320.0, 330.0, 340.0, 350.0, 360.0,

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

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                              *** DISCRETE POLAR RECEPTORS ***
                              ORIGIN: (DIST, DIR, ZELEV, ZFLAG)
                              SRCID: (METERS,DEG,METERS,METERS)

BASE32B : (   173.0,    10.0,     0.0,     0.0);      BASE32B : (   200.0,    10.0,     0.0,
BASE32B : (   182.0,    20.0,     0.0,     0.0);      BASE32B : (   200.0,    20.0,     0.0,
BASE32B : (   171.0,    30.0,     0.0,     0.0);      BASE32B : (   200.0,    30.0,     0.0,
BASE32B : (   133.0,    40.0,     0.0,     0.0);      BASE32B : (   200.0,    40.0,     0.0,
BASE32B : (   111.0,    50.0,     0.0,     0.0);      BASE32B : (   200.0,    50.0,     0.0,
BASE32B : (    99.0,    60.0,     0.0,     0.0);      BASE32B : (   100.0,    60.0,     0.0,
BASE32B : (   200.0,    60.0,     0.0,     0.0);      BASE32B : (    91.0,    70.0,     0.0,
BASE32B : (   100.0,    70.0,     0.0,     0.0);      BASE32B : (   200.0,    70.0,     0.0,
BASE32B : (    87.0,    80.0,     0.0,     0.0);      BASE32B : (   100.0,    80.0,     0.0,
BASE32B : (   200.0,    80.0,     0.0,     0.0);      BASE32B : (    85.0,    90.0,     0.0,
BASE32B : (   100.0,    90.0,     0.0,     0.0);      BASE32B : (   200.0,    90.0,     0.0,
BASE32B : (    87.0,   100.0,     0.0,     0.0);      BASE32B : (   100.0,   100.0,     0.0,
BASE32B : (   200.0,   100.0,     0.0,     0.0);      BASE32B : (    91.0,   110.0,     0.0,
BASE32B : (   100.0,   110.0,     0.0,     0.0);      BASE32B : (   200.0,   110.0,     0.0,
BASE32B : (    99.0,   120.0,     0.0,     0.0);      BASE32B : (   100.0,   120.0,     0.0,
BASE32B : (   200.0,   120.0,     0.0,     0.0);      BASE32B : (   111.0,   130.0,     0.0,
BASE32B : (   200.0,   130.0,     0.0,     0.0);      BASE32B : (   127.0,   140.0,     0.0,
BASE32B : (   200.0,   140.0,     0.0,     0.0);      BASE32B : (   113.0,   150.0,     0.0,
BASE32B : (   200.0,   150.0,     0.0,     0.0);      BASE32B : (   104.0,   160.0,     0.0,
BASE32B : (   200.0,   160.0,     0.0,     0.0);      BASE32B : (    99.0,   170.0,     0.0,
BASE32B : (   100.0,   170.0,     0.0,     0.0);      BASE32B : (   200.0,   170.0,     0.0,
BASE32B : (    98.0,   180.0,     0.0,     0.0);      BASE32B : (   100.0,   180.0,     0.0,
BASE32B : (   200.0,   180.0,     0.0,     0.0);      BASE32B : (    99.0,   190.0,     0.0,
BASE32B : (   100.0,   190.0,     0.0,     0.0);      BASE32B : (   200.0,   190.0,     0.0,
BASE32B : (   104.0,   200.0,     0.0,     0.0);      BASE32B : (   200.0,   200.0,     0.0,
BASE32B : (   113.0,   210.0,     0.0,     0.0);      BASE32B : (   200.0,   210.0,     0.0,
BASE32B : (   127.0,   220.0,     0.0,     0.0);      BASE32B : (   200.0,   220.0,     0.0,
BASE32B : (   152.0,   230.0,     0.0,     0.0);      BASE32B : (   200.0,   230.0,     0.0,
BASE32B : (   158.0,   240.0,     0.0,     0.0);      BASE32B : (   200.0,   240.0,     0.0,
BASE32B : (   146.0,   250.0,     0.0,     0.0);      BASE32B : (   200.0,   250.0,     0.0,
BASE32B : (   139.0,   260.0,     0.0,     0.0);      BASE32B : (   200.0,   260.0,     0.0,
BASE32B : (   137.0,   270.0,     0.0,     0.0);      BASE32B : (   200.0,   270.0,     0.0,
BASE32B : (   139.0,   280.0,     0.0,     0.0);      BASE32B : (   200.0,   280.0,     0.0,
BASE32B : (   146.0,   290.0,     0.0,     0.0);      BASE32B : (   200.0,   290.0,     0.0,
BASE32B : (   158.0,   300.0,     0.0,     0.0);      BASE32B : (   200.0,   300.0,     0.0,
BASE32B : (   179.0,   310.0,     0.0,     0.0);      BASE32B : (   200.0,   310.0,     0.0,
BASE32B : (   213.0,   320.0,     0.0,     0.0);      BASE32B : (   197.0,   330.0,     0.0,
BASE32B : (   200.0,   330.0,     0.0,     0.0);      BASE32B : (   182.0,   340.0,     0.0,
BASE32B : (   200.0,   340.0,     0.0,     0.0);      BASE32B : (   173.0,   350.0,     0.0,
BASE32B : (   200.0,   350.0,     0.0,     0.0);      BASE32B : (   171.0,   360.0,     0.0,
BASE32B : (   200.0,   360.0,     0.0,     0.0);
*** ISCST3 - VERSION 99155 ***   *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99      **
                                 *** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES  ***
**MODELOPTs:
CONC                         RURAL  FLAT          DFAULT


                         *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                           (1=YES; 0=NO)

     1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
     1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
     1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
     1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
     1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
     1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
     1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
     1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1

         NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA F


                      *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                             (METERS/SEC)

                              1.54,    3.09,    5.14,    8.23,   10.80,


                                   *** WIND PROFILE EXPONENTS ***

         STABILITY                               WIND SPEED CATEGORY
         CATEGORY         1            2            3            4            5            6
            A        .70000E-01   .70000E-01   .70000E-01   .70000E-01   .70000E-01   .70000E
            B        .70000E-01   .70000E-01   .70000E-01   .70000E-01   .70000E-01   .70000E
```

C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: D:\MET\TPA87D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1987 YEAR: 1987

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
87	01	01	01	341.0	6.17	293.7	4	598.7	598.7	0.0000	0.0	0.0000	0	0.00
87	01	01	02	358.0	4.12	293.2	5	651.8	1306.0	0.0000	0.0	0.0000	0	0.00
87	01	01	03	34.0	6.17	293.2	4	704.8	704.8	0.0000	0.0	0.0000	0	0.00
87	01	01	04	73.0	6.69	291.5	4	757.8	757.8	0.0000	0.0	0.0000	0	0.00
87	01	01	05	83.0	7.20	290.9	4	810.8	810.8	0.0000	0.0	0.0000	0	0.00
87	01	01	06	102.0	7.20	290.4	4	863.8	863.8	0.0000	0.0	0.0000	0	0.00
87	01	01	07	105.0	6.69	289.3	4	916.9	916.9	0.0000	0.0	0.0000	0	0.00
87	01	01	08	113.0	7.72	288.7	4	969.9	969.9	0.0000	0.0	0.0000	0	0.00
87	01	01	09	107.0	6.17	288.2	4	1022.9	1022.9	0.0000	0.0	0.0000	0	0.00
87	01	01	10	121.0	6.17	288.2	4	1075.9	1075.9	0.0000	0.0	0.0000	0	0.00
87	01	01	11	114.0	6.69	287.6	4	1128.9	1128.9	0.0000	0.0	0.0000	0	0.00
87	01	01	12	116.0	6.17	287.0	4	1182.0	1182.0	0.0000	0.0	0.0000	0	0.00
87	01	01	13	133.0	7.20	287.6	4	1235.0	1235.0	0.0000	0.0	0.0000	0	0.00
87	01	01	14	119.0	7.72	287.6	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	15	132.0	7.20	288.2	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	16	134.0	7.72	289.3	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	17	141.0	7.20	288.2	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	18	137.0	5.14	287.6	5	1286.4	1238.1	0.0000	0.0	0.0000	0	0.00
87	01	01	19	144.0	3.60	286.5	5	1281.2	1078.6	0.0000	0.0	0.0000	0	0.00
87	01	01	20	117.0	2.06	285.4	6	1276.0	919.0	0.0000	0.0	0.0000	0	0.00
87	01	01	21	110.0	1.54	284.8	7	1270.9	759.5	0.0000	0.0	0.0000	0	0.00
87	01	01	22	112.0	0.00	283.7	7	1265.7	600.0	0.0000	0.0	0.0000	0	0.00
87	01	01	23	120.0	2.57	283.7	6	1260.5	440.5	0.0000	0.0	0.0000	0	0.00
87	01	01	24	130.0	1.54	282.6	7	1255.4	281.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
BASE32	1ST HIGHEST VALUE IS 0.01250 AT	(-12990.38, -7500.00, 0.00, 0.00)	GP	POL
	2ND HIGHEST VALUE IS 0.01234 AT	(-10392.30, -6000.00, 0.00, 0.00)	GP	POL
	3RD HIGHEST VALUE IS 0.01226 AT	(-17320.51, -10000.00, 0.00, 0.00)	GP	POL

BASE95	1ST HIGHEST VALUE IS	0.01323 AT (	-12990.38,	-7500.00,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.01309 AT (	-10392.30,	-6000.00,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.01294 AT (	-17320.51,	-10000.00,	0.00,	0.00)	GP	POL
LD7532	1ST HIGHEST VALUE IS	0.01474 AT (	-12990.38,	-7500.00,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.01468 AT (	-10392.30,	-6000.00,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.01449 AT (	-8660.25,	-5000.00,	0.00,	0.00)	GP	POL
LD7595	1ST HIGHEST VALUE IS	0.01541 AT (	-12990.38,	-7500.00,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.01535 AT (	-10392.30,	-6000.00,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.01513 AT (	-8660.25,	-5000.00,	0.00,	0.00)	GP	POL
LD5032	1ST HIGHEST VALUE IS	0.01748 AT (	-12990.38,	-7500.00,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.01746 AT (	-10392.30,	-6000.00,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.01736 AT (	-11276.31,	-4104.24,	0.00,	0.00)	GP	POL
LD5095	1ST HIGHEST VALUE IS	0.01827 AT (	-12990.38,	-7500.00,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.01827 AT (	-10392.30,	-6000.00,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.01807 AT (	-8660.25,	-5000.00,	0.00,	0.00)	GP	POL

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	O
BASE32 HIGH 1ST HIGH VALUE IS	0.14986c	ON 87040624: AT (6893.65, 1215.54, 0.00,	0.00	
BASE95 HIGH 1ST HIGH VALUE IS	0.15384c	ON 87042724: AT (-5362.31, -4499.51, 0.00,	0.00	
LD7532 HIGH 1ST HIGH VALUE IS	0.17837	ON 87052424: AT (-10000.00, 0.00, 0.00,	0.00	
LD7595 HIGH 1ST HIGH VALUE IS	0.18474	ON 87052424: AT (-10000.00, 0.00, 0.00,	0.00	
LD5032 HIGH 1ST HIGH VALUE IS	0.20940	ON 87112324: AT (-11276.31, -4104.24, 0.00,	0.00	
LD5095 HIGH 1ST HIGH VALUE IS	0.21713	ON 87112324: AT (-11276.31, -4104.24, 0.00,	0.00	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	O
BASE32 HIGH 1ST HIGH VALUE IS	0.40941	ON 87120408: AT (17320.51, 10000.00, 0.00,	0.00	
BASE95 HIGH 1ST HIGH VALUE IS	0.43046	ON 87120408: AT (17320.51, 10000.00, 0.00,	0.00	
LD7532 HIGH 1ST HIGH VALUE IS	0.46831	ON 87120408: AT (17320.51, 10000.00, 0.00,	0.00	
LD7595 HIGH 1ST HIGH VALUE IS	0.48846	ON 87120408: AT (17320.51, 10000.00, 0.00,	0.00	
LD5032 HIGH 1ST HIGH VALUE IS	0.54853	ON 87120408: AT (12990.38, 7500.00, 0.00,	0.00	

LD5095 HIGH 1ST HIGH VALUE IS 0.56988 ON 87120408: AT (12990.38, 7500.00, 0.00, 0.00

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 3-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)			O
BASE32	HIGH 1ST HIGH VALUE IS	0.80356	ON 87031003: AT (	18793.85,	-6840.40,	0.00,	0.00
BASE95	HIGH 1ST HIGH VALUE IS	0.84237	ON 87031003: AT (	18793.85,	-6840.40,	0.00,	0.00
LD7532	HIGH 1ST HIGH VALUE IS	0.91164	ON 87031003: AT (	18793.85,	-6840.40,	0.00,	0.00
LD7595	HIGH 1ST HIGH VALUE IS	0.94824	ON 87031003: AT (	18793.85,	-6840.40,	0.00,	0.00
LD5032	HIGH 1ST HIGH VALUE IS	1.06065	ON 87031003: AT (	14095.39,	-5130.30,	0.00,	0.00
LD5095	HIGH 1ST HIGH VALUE IS	1.09960	ON 87031003: AT (	14095.39,	-5130.30,	0.00,	0.00

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)			O
BASE32	HIGH 1ST HIGH VALUE IS	1.67977	ON 87082614: AT (	1500.00,	0.00,	0.00,	0.00
BASE95	HIGH 1ST HIGH VALUE IS	1.87654	ON 87070113: AT (	-1477.21,	260.47,	0.00,	0.00
LD7532	HIGH 1ST HIGH VALUE IS	2.08723	ON 87052413: AT (	-1477.21,	260.47,	0.00,	0.00
LD7595	HIGH 1ST HIGH VALUE IS	2.16525	ON 87080713: AT (	1409.54,	513.03,	0.00,	0.00
LD5032	HIGH 1ST HIGH VALUE IS	2.51606	ON 87082212: AT (	-1409.54,	-513.03,	0.00,	0.00
LD5095	HIGH 1ST HIGH VALUE IS	2.53071	ON 87082212: AT (	-1409.54,	-513.03,	0.00,	0.00

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

```
A Total of            0 Fatal Error Message(s)
A Total of            0 Warning Message(s)
A Total of          531 Informational Message(s)

A Total of          531 Calm Hours Identified


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********    WARNING MESSAGES    ********
              ***  NONE  ***


   ************************************
   *** ISCST3 Finishes Successfully ***
   ************************************
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CO STARTING
CO TITLEONE 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99
CO TITLETWO FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 8 3 1
CO POLLUTID GEN
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
SO LOCATION  BASE32A  POINT  -35.36     0.0       0.0
SO LOCATION  BASE32B  POINT    0.00     0.0       0.0
SO LOCATION  BASE32C  POINT   35.36     0.0       0.0
**
SO LOCATION  BASE95A  POINT  -35.36     0.0       0.0
SO LOCATION  BASE95B  POINT    0.00     0.0       0.0
SO LOCATION  BASE95C  POINT   35.36     0.0       0.0
**
SO LOCATION  LD7532A  POINT  -35.36     0.0       0.0
SO LOCATION  LD7532B  POINT    0.00     0.0       0.0
SO LOCATION  LD7532C  POINT   35.36     0.0       0.0
**
SO LOCATION  LD7595A  POINT  -35.36     0.0       0.0
SO LOCATION  LD7595B  POINT    0.00     0.0       0.0
SO LOCATION  LD7595C  POINT   35.36     0.0       0.0
**
SO LOCATION  LD5032A  POINT  -35.36     0.0       0.0
SO LOCATION  LD5032B  POINT    0.00     0.0       0.0
SO LOCATION  LD5032C  POINT   35.36     0.0       0.0
**
SO LOCATION  LD5095A  POINT  -35.36     0.0       0.0
SO LOCATION  LD5095B  POINT    0.00     0.0       0.0
SO LOCATION  LD5095C  POINT   35.36     0.0       0.0
**
** Source Parameter Cards:
** POINT:   SRCID          QS        HS        TS        VS        DS
**                        (g/s)      (m)       (K)      (m/s)      (m)
SO SRCPARAM   BASE32A     3.333     18.3      853.2     37.31     6.71
SO SRCPARAM   BASE32B     3.334     18.3      853.2     37.31     6.71
SO SRCPARAM   BASE32C     3.333     18.3      853.2     37.31     6.71
**
SO SRCPARAM   BASE95A     3.333     18.3      878.2     35.05     6.71
SO SRCPARAM   BASE95B     3.334     18.3      878.2     35.05     6.71
SO SRCPARAM   BASE95C     3.333     18.3      878.2     35.05     6.71
**
SO SRCPARAM   LD7532A     3.333     18.3      905.4     30.78     6.71
SO SRCPARAM   LD7532B     3.334     18.3      905.4     30.78     6.71
SO SRCPARAM   LD7532C     3.333     18.3      905.4     30.78     6.71
**
SO SRCPARAM   LD7595A     3.333     18.3      914.3     29.57     6.71
SO SRCPARAM   LD7595B     3.334     18.3      914.3     29.57     6.71
SO SRCPARAM   LD7595C     3.333     18.3      914.3     29.57     6.71
**
SO SRCPARAM   LD5032A     3.333     18.3      922.0     26.12     6.71
SO SRCPARAM   LD5032B     3.334     18.3      922.0     26.12     6.71
SO SRCPARAM   LD5032C     3.333     18.3      922.0     26.12     6.71
**
SO SRCPARAM   LD5095A     3.333     18.3      922.0     24.84     6.71
SO SRCPARAM   LD5095B     3.334     18.3      922.0     24.84     6.71
SO SRCPARAM   LD5095C     3.333     18.3      922.0     24.84     6.71
**
SO BUILDHGT BASE32A-BASE95A    6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDHGT BASE32A-BASE95A   14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32A-BASE95A    6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32A-BASE95A   11.23   12.97   14.32   15.46    0.00    0.00
```

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SO BUILDWID BASE32A-BASE95A     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDWID BASE32A-BASE95A     0.00    15.23    14.32    12.97    11.23     9.14
SO BUILDWID BASE32A-BASE95A    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID BASE32A-BASE95A    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID BASE32A-BASE95A     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT LD5032A-LD7595A     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT LD5032A-LD7595A     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDHGT LD5032A-LD7595A     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDHGT LD5032A-LD7595A    14.33    14.33    14.33    14.33    14.33    14.33
SO BUILDHGT LD5032A-LD7595A     6.71     6.71     0.00     0.00     0.00     0.00
SO BUILDHGT LD5032A-LD7595A     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID LD5032A-LD7595A    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID LD5032A-LD7595A     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDWID LD5032A-LD7595A     0.00    15.23    14.32    12.97    11.23     9.14
SO BUILDWID LD5032A-LD7595A    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID LD5032A-LD7595A    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID LD5032A-LD7595A     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT BASE32B-BASE95B     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT BASE32B-BASE95B     0.00     0.00     0.00     6.71     6.71     6.71
SO BUILDHGT BASE32B-BASE95B    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT BASE32B-BASE95B    14.33    14.33    14.33    14.33    14.33    14.33
SO BUILDHGT BASE32B-BASE95B     6.71     6.71     0.00     0.00     0.00     0.00
SO BUILDHGT BASE32B-BASE95B     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID BASE32B-BASE95B    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID BASE32B-BASE95B     0.00     0.00     0.00    14.19    15.16    15.66
SO BUILDWID BASE32B-BASE95B    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID BASE32B-BASE95B    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID BASE32B-BASE95B    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID BASE32B-BASE95B     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT LD5032B-LD7595B     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT LD5032B-LD7595B     0.00     0.00     0.00     6.71     6.71     6.71
SO BUILDHGT LD5032B-LD7595B    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT LD5032B-LD7595B    14.33    14.33    14.33    14.33    14.33    14.33
SO BUILDHGT LD5032B-LD7595B     6.71     6.71     0.00     0.00     0.00     0.00
SO BUILDHGT LD5032B-LD7595B     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID LD5032B-LD7595B    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID LD5032B-LD7595B     0.00     0.00     0.00    14.19    15.16    15.66
SO BUILDWID LD5032B-LD7595B    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID LD5032B-LD7595B    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID LD5032B-LD7595B    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID LD5032B-LD7595B     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT BASE32C-BASE95C     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     0.00     0.00     6.71     6.71    14.33
SO BUILDHGT BASE32C-BASE95C    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT BASE32C-BASE95C    14.33    14.33    14.33    14.33     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID BASE32C-BASE95C    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID BASE32C-BASE95C     0.00     0.00     0.00    14.19    15.16    14.99
SO BUILDWID BASE32C-BASE95C    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID BASE32C-BASE95C    12.71    14.06    14.99    15.46     0.00     0.00
SO BUILDWID BASE32C-BASE95C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDWID BASE32C-BASE95C     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT LD5032C-LD7595C     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT LD5032C-LD7595C     0.00     0.00     0.00     6.71     6.71    14.33
SO BUILDHGT LD5032C-LD7595C    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT LD5032C-LD7595C    14.33    14.33    14.33    14.33     0.00     0.00
SO BUILDHGT LD5032C-LD7595C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDHGT LD5032C-LD7595C     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID LD5032C-LD7595C    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID LD5032C-LD7595C     0.00     0.00     0.00    14.19    15.16    14.99
SO BUILDWID LD5032C-LD7595C    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID LD5032C-LD7595C    12.71    14.06    14.99    15.46     0.00     0.00
SO BUILDWID LD5032C-LD7595C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDWID LD5032C-LD7595C     0.00    15.23    14.32    12.97    11.23     9.14
**
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE32 BASE32A BASE32B BASE32C
SO SRCGROUP BASE95 BASE95A BASE95B BASE95C
SO SRCGROUP LD7532 LD7532A LD7532B LD7532C
SO SRCGROUP LD7595 LD7595A LD7595B LD7595C
SO SRCGROUP LD5032 LD5032A LD5032B LD5032C
SO SRCGROUP LD5095 LD5095A LD5095B LD5095C
**
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
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```
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  300 500 700 1000 1500 2000 2500 3000 4000 5000
RE GRIDPOLR POL DIST  7000 10000 12000 15000 20000 25000 30000
RE GRIDPOLR POL GDIR  36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BASE32B      173.        10
RE DISCPOLR BASE32B      200.        10
RE DISCPOLR BASE32B      182.        20
RE DISCPOLR BASE32B      200.        20
RE DISCPOLR BASE32B      171.        30
RE DISCPOLR BASE32B      200.        30
RE DISCPOLR BASE32B      133.        40
RE DISCPOLR BASE32B      200.        40
RE DISCPOLR BASE32B      111.        50
RE DISCPOLR BASE32B      200.        50
RE DISCPOLR BASE32B       99.        60
RE DISCPOLR BASE32B      100.        60
RE DISCPOLR BASE32B      200.        60
RE DISCPOLR BASE32B       91.        70
RE DISCPOLR BASE32B      100.        70
RE DISCPOLR BASE32B      200.        70
RE DISCPOLR BASE32B       87.        80
RE DISCPOLR BASE32B      100.        80
RE DISCPOLR BASE32B      200.        80
RE DISCPOLR BASE32B       85.        90
RE DISCPOLR BASE32B      100.        90
RE DISCPOLR BASE32B      200.        90
RE DISCPOLR BASE32B       87.       100
RE DISCPOLR BASE32B      100.       100
RE DISCPOLR BASE32B      200.       100
RE DISCPOLR BASE32B       91.       110
RE DISCPOLR BASE32B      100.       110
RE DISCPOLR BASE32B      200.       110
RE DISCPOLR BASE32B       99.       120
RE DISCPOLR BASE32B      100.       120
RE DISCPOLR BASE32B      200.       120
RE DISCPOLR BASE32B      111.       130
RE DISCPOLR BASE32B      200.       130
RE DISCPOLR BASE32B      127.       140
RE DISCPOLR BASE32B      200.       140
RE DISCPOLR BASE32B      113.       150
RE DISCPOLR BASE32B      200.       150
RE DISCPOLR BASE32B      104.       160
RE DISCPOLR BASE32B      200.       160
RE DISCPOLR BASE32B       99.       170
RE DISCPOLR BASE32B      100.       170
RE DISCPOLR BASE32B      200.       170
RE DISCPOLR BASE32B       98.       180
RE DISCPOLR BASE32B      100.       180
RE DISCPOLR BASE32B      200.       180
RE DISCPOLR BASE32B       99.       190
RE DISCPOLR BASE32B      100.       190
RE DISCPOLR BASE32B      200.       190
RE DISCPOLR BASE32B      104.       200
RE DISCPOLR BASE32B      200.       200
RE DISCPOLR BASE32B      113.       210
RE DISCPOLR BASE32B      200.       210
RE DISCPOLR BASE32B      127.       220
RE DISCPOLR BASE32B      200.       220
RE DISCPOLR BASE32B      152.       230
RE DISCPOLR BASE32B      200.       230
RE DISCPOLR BASE32B      158.       240
RE DISCPOLR BASE32B      200.       240
RE DISCPOLR BASE32B      146.       250
RE DISCPOLR BASE32B      200.       250
RE DISCPOLR BASE32B      139.       260
RE DISCPOLR BASE32B      200.       260
RE DISCPOLR BASE32B      137.       270
RE DISCPOLR BASE32B      200.       270
RE DISCPOLR BASE32B      139.       280
RE DISCPOLR BASE32B      200.       280
RE DISCPOLR BASE32B      146.       290
RE DISCPOLR BASE32B      200.       290
RE DISCPOLR BASE32B      158.       300
RE DISCPOLR BASE32B      200.       300
RE DISCPOLR BASE32B      179.       310
RE DISCPOLR BASE32B      200.       310
RE DISCPOLR BASE32B      213.       320
RE DISCPOLR BASE32B      197.       330
RE DISCPOLR BASE32B      200.       330
RE DISCPOLR BASE32B      182.       340
RE DISCPOLR BASE32B      200.       340
RE DISCPOLR BASE32B      173.       350
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RE DISCPOLR BASE32B      200.       350
RE DISCPOLR BASE32B      171.       360
RE DISCPOLR BASE32B      200.       360
RE FINISHED

ME STARTING
ME INPUTFIL D:\MET\TPA87D.MET
ME ANEMHGHT    6.700 METERS
ME SURFDATA  12842  1987            TAMPA
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED

***********************************
*** SETUP Finishes Successfully ***
***********************************

  *** ISCST3 - VERSION 99155 ***     *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        **
                                   *** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES        ***
**MODELOPTs:
CONC                          RURAL  FLAT          DFAULT

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  4 Short Term Average(s) of:  24-HR   8-HR   3-HR   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    18 Source(s);      6 Source Group(s); and     693 Receptor(s)

**The Model Assumes A Pollutant Type of:  GEN

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =     6.70 ;    Decay Coef. =    0.000     ;    Rot. Angle =     0.0
                 Emission Units = (GRAMS/SEC)                                ;  Emission Rate Unit Factor =   0.1
                 Output Units   = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model =     1.5 MB of RAM.

**Input Runstream File:          PCFOC2.I87
**Output Print File:             PCFOC2.O87
  *** ISCST3 - VERSION 99155 ***    *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        **
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*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMIS SCA
BASE32A	0	0.33330E+01	-35.4	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32B	0	0.33340E+01	0.0	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32C	0	0.33330E+01	35.4	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE95A	0	0.33330E+01	-35.4	0.0	0.0	18.30	878.20	35.05	6.71	YES	
BASE95B	0	0.33340E+01	0.0	0.0	0.0	18.30	878.20	35.05	6.71	YES	
BASE95C	0	0.33330E+01	35.4	0.0	0.0	18.30	878.20	35.05	6.71	YES	
LD7532A	0	0.33330E+01	-35.4	0.0	0.0	18.30	905.40	30.78	6.71	YES	
LD7532B	0	0.33340E+01	0.0	0.0	0.0	18.30	905.40	30.78	6.71	YES	
LD7532C	0	0.33330E+01	35.4	0.0	0.0	18.30	905.40	30.78	6.71	YES	
LD7595A	0	0.33330E+01	-35.4	0.0	0.0	18.30	914.30	29.57	6.71	YES	
LD7595B	0	0.33340E+01	0.0	0.0	0.0	18.30	914.30	29.57	6.71	YES	
LD7595C	0	0.33330E+01	35.4	0.0	0.0	18.30	914.30	29.57	6.71	YES	
LD5032A	0	0.33330E+01	-35.4	0.0	0.0	18.30	922.00	26.12	6.71	YES	
LD5032B	0	0.33340E+01	0.0	0.0	0.0	18.30	922.00	26.12	6.71	YES	
LD5032C	0	0.33330E+01	35.4	0.0	0.0	18.30	922.00	26.12	6.71	YES	
LD5095A	0	0.33330E+01	-35.4	0.0	0.0	18.30	922.00	24.84	6.71	YES	
LD5095B	0	0.33340E+01	0.0	0.0	0.0	18.30	922.00	24.84	6.71	YES	
LD5095C	0	0.33330E+01	35.4	0.0	0.0	18.30	922.00	24.84	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
BASE32	BASE32A , BASE32B , BASE32C ,
BASE95	BASE95A , BASE95B , BASE95C ,
LD7532	LD7532A , LD7532B , LD7532C ,
LD7595	LD7595A , LD7595B , LD7595C ,
LD5032	LD5032A , LD5032B , LD5032C ,
LD5095	LD5095A , LD5095B , LD5095C ,

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE32A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: BASE32B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0

7	0.0,	0.0, 0	8	0.0,	0.0, 0	9	0.0,	0.0, 0	10	6.7,	14.2, 0	11	6.7,	15.2, 0
13	14.3,	15.5, 0	14	14.3,	15.5, 0	15	14.3,	15.0, 0	16	14.3,	14.1, 0	17	6.7,	11.2, 0
19	14.3,	12.7, 0	20	14.3,	14.1, 0	21	14.3,	15.0, 0	22	14.3,	15.5, 0	23	14.3,	15.5, 0
25	6.7,	15.2, 0	26	6.7,	14.2, 0	27	0.0,	0.0, 0	28	0.0,	0.0, 0	29	0.0,	0.0, 0
31	0.0,	0.0, 0	32	6.7,	15.2, 0	33	6.7,	14.3, 0	34	6.7,	13.0, 0	35	6.7,	11.2, 0

SOURCE ID: BASE32C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: BASE95A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE95B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: BASE95C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7532A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7532B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:

CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD7532C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7595A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7595B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD7595C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:

CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5032A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD5032B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

SOURCE ID: LD5032C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0

19	14.3,	12.7, 0	20	14.3,	14.1, 0	21	14.3,	15.0, 0	22	14.3,	15.5, 0	23	0.0,	0.0, 0
25	0.0,	0.0, 0	26	0.0,	0.0, 0	27	0.0,	0.0, 0	28	0.0,	0.0, 0	29	0.0,	0.0, 0
31	0.0,	0.0, 0	32	6.7,	15.2, 0	33	6.7,	14.3, 0	34	6.7,	13.0, 0	35	6.7,	11.2, 0

SOURCE ID: LD5095A

IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK
1	6.7,	11.2, 0	2	6.7,	13.0, 0	3	6.7,	14.3, 0	4	14.3,	15.5, 0	5	0.0,	0.0, 0
7	0.0,	0.0, 0	8	0.0,	0.0, 0	9	0.0,	0.0, 0	10	0.0,	0.0, 0	11	0.0,	0.0, 0
13	0.0,	0.0, 0	14	6.7,	15.2, 0	15	6.7,	14.3, 0	16	6.7,	13.0, 0	17	6.7,	11.2, 0
19	14.3,	12.7, 0	20	14.3,	14.1, 0	21	14.3,	15.0, 0	22	14.3,	15.5, 0	23	14.3,	15.5, 0
25	6.7,	15.2, 0	26	6.7,	14.2, 0	27	0.0,	0.0, 0	28	0.0,	0.0, 0	29	0.0,	0.0, 0
31	0.0,	0.0, 0	32	6.7,	15.2, 0	33	6.7,	14.3, 0	34	6.7,	13.0, 0	35	6.7,	11.2, 0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5095B

IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK
1	6.7,	11.2, 0	2	6.7,	13.0, 0	3	6.7,	14.3, 0	4	14.3,	15.5, 0	5	0.0,	0.0, 0
7	0.0,	0.0, 0	8	0.0,	0.0, 0	9	0.0,	0.0, 0	10	6.7,	14.2, 0	11	6.7,	15.2, 0
13	14.3,	15.5, 0	14	14.3,	15.5, 0	15	14.3,	15.0, 0	16	14.3,	14.1, 0	17	6.7,	11.2, 0
19	14.3,	12.7, 0	20	14.3,	14.1, 0	21	14.3,	15.0, 0	22	14.3,	15.5, 0	23	14.3,	15.5, 0
25	6.7,	15.2, 0	26	6.7,	14.2, 0	27	0.0,	0.0, 0	28	0.0,	0.0, 0	29	0.0,	0.0, 0
31	0.0,	0.0, 0	32	6.7,	15.2, 0	33	6.7,	14.3, 0	34	6.7,	13.0, 0	35	6.7,	11.2, 0

SOURCE ID: LD5095C

IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK	IFV	BH	BW WAK
1	6.7,	11.2, 0	2	6.7,	13.0, 0	3	6.7,	14.3, 0	4	14.3,	15.5, 0	5	0.0,	0.0, 0
7	0.0,	0.0, 0	8	0.0,	0.0, 0	9	0.0,	0.0, 0	10	6.7,	14.2, 0	11	6.7,	15.2, 0
13	14.3,	15.5, 0	14	14.3,	15.5, 0	15	14.3,	15.0, 0	16	14.3,	14.1, 0	17	6.7,	11.2, 0
19	14.3,	12.7, 0	20	14.3,	14.1, 0	21	14.3,	15.0, 0	22	14.3,	15.5, 0	23	0.0,	0.0, 0
25	0.0,	0.0, 0	26	0.0,	0.0, 0	27	0.0,	0.0, 0	28	0.0,	0.0, 0	29	0.0,	0.0, 0
31	0.0,	0.0, 0	32	6.7,	15.2, 0	33	6.7,	14.3, 0	34	6.7,	13.0, 0	35	6.7,	11.2, 0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 0.00 ; Y-ORIG = 0.00 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

300.0, 500.0, 700.0, 1000.0, 1500.0, 2000.0, 2500.0, 3000.0, 4000.0, 5000
7000.0, 10000.0, 12000.0, 15000.0, 20000.0, 25000.0, 30000.0,

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0, 20.0, 30.0, 40.0, 50.0, 60.0, 70.0, 80.0, 90.0, 100
110.0, 120.0, 130.0, 140.0, 150.0, 160.0, 170.0, 180.0, 190.0, 200
210.0, 220.0, 230.0, 240.0, 250.0, 260.0, 270.0, 280.0, 290.0, 300
310.0, 320.0, 330.0, 340.0, 350.0, 360.0,

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DISCRETE POLAR RECEPTORS ***
ORIGIN: (DIST, DIR, ZELEV, ZFLAG)
SRCID: (METERS,DEG,METERS,METERS)

BASE32B : (173.0, 10.0, 0.0, 0.0); BASE32B : (200.0, 10.0, 0.0,
BASE32B : (182.0, 20.0, 0.0, 0.0); BASE32B : (200.0, 20.0, 0.0,

```
BASE32B : (   171.0,    30.0,     0.0,     0.0);
BASE32B : (   133.0,    40.0,     0.0,     0.0);
BASE32B : (   111.0,    50.0,     0.0,     0.0);
BASE32B : (    99.0,    60.0,     0.0,     0.0);
BASE32B : (   200.0,    60.0,     0.0,     0.0);
BASE32B : (   100.0,    70.0,     0.0,     0.0);
BASE32B : (    87.0,    80.0,     0.0,     0.0);
BASE32B : (   200.0,    80.0,     0.0,     0.0);
BASE32B : (   100.0,    90.0,     0.0,     0.0);
BASE32B : (    87.0,   100.0,     0.0,     0.0);
BASE32B : (   200.0,   100.0,     0.0,     0.0);
BASE32B : (   100.0,   110.0,     0.0,     0.0);
BASE32B : (    99.0,   120.0,     0.0,     0.0);
BASE32B : (   200.0,   120.0,     0.0,     0.0);
BASE32B : (   200.0,   130.0,     0.0,     0.0);
BASE32B : (   200.0,   140.0,     0.0,     0.0);
BASE32B : (   200.0,   150.0,     0.0,     0.0);
BASE32B : (   200.0,   160.0,     0.0,     0.0);
BASE32B : (   100.0,   170.0,     0.0,     0.0);
BASE32B : (    98.0,   180.0,     0.0,     0.0);
BASE32B : (   200.0,   180.0,     0.0,     0.0);
BASE32B : (   100.0,   190.0,     0.0,     0.0);
BASE32B : (   104.0,   200.0,     0.0,     0.0);
BASE32B : (   113.0,   210.0,     0.0,     0.0);
BASE32B : (   127.0,   220.0,     0.0,     0.0);
BASE32B : (   152.0,   230.0,     0.0,     0.0);
BASE32B : (   158.0,   240.0,     0.0,     0.0);
BASE32B : (   146.0,   250.0,     0.0,     0.0);
BASE32B : (   139.0,   260.0,     0.0,     0.0);
BASE32B : (   137.0,   270.0,     0.0,     0.0);
BASE32B : (   139.0,   280.0,     0.0,     0.0);
BASE32B : (   146.0,   290.0,     0.0,     0.0);
BASE32B : (   158.0,   300.0,     0.0,     0.0);
BASE32B : (   179.0,   310.0,     0.0,     0.0);
BASE32B : (   213.0,   320.0,     0.0,     0.0);
BASE32B : (   200.0,   330.0,     0.0,     0.0);
BASE32B : (   200.0,   340.0,     0.0,     0.0);
BASE32B : (   200.0,   350.0,     0.0,     0.0);
BASE32B : (   200.0,   360.0,     0.0,     0.0);
BASE32B : (   200.0,    30.0,     0.0,
BASE32B : (   200.0,    40.0,     0.0,
BASE32B : (   200.0,    50.0,     0.0,
BASE32B : (   100.0,    60.0,     0.0,
BASE32B : (    91.0,    70.0,     0.0,
BASE32B : (   200.0,    70.0,     0.0,
BASE32B : (   100.0,    80.0,     0.0,
BASE32B : (    85.0,    90.0,     0.0,
BASE32B : (   200.0,    90.0,     0.0,
BASE32B : (   100.0,   100.0,     0.0,
BASE32B : (    91.0,   110.0,     0.0,
BASE32B : (   200.0,   110.0,     0.0,
BASE32B : (   100.0,   120.0,     0.0,
BASE32B : (   111.0,   130.0,     0.0,
BASE32B : (   127.0,   140.0,     0.0,
BASE32B : (   113.0,   150.0,     0.0,
BASE32B : (   104.0,   160.0,     0.0,
BASE32B : (    99.0,   170.0,     0.0,
BASE32B : (   200.0,   170.0,     0.0,
BASE32B : (   100.0,   180.0,     0.0,
BASE32B : (    99.0,   190.0,     0.0,
BASE32B : (   200.0,   190.0,     0.0,
BASE32B : (   200.0,   200.0,     0.0,
BASE32B : (   200.0,   210.0,     0.0,
BASE32B : (   200.0,   220.0,     0.0,
BASE32B : (   200.0,   230.0,     0.0,
BASE32B : (   200.0,   240.0,     0.0,
BASE32B : (   200.0,   250.0,     0.0,
BASE32B : (   200.0,   260.0,     0.0,
BASE32B : (   200.0,   270.0,     0.0,
BASE32B : (   200.0,   280.0,     0.0,
BASE32B : (   200.0,   290.0,     0.0,
BASE32B : (   200.0,   300.0,     0.0,
BASE32B : (   200.0,   310.0,     0.0,
BASE32B : (   197.0,   330.0,     0.0,
BASE32B : (   182.0,   340.0,     0.0,
BASE32B : (   173.0,   350.0,     0.0,
BASE32B : (   171.0,   360.0,     0.0,
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*** ISCST3 - VERSION 99155 ***   *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE   10/9/99   **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES   ***

**MODELOPTs:
CONC   RURAL FLAT   DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA F

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.00000E+00	.00000E
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.20000E-01	.20000E
					.35000E-01	.35000E

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: D:\MET\TPA87D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1987 YEAR: 1987

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
87	01	01	01	341.0	6.17	293.7	4	598.7	598.7	0.0000	0.0	0.0000	0	0.00
87	01	01	02	358.0	4.12	293.2	5	651.8	1306.0	0.0000	0.0	0.0000	0	0.00
87	01	01	03	34.0	6.17	293.2	4	704.8	704.8	0.0000	0.0	0.0000	0	0.00
87	01	01	04	73.0	6.69	291.5	4	757.8	757.8	0.0000	0.0	0.0000	0	0.00
87	01	01	05	83.0	7.20	290.9	4	810.8	810.8	0.0000	0.0	0.0000	0	0.00
87	01	01	06	102.0	7.20	290.4	4	863.8	863.8	0.0000	0.0	0.0000	0	0.00
87	01	01	07	105.0	6.69	289.3	4	916.9	916.9	0.0000	0.0	0.0000	0	0.00
87	01	01	08	113.0	7.72	288.7	4	969.9	969.9	0.0000	0.0	0.0000	0	0.00
87	01	01	09	107.0	6.17	288.2	4	1022.9	1022.9	0.0000	0.0	0.0000	0	0.00
87	01	01	10	121.0	6.17	288.2	4	1075.9	1075.9	0.0000	0.0	0.0000	0	0.00
87	01	01	11	114.0	6.69	287.6	4	1128.9	1128.9	0.0000	0.0	0.0000	0	0.00
87	01	01	12	116.0	6.17	287.0	4	1182.0	1182.0	0.0000	0.0	0.0000	0	0.00
87	01	01	13	133.0	7.20	287.6	4	1235.0	1235.0	0.0000	0.0	0.0000	0	0.00
87	01	01	14	119.0	7.72	287.6	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	15	132.0	7.20	288.2	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	16	134.0	7.72	289.3	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	17	141.0	7.20	288.2	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	18	137.0	5.14	287.6	5	1286.4	1238.1	0.0000	0.0	0.0000	0	0.00
87	01	01	19	144.0	3.60	286.5	5	1281.2	1078.6	0.0000	0.0	0.0000	0	0.00
87	01	01	20	117.0	2.06	285.4	6	1276.0	919.0	0.0000	0.0	0.0000	0	0.00
87	01	01	21	110.0	1.54	284.8	7	1270.9	759.5	0.0000	0.0	0.0000	0	0.00
87	01	01	22	112.0	0.00	283.7	7	1265.7	600.0	0.0000	0.0	0.0000	0	0.00
87	01	01	23	120.0	2.57	283.7	6	1260.5	440.5	0.0000	0.0	0.0000	0	0.00
87	01	01	24	130.0	1.54	282.6	7	1255.4	281.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
BASE32	1ST HIGHEST VALUE IS	0.01220 AT	(-12990.38,	-7500.00,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.01202 AT	(-10392.30,	-6000.00,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.01198 AT	(-17320.51,	-10000.00,	0.00,	0.00)	GP	POL
BASE95	1ST HIGHEST VALUE IS	0.01281 AT	(-12990.38,	-7500.00,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.01265 AT	(-10392.30,	-6000.00,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.01255 AT	(-17320.51,	-10000.00,	0.00,	0.00)	GP	POL
LD7532	1ST HIGHEST VALUE IS	0.01459 AT	(-12990.38,	-7500.00,	0.00,	0.00)	GP	POL
	2ND HIGHEST VALUE IS	0.01453 AT	(-10392.30,	-6000.00,	0.00,	0.00)	GP	POL
	3RD HIGHEST VALUE IS	0.01432 AT	(-8660.25,	-5000.00,	0.00,	0.00)	GP	POL
LD7595	1ST HIGHEST VALUE IS	0.01519 AT	(-12990.38,	-7500.00,	0.00,	0.00)	GP	POL

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         2ND HIGHEST VALUE IS       0.01512 AT (  -10392.30,    -6000.00,       0.00,       0.00)  GP   POL
         3RD HIGHEST VALUE IS       0.01491 AT (   -8660.25,    -5000.00,       0.00,       0.00)  GP   POL

LD5032   1ST HIGHEST VALUE IS       0.01697 AT (  -12990.38,    -7500.00,       0.00,       0.00)  GP   POL
         2ND HIGHEST VALUE IS       0.01692 AT (  -10392.30,    -6000.00,       0.00,       0.00)  GP   POL
         3RD HIGHEST VALUE IS       0.01678 AT (  -11276.31,    -4104.24,       0.00,       0.00)  GP   POL

LD5095   1ST HIGHEST VALUE IS       0.01803 AT (  -12990.38,    -7500.00,       0.00,       0.00)  GP   POL
         2ND HIGHEST VALUE IS       0.01803 AT (  -10392.30,    -6000.00,       0.00,       0.00)  GP   POL
         3RD HIGHEST VALUE IS       0.01783 AT (   -8660.25,    -5000.00,       0.00,       0.00)  GP   POL


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
  *** ISCST3 - VERSION 99155 ***     *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        **
                                   *** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES          ***
**MODELOPTs:
CONC                        RURAL  FLAT          DFAULT

                                          *** THE SUMMARY OF HIGHEST 24-HR RESULTS ***


                                       ** CONC OF GEN      IN (MICROGRAMS/CUBIC-METER)                  **

                                                    DATE
GROUP ID                          AVERAGE CONC      (YYMMDDHH)             RECEPTOR  (XR, YR, ZELEV, ZFLAG)      O
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

BASE32   HIGH  1ST HIGH VALUE IS       0.14848c ON 87040624: AT (    6893.65,     1215.54,       0.00,       0.00

BASE95   HIGH  1ST HIGH VALUE IS       0.15146c ON 87042724: AT (   -5362.31,    -4499.51,       0.00,       0.00

LD7532   HIGH  1ST HIGH VALUE IS       0.17756  ON 87052424: AT (  -10000.00,        0.00,       0.00,       0.00

LD7595   HIGH  1ST HIGH VALUE IS       0.18232  ON 87052424: AT (  -10000.00,        0.00,       0.00,       0.00

LD5032   HIGH  1ST HIGH VALUE IS       0.20479  ON 87112324: AT (  -11276.31,    -4104.24,       0.00,       0.00

LD5095   HIGH  1ST HIGH VALUE IS       0.21441  ON 87112324: AT (  -11276.31,    -4104.24,       0.00,       0.00


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
  *** ISCST3 - VERSION 99155 ***     *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        **
                                   *** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES          ***
**MODELOPTs:
CONC                        RURAL  FLAT          DFAULT

                                          *** THE SUMMARY OF HIGHEST  8-HR RESULTS ***


                                       ** CONC OF GEN      IN (MICROGRAMS/CUBIC-METER)                  **

                                                    DATE
GROUP ID                          AVERAGE CONC      (YYMMDDHH)             RECEPTOR  (XR, YR, ZELEV, ZFLAG)      O
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

BASE32   HIGH  1ST HIGH VALUE IS       0.40055  ON 87120408: AT (   17320.51,    10000.00,       0.00,       0.00

BASE95   HIGH  1ST HIGH VALUE IS       0.41900  ON 87120408: AT (   17320.51,    10000.00,       0.00,       0.00

LD7532   HIGH  1ST HIGH VALUE IS       0.46575  ON 87120408: AT (   17320.51,    10000.00,       0.00,       0.00

LD7595   HIGH  1ST HIGH VALUE IS       0.48086  ON 87120408: AT (   17320.51,    10000.00,       0.00,       0.00

LD5032   HIGH  1ST HIGH VALUE IS       0.53570  ON 87120408: AT (   12990.38,     7500.00,       0.00,       0.00

LD5095   HIGH  1ST HIGH VALUE IS       0.56239  ON 87120408: AT (   12990.38,     7500.00,       0.00,       0.00


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
  *** ISCST3 - VERSION 99155 ***     *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        **
                                   *** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES          ***
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**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 3-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	O
BASE32 HIGH 1ST HIGH VALUE IS	0.78718	ON 87031003: AT (	18793.85, -6840.40, 0.00,	0.00
BASE95 HIGH 1ST HIGH VALUE IS	0.82127	ON 87031003: AT (	18793.85, -6840.40, 0.00,	0.00
LD7532 HIGH 1ST HIGH VALUE IS	0.90698	ON 87031003: AT (	18793.85, -6840.40, 0.00,	0.00
LD7595 HIGH 1ST HIGH VALUE IS	0.93446	ON 87031003: AT (	18793.85, -6840.40, 0.00,	0.00
LD5032 HIGH 1ST HIGH VALUE IS	1.03718	ON 87031003: AT (	14095.39, -5130.30, 0.00,	0.00
LD5095 HIGH 1ST HIGH VALUE IS	1.08596	ON 87031003: AT (	14095.39, -5130.30, 0.00,	0.00

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	O
BASE32 HIGH 1ST HIGH VALUE IS	1.67360	ON 87082614: AT (	1500.00, 0.00, 0.00,	0.00
BASE95 HIGH 1ST HIGH VALUE IS	1.81249	ON 87080813: AT (	750.00, -1299.04, 0.00,	0.00
LD7532 HIGH 1ST HIGH VALUE IS	2.08542	ON 87052413: AT (	-1477.21, 260.47, 0.00,	0.00
LD7595 HIGH 1ST HIGH VALUE IS	2.14442	ON 87080314: AT (	1409.54, -513.03, 0.00,	0.00
LD5032 HIGH 1ST HIGH VALUE IS	2.50711	ON 87082212: AT (	-1409.54, -513.03, 0.00,	0.00
LD5095 HIGH 1ST HIGH VALUE IS	2.52544	ON 87082212: AT (	-1409.54, -513.03, 0.00,	0.00

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 **
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 531 Informational Message(s)

A Total of 531 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :PCNGC1.O87
ISCST3 OUTPUT FILE NUMBER 2 :PCNGC1.O88
ISCST3 OUTPUT FILE NUMBER 3 :PCNGC1.O89
ISCST3 OUTPUT FILE NUMBER 4 :PCNGC1.O90
ISCST3 OUTPUT FILE NUMBER 5 :PCNGC1.O91
First title for last output file is: 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99
Second title for last output file is: NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	BASE32				
Annual					
	1987	0.00231	343700.	3178300.	87123124
	1988	0.00340	340300.	3165700.	88123124
	1989	0.00661	340700.	3171900.	89123124
	1990	0.00380	340300.	3165700.	90123124
	1991	0.00250	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.07733	343700.	3178300.	87062724
	1988	0.07329	340700.	3171900.	88071424
	1989	0.10830	342000.	3174000.	89040524
	1990	0.08685	331500.	3183400.	90021624
	1991	0.07494	340700.	3171900.	91040824
HIGH 8-Hour					
	1987	0.18764	342000.	3174000.	87012524
	1988	0.20647	340300.	3167700.	88090624
	1989	0.27993	340700.	3171900.	89043008
	1990	0.24463	331500.	3183400.	90021608
	1991	0.22141	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.40472	340700.	3171900.	87080124
	1988	0.52192	343700.	3178300.	88090724
	1989	0.64122	340700.	3171900.	89060824
	1990	0.41779	342000.	3174000.	90050924
	1991	0.53976	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	0.84611	342000.	3174000.	87122018
	1988	0.86100	343700.	3178300.	88051403
	1989	0.87069	340300.	3167700.	89122603
	1990	0.85150	340300.	3165700.	90010601
	1991	0.85891	340300.	3167700.	91012005
SOURCE GROUP ID:	BASE95				
Annual					
	1987	0.00241	343700.	3178300.	87123124
	1988	0.00362	340300.	3165700.	88123124
	1989	0.00702	340700.	3171900.	89123124
	1990	0.00403	340300.	3165700.	90123124
	1991	0.00270	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.08067	343700.	3178300.	87062724
	1988	0.07655	340700.	3171900.	88071424
	1989	0.11477	342000.	3174000.	89040524
	1990	0.08967	331500.	3183400.	90021624
	1991	0.07828	340700.	3171900.	91040824
HIGH 8-Hour					
	1987	0.19742	342000.	3174000.	87012524
	1988	0.21683	340300.	3167700.	88090624
	1989	0.29427	340700.	3171900.	89043008
	1990	0.25308	331500.	3183400.	90021608
	1991	0.23411	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.42584	340700.	3171900.	87080124
	1988	0.54358	343700.	3178300.	88090724
	1989	0.66694	340700.	3171900.	89060824
	1990	0.43732	342000.	3174000.	90050924
	1991	0.56642	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	0.89223	342000.	3174000.	87122018
	1988	0.90638	343700.	3178300.	88051403
	1989	0.91764	340300.	3167700.	89122603
	1990	0.89515	340300.	3165700.	90010601
	1991	0.90500	340300.	3167700.	91012005
SOURCE GROUP ID:	LD7532				
Annual					
	1987	0.00262	343700.	3178300.	87123124
	1988	0.00406	340300.	3165700.	88123124
	1989	0.00761	340700.	3171900.	89123124
	1990	0.00443	340300.	3165700.	90123124

	1991	0.00291	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.08666	343700.	3178300.	87062724
	1988	0.08236	340700.	3171900.	88071424
	1989	0.12547	342000.	3174000.	89040524
	1990	0.09460	331500.	3183400.	90021624
	1991	0.08576	340300.	3165700.	91012024
HIGH 8-Hour					
	1987	0.21508	342000.	3174000.	87012524
	1988	0.23551	340300.	3167700.	88090624
	1989	0.32024	340700.	3171900.	89043008
	1990	0.26781	331500.	3183400.	90021608
	1991	0.25728	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.46433	340700.	3171900.	87080124
	1988	0.58192	343700.	3178300.	88090724
	1989	0.71245	340700.	3171900.	89060824
	1990	0.47227	342000.	3174000.	90050924
	1991	0.61435	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	0.97589	342000.	3174000.	87122018
	1988	0.98827	343700.	3178300.	88051403
	1989	1.00187	340300.	3167700.	89122603
	1990	0.98072	340300.	3165700.	90061906
	1991	0.98806	340300.	3167700.	91012005
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.00280	343700.	3178300.	87123124
	1988	0.00424	340300.	3165700.	88123124
	1989	0.00802	340700.	3171900.	89123124
	1990	0.00462	340300.	3165700.	90123124
	1991	0.00309	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.08980	343700.	3178300.	87062724
	1988	0.08541	340700.	3171900.	88071424
	1989	0.13122	342000.	3174000.	89040524
	1990	0.09713	331500.	3183400.	90021624
	1991	0.08993	340300.	3165700.	91012024
HIGH 8-Hour					
	1987	0.22452	342000.	3174000.	87012524
	1988	0.24542	340300.	3167700.	88090624
	1989	0.33411	340700.	3171900.	89043008
	1990	0.27540	331500.	3183400.	90021608
	1991	0.26979	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.48496	340700.	3171900.	87080124
	1988	0.60191	343700.	3178300.	88090724
	1989	0.73613	340700.	3171900.	89060824
	1990	0.49068	342000.	3174000.	90050924
	1991	0.63972	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	1.02061	342000.	3174000.	87122018
	1988	1.03189	343700.	3178300.	88051403
	1989	1.04687	340300.	3167700.	89122603
	1990	1.02920	340300.	3165700.	90061906
	1991	1.03240	340300.	3167700.	91012005
SOURCE GROUP ID:	LD5032				
Annual					
	1987	0.00312	343700.	3178300.	87123124
	1988	0.00474	340300.	3165700.	88123124
	1989	0.00904	340700.	3171900.	89123124
	1990	0.00516	340300.	3165700.	90123124
	1991	0.00349	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.10386	343700.	3178300.	87062724
	1988	0.09398	340700.	3171900.	88071424
	1989	0.14784	342000.	3174000.	89040524
	1990	0.10751	340700.	3171900.	90021924
	1991	0.10198	340300.	3165700.	91012024
HIGH 8-Hour					
	1987	0.25225	340300.	3165700.	87072708
	1988	0.27367	340300.	3167700.	88090624
	1989	0.37392	340700.	3171900.	89043008
	1990	0.31474	340700.	3171900.	90021908
	1991	0.30594	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.54476	340700.	3171900.	87080124
	1988	0.65767	343700.	3178300.	88090724
	1989	0.80221	340700.	3171900.	89060824
	1990	0.54276	342000.	3174000.	90050924
	1991	0.71178	340700.	3171900.	91040824
HIGH 1-Hour					

	1987	1.14907	342000.	3174000.	87122018
	1988	1.15629	343700.	3178300.	88051403
	1989	1.17381	340300.	3167700.	89122603
	1990	1.17043	340300.	3165700.	90061906
	1991	1.15845	340300.	3167700.	91012005
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.00322	343700.	3178300.	87123124
	1988	0.00493	340300.	3165700.	88123124
	1989	0.00939	340700.	3171900.	89123124
	1990	0.00533	340300.	3165700.	90123124
	1991	0.00362	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.10671	343700.	3178300.	87062724
	1988	0.09671	340700.	3171900.	88071424
	1989	0.15331	342000.	3174000.	89040524
	1990	0.11227	340700.	3171900.	90021924
	1991	0.10600	340300.	3165700.	91012024
HIGH 8-Hour					
	1987	0.26167	340300.	3165700.	87072708
	1988	0.28278	340300.	3167700.	88090624
	1989	0.38696	340700.	3171900.	89043008
	1990	0.32901	340700.	3171900.	90021908
	1991	0.31800	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.56433	340700.	3171900.	87080124
	1988	0.67534	343700.	3178300.	88090724
	1989	0.82300	340700.	3171900.	89060824
	1990	0.55943	342000.	3174000.	90050924
	1991	0.73500	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	1.19103	342000.	3174000.	87122018
	1988	1.19685	343700.	3178300.	88051403
	1989	1.21591	340300.	3167700.	89122603
	1990	1.21687	340300.	3165700.	90061906
	1991	1.19987	340300.	3167700.	91012005

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :PCFOC1.087
ISCST3 OUTPUT FILE NUMBER 2 :PCFOC1.088
ISCST3 OUTPUT FILE NUMBER 3 :PCFOC1.089
ISCST3 OUTPUT FILE NUMBER 4 :PCFOC1:090
ISCST3 OUTPUT FILE NUMBER 5 :PCFOC1.091
First title for last output file is: 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99
Second title for last output file is: FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)
SOURCE GROUP ID:	BASE32				
Annual					
	1987	0.00226	343700.	3178300.	87123124
	1988	0.00330	340300.	3165700.	88123124
	1989	0.00649	340700.	3171900.	89123124
	1990	0.00373	340300.	3165700.	90123124
	1991	0.00246	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.07591	343700.	3178300.	87062724
	1988	0.07192	340700.	3171900.	88071424
	1989	0.10584	342000.	3174000.	89040524
	1990	0.08565	331500.	3183400.	90021624
	1991	0.07354	340700.	3171900.	91040824
HIGH 8-Hour					
	1987	0.18353	342000.	3174000.	87012524
	1988	0.20212	340300.	3167700.	88090624
	1989	0.27393	340700.	3171900.	89043008
	1990	0.24102	331500.	3183400.	90021608
	1991	0.21610	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.39591	340700.	3171900.	87080124
	1988	0.51273	343700.	3178300.	88090724
	1989	0.63032	340700.	3171900.	89060824
	1990	0.40957	342000.	3174000.	90050924
	1991	0.52854	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	0.82682	342000.	3174000.	87122018
	1988	0.84195	343700.	3178300.	88051403
	1989	0.85089	340300.	3167700.	89122603
	1990	0.83316	340300.	3165700.	90010601
	1991	0.83955	340300.	3167700.	91012005
SOURCE GROUP ID:	BASE95				
Annual					
	1987	0.00235	343700.	3178300.	87123124
	1988	0.00347	340300.	3165700.	88123124
	1989	0.00678	340700.	3171900.	89123124
	1990	0.00387	340300.	3165700.	90123124
	1991	0.00262	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.07885	343700.	3178300.	87062724
	1988	0.07478	340700.	3171900.	88071424
	1989	0.11157	342000.	3174000.	89040524
	1990	0.08815	331500.	3183400.	90021624
	1991	0.07646	340700.	3171900.	91040824
HIGH 8-Hour					
	1987	0.19209	342000.	3174000.	87012524
	1988	0.21118	340300.	3167700.	88090624
	1989	0.28645	340700.	3171900.	89043008
	1990	0.24850	331500.	3183400.	90021608
	1991	0.22718	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.41429	340700.	3171900.	87080124
	1988	0.53180	343700.	3178300.	88090724
	1989	0.65294	340700.	3171900.	89060824
	1990	0.42667	342000.	3174000.	90050924
	1991	0.55188	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	0.86705	342000.	3174000.	87122018
	1988	0.88164	343700.	3178300.	88051403
	1989	0.89215	340300.	3167700.	89122603
	1990	0.87136	340300.	3165700.	90010601
	1991	0.87991	340300.	3167700.	91012005
SOURCE GROUP ID:	LD7532				
Annual					
	1987	0.00261	343700.	3178300.	87123124
	1988	0.00399	340300.	3165700.	88123124
	1989	0.00758	340700.	3171900.	89123124
	1990	0.00437	340300.	3165700.	90123124

	1991	0.00289	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.08625	343700.	3178300.	87062724
	1988	0.08197	340700.	3171900.	88071424
	1989	0.12474	342000.	3174000.	89040524
	1990	0.09427	331500.	3183400.	90021624
	1991	0.08523	340300.	3165700.	91012024
HIGH 8-Hour					
	1987	0.21388	342000.	3174000.	87012524
	1988	0.23424	340300.	3167700.	88090624
	1989	0.31847	340700.	3171900.	89043008
	1990	0.26683	331500.	3183400.	90021608
	1991	0.25570	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.46169	340700.	3171900.	87080124
	1988	0.57934	343700.	3178300.	88090724
	1989	0.70939	340700.	3171900.	89060824
	1990	0.46991	342000.	3174000.	90050924
	1991	0.61110	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	0.97019	342000.	3174000.	87122018
	1988	0.98272	343700.	3178300.	88051403
	1989	0.99620	340300.	3167700.	89122603
	1990	0.97455	340300.	3165700.	90061906
	1991	0.98244	340300.	3167700.	91012005
SOURCE GROUP ID:	LD7595				
Annual					
	1987	0.00276	343700.	3178300.	87123124
	1988	0.00414	340300.	3165700.	88123124
	1989	0.00786	340700.	3171900.	89123124
	1990	0.00456	340300.	3165700.	90123124
	1991	0.00297	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.08862	343700.	3178300.	87062724
	1988	0.08426	340700.	3171900.	88071424
	1989	0.12905	342000.	3174000.	89040524
	1990	0.09618	331500.	3183400.	90021624
	1991	0.08835	340300.	3165700.	91012024
HIGH 8-Hour					
	1987	0.22096	342000.	3174000.	87012524
	1988	0.24168	340300.	3167700.	88090624
	1989	0.32887	340700.	3171900.	89043008
	1990	0.27255	331500.	3183400.	90021608
	1991	0.26506	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.47715	340700.	3171900.	87080124
	1988	0.59439	343700.	3178300.	88090724
	1989	0.72722	340700.	3171900.	89060824
	1990	0.48374	342000.	3174000.	90050924
	1991	0.63015	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	1.00371	342000.	3174000.	87122018
	1988	1.01542	343700.	3178300.	88051403
	1989	1.02991	340300.	3167700.	89122603
	1990	1.01083	340300.	3165700.	90061906
	1991	1.01567	340300.	3167700.	91012005
SOURCE GROUP ID:	LD5032				
Annual					
	1987	0.00304	343700.	3178300.	87123124
	1988	0.00465	340300.	3165700.	88123124
	1989	0.00888	340700.	3171900.	89123124
	1990	0.00506	340300.	3165700.	90123124
	1991	0.00343	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.10210	343700.	3178300.	87062724
	1988	0.09229	340700.	3171900.	88071424
	1989	0.14451	342000.	3174000.	89040524
	1990	0.10465	340700.	3171900.	90021924
	1991	0.09958	340300.	3165700.	91012024
HIGH 8-Hour					
	1987	0.24646	340300.	3165700.	87072708
	1988	0.26804	340300.	3167700.	88090624
	1989	0.36598	340700.	3171900.	89043008
	1990	0.30616	340700.	3171900.	90021908
	1991	0.29874	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.53271	340700.	3171900.	87080124
	1988	0.64671	343700.	3178300.	88090724
	1989	0.78917	340700.	3171900.	89060824
	1990	0.53243	342000.	3174000.	90050924
	1991	0.69746	340700.	3171900.	91040824
HIGH 1-Hour					

	1987	1.12341	342000.	3174000.	87122018
	1988	1.13159	343700.	3178300.	88051403
	1989	1.14905	340300.	3167700.	89122603
	1990	1.14192	340300.	3165700.	90061906
	1991	1.13358	340300.	3167700.	91012005
SOURCE GROUP ID:	LD5095				
Annual					
	1987	0.00318	343700.	3178300.	87123124
	1988	0.00483	340300.	3165700.	88123124
	1989	0.00924	340700.	3171900.	89123124
	1990	0.00527	340300.	3165700.	90123124
	1991	0.00359	340300.	3169800.	91123124
HIGH 24-Hour					
	1987	0.10571	343700.	3178300.	87062724
	1988	0.09575	340700.	3171900.	88071424
	1989	0.15138	342000.	3174000.	89040524
	1990	0.11059	340700.	3171900.	90021924
	1991	0.10459	340300.	3165700.	91012024
HIGH 8-Hour					
	1987	0.25834	340300.	3165700.	87072708
	1988	0.27957	340300.	3167700.	88090624
	1989	0.38237	340700.	3171900.	89043008
	1990	0.32397	340700.	3171900.	90021908
	1991	0.31378	340300.	3165700.	91012008
HIGH 3-Hour					
	1987	0.55741	340700.	3171900.	87080124
	1988	0.66913	343700.	3178300.	88090724
	1989	0.81568	340700.	3171900.	89060824
	1990	0.55356	342000.	3174000.	90050924
	1991	0.72683	340700.	3171900.	91040824
HIGH 1-Hour					
	1987	1.17625	342000.	3174000.	87122018
	1988	1.18261	343700.	3178300.	88051403
	1989	1.20131	340300.	3167700.	89122603
	1990	1.20044	340300.	3165700.	90061906
	1991	1.18540	340300.	3167700.	91012005

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99
CO TITLETWO NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 8 3 1
CO POLLUTID GEN
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
SO LOCATION  BASE32A  POINT  347200.  3138800.  0.0
SO LOCATION  BASE32B  POINT  347200.  3138800.  0.0
SO LOCATION  BASE32C  POINT  347200.  3138800.  0.0
**
SO LOCATION  BASE95A  POINT  347200.  3138800.  0.0
SO LOCATION  BASE95B  POINT  347200.  3138800.  0.0
SO LOCATION  BASE95C  POINT  347200.  3138800.  0.0
**
SO LOCATION  LD7532A  POINT  347200.  3138800.  0.0
SO LOCATION  LD7532B  POINT  347200.  3138800.  0.0
SO LOCATION  LD7532C  POINT  347200.  3138800.  0.0
**
SO LOCATION  LD7595A  POINT  347200.  3138800.  0.0
SO LOCATION  LD7595B  POINT  347200.  3138800.  0.0
SO LOCATION  LD7595C  POINT  347200.  3138800.  0.0
**
SO LOCATION  LD5032A  POINT  347200.  3138800.  0.0
SO LOCATION  LD5032B  POINT  347200.  3138800.  0.0
SO LOCATION  LD5032C  POINT  347200.  3138800.  0.0
**
SO LOCATION  LD5095A  POINT  347200.  3138800.  0.0
SO LOCATION  LD5095B  POINT  347200.  3138800.  0.0
SO LOCATION  LD5095C  POINT  347200.  3138800.  0.0
**
** Source Parameter Cards:
** POINT:   SRCID          QS      HS      TS      VS      DS
**                        (g/s)    (m)     (K)    (m/s)    (m)
SO SRCPARAM   BASE32A     3.333   18.3    865.0   36.2    6.71
SO SRCPARAM   BASE32B     3.334   18.3    865.0   36.2    6.71
SO SRCPARAM   BASE32C     3.333   18.3    865.0   36.2    6.71
**
SO SRCPARAM   BASE95A     3.333   18.3    886.0   33.9    6.71
SO SRCPARAM   BASE95B     3.334   18.3    886.0   33.9    6.71
SO SRCPARAM   BASE95C     3.333   18.3    886.0   33.9    6.71
**
SO SRCPARAM   LD7532A     3.333   18.3    905.0   30.6    6.71
SO SRCPARAM   LD7532B     3.334   18.3    905.0   30.6    6.71
SO SRCPARAM   LD7532C     3.333   18.3    905.0   30.6    6.71
**
SO SRCPARAM   LD7595A     3.333   18.3    918.0   29.0    6.71
SO SRCPARAM   LD7595B     3.334   18.3    918.0   29.0    6.71
SO SRCPARAM   LD7595C     3.333   18.3    918.0   29.0    6.71
**
SO SRCPARAM   LD5032A     3.333   18.3    906.0   25.7    6.71
SO SRCPARAM   LD5032B     3.334   18.3    906.0   25.7    6.71
SO SRCPARAM   LD5032C     3.333   18.3    906.0   25.7    6.71
**
SO SRCPARAM   LD5095A     3.333   18.3    922.0   24.5    6.71
SO SRCPARAM   LD5095B     3.334   18.3    922.0   24.5    6.71
SO SRCPARAM   LD5095C     3.333   18.3    922.0   24.5    6.71
**
SO BUILDHGT BASE32A-BASE95A    6.71   6.71   6.71  14.33   0.00   0.00
SO BUILDHGT BASE32A-BASE95A    0.00   0.00   0.00   0.00   0.00   0.00
SO BUILDHGT BASE32A-BASE95A    0.00   6.71   6.71   6.71   6.71   6.71
SO BUILDHGT BASE32A-BASE95A   14.33  14.33  14.33  14.33  14.33  14.33
SO BUILDHGT BASE32A-BASE95A    6.71   6.71   0.00   0.00   0.00   0.00
SO BUILDHGT BASE32A-BASE95A    0.00   6.71   6.71   6.71   6.71   6.71
```

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SO BUILDWID BASE32A-BASE95A    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32A-BASE95A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID BASE32A-BASE95A     0.00   15.23   14.32   12.97   11.23    9.14
SO BUILDWID BASE32A-BASE95A    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID BASE32A-BASE95A    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID BASE32A-BASE95A     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT LD5032A-LD7595A     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDHGT LD5032A-LD7595A    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT LD5032A-LD7595A     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032A-LD7595A    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00   15.23   14.32   12.97   11.23    9.14
SO BUILDWID LD5032A-LD7595A    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID LD5032A-LD7595A    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT BASE32B-BASE95B     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32B-BASE95B     0.00    0.00    0.00    6.71    6.71    6.71
SO BUILDHGT BASE32B-BASE95B    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT BASE32B-BASE95B    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32B-BASE95B     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32B-BASE95B     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32B-BASE95B    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32B-BASE95B     0.00    0.00    0.00   14.19   15.16   15.66
SO BUILDWID BASE32B-BASE95B    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID BASE32B-BASE95B    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID BASE32B-BASE95B    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID BASE32B-BASE95B     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT LD5032B-LD7595B     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032B-LD7595B     0.00    0.00    0.00    6.71    6.71    6.71
SO BUILDHGT LD5032B-LD7595B    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT LD5032B-LD7595B    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT LD5032B-LD7595B     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032B-LD7595B     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032B-LD7595B    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032B-LD7595B     0.00    0.00    0.00   14.19   15.16   15.66
SO BUILDWID LD5032B-LD7595B    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID LD5032B-LD7595B    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID LD5032B-LD7595B    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID LD5032B-LD7595B     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT BASE32C-BASE95C     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32C-BASE95C     0.00    0.00    0.00    6.71    6.71   14.33
SO BUILDHGT BASE32C-BASE95C    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT BASE32C-BASE95C    14.33   14.33   14.33   14.33    0.00    0.00
SO BUILDHGT BASE32C-BASE95C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32C-BASE95C     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32C-BASE95C    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32C-BASE95C     0.00    0.00    0.00   14.19   15.16   14.99
SO BUILDWID BASE32C-BASE95C    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID BASE32C-BASE95C    12.71   14.06   14.99   15.46    0.00    0.00
SO BUILDWID BASE32C-BASE95C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID BASE32C-BASE95C     0.00   15.23   14.32   12.97   11.23    9.14
**
SO BUILDHGT LD5032C-LD7595C     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    0.00    0.00    6.71    6.71   14.33
SO BUILDHGT LD5032C-LD7595C    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT LD5032C-LD7595C    14.33   14.33   14.33   14.33    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032C-LD7595C    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00    0.00    0.00   14.19   15.16   14.99
SO BUILDWID LD5032C-LD7595C    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID LD5032C-LD7595C    12.71   14.06   14.99   15.46    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00   15.23   14.32   12.97   11.23    9.14
**
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE32 BASE32A BASE32B BASE32C
SO SRCGROUP BASE95 BASE95A BASE95B BASE95C
SO SRCGROUP LD7532 LD7532A LD7532B LD7532C
SO SRCGROUP LD7595 LD7595A LD7595B LD7595C
SO SRCGROUP LD5032 LD5032A LD5032B LD5032C
SO SRCGROUP LD5095 LD5095A LD5095B LD5095C
**
SO FINISHED
```

```
RE STARTING
RE DISCCART  340300 3165700
RE DISCCART  340300 3167700
RE DISCCART  340300 3169800
RE DISCCART  340700 3171900
RE DISCCART  342000 3174000
RE DISCCART  343000 3176200
RE DISCCART  343700 3178300
RE DISCCART  342400 3180600
RE DISCCART  341100 3183400
RE DISCCART  339000 3183400
RE DISCCART  336500 3183400
RE DISCCART  334000 3183400
RE DISCCART  331500 3183400
RE FINISHED

ME STARTING
ME INPUTFIL D:\MET\TPA87D.MET
ME ANEMHGHT   6.700 METERS
ME SURFDATA  12842  1987          TAMPA
ME UAIRDATA  12842  1987          RUSKIN
ME WINDCATS   1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED

************************************
*** SETUP Finishes Successfully ***
************************************

  *** ISCST3 - VERSION 99155 ***    *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99       ***
                                    *** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES    ***

**MODELOPTs:
CONC                       RURAL  FLAT          DFAULT

                                      ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
         1. Final Plume Rise.
         2. Stack-tip Downwash.
         3. Buoyancy-induced Dispersion.
         4. Use Calms Processing Routine.
         5. Not Use Missing Data Processing Routine.
         6. Default Wind Profile Exponents.
         7. Default Vertical Potential Temperature Gradients.
         8. "Upper Bound" Values for Supersquat Buildings.
         9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  4 Short Term Average(s) of:  24-HR   8-HR   3-HR   1-HR
   and Calculates PERIOD Averages

**This Run Includes:    18 Source(s);     6 Source Group(s); and     13 Receptor(s)

**The Model Assumes A Pollutant Type of:  GEN

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
       Model Outputs Tables of PERIOD Averages by Receptor
       Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
```

m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10
Output Units = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: PCNGC1.I87
**Output Print File: PCNGC1.O87
*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISS SCAL
BASE32A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	865.00	36.20	6.71	YES	
BASE32B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	865.00	36.20	6.71	YES	
BASE32C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	865.00	36.20	6.71	YES	
BASE95A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	886.00	33.90	6.71	YES	
BASE95B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	886.00	33.90	6.71	YES	
BASE95C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	886.00	33.90	6.71	YES	
LD7532A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	905.00	30.60	6.71	YES	
LD7532B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	905.00	30.60	6.71	YES	
LD7532C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	905.00	30.60	6.71	YES	
LD7595A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	918.00	29.00	6.71	YES	
LD7595B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	918.00	29.00	6.71	YES	
LD7595C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	918.00	29.00	6.71	YES	
LD5032A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	906.00	25.70	6.71	YES	
LD5032B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	906.00	25.70	6.71	YES	
LD5032C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	906.00	25.70	6.71	YES	
LD5095A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	922.00	24.50	6.71	YES	
LD5095B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	922.00	24.50	6.71	YES	
LD5095C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	922.00	24.50	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
BASE32	BASE32A , BASE32B , BASE32C ,
BASE95	BASE95A , BASE95B , BASE95C ,
LD7532	LD7532A , LD7532B , LD7532C ,
LD7595	LD7595A , LD7595B , LD7595C ,
LD5032	LD5032A , LD5032B , LD5032C ,
LD5095	LD5095A , LD5095B , LD5095C ,

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE32A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6,7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: BASE32B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: BASE32C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: BASE95A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE95B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: BASE95C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7532A

IFV	BH	EW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7532B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD7532C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7595A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7595B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7595C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5032A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD5032B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD5032C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD5095A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5095B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD5095C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(340300.0,	3165700.0,	0.0,	0.0);	(340300.0,	3167700.0,	0.0,	0.0);
(340300.0,	3169800.0,	0.0,	0.0);	(340700.0,	3171900.0,	0.0,	0.0);
(342000.0,	3174000.0,	0.0,	0.0);	(343000.0,	3176200.0,	0.0,	0.0);
(343700.0,	3178300.0,	0.0,	0.0);	(342400.0,	3180600.0,	0.0,	0.0);
(341100.0,	3183400.0,	0.0,	0.0);	(339000.0,	3183400.0,	0.0,	0.0);
(336500.0,	3183400.0,	0.0,	0.0);	(334000.0,	3183400.0,	0.0,	0.0);
(331500.0,	3183400.0,	0.0,	0.0);				

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FI

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: D:\MET\TPA87D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1987 YEAR: 1987

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
87	01	01	01	341.0	6.17	293.7	4	598.7	598.7	0.0000	0.0	0.0000	0	0.00
87	01	01	02	358.0	4.12	293.2	5	651.8	1306.0	0.0000	0.0	0.0000	0	0.00
87	01	01	03	34.0	6.17	293.2	4	704.8	704.8	0.0000	0.0	0.0000	0	0.00
87	01	01	04	73.0	6.69	291.5	4	757.8	757.8	0.0000	0.0	0.0000	0	0.00
87	01	01	05	83.0	7.20	290.9	4	810.8	810.8	0.0000	0.0	0.0000	0	0.00
87	01	01	06	102.0	7.20	290.4	4	863.8	863.8	0.0000	0.0	0.0000	0	0.00
87	01	01	07	105.0	6.69	289.3	4	916.9	916.9	0.0000	0.0	0.0000	0	0.00
87	01	01	08	113.0	7.72	288.7	4	969.9	969.9	0.0000	0.0	0.0000	0	0.00
87	01	01	09	107.0	6.17	288.2	4	1022.9	1022.9	0.0000	0.0	0.0000	0	0.00
87	01	01	10	121.0	6.17	288.2	4	1075.9	1075.9	0.0000	0.0	0.0000	0	0.00
87	01	01	11	114.0	6.69	287.6	4	1128.9	1128.9	0.0000	0.0	0.0000	0	0.00
87	01	01	12	116.0	6.17	287.0	4	1182.0	1182.0	0.0000	0.0	0.0000	0	0.00
87	01	01	13	133.0	7.20	287.6	4	1235.0	1235.0	0.0000	0.0	0.0000	0	0.00
87	01	01	14	119.0	7.72	287.6	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	15	132.0	7.20	288.2	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	16	134.0	7.72	289.3	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00

87	01	01	17	141.0	7.20	288.2	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	18	137.0	5.14	287.6	5	1286.4	1238.1	0.0000	0.0	0.0000	0	0.00
87	01	01	19	144.0	3.60	286.5	5	1281.2	1078.6	0.0000	0.0	0.0000	0	0.00
87	01	01	20	117.0	2.06	285.4	6	1276.0	919.0	0.0000	0.0	0.0000	0	0.00
87	01	01	21	110.0	1.54	284.8	7	1270.9	759.5	0.0000	0.0	0.0000	0	0.00
87	01	01	22	112.0	0.00	283.7	7	1265.7	600.0	0.0000	0.0	0.0000	0	0.00
87	01	01	23	120.0	2.57	283.7	6	1260.5	440.5	0.0000	0.0	0.0000	0	0.00
87	01	01	24	130.0	1.54	282.6	7	1255.4	281.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
BASE32	1ST HIGHEST VALUE IS	0.00231 AT (	343700.00, 3178300.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.00214 AT (	343000.00, 3176200.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.00214 AT (	342000.00, 3174000.00, 0.00, 0.00)	DC	NA
BASE95	1ST HIGHEST VALUE IS	0.00241 AT (	343700.00, 3178300.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.00224 AT (	342000.00, 3174000.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.00223 AT (	343000.00, 3176200.00, 0.00, 0.00)	DC	NA
LD7532	1ST HIGHEST VALUE IS	0.00262 AT (	343700.00, 3178300.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.00246 AT (	342000.00, 3174000.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.00244 AT (	343000.00, 3176200.00, 0.00, 0.00)	DC	NA
LD7595	1ST HIGHEST VALUE IS	0.00280 AT (	343700.00, 3178300.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.00265 AT (	342000.00, 3174000.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.00262 AT (	343000.00, 3176200.00, 0.00, 0.00)	DC	NA
LD5032	1ST HIGHEST VALUE IS	0.00312 AT (	343700.00, 3178300.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.00301 AT (	342000.00, 3174000.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.00294 AT (	343000.00, 3176200.00, 0.00, 0.00)	DC	NA
LD5095	1ST HIGHEST VALUE IS	0.00322 AT (	343700.00, 3178300.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.00311 AT (	342000.00, 3174000.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.00304 AT (	343000.00, 3176200.00, 0.00, 0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF
BASE32	HIGH 1ST HIGH VALUE IS	0.07733	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.06216	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		
BASE95	HIGH 1ST HIGH VALUE IS	0.08067	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.06453	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		
LD7532	HIGH 1ST HIGH VALUE IS	0.08666	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.06867	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		
LD7595	HIGH 1ST HIGH VALUE IS	0.08980	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.07083	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		

LD5032	HIGH	1ST HIGH VALUE IS	0.10386	ON 87062724: AT (	343700.00,	3178300.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.07673	ON 87020224: AT (	343700.00,	3178300.00,	0.00,	0.00)
LD5095	HIGH	1ST HIGH VALUE IS	0.10671	ON 87062724: AT (	343700.00,	3178300.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.07861	ON 87020224: AT (	343700.00,	3178300.00,	0.00,	0.00)

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)		RECEPTOR (XR, YR, ZELEV, ZFLAG)		OF
BASE32	HIGH	1ST HIGH VALUE IS	0.18764	ON 87012524: AT (	342000.00,	3174000.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.15437c	ON 87020124: AT (	342000.00,	3174000.00,	0.00,	0.00)
BASE95	HIGH	1ST HIGH VALUE IS	0.19742	ON 87012524: AT (	342000.00,	3174000.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.16408c	ON 87020124: AT (	342000.00,	3174000.00,	0.00,	0.00)
LD7532	HIGH	1ST HIGH VALUE IS	0.21508	ON 87012524: AT (	342000.00,	3174000.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.18199c	ON 87020124: AT (	342000.00,	3174000.00,	0.00,	0.00)
LD7595	HIGH	1ST HIGH VALUE IS	0.22452	ON 87012524: AT (	342000.00,	3174000.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.19176c	ON 87020124: AT (	342000.00,	3174000.00,	0.00,	0.00)
LD5032	HIGH	1ST HIGH VALUE IS	0.25225c	ON 87072708: AT (	340300.00,	3165700.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.22037c	ON 87020124: AT (	342000.00,	3174000.00,	0.00,	0.00)
LD5095	HIGH	1ST HIGH VALUE IS	0.26167c	ON 87072708: AT (	340300.00,	3165700.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.23004c	ON 87020124: AT (	342000.00,	3174000.00,	0.00,	0.00)

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 3-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)		RECEPTOR (XR, YR, ZELEV, ZFLAG)		OF
BASE32	HIGH	1ST HIGH VALUE IS	0.40472	ON 87080124: AT (	340700.00,	3171900.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.29932	ON 87061503: AT (	342000.00,	3174000.00,	0.00,	0.00)
BASE95	HIGH	1ST HIGH VALUE IS	0.42584	ON 87080124: AT (	340700.00,	3171900.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.31824	ON 87061503: AT (	342000.00,	3174000.00,	0.00,	0.00)
LD7532	HIGH	1ST HIGH VALUE IS	0.46433	ON 87080124: AT (	340700.00,	3171900.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.35342	ON 87061503: AT (	342000.00,	3174000.00,	0.00,	0.00)
LD7595	HIGH	1ST HIGH VALUE IS	0.48496	ON 87080124: AT (	340700.00,	3171900.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.37264	ON 87061503: AT (	342000.00,	3174000.00,	0.00,	0.00)
LD5032	HIGH	1ST HIGH VALUE IS	0.54476	ON 87080124: AT (	340700.00,	3171900.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.42964	ON 87061503: AT (	342000.00,	3174000.00,	0.00,	0.00)
LD5095	HIGH	1ST HIGH VALUE IS	0.56433	ON 87080124: AT (	340700.00,	3171900.00,	0.00,	0.00)
	HIGH	2ND HIGH VALUE IS	0.44872	ON 87061503: AT (	342000.00,	3174000.00,	0.00,	0.00)

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 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
  *** ISCST3 - VERSION 99155 ***    *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99       ***
                                    *** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES    ***
**MODELOPTs:
CONC                       RURAL  FLAT          DFAULT

                                         *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***

                                    ** CONC OF GEN      IN (MICROGRAMS/CUBIC-METER)                  **

                                                   DATE
GROUP ID                         AVERAGE CONC    (YYMMDDHH)            RECEPTOR  (XR, YR, ZELEV, ZFLAG)    OF
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

BASE32   HIGH  1ST HIGH VALUE IS       0.84611  ON 87122018: AT (  342000.00,  3174000.00,      0.00,      0.00)
         HIGH  2ND HIGH VALUE IS       0.83158  ON 87062307: AT (  342000.00,  3174000.00,      0.00,      0.00)

BASE95   HIGH  1ST HIGH VALUE IS       0.89223  ON 87122018: AT (  342000.00,  3174000.00,      0.00,      0.00)
         HIGH  2ND HIGH VALUE IS       0.87315  ON 87062307: AT (  342000.00,  3174000.00,      0.00,      0.00)

LD7532   HIGH  1ST HIGH VALUE IS       0.97589  ON 87122018: AT (  342000.00,  3174000.00,      0.00,      0.00)
         HIGH  2ND HIGH VALUE IS       0.94808  ON 87062307: AT (  342000.00,  3174000.00,      0.00,      0.00)

LD7595   HIGH  1ST HIGH VALUE IS       1.02061  ON 87122018: AT (  342000.00,  3174000.00,      0.00,      0.00)
         HIGH  2ND HIGH VALUE IS       0.98777  ON 87062307: AT (  342000.00,  3174000.00,      0.00,      0.00)

LD5032   HIGH  1ST HIGH VALUE IS       1.14907  ON 87122018: AT (  342000.00,  3174000.00,      0.00,      0.00)
         HIGH  2ND HIGH VALUE IS       1.10105  ON 87062307: AT (  342000.00,  3174000.00,      0.00,      0.00)

LD5095   HIGH  1ST HIGH VALUE IS       1.19103  ON 87122018: AT (  342000.00,  3174000.00,      0.00,      0.00)
         HIGH  2ND HIGH VALUE IS       1.13746  ON 87062307: AT (  342000.00,  3174000.00,      0.00,      0.00)

 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
  *** ISCST3 - VERSION 99155 ***    *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99       ***
                                    *** NATURAL GAS, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES    ***
**MODELOPTs:
CONC                       RURAL  FLAT          DFAULT

*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of           0 Fatal Error Message(s)
A Total of           0 Warning Message(s)
A Total of         531 Informational Message(s)

A Total of         531 Calm Hours Identified

   ******** FATAL ERROR MESSAGES ********
               ***   NONE   ***

   ********    WARNING MESSAGES    ********
               ***   NONE   ***

   ************************************
   *** ISCST3 Finishes Successfully ***
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CO STARTING
CO TITLEONE 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99
CO TITLETWO FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD 24 8 3 1
CO POLLUTID GEN
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
SO LOCATION  BASE32A  POINT  347200.  3138800.  0.0
SO LOCATION  BASE32B  POINT  347200.  3138800.  0.0
SO LOCATION  BASE32C  POINT  347200.  3138800.  0.0
**
SO LOCATION  BASE95A  POINT  347200.  3138800.  0.0
SO LOCATION  BASE95B  POINT  347200.  3138800.  0.0
SO LOCATION  BASE95C  POINT  347200.  3138800.  0.0
**
SO LOCATION  LD7532A  POINT  347200.  3138800.  0.0
SO LOCATION  LD7532B  POINT  347200.  3138800.  0.0
SO LOCATION  LD7532C  POINT  347200.  3138800.  0.0
**
SO LOCATION  LD7595A  POINT  347200.  3138800.  0.0
SO LOCATION  LD7595B  POINT  347200.  3138800.  0.0
SO LOCATION  LD7595C  POINT  347200.  3138800.  0.0
**
SO LOCATION  LD5032A  POINT  347200.  3138800.  0.0
SO LOCATION  LD5032B  POINT  347200.  3138800.  0.0
SO LOCATION  LD5032C  POINT  347200.  3138800.  0.0
**
SO LOCATION  LD5095A  POINT  347200.  3138800.  0.0
SO LOCATION  LD5095B  POINT  347200.  3138800.  0.0
SO LOCATION  LD5095C  POINT  347200.  3138800.  0.0
** Source Parameter Cards:
** POINT:   SRCID          QS       HS       TS       VS       DS
**                        (g/s)     (m)      (K)     (m/s)     (m)
SO SRCPARAM   BASE32A     3.333    18.3     853.2    37.31    6.71
SO SRCPARAM   BASE32B     3.334    18.3     853.2    37.31    6.71
SO SRCPARAM   BASE32C     3.333    18.3     853.2    37.31    6.71
**
SO SRCPARAM   BASE95A     3.333    18.3     878.2    35.05    6.71
SO SRCPARAM   BASE95B     3.334    18.3     878.2    35.05    6.71
SO SRCPARAM   BASE95C     3.333    18.3     878.2    35.05    6.71
**
SO SRCPARAM   LD7532A     3.333    18.3     905.4    30.78    6.71
SO SRCPARAM   LD7532B     3.334    18.3     905.4    30.78    6.71
SO SRCPARAM   LD7532C     3.333    18.3     905.4    30.78    6.71
**
SO SRCPARAM   LD7595A     3.333    18.3     914.3    29.57    6.71
SO SRCPARAM   LD7595B     3.334    18.3     914.3    29.57    6.71
SO SRCPARAM   LD7595C     3.333    18.3     914.3    29.57    6.71
**
SO SRCPARAM   LD5032A     3.333    18.3     922.0    26.12    6.71
SO SRCPARAM   LD5032B     3.334    18.3     922.0    26.12    6.71
SO SRCPARAM   LD5032C     3.333    18.3     922.0    26.12    6.71
**
SO SRCPARAM   LD5095A     3.333    18.3     922.0    24.84    6.71
SO SRCPARAM   LD5095B     3.334    18.3     922.0    24.84    6.71
SO SRCPARAM   LD5095C     3.333    18.3     922.0    24.84    6.71
**
SO BUILDHGT BASE32A-BASE95A    6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDHGT BASE32A-BASE95A   14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32A-BASE95A    6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32A-BASE95A   11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32A-BASE95A    0.00    0.00    0.00    0.00    0.00    0.00
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SO BUILDWID BASE32A-BASE95A     0.00    15.23    14.32    12.97    11.23     9.14
SO BUILDWID BASE32A-BASE95A    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID BASE32A-BASE95A    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID BASE32A-BASE95A     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT LD5032A-LD7595A     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT LD5032A-LD7595A     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDHGT LD5032A-LD7595A     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDHGT LD5032A-LD7595A    14.33    14.33    14.33    14.33    14.33    14.33
SO BUILDHGT LD5032A-LD7595A     6.71     6.71     0.00     0.00     0.00     0.00
SO BUILDHGT LD5032A-LD7595A     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID LD5032A-LD7595A    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID LD5032A-LD7595A     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDWID LD5032A-LD7595A     0.00    15.23    14.32    12.97    11.23     9.14
SO BUILDWID LD5032A-LD7595A    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID LD5032A-LD7595A    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID LD5032A-LD7595A     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT BASE32B-BASE95B     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT BASE32B-BASE95B     0.00     0.00     0.00     6.71     6.71     6.71
SO BUILDHGT BASE32B-BASE95B    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT BASE32B-BASE95B    14.33    14.33    14.33    14.33    14.33    14.33
SO BUILDHGT BASE32B-BASE95B     6.71     6.71     0.00     0.00     0.00     0.00
SO BUILDHGT BASE32B-BASE95B     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID BASE32B-BASE95B    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID BASE32B-BASE95B     0.00     0.00     0.00    14.19    15.16    15.66
SO BUILDWID BASE32B-BASE95B    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID BASE32B-BASE95B    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID BASE32B-BASE95B    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID BASE32B-BASE95B     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT LD5032B-LD7595B     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT LD5032B-LD7595B     0.00     0.00     0.00     6.71     6.71     6.71
SO BUILDHGT LD5032B-LD7595B    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT LD5032B-LD7595B    14.33    14.33    14.33    14.33    14.33    14.33
SO BUILDHGT LD5032B-LD7595B     6.71     6.71     0.00     0.00     0.00     0.00
SO BUILDHGT LD5032B-LD7595B     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID LD5032B-LD7595B    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID LD5032B-LD7595B     0.00     0.00     0.00    14.19    15.16    15.66
SO BUILDWID LD5032B-LD7595B    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID LD5032B-LD7595B    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID LD5032B-LD7595B    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID LD5032B-LD7595B     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT BASE32C-BASE95C     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     0.00     0.00     6.71     6.71    14.33
SO BUILDHGT BASE32C-BASE95C    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT BASE32C-BASE95C    14.33    14.33    14.33    14.33     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID BASE32C-BASE95C    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID BASE32C-BASE95C     0.00     0.00     0.00    14.19    15.16    14.99
SO BUILDWID BASE32C-BASE95C    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID BASE32C-BASE95C    12.71    14.06    14.99    15.46     0.00     0.00
SO BUILDWID BASE32C-BASE95C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDWID BASE32C-BASE95C     0.00    15.23    14.32    12.97    11.23     9.14
**
SO BUILDHGT LD5032C-LD7595C     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT LD5032C-LD7595C     0.00     0.00     0.00     6.71     6.71    14.33
SO BUILDHGT LD5032C-LD7595C    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT LD5032C-LD7595C    14.33    14.33    14.33    14.33     0.00     0.00
SO BUILDHGT LD5032C-LD7595C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDHGT LD5032C-LD7595C     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID LD5032C-LD7595C    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID LD5032C-LD7595C     0.00     0.00     0.00    14.19    15.16    14.99
SO BUILDWID LD5032C-LD7595C    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID LD5032C-LD7595C    12.71    14.06    14.99    15.46     0.00     0.00
SO BUILDWID LD5032C-LD7595C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDWID LD5032C-LD7595C     0.00    15.23    14.32    12.97    11.23     9.14
**
SO EMISUNIT     .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE32 BASE32A BASE32B BASE32C
SO SRCGROUP BASE95 BASE95A BASE95B BASE95C
SO SRCGROUP LD7532 LD7532A LD7532B LD7532C
SO SRCGROUP LD7595 LD7595A LD7595B LD7595C
SO SRCGROUP LD5032 LD5032A LD5032B LD5032C
SO SRCGROUP LD5095 LD5095A LD5095B LD5095C
SO FINISHED

RE STARTING
RE DISCCART  340300 3165700
RE DISCCART  340300 3167700
RE DISCCART  340300 3169800
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RE DISCCART  340700 3171900
RE DISCCART  342000 3174000
RE DISCCART  343000 3176200
RE DISCCART  343700 3178300
RE DISCCART  342400 3180600
RE DISCCART  341100 3183400
RE DISCCART  339000 3183400
RE DISCCART  336500 3183400
RE DISCCART  334000 3183400
RE DISCCART  331500 3183400
RE FINISHED

ME STARTING
ME INPUTFIL D:\MET\TPA87D.MET
ME ANEMHGHT    6.700 METERS
ME SURFDATA  12842  1987            TAMPA
ME UAIRDATA  12842  1987            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST SECOND
OU FINISHED

***********************************
*** SETUP Finishes Successfully ***
***********************************

  *** ISCST3 - VERSION 99155 ***     *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99        ***
                                   *** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES         ***
**MODELOPTs:
CONC                        RURAL  FLAT          DFAULT

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  4 Short Term Average(s) of:  24-HR   8-HR   3-HR   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    18 Source(s);      6 Source Group(s); and      13 Receptor(s)

**The Model Assumes A Pollutant Type of:  GEN

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
        Model Outputs Tables of PERIOD Averages by Receptor
        Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =     6.70 ;    Decay Coef. =    0.000     ;    Rot. Angle =     0.0
                 Emission Units = (GRAMS/SEC)                                ;  Emission Rate Unit Factor =   0.10
```

Output Units = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: PCFOC1.I87
**Output Print File: PCFOC1.O87
*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISS SCAL
BASE32A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE95A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	878.20	35.05	6.71	YES	
BASE95B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	878.20	35.05	6.71	YES	
BASE95C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	878.20	35.05	6.71	YES	
LD7532A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	905.40	30.78	6.71	YES	
LD7532B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	905.40	30.78	6.71	YES	
LD7532C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	905.40	30.78	6.71	YES	
LD7595A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	914.30	29.57	6.71	YES	
LD7595B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	914.30	29.57	6.71	YES	
LD7595C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	914.30	29.57	6.71	YES	
LD5032A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	922.00	26.12	6.71	YES	
LD5032B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	922.00	26.12	6.71	YES	
LD5032C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	922.00	26.12	6.71	YES	
LD5095A	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	922.00	24.84	6.71	YES	
LD5095B	0	0.33340E+01	347200.0	3138800.0	0.0	18.30	922.00	24.84	6.71	YES	
LD5095C	0	0.33330E+01	347200.0	3138800.0	0.0	18.30	922.00	24.84	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
BASE32	BASE32A , BASE32B , BASE32C ,
BASE95	BASE95A , BASE95B , BASE95C ,
LD7532	LD7532A , LD7532B , LD7532C ,
LD7595	LD7595A , LD7595B , LD7595C ,
LD5032	LD5032A , LD5032B , LD5032C ,
LD5095	LD5095A , LD5095B , LD5095C ,

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE32A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	

31	0.0,	0.0, 0	32	6.7,	15.2, 0	33	6.7,	14.3, 0	34	6.7,	13.0, 0	35	6.7,	11.2, 0				

SOURCE ID: BASE32B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: BASE32C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: BASE95A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE95B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: BASE95C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7532A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7532B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	

25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD7532C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7595A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7595B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD7595C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5032A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD5032B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD5032C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD5095A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5095B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

SOURCE ID: LD5095C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	I
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(340300.0,	3165700.0,	0.0,	0.0);	(340300.0,	3167700.0,	0.0,	0.0);
(340300.0,	3169800.0,	0.0,	0.0);	(340700.0,	3171900.0,	0.0,	0.0);
(342000.0,	3174000.0,	0.0,	0.0);	(343000.0,	3176200.0,	0.0,	0.0);
(343700.0,	3178300.0,	0.0,	0.0);	(342400.0,	3180600.0,	0.0,	0.0);
(341100.0,	3183400.0,	0.0,	0.0);	(339000.0,	3183400.0,	0.0,	0.0);
(336500.0,	3183400.0,	0.0,	0.0);	(334000.0,	3183400.0,	0.0,	0.0);
(331500.0,	3183400.0,	0.0,	0.0);				

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FI

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: D:\MET\TPA87D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1987 YEAR: 1987

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
87	01	01	01	341.0	6.17	293.7	4	598.7	598.7	0.0000	0.0	0.0000	0	0.00
87	01	01	02	358.0	4.12	293.2	5	651.8	1306.0	0.0000	0.0	0.0000	0	0.00
87	01	01	03	34.0	6.17	293.2	4	704.8	704.8	0.0000	0.0	0.0000	0	0.00
87	01	01	04	73.0	6.69	291.5	4	757.8	757.8	0.0000	0.0	0.0000	0	0.00
87	01	01	05	83.0	7.20	290.9	4	810.8	810.8	0.0000	0.0	0.0000	0	0.00
87	01	01	06	102.0	7.20	290.4	4	863.8	863.8	0.0000	0.0	0.0000	0	0.00
87	01	01	07	105.0	6.69	289.3	4	916.9	916.9	0.0000	0.0	0.0000	0	0.00
87	01	01	08	113.0	7.72	288.7	4	969.9	969.9	0.0000	0.0	0.0000	0	0.00
87	01	01	09	107.0	6.17	288.2	4	1022.9	1022.9	0.0000	0.0	0.0000	0	0.00
87	01	01	10	121.0	6.17	288.2	4	1075.9	1075.9	0.0000	0.0	0.0000	0	0.00
87	01	01	11	114.0	6.69	287.6	4	1128.9	1128.9	0.0000	0.0	0.0000	0	0.00
87	01	01	12	116.0	6.17	287.0	4	1182.0	1182.0	0.0000	0.0	0.0000	0	0.00
87	01	01	13	133.0	7.20	287.6	4	1235.0	1235.0	0.0000	0.0	0.0000	0	0.00
87	01	01	14	119.0	7.72	287.6	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	15	132.0	7.20	288.2	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	16	134.0	7.72	289.3	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	17	141.0	7.20	288.2	4	1288.0	1288.0	0.0000	0.0	0.0000	0	0.00
87	01	01	18	137.0	5.14	287.6	5	1286.4	1238.1	0.0000	0.0	0.0000	0	0.00
87	01	01	19	144.0	3.60	286.5	5	1281.2	1078.6	0.0000	0.0	0.0000	0	0.00
87	01	01	20	117.0	2.06	285.4	6	1276.0	919.0	0.0000	0.0	0.0000	0	0.00
87	01	01	21	110.0	1.54	284.8	7	1270.9	759.5	0.0000	0.0	0.0000	0	0.00
87	01	01	22	112.0	0.00	283.7	7	1265.7	600.0	0.0000	0.0	0.0000	0	0.00
87	01	01	23	120.0	2.57	283.7	6	1260.5	440.5	0.0000	0.0	0.0000	0	0.00
87	01	01	24	130.0	1.54	282.6	7	1255.4	281.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
SE32	1ST HIGHEST VALUE IS	0.00226 AT (343700.00, 3178300.00, 0.00, 0.00)		DC	NA
	2ND HIGHEST VALUE IS	0.00209 AT (343000.00, 3176200.00, 0.00, 0.00)		DC	NA
	3RD HIGHEST VALUE IS	0.00208 AT (342000.00, 3174000.00, 0.00, 0.00)		DC	NA
SE95	1ST HIGHEST VALUE IS	0.00235 AT (343700.00, 3178300.00, 0.00, 0.00)		DC	NA
	2ND HIGHEST VALUE IS	0.00218 AT (342000.00, 3174000.00, 0.00, 0.00)		DC	NA
	3RD HIGHEST VALUE IS	0.00218 AT (343000.00, 3176200.00, 0.00, 0.00)		DC	NA
D7532	1ST HIGHEST VALUE IS	0.00261 AT (343700.00, 3178300.00, 0.00, 0.00)		DC	NA
	2ND HIGHEST VALUE IS	0.00245 AT (342000.00, 3174000.00, 0.00, 0.00)		DC	NA
	3RD HIGHEST VALUE IS	0.00243 AT (343000.00, 3176200.00, 0.00, 0.00)		DC	NA
LD7595	1ST HIGHEST VALUE IS	0.00276 AT (343700.00, 3178300.00, 0.00, 0.00)		DC	NA
	2ND HIGHEST VALUE IS	0.00261 AT (342000.00, 3174000.00, 0.00, 0.00)		DC	NA
	3RD HIGHEST VALUE IS	0.00259 AT (343000.00, 3176200.00, 0.00, 0.00)		DC	NA
LD5032	1ST HIGHEST VALUE IS	0.00304 AT (343700.00, 3178300.00, 0.00, 0.00)		DC	NA
	2ND HIGHEST VALUE IS	0.00292 AT (342000.00, 3174000.00, 0.00, 0.00)		DC	NA
	3RD HIGHEST VALUE IS	0.00286 AT (343000.00, 3176200.00, 0.00, 0.00)		DC	NA
5095	1ST HIGHEST VALUE IS	0.00318 AT (343700.00, 3178300.00, 0.00, 0.00)		DC	NA
	2ND HIGHEST VALUE IS	0.00306 AT (342000.00, 3174000.00, 0.00, 0.00)		DC	NA
	3RD HIGHEST VALUE IS	0.00300 AT (343000.00, 3176200.00, 0.00, 0.00)		DC	NA

** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1987 SONAT PASCO CNTY/3 CTS SIMPLE CYCLE/CLASS I AREA 10/9/99 ***
*** FUEL OIL, GENERIC EMISSION RATES, 3 LOADS AND 2 TEMPERATURES ***

**MODELOPTs:
ONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF
ASE32	HIGH 1ST HIGH VALUE IS	0.07591	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.06114	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		
ASE95	HIGH 1ST HIGH VALUE IS	0.07885	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.06324	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		
LD7532	HIGH 1ST HIGH VALUE IS	0.08625	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.06840	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		
D7595	HIGH 1ST HIGH VALUE IS	0.08862	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.07002	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		
D5032	HIGH 1ST HIGH VALUE IS	0.10210	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.07559	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		
LD5095	HIGH 1ST HIGH VALUE IS	0.10571	ON 87062724: AT (343700.00, 3178300.00, 0.00, 0.00)		
	HIGH 2ND HIGH VALUE IS	0.07795	ON 87020224: AT (343700.00, 3178300.00, 0.00, 0.00)		

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART

```
CO STARTING
CO TITLEONE 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99
CO TITLETWO FUEL OIL, SO2 3-HR BASELOAD 95 DEG. F
CO MODELOPT DEFAULT CONC   RURAL NOCMPL
CO AVERTIME  3
CO POLLUTID SO2
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
**
SO LOCATION  BASE95A  POINT  -35.36     0.0       0.0
SO LOCATION  BASE95B  POINT    0.00     0.0       0.0
SO LOCATION  BASE95C  POINT   35.36     0.0       0.0
**
**
** Source Parameter Cards:
** POINT:   SRCID          QS       HS        TS        VS        DS
**                       (g/s)     (m)       (K)      (m/s)     (m)
**
SO SRCPARAM   BASE95A     11.77     18.3      878.2     35.05     6.71
SO SRCPARAM   BASE95B     11.77     18.3      878.2     35.05     6.71
SO SRCPARAM   BASE95C     11.77     18.3      878.2     35.05     6.71
**
**
SO BUILDHGT BASE32A-BASE95A    6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDHGT BASE32A-BASE95A   14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32A-BASE95A    6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32A-BASE95A   11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32A-BASE95A    0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID BASE32A-BASE95A    0.00   15.23   14.32   12.97   11.23    9.14
SO BUILDWID BASE32A-BASE95A   12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID BASE32A-BASE95A   15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID BASE32A-BASE95A    0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO BUILDHGT BASE32B-BASE95B    6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32B-BASE95B    0.00    0.00    0.00    6.71    6.71    6.71
SO BUILDHGT BASE32B-BASE95B   14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT BASE32B-BASE95B   14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32B-BASE95B    6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32B-BASE95B    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32B-BASE95B   11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32B-BASE95B    0.00    0.00    0.00   14.19   15.16   15.66
SO BUILDWID BASE32B-BASE95B   15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID BASE32B-BASE95B   12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID BASE32B-BASE95B   15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID BASE32B-BASE95B    0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO BUILDHGT BASE32C-BASE95C    6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32C-BASE95C    0.00    0.00    0.00    6.71    6.71   14.33
SO BUILDHGT BASE32C-BASE95C   14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT BASE32C-BASE95C   14.33   14.33   14.33   14.33    0.00    0.00
SO BUILDHGT BASE32C-BASE95C    0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32C-BASE95C    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32C-BASE95C   11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32C-BASE95C    0.00    0.00    0.00   14.19   15.16   14.99
SO BUILDWID BASE32C-BASE95C   15.46   15.46   14.99   14.06   11.23    9.14
```

```
SO BUILDWID BASE32C-BASE95C    12.71   14.06   14.99   15.46    0.00    0.00
SO BUILDWID BASE32C-BASE95C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID BASE32C-BASE95C     0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE95 BASE95A BASE95B BASE95C
**
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  1400 1500 1600 1700 1800 1900 2000
RE GRIDPOLR POL DIST  2100 2200 2300 2400
RE GRIDPOLR POL GDIR   9 262.00   2.00
RE GRIDPOLR POL END
RE FINISHED

ME STARTING
ME INPUTFIL C:\DDIRMET\TPA90D.MET
ME ANEMHGHT    6.700 METERS
ME SURFDATA  12842  1990            TAMPA
ME UAIRDATA  12842  1990            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED

************************************
*** SETUP Finishes Successfully ***
************************************

  *** ISCST3 - VERSION 99155 ***    *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        ***        10/24
                                  *** FUEL OIL, SO2 3-HR BASELOAD 95 DEG. F                                  ***        12:43:
                                                                                                                        PAGE
**MODELOPTs:
CONC                        RURAL  FLAT          DFAULT                                                          NOCMPL

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:  3-HR

**This Run Includes:     3 Source(s);      1 Source Group(s); and      99 Receptor(s)

**The Model Assumes A Pollutant Type of:  SO2
```

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: REFS0203.I90
**Output Print File: REFS0203.090
*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
BASE95A	0	0.11770E+02	-35.4	0.0	0.0	18.30	878.20	35.05	6.71	YES	
BASE95B	0	0.11770E+02	0.0	0.0	0.0	18.30	878.20	35.05	6.71	YES	
BASE95C	0	0.11770E+02	35.4	0.0	0.0	18.30	878.20	35.05	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 3-HR BASELOAD 95 DEG. F *** 12:43:
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**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
BASE95	BASE95A , BASE95B , BASE95C ,

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 3-HR BASELOAD 95 DEG. F *** 12:43:
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**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE95A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: BASE95B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	6.7,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: BASE95C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	14.3,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	24	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 3-HR BASELOAD 95 DEG. F *** 12:43:
PAGE

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 0.00 ; Y-ORIG = 0.00 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

1400.0, 1500.0, 1600.0, 1700.0, 1800.0, 1900.0, 2000.0, 2100.0, 2200.0, 2300.0,
2400.0,

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

262.0, 264.0, 266.0, 268.0, 270.0, 272.0, 274.0, 276.0, 278.0,

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 3-HR BASELOAD 95 DEG. F *** 12:43:
PAGE

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***

(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\DDIRMET\TPA90D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1990 YEAR: 1990

YR MN DY HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-O (M)	IPCODE	PRATE (mm/HR)
90 01 01 01	11.0	4.63	293.2	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 02	358.0	4.63	292.6	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 03	4.0	4.12	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 04	3.0	5.14	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 05	13.0	5.66	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 06	2.0	5.66	291.5	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 07	55.0	2.06	290.9	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 08	153.0	4.63	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 09	137.0	4.63	289.8	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 10	171.0	4.63	287.6	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 11	164.0	5.66	288.2	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 12	166.0	6.69	288.7	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 13	173.0	6.69	291.5	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 14	169.0	6.17	289.3	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 15	162.0	4.63	289.3	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 16	184.0	4.63	290.4	3	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 17	161.0	5.66	289.8	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90 01 01 18	167.0	5.14	287.0	5	1309.0	1257.3	0.0000	0.0	0.0000	0	0.00
90 01 01 19	184.0	3.60	285.4	5	1309.0	1092.1	0.0000	0.0	0.0000	0	0.00
90 01 01 20	187.0	3.09	284.3	6	1309.0	926.9	0.0000	0.0	0.0000	0	0.00
90 01 01 21	200.0	2.57	283.2	6	1309.0	761.6	0.0000	0.0	0.0000	0	0.00
90 01 01 22	192.0	4.12	283.2	5	1309.0	596.4	0.0000	0.0	0.0000	0	0.00
90 01 01 23	210.0	3.09	282.6	6	1309.0	431.2	0.0000	0.0	0.0000	0	0.00
90 01 01 24	190.0	3.09	282.0	6	1309.0	266.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE95 ***
INCLUDING SOURCE(S): BASE95A , BASE95B , BASE95C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 1400.00	1500.00	1600.00	1700.00	1800.00
262.0	2.21262 (90061315)	2.77431 (90061315)	3.15332 (90061315)	3.35102 (90061315)	3.40586 (900
264.0	2.28108 (90061315)	2.85980 (90061315)	3.24929 (90061315)	3.45169 (90061315)	3.50715 (900
266.0	2.31267 (90061315)	2.90203 (90061315)	3.29850 (90061315)	3.50436 (90061315)	3.56064 (900

268.0	2.30633 (90061315)	2.89977 (90061315)	3.29967 (90061315)	3.50780 (90061315)	3.56517 (900
270.0	2.26265 (90061315)	2.85357 (90061315)	3.25333 (90061315)	3.46256 (90061315)	3.52132 (900
272.0	2.18379 (90061315)	2.76570 (90061315)	3.16179 (90061315)	3.37092 (90061315)	3.43137 (900
274.0	2.07334 (90061315)	2.63997 (90061315)	3.02890 (90061315)	3.23672 (90061315)	3.29912 (900
276.0	1.93610 (90061315)	2.48155 (90061315)	2.85994 (90061315)	3.06517 (90061315)	3.12967 (900
278.0	1.77774 (90061315)	2.29663 (90061315)	2.66122 (90061315)	2.86253 (90061315)	2.92916 (900

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE95 ***
INCLUDING SOURCE(S): BASE95A , BASE95B , BASE95C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 1900.00	2000.00	2100.00	2200.00	2300.00
262.0	3.36724 (90061315)	3.27846 (90061315)	3.16945 (90061315)	3.05702 (90061315)	2.94872 (900
264.0	3.46693 (90061315)	3.37579 (90061315)	3.26449 (90061315)	3.15010 (90061315)	3.04015 (900
266.0	3.51971 (90061315)	3.42729 (90061315)	3.31474 (90061315)	3.19935 (90061315)	3.08860 (900
268.0	3.52447 (90061315)	3.43189 (90061315)	3.31915 (90061315)	3.20368 (90061315)	3.09296 (900
270.0	3.48183 (90061315)	3.39023 (90061315)	3.27835 (90061315)	3.16373 (90061315)	3.05386 (900
272.0	3.39408 (90061315)	3.30460 (90061315)	3.19464 (90061315)	3.08178 (90061315)	2.97357 (900
274.0	3.26499 (90061315)	3.17876 (90061315)	3.07177 (90061315)	2.96158 (90061315)	2.85585 (900
276.0	3.09960 (90061315)	3.01772 (90061315)	2.91473 (90061315)	2.80812 (90061315)	2.70566 (900
278.0	2.90391 (90061315)	2.82741 (90061315)	2.72943 (90061315)	2.62729 (90061315)	2.52887 (900

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE 1ST HIGHEST 3-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE95 ***
INCLUDING SOURCE(S): BASE95A , BASE95B , BASE95C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 2400.00
262.0	2.84706 (90061315)
264.0	2.93702 (90061315)
266.0	2.98479 (90061315)
268.0	2.98924 (90061315)
270.0	2.95098 (90061315)
272.0	2.87227 (90061315)
274.0	2.75687 (90061315)
276.0	2.60973 (90061315)
278.0	2.43669 (90061315)

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE SUMMARY OF HIGHEST 3-HR RESULTS ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	NETWOR OF TYPE	GRID-I
BASE95 HIGH 1ST HIGH VALUE IS	3.56517	ON 90061315:	AT (-1798.90, -62.82, 0.00, 0.00)	GP	POL

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

BD = BOUNDARY
*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 3-HR BASELOAD 95 DEG. F *** 12:43:

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 509 Informational Message(s)

A Total of 509 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

```
CO STARTING
CO TITLEONE 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99
CO TITLETWO FUEL OIL, SO2 24-HR BASELOAD 32 DEG. F
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  24
CO POLLUTID SO2
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
SO LOCATION  BASE32A  POINT  -35.36     0.0       0.0
SO LOCATION  BASE32B  POINT    0.00     0.0       0.0
SO LOCATION  BASE32C  POINT   35.36     0.0       0.0
**
**
** Source Parameter Cards:
** POINT:   SRCID           QS       HS        TS        VS        DS
**                        (g/s)     (m)       (K)      (m/s)     (m)
SO SRCPARAM    BASE32A     12.79     18.3      853.2     37.31     6.71
SO SRCPARAM    BASE32B     12.79     18.3      853.2     37.31     6.71
SO SRCPARAM    BASE32C     12.79     18.3      853.2     37.31     6.71
**
**
SO BUILDHGT BASE32A-BASE95A     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT BASE32A-BASE95A     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDHGT BASE32A-BASE95A     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDHGT BASE32A-BASE95A    14.33    14.33    14.33    14.33    14.33    14.33
SO BUILDHGT BASE32A-BASE95A     6.71     6.71     0.00     0.00     0.00     0.00
SO BUILDHGT BASE32A-BASE95A     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID BASE32A-BASE95A    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID BASE32A-BASE95A     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDWID BASE32A-BASE95A     0.00    15.23    14.32    12.97    11.23     9.14
SO BUILDWID BASE32A-BASE95A    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID BASE32A-BASE95A    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID BASE32A-BASE95A     0.00    15.23    14.32    12.97    11.23     9.14
**
**
SO BUILDHGT BASE32B-BASE95B     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT BASE32B-BASE95B     0.00     0.00     0.00     6.71     6.71     6.71
SO BUILDHGT BASE32B-BASE95B    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT BASE32B-BASE95B    14.33    14.33    14.33    14.33    14.33    14.33
SO BUILDHGT BASE32B-BASE95B     6.71     6.71     0.00     0.00     0.00     0.00
SO BUILDHGT BASE32B-BASE95B     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID BASE32B-BASE95B    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID BASE32B-BASE95B     0.00     0.00     0.00    14.19    15.16    15.66
SO BUILDWID BASE32B-BASE95B    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID BASE32B-BASE95B    12.71    14.06    14.99    15.46    15.46    14.99
SO BUILDWID BASE32B-BASE95B    15.16    14.19     0.00     0.00     0.00     0.00
SO BUILDWID BASE32B-BASE95B     0.00    15.23    14.32    12.97    11.23     9.14
**
**
SO BUILDHGT BASE32C-BASE95C     6.71     6.71     6.71    14.33     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     0.00     0.00     6.71     6.71    14.33
SO BUILDHGT BASE32C-BASE95C    14.33    14.33    14.33    14.33     6.71     6.71
SO BUILDHGT BASE32C-BASE95C    14.33    14.33    14.33    14.33     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     0.00     0.00     0.00     0.00     0.00
SO BUILDHGT BASE32C-BASE95C     0.00     6.71     6.71     6.71     6.71     6.71
SO BUILDWID BASE32C-BASE95C    11.23    12.97    14.32    15.46     0.00     0.00
SO BUILDWID BASE32C-BASE95C     0.00     0.00     0.00    14.19    15.16    14.99
SO BUILDWID BASE32C-BASE95C    15.46    15.46    14.99    14.06    11.23     9.14
SO BUILDWID BASE32C-BASE95C    12.71    14.06    14.99    15.46     0.00     0.00
SO BUILDWID BASE32C-BASE95C     0.00     0.00     0.00     0.00     0.00     0.00
```

```
SO BUILDWID BASE32C-BASE95C     0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE32 BASE32A BASE32B BASE32C
**
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  19100 19200 19300 19400 19500 19600 19700 19800 19900
RE GRIDPOLR POL DIST  20000 20100 20200 20300 20400 20500 20600 20700 20800
RE GRIDPOLR POL DIST  20900
RE GRIDPOLR POL GDIR  9  172.00  2.00
RE GRIDPOLR POL END
RE FINISHED

ME STARTING
ME INPUTFIL C:\DDIRMET\TPA89D.MET
ME ANEMHGHT    6.700 METERS
ME SURFDATA  12842  1989            TAMPA
ME UAIRDATA  12842  1989            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED

************************************
*** SETUP Finishes Successfully ***
************************************

  *** ISCST3 - VERSION 99155 ***    *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        ***        10/24
                                  *** FUEL OIL, SO2 24-HR BASELOAD 32 DEG. F                                  ***        12:36:
                                                                                                                         PAGE
**MODELOPTs:
CONC                      RURAL  FLAT          DFAULT                                                            NOCMPL

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:  24-HR

**This Run Includes:     3 Source(s);      1 Source Group(s); and     171 Receptor(s)

**The Model Assumes A Pollutant Type of:  SO2

**Model Set To Continue RUNning After the Setup Testing.
```

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: REFS0224.189
**Output Print File: REFS0224.089
*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 24-HR BASELOAD 32 DEG. F *** 12:36:
PAGE
**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
BASE32A	0	0.12790E+02	-35.4	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32B	0	0.12790E+02	0.0	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32C	0	0.12790E+02	35.4	0.0	0.0	18.30	853.20	37.31	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 24-HR BASELOAD 32 DEG. F *** 12:36:
PAGE
**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
BASE32	BASE32A , BASE32B , BASE32C ,

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 24-HR BASELOAD 32 DEG. F *** 12:36:
PAGE
**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE32A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: BASE32B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	6.7,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: BASE32C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	14.3,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	24	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 24-HR BASELOAD 32 DEG. F *** 12:36:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 0.00 ; Y-ORIG = 0.00 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

19100.0, 19200.0, 19300.0, 19400.0, 19500.0, 19600.0, 19700.0, 19800.0, 19900.0, 20000.0,
20100.0, 20200.0, 20300.0, 20400.0, 20500.0, 20600.0, 20700.0, 20800.0, 20900.0,

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

172.0, 174.0, 176.0, 178.0, 180.0, 182.0, 184.0, 186.0, 188.0,

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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CONC RURAL FLAT DFAULT NOCMPL

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\DDIRMET\TPA89D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1989 YEAR: 1989

YR MN DY HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-O (M)	IPCODE	PRATE (mm/HR)
89 01 01 01	181.0	0.00	293.2	6	999.5	590.0	0.0000	0.0	0.0000	0	0.00
89 01 01 02	338.0	2.06	293.7	5	999.1	590.0	0.0000	0.0	0.0000	0	0.00
89 01 01 03	4.0	1.54	293.7	4	998.8	998.8	0.0000	0.0	0.0000	0	0.00
89 01 01 04	13.0	1.54	293.2	4	998.4	998.4	0.0000	0.0	0.0000	0	0.00
89 01 01 05	353.0	2.06	293.2	4	998.1	998.1	0.0000	0.0	0.0000	0	0.00
89 01 01 06	352.0	1.54	292.6	4	997.8	997.8	0.0000	0.0	0.0000	0	0.00
89 01 01 07	355.0	2.06	292.6	4	997.4	997.4	0.0000	0.0	0.0000	0	0.00
89 01 01 08	333.0	2.06	292.0	4	997.1	997.1	0.0000	0.0	0.0000	0	0.00
89 01 01 09	337.0	2.06	293.2	4	996.7	996.7	0.0000	0.0	0.0000	0	0.00
89 01 01 10	351.0	2.57	294.3	3	996.4	996.4	0.0000	0.0	0.0000	0	0.00
89 01 01 11	24.0	3.09	298.2	3	996.0	996.0	0.0000	0.0	0.0000	0	0.00
89 01 01 12	6.0	4.12	297.6	3	995.7	995.7	0.0000	0.0	0.0000	0	0.00
89 01 01 13	3.0	5.14	299.3	3	995.3	995.3	0.0000	0.0	0.0000	0	0.00
89 01 01 14	9.0	5.14	299.3	4	995.0	995.0	0.0000	0.0	0.0000	0	0.00
89 01 01 15	12.0	4.63	298.7	3	995.0	995.0	0.0000	0.0	0.0000	0	0.00
89 01 01 16	24.0	3.60	298.7	3	995.0	995.0	0.0000	0.0	0.0000	0	0.00
89 01 01 17	41.0	3.60	297.6	4	995.0	995.0	0.0000	0.0	0.0000	0	0.00
89 01 01 18	57.0	3.60	295.4	5	993.9	991.5	0.0000	0.0	0.0000	0	0.00
89 01 01 19	64.0	3.09	294.3	6	990.5	980.4	0.0000	0.0	0.0000	0	0.00
89 01 01 20	27.0	2.57	293.7	6	987.0	969.4	0.0000	0.0	0.0000	0	0.00
89 01 01 21	20.0	2.57	293.2	5	983.6	958.3	0.0000	0.0	0.0000	0	0.00
89 01 01 22	92.0	3.09	293.2	4	980.1	980.1	0.0000	0.0	0.0000	0	0.00
89 01 01 23	110.0	1.54	292.6	5	976.7	936.1	0.0000	0.0	0.0000	0	0.00
89 01 01 24	70.0	2.06	292.6	4	973.2	973.2	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 24-HR BASELOAD 32 DEG. F *** 12:36:
PAGE

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 19100.00	19200.00	19300.00	19400.00	19500.00
172.0	0.28195c(89040624)	0.28112c(89040624)	0.28029c(89040624)	0.27946c(89040624)	0.27863c(890
174.0	0.32653c(89040624)	0.32561c(89040624)	0.32470c(89040624)	0.32379c(89040624)	0.32289c(890
176.0	0.38806c(89040624)	0.38724c(89040624)	0.38642c(89040624)	0.38560c(89040624)	0.38478c(890
178.0	0.51153 (89012324)	0.51131 (89012324)	0.51108 (89012324)	0.51084 (89012324)	0.51060 (890

180.0	0.75392 (89012324)	0.75397 (89012324)	0.75401 (89012324)	0.75404 (89012324)	0.75405 (890
182.0	0.60069 (89012324)	0.60049 (89012324)	0.60029 (89012324)	0.60008 (89012324)	0.59986 (890
184.0	0.46819 (89102824)	0.46828 (89102824)	0.46837 (89102824)	0.46844 (89102824)	0.46851 (891
186.0	0.60804 (89120424)	0.60851 (89120424)	0.60896 (89120424)	0.60940 (89120424)	0.60984 (891
188.0	0.81264 (89120424)	0.81351 (89120424)	0.81436 (89120424)	0.81519 (89120424)	0.81602 (891

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 19600.00	19700.00	19800.00	19900.00	20000.00
172.0	0.27780c(89040624)	0.27697c(89040624)	0.27615c(89040624)	0.27532c(89040624)	0.27449c(890
174.0	0.32198c(89040624)	0.32107c(89040624)	0.32017c(89040624)	0.31927c(89040624)	0.31836c(890
176.0	0.38397c(89040624)	0.38315c(89040624)	0.38234c(89040624)	0.38153c(89040624)	0.38072c(890
178.0	0.51036 (89012324)	0.51010 (89012324)	0.50984 (89012324)	0.50958 (89012324)	0.50931 (890
180.0	0.75405 (89012324)	0.75405 (89012324)	0.75403 (89012324)	0.75399 (89012324)	0.75395 (890
182.0	0.59963 (89012324)	0.59940 (89012324)	0.59916 (89012324)	0.59891 (89012324)	0.59865 (890
184.0	0.46857 (89102824)	0.46862 (89102824)	0.46867 (89102824)	0.46870 (89102824)	0.46873 (891
186.0	0.61026 (89120424)	0.61067 (89120424)	0.61107 (89120424)	0.61146 (89120424)	0.61183 (891
188.0	0.81682 (89120424)	0.81761 (89120424)	0.81839 (89120424)	0.81915 (89120424)	0.81989 (891

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 20100.00	20200.00	20300.00	20400.00	20500.00
172.0	0.27367c(89040624)	0.27283c(89040624)	0.27199c(89040624)	0.27115c(89040624)	0.27032c(890
174.0	0.31742c(89040624)	0.31646c(89040624)	0.31573 (89103024)	0.31564 (89103024)	0.31554 (891
176.0	0.37977c(89040624)	0.37881c(89040624)	0.37785c(89040624)	0.37690c(89040624)	0.37595c(890
178.0	0.50870 (89012324)	0.50804 (89012324)	0.50738 (89012324)	0.50671 (89012324)	0.50605 (890
180.0	0.75335 (89012324)	0.75272 (89012324)	0.75209 (89012324)	0.75146 (89012324)	0.75083 (890
182.0	0.59801 (89012324)	0.59732 (89012324)	0.59663 (89012324)	0.59595 (89012324)	0.59526 (890
184.0	0.46838 (89102824)	0.46798 (89102824)	0.46757 (89102824)	0.46717 (89102824)	0.46676 (891
186.0	0.61163 (89120424)	0.61135 (89120424)	0.61107 (89120424)	0.61078 (89120424)	0.61049 (891
188.0	0.81980 (89120424)	0.81965 (89120424)	0.81950 (89120424)	0.81934 (89120424)	0.81918 (891

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 20600.00	20700.00	20800.00	20900.00
172.0	0.26949c(89040624)	0.26866c(89040624)	0.26783c(89040624)	0.26701c(89040624)
174.0	0.31544 (89103024)	0.31534 (89103024)	0.31524 (89103024)	0.31514 (89103024)
176.0	0.37501c(89040624)	0.37407c(89040624)	0.37313c(89040624)	0.37220c(89040624)
178.0	0.50539 (89012324)	0.50472 (89012324)	0.50406 (89012324)	0.50339 (89012324)
180.0	0.75019 (89012324)	0.74955 (89012324)	0.74891 (89012324)	0.74826 (89012324)
182.0	0.59457 (89012324)	0.59388 (89012324)	0.59318 (89012324)	0.59249 (89012324)

184.0	0.46635 (89102824)	0.46593 (89102824)	0.46552 (89102824)	0.46510 (89102824)
186.0	0.61020 (89120424)	0.60990 (89120424)	0.60960 (89120424)	0.60929 (89120424)
188.0	0.81901 (89120424)	0.81883 (89120424)	0.81865 (89120424)	0.81846 (89120424)

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWOR GRID-I
BASE32	HIGH 1ST HIGH VALUE IS 0.81989	ON 89120424:	AT (-2783.46, -19805.36, 0.00, 0.00)	GP	POL

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 24-HR BASELOAD 32 DEG. F *** 12:36:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 523 Informational Message(s)

A Total of 523 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

```
CO STARTING
CO TITLEONE 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99
CO TITLETWO FUEL OIL, SO2 ANNUAL BASELOAD 32 DEG. F
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD
CO POLLUTID SO2
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
SO LOCATION  BASE32A  POINT  -35.36     0.0       0.0
SO LOCATION  BASE32B  POINT    0.00     0.0       0.0
SO LOCATION  BASE32C  POINT   35.36     0.0       0.0
**
**
** Source Parameter Cards:
** POINT:   SRCID           QS       HS        TS        VS        DS
**                        (g/s)     (m)       (K)      (m/s)     (m)
SO SRCPARAM    BASE32A     12.79     18.3      853.2     37.31     6.71
SO SRCPARAM    BASE32B     12.79     18.3      853.2     37.31     6.71
SO SRCPARAM    BASE32C     12.79     18.3      853.2     37.31     6.71
**
**
SO BUILDHGT BASE32A-BASE95A     6.71    6.71    6.71   14.33   0.00   0.00
SO BUILDHGT BASE32A-BASE95A     0.00    0.00    0.00    0.00   0.00   0.00
SO BUILDHGT BASE32A-BASE95A     0.00    6.71    6.71    6.71   6.71   6.71
SO BUILDHGT BASE32A-BASE95A    14.33   14.33   14.33   14.33  14.33  14.33
SO BUILDHGT BASE32A-BASE95A     6.71    6.71    0.00    0.00   0.00   0.00
SO BUILDHGT BASE32A-BASE95A     0.00    6.71    6.71    6.71   6.71   6.71
SO BUILDWID BASE32A-BASE95A    11.23   12.97   14.32   15.46   0.00   0.00
SO BUILDWID BASE32A-BASE95A     0.00    0.00    0.00    0.00   0.00   0.00
SO BUILDWID BASE32A-BASE95A     0.00   15.23   14.32   12.97  11.23   9.14
SO BUILDWID BASE32A-BASE95A    12.71   14.06   14.99   15.46  15.46  14.99
SO BUILDWID BASE32A-BASE95A    15.16   14.19    0.00    0.00   0.00   0.00
SO BUILDWID BASE32A-BASE95A     0.00   15.23   14.32   12.97  11.23   9.14
**
**
SO BUILDHGT BASE32B-BASE95B     6.71    6.71    6.71   14.33   0.00   0.00
SO BUILDHGT BASE32B-BASE95B     0.00    0.00    0.00    6.71   6.71   6.71
SO BUILDHGT BASE32B-BASE95B    14.33   14.33   14.33   14.33   6.71   6.71
SO BUILDHGT BASE32B-BASE95B    14.33   14.33   14.33   14.33  14.33  14.33
SO BUILDHGT BASE32B-BASE95B     6.71    6.71    0.00    0.00   0.00   0.00
SO BUILDHGT BASE32B-BASE95B     0.00    6.71    6.71    6.71   6.71   6.71
SO BUILDWID BASE32B-BASE95B    11.23   12.97   14.32   15.46   0.00   0.00
SO BUILDWID BASE32B-BASE95B     0.00    0.00    0.00   14.19  15.16  15.66
SO BUILDWID BASE32B-BASE95B    15.46   15.46   14.99   14.06  11.23   9.14
SO BUILDWID BASE32B-BASE95B    12.71   14.06   14.99   15.46  15.46  14.99
SO BUILDWID BASE32B-BASE95B    15.16   14.19    0.00    0.00   0.00   0.00
SO BUILDWID BASE32B-BASE95B     0.00   15.23   14.32   12.97  11.23   9.14
**
**
SO BUILDHGT BASE32C-BASE95C     6.71    6.71    6.71   14.33   0.00   0.00
SO BUILDHGT BASE32C-BASE95C     0.00    0.00    0.00    6.71   6.71  14.33
SO BUILDHGT BASE32C-BASE95C    14.33   14.33   14.33   14.33   6.71   6.71
SO BUILDHGT BASE32C-BASE95C    14.33   14.33   14.33   14.33   0.00   0.00
SO BUILDHGT BASE32C-BASE95C     0.00    0.00    0.00    0.00   0.00   0.00
SO BUILDHGT BASE32C-BASE95C     0.00    6.71    6.71    6.71   6.71   6.71
SO BUILDWID BASE32C-BASE95C    11.23   12.97   14.32   15.46   0.00   0.00
SO BUILDWID BASE32C-BASE95C     0.00    0.00    0.00   14.19  15.16  14.99
SO BUILDWID BASE32C-BASE95C    15.46   15.46   14.99   14.06  11.23   9.14
SO BUILDWID BASE32C-BASE95C    12.71   14.06   14.99   15.46   0.00   0.00
SO BUILDWID BASE32C-BASE95C     0.00    0.00    0.00    0.00   0.00   0.00
```

```
SO BUILDWID BASE32C-BASE95C     0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE32 BASE32A BASE32B BASE32C
**
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  14100 14200 14300 14400 14500 14600 14700 14800 14900
RE GRIDPOLR POL DIST  15000 15100 15200 15300 15400 15500 15600 15700 15800
RE GRIDPOLR POL DIST  15900
RE GRIDPOLR POL GDIR  9  242.00  2.00
RE GRIDPOLR POL END
RE FINISHED

ME STARTING
ME INPUTFIL C:\DDIRMET\TPA90D.MET
ME ANEMHGHT    6.700 METERS
ME SURFDATA  12842  1990            TAMPA
ME UAIRDATA  12842  1990            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED

***********************************
*** SETUP Finishes Successfully ***
***********************************

  *** ISCST3 - VERSION 99155 ***    *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        ***        10/24
                                  *** FUEL OIL, SO2 ANNUAL BASELOAD 32 DEG. F                                 ***        12:36:
**MODELOPTs:                                                                                                          PAGE
CONC                        RURAL  FLAT          DFAULT                                                    NOCMPL

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes:     3 Source(s);      1 Source Group(s); and     171 Receptor(s)

**The Model Assumes A Pollutant Type of:  SO2

**Model Set To Continue RUNning After the Setup Testing.
```

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: REFSO2AN.I90
**Output Print File: REFSO2AN.O90
*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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PAGE
**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
BASE32A	0	0.12790E+02	-35.4	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32B	0	0.12790E+02	0.0	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32C	0	0.12790E+02	35.4	0.0	0.0	18.30	853.20	37.31	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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CONC RURAL FLAT DFAULT NOCMPL

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
BASE32	BASE32A , BASE32B , BASE32C ,

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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PAGE
**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE32A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: BASE32B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	6.7,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: BASE32C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	14.3,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	24	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 0.00 ; Y-ORIG = 0.00 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

14100.0, 14200.0, 14300.0, 14400.0, 14500.0, 14600.0, 14700.0, 14800.0, 14900.0, 15000.0,
15100.0, 15200.0, 15300.0, 15400.0, 15500.0, 15600.0, 15700.0, 15800.0, 15900.0,

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

242.0, 244.0, 246.0, 248.0, 250.0, 252.0, 254.0, 256.0, 258.0,

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**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***

(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\DDIRMET\TPA90D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1990 YEAR: 1990

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-O (M)	IPCODE	PRATE (mm/HR)
90	01	01	01	11.0	4.63	293.2	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	02	358.0	4.63	292.6	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	03	4.0	4.12	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	04	3.0	5.14	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	05	13.0	5.66	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	06	2.0	5.66	291.5	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	07	55.0	2.06	290.9	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	08	153.0	4.63	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	09	137.0	4.63	289.8	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	10	171.0	4.63	287.6	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	11	164.0	5.66	288.2	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	12	166.0	6.69	288.7	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	13	173.0	6.69	291.5	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	14	169.0	6.17	289.3	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	15	162.0	4.63	289.3	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	16	184.0	4.63	290.4	3	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	17	161.0	5.66	289.8	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	18	167.0	5.14	287.0	5	1309.0	1257.3	0.0000	0.0	0.0000	0	0.00
90	01	01	19	184.0	3.60	285.4	5	1309.0	1092.1	0.0000	0.0	0.0000	0	0.00
90	01	01	20	187.0	3.09	284.3	6	1309.0	926.9	0.0000	0.0	0.0000	0	0.00
90	01	01	21	200.0	2.57	283.2	6	1309.0	761.6	0.0000	0.0	0.0000	0	0.00
90	01	01	22	192.0	4.12	283.2	5	1309.0	596.4	0.0000	0.0	0.0000	0	0.00
90	01	01	23	210.0	3.09	282.6	6	1309.0	431.2	0.0000	0.0	0.0000	0	0.00
90	01	01	24	190.0	3.09	282.0	6	1309.0	266.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, SO2 ANNUAL BASELOAD 32 DEG. F *** 12:36:
PAGE

**MODELOPTs:
CONC RURAL FLAT DFAULT NOCMPL

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 14100.00	14200.00	14300.00	14400.00	14500.00	14600.00	14700.00	14800.00	14
242.00	0.05106	0.05107	0.05108	0.05108	0.05109	0.05109	0.05110	0.05110	0
244.00	0.05298	0.05299	0.05300	0.05301	0.05302	0.05303	0.05303	0.05304	0
246.00	0.05662	0.05664	0.05665	0.05667	0.05668	0.05669	0.05670	0.05671	0

248.00	0.05781	0.05783	0.05784	0.05785	0.05785	0.05786	0.05787	0.05788	0
250.00	0.05795	0.05796	0.05796	0.05797	0.05797	0.05798	0.05798	0.05798	0
252.00	0.05849	0.05849	0.05850	0.05850	0.05851	0.05851	0.05851	0.05852	0
254.00	0.06011	0.06013	0.06015	0.06016	0.06018	0.06019	0.06021	0.06022	0
256.00	0.05870	0.05871	0.05873	0.05875	0.05876	0.05878	0.05879	0.05880	0
258.00	0.05592	0.05594	0.05595	0.05597	0.05598	0.05599	0.05600	0.05601	0

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 15000.00	15100.00	15200.00	15300.00	15400.00	15500.00	15600.00	15700.00	15
242.00	0.05110	0.05108	0.05106	0.05103	0.05101	0.05098	0.05095	0.05093	0
244.00	0.05304	0.05302	0.05300	0.05297	0.05294	0.05292	0.05289	0.05286	0
246.00	0.05673	0.05671	0.05669	0.05666	0.05664	0.05662	0.05659	0.05657	0
248.00	0.05788	0.05786	0.05784	0.05781	0.05778	0.05776	0.05773	0.05770	0
250.00	0.05798	0.05795	0.05793	0.05790	0.05787	0.05784	0.05781	0.05778	0
252.00	0.05851	0.05849	0.05846	0.05844	0.05841	0.05838	0.05835	0.05832	0
254.00	0.06024	0.06023	0.06021	0.06020	0.06018	0.06016	0.06015	0.06013	0
256.00	0.05882	0.05881	0.05879	0.05878	0.05876	0.05874	0.05872	0.05870	0
258.00	0.05603	0.05602	0.05600	0.05598	0.05596	0.05594	0.05592	0.05590	0

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 15900.00
242.00	0.05087
244.00	0.05280
246.00	0.05651
248.00	0.05764
250.00	0.05772
252.00	0.05826
254.00	0.06009
256.00	0.05866
258.00	0.05585

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF SO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF	TYPE	NETWORK GRID-ID
BASE32	1ST HIGHEST VALUE IS	0.06024	AT (-14418.93,	-4134.56,	0.00,	0.00)	GP	POL	
	2ND HIGHEST VALUE IS	0.06023	AT (-14322.80,	-4107.00,	0.00,	0.00)	GP	POL	
	3RD HIGHEST VALUE IS	0.06023	AT (-14515.05,	-4162.12,	0.00,	0.00)	GP	POL	
	4TH HIGHEST VALUE IS	0.06022	AT (-14226.67,	-4079.43,	0.00,	0.00)	GP	POL	
	5TH HIGHEST VALUE IS	0.06021	AT (-14611.18,	-4189.69,	0.00,	0.00)	GP	POL	
	6TH HIGHEST VALUE IS	0.06021	AT (-14130.55,	-4051.87,	0.00,	0.00)	GP	POL	
	7TH HIGHEST VALUE IS	0.06020	AT (-14707.30,	-4217.25,	0.00,	0.00)	GP	POL	

```
        8TH HIGHEST VALUE IS      0.06019 AT (  -14034.42,    -4024.31,     0.00,     0.00)  GP   POL
        9TH HIGHEST VALUE IS      0.06018 AT (  -14803.43,    -4244.82,     0.00,     0.00)  GP   POL
       10TH HIGHEST VALUE IS      0.06018 AT (  -13938.29,    -3996.74,     0.00,     0.00)  GP   POL

 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
  *** ISCST3 - VERSION 99155 ***   *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE    10/9/99      ***    10/24
                                  *** FUEL OIL, SO2 ANNUAL BASELOAD 32 DEG. F                         ***    12:36:
**MODELOPTs:                                                                                                 PAGE
CONC                       RURAL  FLAT        DFAULT                                                 NOCMPL

*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of           0 Fatal Error Message(s)
A Total of           0 Warning Message(s)
A Total of         509 Informational Message(s)

A Total of         509 Calm Hours Identified

   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***

   ********   WARNING MESSAGES   ********
              ***  NONE  ***

   ************************************
   *** ISCST3 Finishes Successfully ***
   ************************************
```

```
CO STARTING
CO TITLEONE 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99
CO TITLETWO FUEL OIL, PM 24 HR 50% LOAD 95 DEG. F
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  24
CO POLLUTID GEN
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS         YS        ZS
**   UTM                     (m)        (m)       (m)
**
**
SO LOCATION  LD5095A  POINT  -35.36     0.0       0.0
SO LOCATION  LD5095B  POINT    0.00     0.0       0.0
SO LOCATION  LD5095C  POINT   35.36     0.0       0.0
**
** Source Parameter Cards:
** POINT:   SRCID           QS       HS        TS        VS        DS
**                        (g/s)     (m)       (K)      (m/s)     (m)
**
SO SRCPARAM   LD5095A     2.14      18.3      922.0     24.84     6.71
SO SRCPARAM   LD5095B     2.14      18.3      922.0     24.84     6.71
SO SRCPARAM   LD5095C     2.14      18.3      922.0     24.84     6.71
**
**
SO BUILDHGT LD5032A-LD7595A     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDHGT LD5032A-LD7595A    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT LD5032A-LD7595A     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032A-LD7595A     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032A-LD7595A    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00   15.23   14.32   12.97   11.23    9.14
SO BUILDWID LD5032A-LD7595A    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID LD5032A-LD7595A    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID LD5032A-LD7595A     0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO BUILDHGT LD5032B-LD7595B     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032B-LD7595B     0.00    0.00    0.00    6.71    6.71    6.71
SO BUILDHGT LD5032B-LD7595B    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT LD5032B-LD7595B    14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT LD5032B-LD7595B     6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032B-LD7595B     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032B-LD7595B    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032B-LD7595B     0.00    0.00    0.00   14.19   15.16   15.66
SO BUILDWID LD5032B-LD7595B    15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID LD5032B-LD7595B    12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID LD5032B-LD7595B    15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID LD5032B-LD7595B     0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO BUILDHGT LD5032C-LD7595C     6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    0.00    0.00    6.71    6.71   14.33
SO BUILDHGT LD5032C-LD7595C    14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT LD5032C-LD7595C    14.33   14.33   14.33   14.33    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT LD5032C-LD7595C     0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID LD5032C-LD7595C    11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00    0.00    0.00   14.19   15.16   14.99
SO BUILDWID LD5032C-LD7595C    15.46   15.46   14.99   14.06   11.23    9.14
```

```
SO BUILDWID LD5032C-LD7595C     12.71   14.06   14.99   15.46    0.00    0.00
SO BUILDWID LD5032C-LD7595C      0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID LD5032C-LD7595C      0.00   15.23   14.32   12.97   11.23    9.14
**
SO EMISUNIT   .100000E+07 (GRAMS/SEC)        (MICROGRAMS/CUBIC-METER)
SO SRCGROUP LD5095 LD5095A LD5095B LD5095C
**
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  14100 14200 14300 14400 14500 14600 14700 14800 14900
RE GRIDPOLR POL DIST  15000 15100 15200 15300 15400 15500 15600 15700 15800
RE GRIDPOLR POL DIST  15900
RE GRIDPOLR POL GDIR  9  172.00  2.00
RE GRIDPOLR POL END
RE FINISHED

ME STARTING
ME INPUTFIL C:\DDIRMET\TPA89D.MET
ME ANEMHGHT   6.700 METERS
ME SURFDATA  12842  1989            TAMPA
ME UAIRDATA  12842  1989            RUSKIN
ME WINDCATS   1.54    3.09    5.14    8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED

************************************
*** SETUP Finishes Successfully ***
************************************

 *** ISCST3 - VERSION 99155 ***    *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        ***      10/24
                                   *** FUEL OIL, PM 24 HR 50% LOAD 95 DEG. F                                 ***      15:49:
**MODELOPTs:                                                                                                          PAGE
CONC                        RURAL  FLAT         DFAULT                                                      NOCMPL

                                        ***     MODEL SETUP OPTIONS SUMMARY      ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  -- SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:  24-HR

**This Run Includes:     3 Source(s);     1 Source Group(s); and     171 Receptor(s)

**The Model Assumes A Pollutant Type of:  GEN
```

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: REFPM24.189
**Output Print File: REFPM24.089
*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM 24 HR 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
LD5095A	0	0.21400E+01	-35.4	0.0	0.0	18.30	922.00	24.84	6.71	YES	
LD5095B	0	0.21400E+01	0.0	0.0	0.0	18.30	922.00	24.84	6.71	YES	
LD5095C	0	0.21400E+01	35.4	0.0	0.0	18.30	922.00	24.84	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM 24 HR 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
LD5095	LD5095A , LD5095B , LD5095C ,

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM 24 HR 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5095A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: LD5095B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	6.7,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: LD5095C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	14.3,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	24	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM 24 HR 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 0.00 ; Y-ORIG = 0.00 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

14100.0, 14200.0, 14300.0, 14400.0, 14500.0, 14600.0, 14700.0, 14800.0, 14900.0, 15000.0,
15100.0, 15200.0, 15300.0, 15400.0, 15500.0, 15600.0, 15700.0, 15800.0, 15900.0,

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

172.0, 174.0, 176.0, 178.0, 180.0, 182.0, 184.0, 186.0, 188.0,

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM 24 HR 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***

(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\DDIRMET\TPA89D.MET
FORMAT: (412,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1989 YEAR: 1989

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
89	01	01	01	181.0	0.00	293.2	6	999.5	590.0	0.0000	0.0	0.0000	0	0.00
89	01	01	02	338.0	2.06	293.7	5	999.1	590.0	0.0000	0.0	0.0000	0	0.00
89	01	01	03	4.0	1.54	293.7	4	998.8	998.8	0.0000	0.0	0.0000	0	0.00
89	01	01	04	13.0	1.54	293.2	4	998.4	998.4	0.0000	0.0	0.0000	0	0.00
89	01	01	05	353.0	2.06	293.2	4	998.1	998.1	0.0000	0.0	0.0000	0	0.00
89	01	01	06	352.0	1.54	292.6	4	997.8	997.8	0.0000	0.0	0.0000	0	0.00
89	01	01	07	355.0	2.06	292.6	4	997.4	997.4	0.0000	0.0	0.0000	0	0.00
89	01	01	08	333.0	2.06	292.0	4	997.1	997.1	0.0000	0.0	0.0000	0	0.00
89	01	01	09	337.0	2.06	293.2	4	996.7	996.7	0.0000	0.0	0.0000	0	0.00
89	01	01	10	351.0	2.57	294.3	3	996.4	996.4	0.0000	0.0	0.0000	0	0.00
89	01	01	11	24.0	3.09	298.2	3	996.0	996.0	0.0000	0.0	0.0000	0	0.00
89	01	01	12	6.0	4.12	297.6	3	995.7	995.7	0.0000	0.0	0.0000	0	0.00
89	01	01	13	3.0	5.14	299.3	3	995.3	995.3	0.0000	0.0	0.0000	0	0.00
89	01	01	14	9.0	5.14	299.3	4	995.0	995.0	0.0000	0.0	0.0000	0	0.00
89	01	01	15	12.0	4.63	298.7	3	995.0	995.0	0.0000	0.0	0.0000	0	0.00
89	01	01	16	24.0	3.60	298.7	3	995.0	995.0	0.0000	0.0	0.0000	0	0.00
89	01	01	17	41.0	3.60	297.6	4	995.0	995.0	0.0000	0.0	0.0000	0	0.00
89	01	01	18	57.0	3.60	295.4	5	993.9	991.5	0.0000	0.0	0.0000	0	0.00
89	01	01	19	64.0	3.09	294.3	6	990.5	980.4	0.0000	0.0	0.0000	0	0.00
89	01	01	20	27.0	2.57	293.7	6	987.0	969.4	0.0000	0.0	0.0000	0	0.00
89	01	01	21	20.0	2.57	293.2	5	983.6	958.3	0.0000	0.0	0.0000	0	0.00
89	01	01	22	92.0	3.09	293.2	4	980.1	980.1	0.0000	0.0	0.0000	0	0.00
89	01	01	23	110.0	1.54	292.6	5	976.7	936.1	0.0000	0.0	0.0000	0	0.00
89	01	01	24	70.0	2.06	292.6	4	973.2	973.2	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: LD5095 ***
INCLUDING SOURCE(S): LD5095A , LD5095B , LD5095C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 14100.00	14200.00	14300.00	14400.00	14500.00
172.0	0.06303 (89051124)	0.06277 (89051124)	0.06250 (89051124)	0.06224 (89051124)	0.06198 (890
174.0	0.07831c(89020824)	0.07831c(89020824)	0.07831c(89020824)	0.07830c(89020824)	0.07829c(890
176.0	0.10287c(89020824)	0.10294c(89020824)	0.10301c(89020824)	0.10307c(89020824)	0.10313c(890

178.0	0.12811 (89012324)	0.12815 (89012324)	0.12818 (89012324)	0.12820 (89012324)	0.12822 (890
180.0	0.17764 (89012324)	0.17777 (89012324)	0.17789 (89012324)	0.17800 (89012324)	0.17811 (890
182.0	0.14143 (89012324)	0.14147 (89012324)	0.14150 (89012324)	0.14153 (89012324)	0.14155 (890
184.0	0.11218c(89041624)	0.11224c(89041624)	0.11229c(89041624)	0.11235c(89041624).	0.11241c(890
186.0	0.14170 (89120424)	0.14189 (89120424)	0.14209 (89120424)	0.14227 (89120424)	0.14245 (891
188.0	0.18670 (89120424)	0.18703 (89120424)	0.18736 (89120424)	0.18767 (89120424)	0.18799 (891

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: LD5095 ***
INCLUDING SOURCE(S): LD5095A , LD5095B , LD5095C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 14600.00	14700.00	14800.00	14900.00	15000.00
172.0	0.06173 (89051124)	0.06148 (89051124)	0.06123 (89051124)	0.06099 (89051124)	0.06075 (890
174.0	0.07828c(89020824)	0.07827c(89020824)	0.07825c(89020824)	0.07824c(89020824)	0.07821c(890
176.0	0.10319c(89020824)	0.10324c(89020824)	0.10329c(89020824)	0.10334c(89020824)	0.10338c(890
178.0	0.12824 (89012324)	0.12825 (89012324)	0.12826 (89012324)	0.12826 (89012324)	0.12826 (890
180.0	0.17821 (89012324)	0.17831 (89012324)	0.17840 (89012324)	0.17848 (89012324)	0.17856 (890
182.0	0.14156 (89012324)	0.14157 (89012324)	0.14158 (89012324)	0.14158 (89012324)	0.14158 (890
184.0	0.11246c(89041624)	0.11251c(89041624)	0.11256c(89041624)	0.11261c(89041624)	0.11266c(890
186.0	0.14263 (89120424)	0.14280 (89120424)	0.14297 (89120424)	0.14313 (89120424)	0.14329 (891
188.0	0.18829 (89120424)	0.18859 (89120424)	0.18888 (89120424)	0.18917 (89120424)	0.18945 (891

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: LD5095 ***
INCLUDING SOURCE(S): LD5095A , LD5095B , LD5095C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 15100.00	15200.00	15300.00	15400.00	15500.00
172.0	0.06073 (89120324)	0.06077 (89120324)	0.06081 (89120324)	0.06085 (89120324)	0.06088 (891
174.0	0.07819c(89020824)	0.07816c(89020824)	0.07814c(89020824)	0.07810c(89020824)	0.07807c(890
176.0	0.10342c(89020824)	0.10345c(89020824)	0.10349c(89020824)	0.10352c(89020824)	0.10354c(890
178.0	0.12826 (89012324)	0.12826 (89012324)	0.12825 (89012324)	0.12823 (89012324)	0.12822 (890
180.0	0.17863 (89012324)	0.17870 (89012324)	0.17876 (89012324)	0.17881 (89012324)	0.17886 (890
182.0	0.14157 (89012324)	0.14156 (89012324)	0.14155 (89012324)	0.14153 (89012324)	0.14151 (890
184.0	0.11271c(89041624)	0.11275c(89041624)	0.11280c(89041624)	0.11284c(89041624)	0.11288c(890
186.0	0.14344 (89120424)	0.14359 (89120424)	0.14373 (89120424)	0.14387 (89120424)	0.14401 (891
188.0	0.18972 (89120424)	0.18999 (89120424)	0.19025 (89120424)	0.19050 (89120424)	0.19075 (891

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: LD5095 ***
INCLUDING SOURCE(S): LD5095A , LD5095B , LD5095C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 15600.00	15700.00	15800.00	15900.00
172.0	0.06092 (89120324)	0.06095 (89120324)	0.06098 (89120324)	0.06101 (89120324)
174.0	0.07804c(89020824)	0.07800c(89020824)	0.07796c(89020824)	0.07792c(89020824)
176.0	0.10357c(89020824)	0.10359c(89020824)	0.10361c(89020824)	0.10362c(89020824)
178.0	0.12820 (89012324)	0.12818 (89012324)	0.12815 (89012324)	0.12812 (89012324)
180.0	0.17891 (89012324)	0.17895 (89012324)	0.17898 (89012324)	0.17901 (89012324)

182.0	0.14148 (89012324)	0.14145 (89012324)	0.14141 (89012324)	0.14138 (89012324)
184.0	0.11292c(89041624)	0.11296c(89041624)	0.11300c(89041624)	0.11304c(89041624)
186.0	0.14414 (89120424)	0.14426 (89120424)	0.14439 (89120424)	0.14450 (89120424)
188.0	0.19100 (89120424)	0.19124 (89120424)	0.19147 (89120424)	0.19169 (89120424)

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWOR GRID-I
LD5095 HIGH 1ST HIGH VALUE IS	0.19169	ON 89120424:	AT (-2212.85, -15745.26, 0.00, 0.00)	GP	POL

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** 1989 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM 24 HR 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 523 Informational Message(s)

A Total of 523 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

```
CO STARTING
CO TITLEONE 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99
CO TITLETWO FUEL OIL, PM ANNUAL 50% LOAD 95 DEG. F
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD
CO POLLUTID GEN
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** -------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
**
**
SO LOCATION  LD5095A  POINT  -35.36    0.0       0.0
SO LOCATION  LD5095B  POINT    0.00    0.0       0.0
SO LOCATION  LD5095C  POINT   35.36    0.0       0.0
**
** Source Parameter Cards:
** POINT:   SRCID           QS       HS        TS        VS        DS
**                        (g/s)     (m)       (K)      (m/s)     (m)
**
SO SRCPARAM   LD5095A     2.14      18.3      922.0     24.84     6.71
SO SRCPARAM   LD5095B     2.14      18.3      922.0     24.84     6.71
SO SRCPARAM   LD5095C     2.14      18.3      922.0     24.84     6.71
**
**
SO BUILDHGT LD5032A-LD7595A     6.71    6.71    6.71   14.33   0.00   0.00
SO BUILDHGT LD5032A-LD7595A     0.00    0.00    0.00    0.00   0.00   0.00
SO BUILDHGT LD5032A-LD7595A     0.00    6.71    6.71    6.71   6.71   6.71
SO BUILDHGT LD5032A-LD7595A    14.33   14.33   14.33   14.33  14.33  14.33
SO BUILDHGT LD5032A-LD7595A     6.71    6.71    0.00    0.00   0.00   0.00
SO BUILDHGT LD5032A-LD7595A     0.00    6.71    6.71    6.71   6.71   6.71
SO BUILDWID LD5032A-LD7595A    11.23   12.97   14.32   15.46   0.00   0.00
SO BUILDWID LD5032A-LD7595A     0.00    0.00    0.00    0.00   0.00   0.00
SO BUILDWID LD5032A-LD7595A     0.00   15.23   14.32   12.97  11.23   9.14
SO BUILDWID LD5032A-LD7595A    12.71   14.06   14.99   15.46  15.46  14.99
SO BUILDWID LD5032A-LD7595A    15.16   14.19    0.00    0.00   0.00   0.00
SO BUILDWID LD5032A-LD7595A     0.00   15.23   14.32   12.97  11.23   9.14
**
**
SO BUILDHGT LD5032B-LD7595B     6.71    6.71    6.71   14.33   0.00   0.00
SO BUILDHGT LD5032B-LD7595B     0.00    0.00    0.00    6.71   6.71   6.71
SO BUILDHGT LD5032B-LD7595B    14.33   14.33   14.33   14.33   6.71   6.71
SO BUILDHGT LD5032B-LD7595B    14.33   14.33   14.33   14.33  14.33  14.33
SO BUILDHGT LD5032B-LD7595B     6.71    6.71    0.00    0.00   0.00   0.00
SO BUILDHGT LD5032B-LD7595B     0.00    6.71    6.71    6.71   6.71   6.71
SO BUILDWID LD5032B-LD7595B    11.23   12.97   14.32   15.46   0.00   0.00
SO BUILDWID LD5032B-LD7595B     0.00    0.00    0.00   14.19  15.16  15.66
SO BUILDWID LD5032B-LD7595B    15.46   15.46   14.99   14.06  11.23   9.14
SO BUILDWID LD5032B-LD7595B    12.71   14.06   14.99   15.46  15.46  14.99
SO BUILDWID LD5032B-LD7595B    15.16   14.19    0.00    0.00   0.00   0.00
SO BUILDWID LD5032B-LD7595B     0.00   15.23   14.32   12.97  11.23   9.14
**
**
SO BUILDHGT LD5032C-LD7595C     6.71    6.71    6.71   14.33   0.00   0.00
SO BUILDHGT LD5032C-LD7595C     0.00    0.00    0.00    6.71   6.71  14.33
SO BUILDHGT LD5032C-LD7595C    14.33   14.33   14.33   14.33   6.71   6.71
SO BUILDHGT LD5032C-LD7595C    14.33   14.33   14.33   14.33   0.00   0.00
SO BUILDHGT LD5032C-LD7595C     0.00    0.00    0.00    0.00   0.00   0.00
SO BUILDHGT LD5032C-LD7595C     0.00    6.71    6.71    6.71   6.71   6.71
SO BUILDWID LD5032C-LD7595C    11.23   12.97   14.32   15.46   0.00   0.00
SO BUILDWID LD5032C-LD7595C     0.00    0.00    0.00   14.19  15.16  14.99
SO BUILDWID LD5032C-LD7595C    15.46   15.46   14.99   14.06  11.23   9.14
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SO BUILDWID LD5032C-LD7595C    12.71   14.06   14.99   15.46    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID LD5032C-LD7595C     0.00   15.23   14.32   12.97   11.23    9.14
**
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP LD5095 LD5095A LD5095B LD5095C
**
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  11100 11200 11300 11400 11500 11600 11700 11800 11900
RE GRIDPOLR POL DIST  12000 12100 12200 12300 12400 12500 12600 12700 12800
RE GRIDPOLR POL DIST  12900
RE GRIDPOLR POL GDIR  9  242.00  2.00
RE GRIDPOLR POL END
RE FINISHED

ME STARTING
ME INPUTFIL C:\DDIRMET\TPA90D.MET
ME ANEMHGHT    6.700 METERS
ME SURFDATA  12842  1990            TAMPA
ME UAIRDATA  12842  1990            RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED

************************************
*** SETUP Finishes Successfully ***
************************************

  *** ISCST3 - VERSION 99155 ***    *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        ***        10/24
                                  *** FUEL OIL, PM ANNUAL 50% LOAD 95 DEG. F                                 ***        15:49:
                                                                                                                        PAGE
**MODELOPTs:
CONC                        RURAL  FLAT          DFAULT                                                        NOCMPL

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes:     3 Source(s);      1 Source Group(s); and     171 Receptor(s)

**The Model Assumes A Pollutant Type of:  GEN
```

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: REFPMAN.I90
**Output Print File: REFPMAN.O90
*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM ANNUAL 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
LD5095A	0	0.21400E+01	-35.4	0.0	0.0	18.30	922.00	24.84	6.71	YES	
LD5095B	0	0.21400E+01	0.0	0.0	0.0	18.30	922.00	24.84	6.71	YES	
LD5095C	0	0.21400E+01	35.4	0.0	0.0	18.30	922.00	24.84	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM ANNUAL 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
LD5095	LD5095A , LD5095B , LD5095C ,

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM ANNUAL 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: LD5095A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: LD5095B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	6.7,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: LD5095C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	14.3,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	24	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM ANNUAL 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 0.00 ; Y-ORIG = 0.00 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

11100.0, 11200.0, 11300.0, 11400.0, 11500.0, 11600.0, 11700.0, 11800.0, 11900.0, 12000.0,
12100.0, 12200.0, 12300.0, 12400.0, 12500.0, 12600.0, 12700.0, 12800.0, 12900.0,

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

242.0, 244.0, 246.0, 248.0, 250.0, 252.0, 254.0, 256.0, 258.0,

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, PM ANNUAL 50% LOAD 95 DEG. F *** 15:49:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\DDIRMET\TPA90D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1990 YEAR: 1990

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
90	01	01	01	11.0	4.63	293.2	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	02	358.0	4.63	292.6	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	03	4.0	4.12	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	04	3.0	5.14	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	05	13.0	5.66	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	06	2.0	5.66	291.5	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	07	55.0	2.06	290.9	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	08	153.0	4.63	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	09	137.0	4.63	289.8	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	10	171.0	4.63	287.6	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	11	164.0	5.66	288.2	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	12	166.0	6.69	288.7	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	13	173.0	6.69	291.5	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	14	169.0	6.17	289.3	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	15	162.0	4.63	289.3	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	16	184.0	4.63	290.4	3	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	17	161.0	5.66	289.8	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	18	167.0	5.14	287.0	5	1309.0	1257.3	0.0000	0.0	0.0000	0	0.00
90	01	01	19	184.0	3.60	285.4	5	1309.0	1092.1	0.0000	0.0	0.0000	0	0.00
90	01	01	20	187.0	3.09	284.3	6	1309.0	926.9	0.0000	0.0	0.0000	0	0.00
90	01	01	21	200.0	2.57	283.2	6	1309.0	761.6	0.0000	0.0	0.0000	0	0.00
90	01	01	22	192.0	4.12	283.2	5	1309.0	596.4	0.0000	0.0	0.0000	0	0.00
90	01	01	23	210.0	3.09	282.6	6	1309.0	431.2	0.0000	0.0	0.0000	0	0.00
90	01	01	24	190.0	3.09	282.0	6	1309.0	266.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: LD5095 ***
INCLUDING SOURCE(S): LD5095A , LD5095B , LD5095C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 11100.00	11200.00	11300.00	11400.00	11500.00	11600.00	11700.00	11800.00	11
242.00	0.01284	0.01284	0.01284	0.01284	0.01284	0.01284	0.01284	0.01284	0
244.00	0.01326	0.01326	0.01326	0.01326	0.01326	0.01326	0.01326	0.01326	0

246.00	0.01411	0.01411	0.01411	0.01411	0.01411	0.01412	0.01412	0.01412	0
248.00	0.01441	0.01441	0.01441	0.01441	0.01441	0.01441	0.01441	0.01441	0
250.00	0.01445	0.01445	0.01445	0.01445	0.01445	0.01445	0.01445	0.01445	0
252.00	0.01459	0.01459	0.01459	0.01459	0.01459	0.01459	0.01459	0.01459	0
254.00	0.01495	0.01496	0.01496	0.01496	0.01497	0.01497	0.01497	0.01497	0
256.00	0.01469	0.01470	0.01470	0.01470	0.01471	0.01471	0.01471	0.01471	0
258.00	0.01412	0.01413	0.01413	0.01413	0.01414	0.01414	0.01414	0.01414	0

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: LD5095 ***
INCLUDING SOURCE(S): LD5095A , LD5095B , LD5095C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 12000.00	12100.00	12200.00	12300.00	12400.00	12500.00	12600.00	12700.00	12
242.00	0.01284	0.01283	0.01283	0.01283	0.01283	0.01283	0.01282	0.01282	0
244.00	0.01326	0.01326	0.01326	0.01326	0.01326	0.01325	0.01325	0.01325	0
246.00	0.01412	0.01412	0.01412	0.01412	0.01412	0.01411	0.01411	0.01411	0
248.00	0.01441	0.01441	0.01440	0.01440	0.01440	0.01440	0.01439	0.01439	0
250.00	0.01444	0.01444	0.01444	0.01443	0.01443	0.01443	0.01442	0.01442	0
252.00	0.01458	0.01458	0.01458	0.01457	0.01457	0.01457	0.01456	0.01456	0
254.00	0.01497	0.01498	0.01498	0.01498	0.01498	0.01498	0.01497	0.01497	0
256.00	0.01471	0.01472	0.01472	0.01472	0.01472	0.01472	0.01471	0.01471	0
258.00	0.01414	0.01414	0.01414	0.01414	0.01414	0.01414	0.01414	0.01414	0

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: LD5095 ***
INCLUDING SOURCE(S): LD5095A , LD5095B , LD5095C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 12900.00
242.00	0.01282
244.00	0.01325
246.00	0.01411
248.00	0.01438
250.00	0.01441
252.00	0.01455
254.00	0.01497
256.00	0.01471
258.00	0.01414

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF GEN IN (MICROGRAMS/CUBIC-METER) **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
LD5095	1ST HIGHEST VALUE IS 0.01498	AT (-11823.52, -3390.34, 0.00, 0.00)	GP	POL
	2ND HIGHEST VALUE IS 0.01498	AT (-11727.39, -3362.78, 0.00, 0.00)	GP	POL
	3RD HIGHEST VALUE IS 0.01498	AT (-11919.64, -3417.90, 0.00, 0.00)	GP	POL
	4TH HIGHEST VALUE IS 0.01498	AT (-11631.27, -3335.21, 0.00, 0.00)	GP	POL
	5TH HIGHEST VALUE IS 0.01498	AT (-12015.77, -3445.47, 0.00, 0.00)	GP	POL
	6TH HIGHEST VALUE IS 0.01497	AT (-11535.14, -3307.65, 0.00, 0.00)	GP	POL

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        7TH HIGHEST VALUE IS      0.01497 AT (  -12111.90,    -3473.03,      0.00,      0.00) GP   POL
        8TH HIGHEST VALUE IS      0.01497 AT (  -11439.01,    -3280.08,      0.00,      0.00) GP   POL
        9TH HIGHEST VALUE IS      0.01497 AT (  -12208.02,    -3500.59,      0.00,      0.00) GP   POL
       10TH HIGHEST VALUE IS      0.01497 AT (  -11342.89,    -3252.52,      0.00,      0.00) GP   POL


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
  *** ISCST3 - VERSION 99155 ***    *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        ***        10/24
                                    *** FUEL OIL, PM ANNUAL 50% LOAD 95 DEG. F                               ***        15:49:
**MODELOPTs:                                                                                                          PAGE
CONC                        RURAL  FLAT          DFAULT                                                    NOCMPL


*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of           0 Fatal Error Message(s)
A Total of           0 Warning Message(s)
A Total of         509 Informational Message(s)

A Total of         509 Calm Hours Identified


   ******** FATAL ERROR MESSAGES ********
            *** NONE ***


   ********   WARNING MESSAGES   ********
            *** NONE ***


   ***************************************
   *** ISCST3 Finishes Successfully ***
   ***************************************
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CO STARTING
CO TITLEONE 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99
CO TITLETWO FUEL OIL, NO2 ANNUAL BASELOAD 32 DEG. F
CO MODELOPT DFAULT CONC   RURAL NOCMPL
CO AVERTIME  PERIOD
CO POLLUTID NO2
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS
** MODELING ORIGIN CT 2 STACK LOCATION
** LOCATION IS USED FOR POLAR DISCRETE RECEPTORS.
**  CT STACK NUMBER CODE
** ------------------------
**  A -  CT 1
**  B -  CT 2
**  C -  CT 3
** Source Location Cards:
**          SRCID SRCTYP      XS        YS        ZS
**   UTM                     (m)       (m)       (m)
SO LOCATION   BASE32A  POINT  -35.36     0.0       0.0
SO LOCATION   BASE32B  POINT    0.00     0.0       0.0
SO LOCATION   BASE32C  POINT   35.36     0.0       0.0
**
**
** Source Parameter Cards:
** POINT:   SRCID           QS       HS        TS        VS        DS
**                        (g/s)     (m)       (K)      (m/s)     (m)
SO SRCPARAM    BASE32A     45.6     18.3      853.2     37.31     6.71
SO SRCPARAM    BASE32B     45.6     18.3      853.2     37.31     6.71
SO SRCPARAM    BASE32C     45.6     18.3      853.2     37.31     6.71
**
**
SO BUILDHGT BASE32A-BASE95A    6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDHGT BASE32A-BASE95A   14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32A-BASE95A    6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32A-BASE95A    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32A-BASE95A   11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32A-BASE95A    0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDWID BASE32A-BASE95A    0.00   15.23   14.32   12.97   11.23    9.14
SO BUILDWID BASE32A-BASE95A   12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID BASE32A-BASE95A   15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID BASE32A-BASE95A    0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO BUILDHGT BASE32B-BASE95B    6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32B-BASE95B    0.00    0.00    0.00    6.71    6.71    6.71
SO BUILDHGT BASE32B-BASE95B   14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT BASE32B-BASE95B   14.33   14.33   14.33   14.33   14.33   14.33
SO BUILDHGT BASE32B-BASE95B    6.71    6.71    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32B-BASE95B    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32B-BASE95B   11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32B-BASE95B    0.00    0.00    0.00   14.19   15.16   15.66
SO BUILDWID BASE32B-BASE95B   15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID BASE32B-BASE95B   12.71   14.06   14.99   15.46   15.46   14.99
SO BUILDWID BASE32B-BASE95B   15.16   14.19    0.00    0.00    0.00    0.00
SO BUILDWID BASE32B-BASE95B    0.00   15.23   14.32   12.97   11.23    9.14
**
**
SO BUILDHGT BASE32C-BASE95C    6.71    6.71    6.71   14.33    0.00    0.00
SO BUILDHGT BASE32C-BASE95C    0.00    0.00    0.00    6.71    6.71   14.33
SO BUILDHGT BASE32C-BASE95C   14.33   14.33   14.33   14.33    6.71    6.71
SO BUILDHGT BASE32C-BASE95C   14.33   14.33   14.33   14.33    0.00    0.00
SO BUILDHGT BASE32C-BASE95C    0.00    0.00    0.00    0.00    0.00    0.00
SO BUILDHGT BASE32C-BASE95C    0.00    6.71    6.71    6.71    6.71    6.71
SO BUILDWID BASE32C-BASE95C   11.23   12.97   14.32   15.46    0.00    0.00
SO BUILDWID BASE32C-BASE95C    0.00    0.00    0.00   14.19   15.16   14.99
SO BUILDWID BASE32C-BASE95C   15.46   15.46   14.99   14.06   11.23    9.14
SO BUILDWID BASE32C-BASE95C   12.71   14.06   14.99   15.46    0.00    0.00
SO BUILDWID BASE32C-BASE95C    0.00    0.00    0.00    0.00    0.00    0.00
```

```
SO BUILDWID BASE32C-BASE95C     0.00    15.23    14.32    12.97    11.23     9.14
**
**
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP BASE32 BASE32A BASE32B BASE32C
**
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG  0.0   0.0
RE GRIDPOLR POL DIST  14100 14200 14300 14400 14500 14600 14700 14800 14900
RE GRIDPOLR POL DIST  15000 15100 15200 15300 15400 15500 15600 15700 15800
RE GRIDPOLR POL DIST  15900
RE GRIDPOLR POL GDIR  9  242.00  2.00
RE GRIDPOLR POL END
RE FINISHED

ME STARTING
ME INPUTFIL C:\DDIRMET\TPA90D.MET
ME ANEMHGHT    6.700 METERS
ME SURFDATA  12842  1990           TAMPA
ME UAIRDATA  12842  1990           RUSKIN
ME WINDCATS    1.54    3.09    5.14    8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU FINISHED

************************************
*** SETUP Finishes Successfully ***
************************************

  *** ISCST3 - VERSION 99155 ***    *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        ***        10/24
                                    *** FUEL OIL, NO2 ANNUAL BASELOAD 32 DEG. F                              ***        12:36:
**MODELOPTs:                                                                                                             PAGE
CONC                        RURAL  FLAT          DFAULT                                                   NOCMPL

                                           ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Simple Terrain Model is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes:     3 Source(s);      1 Source Group(s); and     171 Receptor(s)

**The Model Assumes A Pollutant Type of:  NO2

**Model Set To Continue RUNning After the Setup Testing.
```

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 6.70 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: REFNO2AN.190
**Output Print File: REFNO2AN.090
*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
BASE32A	0	0.45600E+02	-35.4	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32B	0	0.45600E+02	0.0	0.0	0.0	18.30	853.20	37.31	6.71	YES	
BASE32C	0	0.45600E+02	35.4	0.0	0.0	18.30	853.20	37.31	6.71	YES	

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
BASE32	BASE32A , BASE32B , BASE32C ,

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: BASE32A

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0
13	0.0,	0.0,	0	14	6.7,	15.2,	0	15	6.7,	14.3,	0	16	6.7,	13.0,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: BASE32B

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	B
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	6.7,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	14.3,	15.5,	0	24	14.3,	15
25	6.7,	15.2,	0	26	6.7,	14.2,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

SOURCE ID: BASE32C

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	8
1	6.7,	11.2,	0	2	6.7,	13.0,	0	3	6.7,	14.3,	0	4	14.3,	15.5,	0	5	0.0,	0.0,	0	6	0.0,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	6.7,	14.2,	0	11	6.7,	15.2,	0	12	14.3,	15
13	14.3,	15.5,	0	14	14.3,	15.5,	0	15	14.3,	15.0,	0	16	14.3,	14.1,	0	17	6.7,	11.2,	0	18	6.7,	9
19	14.3,	12.7,	0	20	14.3,	14.1,	0	21	14.3,	15.0,	0	22	14.3,	15.5,	0	23	0.0,	0.0,	0	24	0.0,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0
31	0.0,	0.0,	0	32	6.7,	15.2,	0	33	6.7,	14.3,	0	34	6.7,	13.0,	0	35	6.7,	11.2,	0	36	6.7,	9

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
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**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 0.00 ; Y-ORIG = 0.00 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

14100.0, 14200.0, 14300.0, 14400.0, 14500.0, 14600.0, 14700.0, 14800.0, 14900.0, 15000.0,
15100.0, 15200.0, 15300.0, 15400.0, 15500.0, 15600.0, 15700.0, 15800.0, 15900.0,

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

242.0, 244.0, 246.0, 248.0, 250.0, 252.0, 254.0, 256.0, 258.0,

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CONC RURAL FLAT DFAULT NOCMPL

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***

(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\DDIRMET\TPA90D.MET
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 12842 UPPER AIR STATION NO.: 12842
NAME: TAMPA NAME: RUSKIN
YEAR: 1990 YEAR: 1990

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-O (M)	IPCODE	PRATE (mm/HR)
90	01	01	01	11.0	4.63	293.2	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	02	358.0	4.63	292.6	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	03	4.0	4.12	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	04	3.0	5.14	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	05	13.0	5.66	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	06	2.0	5.66	291.5	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	07	55.0	2.06	290.9	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	08	153.0	4.63	292.0	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	09	137.0	4.63	289.8	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	10	171.0	4.63	287.6	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	11	164.0	5.66	288.2	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	12	166.0	6.69	288.7	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	13	173.0	6.69	291.5	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	14	169.0	6.17	289.3	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	15	162.0	4.63	289.3	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	16	184.0	4.63	290.4	3	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	17	161.0	5.66	289.8	4	1309.0	1309.0	0.0000	0.0	0.0000	0	0.00
90	01	01	18	167.0	5.14	287.0	5	1309.0	1257.3	0.0000	0.0	0.0000	0	0.00
90	01	01	19	184.0	3.60	285.4	5	1309.0	1092.1	0.0000	0.0	0.0000	0	0.00
90	01	01	20	187.0	3.09	284.3	6	1309.0	926.9	0.0000	0.0	0.0000	0	0.00
90	01	01	21	200.0	2.57	283.2	6	1309.0	761.6	0.0000	0.0	0.0000	0	0.00
90	01	01	22	192.0	4.12	283.2	5	1309.0	596.4	0.0000	0.0	0.0000	0	0.00
90	01	01	23	210.0	3.09	282.6	6	1309.0	431.2	0.0000	0.0	0.0000	0	0.00
90	01	01	24	190.0	3.09	282.0	6	1309.0	266.0	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** ISCST3 - VERSION 99155 *** *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE 10/9/99 *** 10/24
*** FUEL OIL, NO2 ANNUAL BASELOAD 32 DEG. F *** 12:36:
**MODELOPTs: PAGE
CONC RURAL FLAT DFAULT NOCMPL

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF NO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 14100.00	14200.00	14300.00	14400.00	14500.00	14600.00	14700.00	14800.00	14
242.00	0.18205	0.18207	0.18210	0.18212	0.18214	0.18216	0.18217	0.18219	0
244.00	0.18890	0.18893	0.18897	0.18900	0.18903	0.18905	0.18908	0.18910	0
246.00	0.20187	0.20193	0.20198	0.20203	0.20208	0.20212	0.20216	0.20220	0

248.00	0.20612	0.20616	0.20620	0.20624	0.20627	0.20630	0.20632	0.20634	0
250.00	0.20660	0.20663	0.20665	0.20667	0.20669	0.20670	0.20671	0.20672	0
252.00	0.20852	0.20854	0.20857	0.20858	0.20860	0.20861	0.20862	0.20863	0
254.00	0.21431	0.21437	0.21444	0.21450	0.21455	0.21461	0.21465	0.21470	0
256.00	0.20927	0.20933	0.20940	0.20945	0.20951	0.20956	0.20960	0.20965	0
258.00	0.19937	0.19943	0.19948	0.19953	0.19958	0.19963	0.19967	0.19971	0

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF NO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 15000.00	15100.00	15200.00	15300.00	15400.00	15500.00	15600.00	15700.00	15
242.00	0.18220	0.18212	0.18203	0.18194	0.18185	0.18176	0.18167	0.18157	0
244.00	0.18912	0.18904	0.18895	0.18886	0.18876	0.18866	0.18857	0.18847	0
246.00	0.20226	0.20219	0.20211	0.20203	0.20194	0.20185	0.20176	0.20167	0
248.00	0.20637	0.20629	0.20620	0.20611	0.20602	0.20592	0.20582	0.20572	0
250.00	0.20671	0.20662	0.20652	0.20642	0.20632	0.20621	0.20611	0.20600	0
252.00	0.20862	0.20854	0.20844	0.20835	0.20825	0.20815	0.20805	0.20794	0
254.00	0.21477	0.21473	0.21468	0.21462	0.21456	0.21450	0.21444	0.21437	0
256.00	0.20971	0.20967	0.20961	0.20955	0.20949	0.20943	0.20936	0.20930	0
258.00	0.19977	0.19971	0.19965	0.19958	0.19951	0.19944	0.19937	0.19929	0

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: BASE32 ***
INCLUDING SOURCE(S): BASE32A , BASE32B , BASE32C ,

*** NETWORK ID: POL ; NETWORK TYPE: GRIDPOLR ***

** CONC OF NO2 IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 15900.00
242.00	0.18138
244.00	0.18826
246.00	0.20148
248.00	0.20551
250.00	0.20577
252.00	0.20772
254.00	0.21423
256.00	0.20915
258.00	0.19914

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF NO2 IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF	TYPE	NETWORK GRID-ID
BASE32	1ST HIGHEST VALUE IS	0.21477 AT	(-14418.93,	-4134.56,	0.00,	0.00)	GP	POL	
	2ND HIGHEST VALUE IS	0.21474 AT	(-14322.80,	-4107.00,	0.00,	0.00)	GP	POL	
	3RD HIGHEST VALUE IS	0.21473 AT	(-14515.05,	-4162.12,	0.00,	0.00)	GP	POL	
	4TH HIGHEST VALUE IS	0.21470 AT	(-14226.67,	-4079.43,	0.00,	0.00)	GP	POL	
	5TH HIGHEST VALUE IS	0.21468 AT	(-14611.18,	-4189.69,	0.00,	0.00)	GP	POL	
	6TH HIGHEST VALUE IS	0.21465 AT	(-14130.55,	-4051.87,	0.00,	0.00)	GP	POL	
	7TH HIGHEST VALUE IS	0.21462 AT	(-14707.30,	-4217.25,	0.00,	0.00)	GP	POL	

```
       8TH HIGHEST VALUE IS      0.21461 AT (  -14034.42,    -4024.31,      0.00,      0.00) GP   POL
       9TH HIGHEST VALUE IS      0.21456 AT (  -14803.43,    -4244.82,      0.00,      0.00) GP   POL
      10TH HIGHEST VALUE IS      0.21455 AT (  -13938.29,    -3996.74,      0.00,      0.00) GP   POL


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
  *** ISCST3 - VERSION 99155 ***    *** 1990 SONAT PASCO COUNTY SITE 3 CTS/ SIMPLE CYCLE      10/9/99        ***        10/24
                                  *** FUEL OIL, NO2 ANNUAL BASELOAD 32 DEG. F                                 ***        12:36:
**MODELOPTs:                                                                                                          PAGE
CONC                        RURAL  FLAT          DFAULT                                                    NOCMPL


*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            0 Warning Message(s)
A Total of          509 Informational Message(s)

A Total of          509 Calm Hours Identified


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
              ***  NONE  ***


   ************************************
   *** ISCST3 Finishes Successfully ***
   ************************************
```

APPENDIX E

CALPUFF MODEL DESCRIPTION AND ASSUMPTIONS USED TO ASSESS PSD CLASS I INCREMENT CONSUMPTION IN THE CHASSAHOWITZKA NATIONAL WILDERNESS AREA

E.1 MODEL SELECTION AND SETTINGS

The California Puff (CALPUFF, Version 5.0) air modeling system was used to assess sulfur dioxide (SO_2) concentration in the PSD Class I area of the Chassahowitzka National Wilderness Area (NWA) since the Project's impacts were predicted to be greater than the PSD Class I significant impact levels. CALPUFF is a non-steady state Lagrangian Gaussian puff long-range transport model that includes algorithms for building downwash effects as well as chemical transformations (important for visibility controlling pollutants), and wet/dry deposition. The California Puff meteorological and geophysical data preprocessor (CALMET, Version 5), a preprocessor to CALPUFF, is a diagnostic meteorological model that produces a three-dimensional field of wind and temperature and a two-dimensional field of other meteorological parameters. CALMET was designed to process raw meteorological, terrain, and land-use databases to be used in the air modeling analysis. The CALPUFF modeling system uses a number of FORTRAN preprocessor programs that extract data from large databases and converts the data into formats suitable for input to CALMET. The processed data produced from CALMET was input to CALPUFF to assess the pollutant specific impact. Both CALMET and CALPUFF were used in a manner that is recommended by the IWAQM Phase 2 Report (EPA, 1998).

E.1.1 CALPUFF MODEL APPROACHES AND SETTINGS

The IWAQM has recommended approaches for performing Phase 2 refined modeling analyses that are presented in Table E-1. These approaches involve use of meteorological data, selection of receptors and dispersion conditions, and processing of model output.

The specific settings used in the CALPUFF model are presented in Table E-2.

E.1.2 BUILDING WAKE EFFECTS

The CALPUFF model included the Project's building dimensions to account for the effects of building-induced downwash on the emission sources. Dimensions for all significant building structures were processed with the Building Profile Input Program (BPIP), Version 95086, and were included in the CALPUFF model input. The PSD Analysis Report presents a listing of all structures included in the analysis.

E.2 RECEPTOR LOCATIONS

For the refined analyses, pollutant concentrations were predicted in an array of 13 discrete receptors located at the Chassahowitzka NWA. These receptors are the same as those used in the PSD Class I analysis performed Section 6 of the PSD Analysis Report.

E.3 METEOROLOGICAL DATA

E.3.1 REFINED ANALYSIS

CALMET was used to develop the gridded parameter fields required for the refined modeling analyses. The follow sections discuss the specific data used and processed in the CALMET model.

E.3.2 CALMET SETTINGS

The CALMET settings contained in Table E-3 were used for the refined modeling analysis. With the exception of hourly precipitation data files, all input data files need for CALMET were developed by the FDEP staff.

E.3.3 MODELING DOMAIN

A rectangular modeling domain extending 250 km in the east-west (x) direction and 280 km in the north-south (y) direction was used for the refined modeling analysis. The extent of the modeling domain was selected by the FDEP staff for predicting impacts at the Chassahowitzka NWA. The southwest corner of the domain is the origin and is located at 27 degrees north latitude and 83.5 degrees west longitude. This location is in the Gulf of Mexico approximately 110 km west of Venice, Florida. For the processing of meteorological and geophysical data, the domain contains 25 grid cells in the x-direction and 28 grid cells in the y-direction. The domain grid resolution is 10-km. The air modeling analysis was performed in the UTM coordinate system.

E.3.4 MESOSCALE MODEL – GENERATION 4 (MM4) DATA

Pennsylvania State University in conjunction with the NCAR Assessment Laboratory developed the MM4 data set, a prognostic wind field or "guess" field, for the United States. The hourly meteorological variables used to create this data set (wind, temperature, dew point depression, and geopotential height for eight standard levels and up to 15 significant levels) are extensive and only allow for one data base set for the year 1990. The analysis used the MM4 data to initialize the CALMET wind field. The MM4 data have a horizontal spacing of 80 km and are used to simulate atmospheric variables within the modeling domain.

The MM4 subset domain was provided by FDEP and consisted of a 6 x 6- cell rectangle, with 80 km grid resolution, extending from the MM4 grid points (49,10) to (54, 15). These data were processed to create a MM4.DAT file, for input to the CALMET model.

The MM4 data set used in the CALMET, although advanced, lacks the fine detail of specific temporal and spatial meteorological variables and geophysical data. These variables were processed into the appropriate format and introduced into the CALMET model through the additional data files obtained from the following sources.

E.3.5 SURFACE DATA STATIONS AND PROCESSING

The surface station data processed for the CALPUFF analyses consisted of data from five NWS stations or Federal Aviation Administration (FAA) Flight Service stations for Gainesville, Tampa, Daytona Beach, Vero Beach, Fort Myers and Orlando. A summary of the surface station information and locations are presented in Table E-4. The surface station parameters include wind speed, wind direction, cloud ceiling height, opaque cloud cover, dry bulb temperature, relative humidity, station pressure, and a precipitation code that is based on current weather conditions. The surface station data were processed by FDEP into a SURF.DAT file format for CALMET input.

Because the modeling domain extends largely over water, C-Man station data from Venice was obtained. These data were processed by FDEP into an over-water surface station

format (i.e., SEA*.DAT) for input to CALMET. The over-water station data includes wind direction, wind speed and air temperature.

E.3.6 UPPER AIR DATA STATIONS AND PROCESSING

The analysis included three upper air NWS stations located in Ruskin, Apalachicola, and West Palm Beach. Data for each station were obtained from the FDEP in a format for CALMET input.

The data and locations for the upper air stations are presented in Table E-4.

E.3.7 PRECIPITATION DATA STATIONS AND PROCESSING

Precipitation data were processed from a network of hourly precipitation data files collected from primary and secondary NWS precipitation-recording stations located within the latitude and longitudinal limits of the modeling domain. Data for 14 stations were obtained in NCDC TD-3240 variable format and converted into a fixed-length format. The utility programs PXTRACT and PMERGE were then used to process the data into the format for the PRECIP.DAT file that is used by CALMET. A listing of the precipitation stations used for the modeling analysis is presented in Table E-5.

E.3.8 GEOPHYSICAL DATA PROCESSING

The land-use and terrain information data were developed by the FDEP for the modeling domain and were provided in a GEO.DAT file format for input to CALMET. Terrain elevations for each grid cell of the modeling domain were obtained from Digital Elevation Model (DEM) files obtained from US Geographical Survey (USGS). The DEM data was extracted for the modeling domain grid using the utility extraction program LCELEV. Land-use data was obtained from the USGS GIS.DAT which is based on the ARM3 data. The resolution of the GIS.DAT file is one-eighth of a degree in the east-west direction and one-twelfth of a degree in the north-south direction. Land-use values for the domain grid were obtained with the utility program CAL-LAND. Other parameters processed for the modeling domain by CAL-LAND include surface roughness, surface Albedo, Bowen ratio,

soil heat flux, and leaf index field. The land-use parameter values were based on annual averaged values.

Table E-1. IWAQM Phase 2 Refined Modeling Analyses Recommendations [a]

Model Input/Output	Description
Meteorology	Use CALMET (minimum 6 to 10 layers in the vertical; top layer must extend above the maximum mixing depth expected); horizontal domain extends 50 to 80 km beyond outer receptors and sources being modeled; terrain elevation and land-use data is resolved for the situation.
Receptors	Within Class I area(s) of concern; obtain regulatory concurrence on coverage.
Dispersion	1. CALPUFF with default dispersion settings. 2. Use MESOPUFF II chemistry with wet and dry deposition. 3. Define background values for ozone and ammonia for area.
Processing	1. For PSD increments: Use highest, second highest 3-hour and 24-hour average SO_2 concentrations; highest, second highest 24-hour average PM_{10} concentrations; and highest annual average SO_2, PM_{10} and NO_2 concentrations. 2. For haze: process the 24-hour average SO_4, NO_3 and HNO_3 values; compute a 24-hour average relative humidity factor (f(RH)) for the day during which the highest concentration was predicted for each species; calculate extinction coefficients for each species; and compute percent change in extinction using the FLM supplied background extinction.

[a] *IWAQM Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts* (EPA, 1998)

Table E-2. CALPUFF Model Settings

Parameter	Setting
Pollutant Species	SO_2, SO_4, NO_x, HNO_3, and NO_3, and PM_{10}
Chemical Transformation	MESOPUFF II scheme
Deposition	Include both dry and wet deposition, plume depletion
Meteorological/Land Use Input	PCRAMMET (enhanced) for the screening analysis; CALMET for the refined analysis
Plume Rise	Transitional, Stack-tip downwash, Partial plume penetration
Dispersion	Puff plume element, PG /MP coefficients, rural mode, ISC building downwash scheme
Terrain Effects	Partial plume path adjustment
Output	Create binary concentration file including output species for SO_4, NO_3 and PM_{10}
Model Processing	Highest predicted 24-hour SO_4, NO_3 and PM_{10} concentrations for year
Background Values[a]	Ozone: 60 ppb; Ammonia: 10 ppb

[a] Recommended values by the FDEP.

Table E-3. CALMET Settings

Parameter	Setting
Horizontal Grid Dimensions	250 by 280 km, 10 km grid resolution
Vertical Grid	9 layers
Weather Station Data Inputs	6 surface, 3 upper air, 14 precipitation stations
Wind model options	Diagnostic wind model, no kinematic effects
Prognostic wind field model	MM4 data, 80 km resolution, 6 x 6 grid, used for wind field initialization
Output	Binary hourly gridded meteorological data file for CALPUFF input

Table E-4. Surface and Upper Air Stations Used in the CALPUFF Analysis

Station Name	Station Symbol	WBAN Number	UTM Coordinates Easting (km)	UTM Coordinates Northing (km)	Zone	Anemometer Height (m)
Surface Stations						
Tampa	TPA	12842	349.20	3094.25	17	6.7
Daytona Beach	DAB	12834	495.14	3228.05	17	9.1
Orlando	ORL	12815	468.96	3146.88	17	10.1
Gainesville	GNV	12816	377.40	3284.12	17	6.7
Vero Beach	VER	12843	557.52	3058.36	17	6.7
Fort Myers	FMY	12835	413.65	2940.38	17	6.1
Upper Air Stations						
Ruskin	TBW	12842	349.20	3094.28	17	NA
West Palm Beach	PBI	12844	587.87	2951.42	17	NA
Apalachicola	AQQ	12832	110.00[a]	3296.00	16	NA

[a] Equivalent coordinate for Zone 17; Zone 16 coordinate is 690.22 km.

Table E-5. Hourly Precipitation Stations Used in the CALPUFF Analysis

Station Name (Florida)	Station Number	UTM Coordinates		
		Easting (km)	Northing (km)	Zone
Brooksville 7 SSW	81048	358.03	3149.55	17
Daytona Beach WSO AP	82158	495.14	3228.09	17
Deland 1 SSE	82229	470.78	3209.66	17
Inglis 3 E	84273	342.63	3211.65	17
Lakeland	84797	409.87	3099.18	17
Lisbon	85076	423.59	3193.26	17
Lynne	85237	409.26	3230.30	17
Orlando WSO McCoy	86628	468.99	3146.88	17
Parrish	86880	366.99	3054.39	17
Saint Leo	87851	376.48	3135.09	17
St. Petersburg	87886	339.04	3072.21	17
Tampa WSCMO AP	88788	349.17	3094.25	17
Venice	89176	357.59	2998.18	17
Venus	89184	466.756	2996.09	17

APPENDIX F

MODELING PARAMETERS OF SOURCES INCLUDED IN PSD CLASS I INCREMENT ANALYSIS

Table F-1. Summary of Modeling Parameters for the SO2 PSD Class I Modeling Analysis at the Chassahowitzka National Wilderness Area

APIS Number	Facility Name	Facility Location (km) UTM E	UTM N	ISCST ID	APIS Src #	Stack Height (ft)	(m)	Stack Diam. (ft)	(m)	Exit Velocity (ft/s)	(m/s)	Temperature (°F)	(K)	Maximum SO2 Emissions (lb/hr)	(TPY)	(g/s)
40HIL290008	Cargill Fertilizer - Riverview	362.9	3,082.5	CGRVDAP5	55	133	40.4	7.0	2.13	52.7	16.1	109	316	20.3	89.0	2.56
		362.9	3,082.5	CGRVCAP7	04	150	45.7	6.3	1.91	80.8	24.6	154	341	466.7	2,044.0	58.8
		362.9	3,082.5	CGRVCAP8		150	45.7	8.0	2.44	43.9	13.4	151	339	416.7	1,825.0	52.5
		362.9	3,082.5	CGRVCAP9	06	150	45.7	9.0	2.74	41.5	12.7	170	350	533.3	2,336.0	67.2
		362.9	3,082.5	CGRVAFI1		136	41.5	6.0	1.83	56.0	17.1	151	339	47.0	205.8	5.92
		362.9	3,082.5	CGRVAFI2		136	41.5	6.0	1.83	50.1	15.3	151	339	47.0	205.8	5.92
		362.9	3,082.5	CGRVRK07		91.0	27.7	3.0	0.91	47.1	14.4	165	347	6.6	28.9	0.83
		362.9	3,082.5	CGRVCP46		74.1	22.6	5.0	1.52	23.0	7.0	194	363	-1,488.9	-6,521.3	-187.6
		362.9	3,082.5	CGRVCP7B		150	45.7	7.5	2.29	30.2	9.20	179	355	-575.1	-2,518.8	-72.46
		362.9	3,082.5	CGRVCP8B		150	45.7	8.0	2.44	27.5	8.38	151	339	-743.4	-3,256.1	-93.67
		362.9	3,082.5	CGRVCP9B		150	45.7	9.0	2.74	33.8	10.3	170	350	-433.3	-1,898.0	-54.6
40TPA530046	Cargill Fertilizer - Bartow	409.8	3,087.0	CGBRTC3	12,32,33	200	61.0	6.8	2.06	62.0	18.9	179	355	1,141.0	4,997.7	143.77
40TPA530052	C.F. Industries Bartow	408.4	3,082.4	CFBON05	05	206.04	62.8	7.0	2.13	35.7	10.9	190	361	400.0	1,752.0	50.4
	Bonnie Mine Rd	408.4	3,082.4	CFBON06	06	206.04	62.8	7.0	2.13	23.9	7.28	206	370	400.0	1,752.0	50.4
		408.4	3,082.4	CFBONAB	--	220	67.1	8.5	2.59	32.4	9.87	172	351	333.3	1,460.0	42
		408.4	3,082.4	CFBONAC	--	119	36.4	7.0	2.13	52.9	16.1	151	339	31.5	138.0	3.97
		408.4	3,082.4	CFBON1		100.03	30.5	4.5	1.37	40.0	12.2	170	350	-483.3	-2,117.0	-60.9
		408.4	3,082.4	CFBON2		100.03	30.5	5.5	1.68	34.0	10.4	170	350	-875.0	-3,832.5	-110.25
		408.4	3,082.4	CFBON3		100.03	30.5	9.0	2.74	14.0	4.3	196	364	-850.0	-3,723.0	-107.1
		408.4	3,082.4	CFBON4		100.03	30.5	7.0	2.13	26.0	7.9	185	358	-1,387.5	-6,077.4	-174.83
						206	62.8	7.0	2.13	35.0	10.7	185	358	-1,800.0	-7,884.0	-226.8
						206	62.8	7.0	2.13	34.0	10.4	187	359	-1,350.0	-5,913.0	-170.1
		408.4	3,082.4	CFBON56		206	62.8	7.0	2.13	34.0	10.4	187	359	-3,150.0	-13,797.0	-396.9
	CLM/Pacific Chloride	361.8	3,088.3	CLMPACCL		98.4	30.0	2.0	0.6096	65.6	20.0	215	375	166.8	730.7	21.02
	Estech/Swift Polk	411.5	3,074.2	ESTDRY1		60.0	18.3	9.7	2.95	27.8	8.47	151	339	-190.0	-832.2	-23.94
		411.5	3,074.2	ESTDRY2		61.5	18.8	9.7	2.95	16.6	5.06	152	340	-181.0	-792.6	-22.8
		411.5	3,074.2	ESTSAP		101	30.8	7.0	2.13	12.8	3.90	185	358	-737.1	-3,228.3	-92.87
40TPA530053	Farmland Industries	410.3	3,079.5	FARMLC2	03,04	100	30.5	7.5	2.286	39.4	12.0	179	355	701.3	3,071.6	88.36
	Green Bay Plant	410.3	3,079.5	FARML05	05	150	45.7	8.0	2.44	44.0	13.4	179	355	466.7	2,044.0	58.8
		410.3	3,079.5	FARML12		100	30.5	4.5	1.37	66.2	20.2	100	311	-666.5	-2,919.3	-83.98
40TPA270021	FL Crushed Stone Kiln 1	360.0	3,162.5	FCS1		320	97.5	21.3	6.48	54.6	16.6	323	435	806.3	3,531.8	101.6
	FPC Polk County Site					113	34.4	13.5	4.1148	133.0	40.5	260	400	98.0	429.3	12.35
						113	34.4	13.5	4.1	133.0	40.5	260	400	98.0	429.3	12.35
		414.3	3,073.9	FPCPKC2		113	34.4	13.5	4.1	133.0	40.5	260	400			24.7
NA	General Portland Cement #4	358.0	3,090.6	GPCEM4B		118	36.0	9.0	2.74	57.8	17.6	450	505			-62.99
NA	General Portland Cement #5	358.0	3,090.6	GPCEM5B		149	45.4	12.5	3.81	19.0	5.80	430	494			-69.3
40HIL290261	Hillsborough County RRF	368.2	3,092.7	HILRFC3		220	67.1	11.5	3.51	55.0	16.8	430	494			22.2

Table F-1. Summary of Modeling Parameters for the SO2 PSD Class I Modeling Analysis at the Chassahowitzka National Wilderness Area

APIS Number	Facility Name	Facility Location (km) UTM E	UTM N	ISCST_ID	APIS Src.#	Stack Height (ft)	(m)	Stack Diam. (ft)	(m)	Exit Velocity (ft/s)	(m/s)	Temperature (°F)	(K)	Maximum SO2 Emissions (lb/hr)	(TPY)	(g/s)
40TPA530057	IMC Agrico/Conserve	398.4	3,084.2	IANIC05	05	150	45.7	7.5	2.2866	33.8	10.3	174	352	333.3	1,459.9	42.0
	Nichols	398.4	3,084.2	IANIC		100	30.5	5.9	1.8	62.0	18.9	95	308			-15.2
		398.4	3,084.2	IANICDRY		80	24.4	5.0	1.52	42.3	12.9	151	339			-3.88
40TPA530059	IMC Agrico- New Wales				02	200	61.0	8.5	2.6	50.2	15.3	170	350	1,500.0	6,570.0	189
					42	199	60.7	8.5	2.6	50.2	15.3	170	350	1,000.0	4,380.0	126
		396.6	3,078.9	IAWALC2	02,42	199	60.7	8.5	2.6	50.2	15.3	170	350			315
		396.6	3,078.9	IAWAL27	27	172	52.4	7.9	2.3994	43.0	13.1	127	326	1.6	7.0	0.20
		396.6	3,078.9	IAWAL44	44	120	36.6	6.0	1.83	66.1	20.2	115	319	44.0	192.6	5.54
		396.6	3,078.9	IAWAL46	46	172	52.4	4.6	1.3996	51.8	15.8	106	314	38.1	166.9	4.8
		396.6	3,078.9	IAWALDY		69.0	21.0	7.0	2.13	61.0	18.6	165	347			-34.3
		396.6	3,078.9	IAWAL		200	61.0	8.5	2.6	46.9	14.3	170	350			-146
NA	IMC-Agrico Pierce	404.1	3,079.0	IAPRC12		80.0	24.4	5.0	1.52	42.5	12.9	151	339			-24.3
		404.1	3,079.0	IAPRC34		80.0	24.4	8.0	2.43	61.7	18.8	151	339			-23.0
40TPA530055	IMC Agrico -S. Pierce				04	145	44.2	9.0	2.74	48.5	14.8	170	350	500.0	2,190.0	63.0
					05	145	44.2	9.0	2.74	48.5	14.8	170	350	500.0	2,190.0	63.0
		407.5	3,071.3	IASOUC2	04,05	145	44.2	9.0	2.74	48.5	14.8	170	350			126
		407.5	3,071.3	IASOUC2B		150	45.7	5.2	1.6	86.6	26.4	170	350			-75.6
		407.5	3,071.3	IASOU10	10	125	38.1	10.2	3.1	47.9	14.6	130	328	35.0	153.3	4.41
40TPA530080	Imperial Phosphates (Brewer)	404.8	3,069.5	IMPRLX		90	27.4	7.5	2.29	50.0	15.3	151	339			-19.3
40TPA530003	Lakeland City Power Larsen	409.2	3,102.8	LAKLRAA	--	100	30.5	19.0	5.79	92.6	28.2	950	783	231.0	1,011.9	29.11
40TPA530004	Lakeland City Power McIntosh	408.5	3,105.8	LAKMC06	06	250	76.2	16.0	4.88	107.0	32.6	170	350	3,888.0	17,029.4	500.1
40TPA530060	Mobil Electrophos Division	405.6	3,079.4	MOBELE1		24.0	7.3	3.0	0.91	10.6	3.2	376	464			-6.53
		405.6	3,079.4	MOBELE2		20.0	6.1	3.0	0.91	25.3	7.7	376	464			-10.05
		405.6	3,079.4	MOBELE3		60.0	18.3	6.0	1.83	22.3	6.8	170	350			-21.81
		405.6	3,079.4	MOBELE4		84.0	25.6	7.0	2.13	22.9	7.0	91	306			-7.11
		405.6	3,079.4	MOBELE5		60.0	18.3	2.3	0.7	75.0	22.9	120	322			-3.17
		405.6	3,079.4	MOBELE6		96.0	29.3	7.0	2.13	28.0	8.5	106	314			-47.25
40TPA530047	Mobil Mining & Minerals Nichols	398.4	3,085.3	MBNIC04	04	85.0	25.9	7.5	2.2866	52.8	16.1	150	339	19.4	85.0	2.44
		398.4	3,085.3	MBNIC1		93.2	28.4	3.6	1.09	63.1	19.2	152	340			-13.9
		398.4	3,085.3	MBNIC2		13.0	4.0	2.6	0.8	5.9	1.8	480	522			-0.87
40HIL290102	Mobil Mining Big Four Mine	394.9	3,069.8	MBL#401	01	100	30.5	6.0	1.82	23.8	7.3	142	334	129.8	568.4	16.35
	(AMAX)	394.9	3,069.8	MBL#4AA		24.8	7.6	1.3	0.41	26.9	8.2	449	505	4.8	20.9	0.6
40TPA530048	Mulberry Phosphates (Royster)	406.8	3,085.1	MLPHS02	02	200	61.0	7.0	2.1341	32.5	9.9	200	366	283.3	1,240.9	35.7
		406.8	3,085.1	MULPHS1		167	51.0	7.0	2.13	32.5	9.9	181	356			-258
40PNL520117	Pinellas Co. RRF	335.2	3,084.1	PINEL03	03	161	49.1	9.0	2.7393	88.0	26.8	450	505			66.2
--	Seminole Electric Hardee 3	405.0	3,057.7	HARDEE3		90.0	27.4	19.0	5.7885	46.2	14.1	285	414			27.4

Table F-1. Summary of Modeling Parameters for the SO2 PSD Class I Modeling Analysis at the Chassahowitzka National Wilderness Area

APIS Number	Facility Name	Facility Location (km) UTM E	UTM N	ISCST ID	APIS Src #	Stack Height (ft)	(m)	Stack Diam. (ft)	(m)	Exit Velocity (ft/s)	(m/s)	Temperature (°F)	(K)	Maximum SO2 Emissions (lb/hr)	(TPY)	(g/s)
40PNL520042	Stauffer Shutdown	325.6	3,116.7	STAUFR1		24.0	7.3	3.0	0.91	10.6	3.2	376	464			-4.86
		325.6	3,116.7	STAUFR2		60.0	18.3	2.3	0.7	75.0	22.9	120	322			-1.50
		325.6	3,116.7	STAUFR3		161	49.0	3.9	1.2	11.8	3.6	143	335			-50.93
		325.6	3,116.7	STAUFR4		84.0	25.6	7.0	2.13	22.9	7.0	91	306			-7.36
		325.6	3,116.7	STAUFR5		84.0	25.6	3.0	0.91	22.9	7.0	120	322			-0.45
	Tampa City McKay Bay WTE	360.0	3,091.9	MCKAYC4	01-04	150	45.7	4.3	1.3	69.9	21.3	440	500			21.44
40HIL290039	TECO - Big Bend	361.9	3,075.0	TECBB04	04	499	152.1	24.0	7.3152	78.3	23.9	156	342	3,550.8	15,552.5	447.4
	(24-HR)	361.9	3,075.0	TECBB03		490	149.4	24.0	7.32	47.0	14.3	293	418			-1218
	(24-HR)	361.9	3,075.0	TECBB12		490	149.4	24.0	7.32	94.0	28.7	300	422			-2436
NA	TECO - Polk Power Station	402.5	3,067.4	TECPKAA	--	20.0	6.1	3.0	0.9	43.0	13.1	500	533	2.6	11.5	0.33
		402.5	3,067.4	TECPKAB	--	150	45.7	19.0	5.8	55.1	16.8	260	400	394.2	1,726.6	49.7
		402.5	3,067.4	TECPKAC	--	199	60.7	3.5	1.0668	30.0	9.1	1400	1033	62.1	272.0	7.82
40TPA250015	TPS - Hardee Power Station	404.8	3,057.3	HRDEX01	01	90.0	27.4	14.5	4.42	80.0	24.4	253	396	734.4	3,216.5	92.53
		404.8	3,057.3	HRDEX02	02	90.0	27.4	14.5	4.42	80.0	24.4	253	396	734.4	3,216.5	92.53
		404.8	3,057.3	HRDEX03	03	75.1	22.9	16.0	4.88	103.0	31.4	953	785	734.4	3,216.5	92.53
														2,203.1	9,649.6	
40TPA530051	US AgriChem - Fort Meade				16	175	53.3	8.5	2.59	32.9	10.0	180	355	367.0	1,607.4	46.24
					17	175	53.3	8.5	2.59	32.9	10.0	180	355	367.0	1,607.4	46.24
		416.0	3,069.0	UAFTMC2	16,17	175	53.3	8.5	2.59	32.9	10.0	180	355			92.48
	H2SO4 X	416.0	3,069.0	UAFTMX		95.0	29.0	9.9	3.02	22.2	6.8	106	314			-78.8
	GTSP	416.0	3,069.0	UAFTMGT		93.0	28.3	5.0	1.52	57.7	17.6	134	330			-16.3
40TPA530050	US Agri-Chem Bartow	413.2	3,086.3	UAGBAR1		51.8	15.8	6.0	1.83	32.8	10.0	138	332			-3.41
		413.2	3,086.3	UAGBAR2		95.0	29.0	7.0	2.12	24.6	7.5	89	305			-42.0
40TPA270024	Asphalt Pavers 3	359.9	3,162.4	ASPHALT3		40.0	12.2	4.5	1.37	34.7	10.6	219	377			2.25
40TPA270015	Asphalt Pavers 4	361.4	3,168.4	ASPHALT4		28.0	8.5	3.5	1.08	35.9	11.0	184	357			2.25
40TPA530221	Auburndale Cogeneration	420.8	3,103.3	AUBURN		160	48.8	18.0	5.5	46.9	14.3	280	411			6.40
NA	Borden Hillsborough	394.6	3,069.6	BORDHIL		100	30.5	6.0	1.82	48.5	14.8	160	344			-6.48
NA	Borden Polk	414.5	3,109.0	BORDPLK		56.0	17.1	7.7	2.34	27.1	8.3	140	333			-5.29
40HIL290005	CF Industries Zephyrhills															
	--	388.0	3,116.0	CFZEP1		110	33.5	4.9	1.5	64.0	19.5	109	316			88.2
	Proposed D					198	60.4	8.0	2.44	58.3	17.8	176	353			54.6
	Proposed C					198	60.4	8.0	2.44	58.3	17.8	176	353			54.6
		388.0	3,116.0	CFZEP		198	60.4	8.0	2.44	58.3	17.8	176	353			109.2
	Baseline C					198	60.4	8.0	2.44	53.8	16.4	176	353			-50.4

Table F-1. Summary of Modeling Parameters for the SO2 PSD Class I Modeling Analysis at the Chassahowitzka National Wilderness Area

APIS Number	Facility Name	Facility Location (km) UTM E	UTM N	ISCST ID	APIS Src #	Stack Height (ft)	(m)	Stack Diam. (ft)	(m)	Exit Velocity (ft/s)	(m/s)	Temperature (°F)	(K)	Maximum SO2 Emissions (lb/hr)	(TPY)	(g/s)
	Baseline D					198	60.4	8.0	2.44	53.8	16.4	176	353			-50.4
		388.0	3,116.0	CFZEPB		198	60.4	8.0	2.44	53.8	16.4	176	353			-100.8
	--	388.0	3,116.0	CFZEP2		61.7	18.8	5.0	1.52	61.7	18.8	109	316			-105
40TPA510066	Couch Const-Zephyrhills (Asphalt)	390.3	3,129.4	COUCHZEP		20.0	6.1	4.5	1.38	68.9	21.0	300	422			3.54
40TPA510041	Couch Const-Odessa (Asphalt)	340.7	3,119.5	COUCHODE		30.0	9.1	4.6	1.4	73.2	22.3	325	436			7.25
	Dris Paving (Asphalt)	340.6	3,119.2	DRIS		40.0	12.2	10.0	3.05	21.2	6.5	151	339			0.23
NA	Dolime															
	Dryers	404.8	3,069.5	DOLIMEDR		90.0	27.4	5.0	1.52	67.8	20.7	140	333			-5.68
	Boilers	404.8	3,069.5	DOLIMEBL		90.0	27.4	2.0	0.61	23.8	7.3	430	494			-4.52
NA	Evans Packing	383.3	3,135.8	EVANS		40.4	12.3	1.3	0.4	30.2	9.2	379	466			0.20
40TPA270017	E R Jahna (Lime Dryer)	386.7	3,155.8	ERJAHNA		35.0	10.7	6.0	1.83	29.5	9.0	129	327			0.82
NA	FDOC Boiler #3	382.2	3,166.1	FDOC		30.0	9.1	2.0	0.61	15.0	4.6	401	478			2.99
40TPA270010	FL Mining and Materials Kiln	356.2	3,169.9	FMM		105	32.0	14.0	4.27	32.5	9.9	250	394			1.45
40TPA090004	FPC - Crystal River															
	Crystal River 1	334.2	3,204.5	CRYRIV1B		499	152.0	15.0	4.57	138.1	42.1	300	422			-314
	Crystal River 2	334.2	3,204.5	CRYRIV2B		502	153.0	16.0	4.88	138.1	42.1	300	422			-1859
	Crystal River 4					585	178.2	25.5	7.77	68.9	21.0	253	396			1008.8
	Crystal River 5					585	178.2	25.5	7.77	68.9	21.0	253	396			1008.8
		334.2	3,204.5	CRYRIV45		585	178.2	25.5	7.77	68.9	21.0	253	396			2017.6
30ORL640028	FPC Debary	467.5	3,197.2	DEBARY		50.0	15.2	13.8	4.21	184.4	56.2	1016	820			466.4
30ORL490014	FPC Intercession City															
	074 CTs 7EA	446.3	3,126.0	FPCIN07		50.0	15.2	13.8	4.21	184.4	56.2	1016	820			124.4
	082 CTs 7FA	446.3	3,126.0	FPCIN08		50.0	15.2	23.1	7.04	105.2	32.1	1126	881			110.4
NA	Hospital Corp of America															
	Boiler #1					36.0	11.0	1.0	0.31	13.1	4.0	500	533			0.08
	Boiler #2					36.0	11.0	1.0	0.31	13.1	4.0	500	533			0.08
		333.4	3,141.0	HCOA12		36.0	11.0	1.0	0.31	13.1	4.0	500	533			0.16
NA	Kissimmee Utilities	447.7	3,127.9	KISSUT		40.0	12.2	10.0	3.05	95.5	29.1	718	654			29.4
30ORL490001	Kissimmee Utilites Exist	460.1	3,129.3	KISSEX		60.0	18.3	12.0	3.66	124.7	38.0	300	422			32.1
NA	Lake Cogen	434.0	3,198.8	LAKECOGN		100	30.5	11.0	3.35	56.2	17.1	232	384			5.04
NA	Mulberry Cogeneration															
	CT	413.6	3,080.6	MULCNAA		125	38.1	15.0	4.57	61.9	18.9	219	377			12.7
	Duct Burner	413.6	3,080.6	MULCNAB		125	38.1	6.5	1.98	30.5	9.3	300	422			0.65

Table F-1. Summary of Modeling Parameters for the SO2 PSD Class I Modeling Analysis at the Chassahowitzka National Wilderness Area

APIS Number	Facility Name	Facility Location (km) UTM E	UTM N	ISCST ID	APIS Src #	Stack Height (ft)	(m)	Stack Diam. (ft)	(m)	Exit Velocity (ft/s)	(m/s)	Temperature (°F)	(K)	Maximum SO2 Emissions (lb/hr)	(TPY)	(g/s)
NA	New Pt Richey Hospital															
	Boiler #1					36.0	11.0	1.0	0.31	12.7	3.9	520	544			0.06
	Boiler #2					36.0	11.0	1.0	0.31	12.7	3.9	520	544			0.03
		331.2	3,124.5	NEWPTR12		36.0	11.0	1.0	0.31	12.7	3.9	520	544			0.09
NA	Oman Construction	359.8	3,164.9	OMAN		25.0	7.6	6.0	1.83	20.6	6.3	165	347			2.09
30ORL480137	Orlando Utilities Commission - Stanton															
	Unit 1	483.5	3,150.6	OUC1		550	167.6	19.0	5.8	70.9	21.6	127	326			601
	Unit 2 (24-hour)	483.5	3,150.6	OUC2		550	167.6	19.0	5.8	77.1	23.5	124	324			91.8
40TPA510028	Overstreet Paving	355.9	3,143.7	OVERST		30	9.1	4.3	1.3	52.5	16.0	275	408			3.67
40TPA510056	Pasco Cty RRF	347.1	3,139.2	PASCORRF		275	83.8	10.0	3.05	51.0	15.5	250	394			14.1
NA	Pasco Cogen	385.6	3,139.0	PASCOGN		100	30.5	11.0	3.35	56.2	17.1	232	384			5.04
30ORL48109	Reedy Creek Energy Services- EPCOT															
	Generator 1					17.0	5.2	1.8	0.55	144.8	44.1	650	617			1.83
	Generator 2					17.0	5.2	1.8	0.55	144.8	44.1	650	617			1.83
		442.0	3,139.0	EPCOT12		17.0	5.2	1.8	0.55	144.8	44.1	650	617			3.66
30ORL480110	Reedy Creek Energy Services	443.1	3,144.3	REEDY		65.0	19.8	11.2	3.41	51.0	15.6	285	414			0.15
NA	Ridge Cogeneration	416.7	3,100.4	RIDGE		325	99.1	10.0	3.05	47.6	14.5	170	350			13.8

APPENDIX G

CALPUFF MODEL OUTPUT (CALPOST) OF PREDICTED SO_2 IMPACTS AT THE CLASS I AREA

```
**********************************************************************************************************************
                                        CALPOST  Version 5.0          Level 990228
**********************************************************************************************************************


 Run Title:
    SONAT POWER, PASCO CO PSD CLASS ISO2 REFINEMENT   10/12/99
    RECEPTORS AT CHASSAHOWITZKA NWA, 24-AND 3 HOUR AVERAGING TIME, CALPOST
    ALL PSD SOURCES

 ---------------------------------------------------------------------------

 INPUT GROUP: 1 -- General run control parameters
 --------------

      Option to run all periods found
      in the met. file(s)  (METRUN)        Default: 0   ! METRUN =   0  !

          METRUN = 0 - Run period explicitly defined below
          METRUN = 1 - Run all periods in CALPUFF data file(s)

      Starting date:    Year  (ISYR) --    No default   ! ISYR  =  90   !
      (used only if     Month (ISMO) --    No default   ! ISMO  =  1    !
       METRUN = 0)      Day   (ISDY) --    No default   ! ISDY  =  6    !
                        Hour  (ISHR) --    No default   ! ISHR  =  0    !

      Number of hours to process (NHRS) -- No default   ! NHRS  =  8616  !

            Species to process (ASPEC) -- No default   ! ASPEC = SO2  !
            (ASPEC = VISIB for visibility processing)

      Process every hour of data?(NREP) -- Default: 1   ! NREP  =  1  !
       (1 = every hour processed,
        2 = every 2nd hour processed,
        5 = every 5th hour processed, etc.)

 Concentration and scaling factors
 ---------------------------------

       Layer/deposition code (ILAYER)   -- Default: 1   ! ILAYER =  1  !
         '1'  for CALPUFF concentrations,
         '-1' for dry deposition fluxes,
         '-2' for wet deposition fluxes.

       Scaling factors of the form:     -- Defaults:    ! A =  0.0    !
            X(new) = X(old) * A + B          A = 0.0    ! B =  0.0    !
         (NOT applied if A = B = 0.0)        B = 0.0

       Add Hourly Background Concentrations?
                              (LBACK)  -- Default: F   ! LBACK =  F !

 Receptor information
 --------------------

   Gridded receptors processed?    (LG) -- Default: F   ! LG  = F  !
   Discrete receptors processed?   (LD) -- Default: F   ! LD  = T  !
   CTSG Complex terrain receptors processed?
                                  (LCT) -- Default: F   ! LCT = F  !

 --Select range of DISCRETE receptors (only used when LD = T):

   Select ALL DISCRETE receptors by setting NDRECP flag to -1;
                              OR
   Select SPECIFIC DISCRETE receptors by entering a flag (0,1) for each
      0 = discrete receptor not processed
      1 = discrete receptor processed
   using repeated value notation to select blocks of receptors:
      23*1, 15*0, 12*1
   Flag for all receptors after the last one assigned is set to 0
   (NDRECP) -- Default: -1
                                            ! NDRECP =  -1  !


 --Select range of GRIDDED receptors (only used when LG = T):
```

```
       X index of LL corner (IBGRID) -- Default: -1     ! IBGRID = -1  !
           (-1 OR 1 <= IBGRID <= NX)

       Y index of LL corner (JBGRID) -- Default: -1     ! JBGRID = -1  !
           (-1 OR 1 <= JBGRID <= NY)

       X index of UR corner (IEGRID) -- Default: -1     ! IEGRID = -1  !
           (-1 OR 1 <= IEGRID <= NX)

       Y index of UR corner (JEGRID) -- Default: -1     ! JEGRID = -1  !
           (-1 OR 1 <= JEGRID <= NY)

  Note: Entire grid is processed if IBGRID=JBGRID=IEGRID=JEGRID=-1

!END!
--------------------------------------------------------------------------

INPUT GROUP: 2 -- Visibility Parameters (ASPEC = VISIB)
--------------

    Maximum relative humidity (%) used in particle growth curve
                              (RHMAX) -- Default: 98   ! RHMAX  = 0.0 !

    Modeled species to be included in computing the light extinction
     Include SULFATE?          (LVSO4) -- Default: T   ! LVSO4  = T  !
     Include NITRATE?          (LVNO3) -- Default: T   ! LVNO3  = T  !
     Include ORGANIC CARBON?   (LVOC)  -- Default: T   ! LVOC   = T  !
     Include COARSE PARTICLES? (LVPMC) -- Default: T   ! LVPMC  = T  !
     Include FINE PARTICLES?   (LVPMF) -- Default: T   ! LVPMF  = T  !

    And, when ranking for TOP-N, TOP-50, and Exceedance tables,
     Include BACKGROUND?       (LVBK)  -- Default: T   ! LVBK   = T  !

    Species name used for particulates in MODEL.DAT file
                  COARSE    (SPECPMC) -- Default: PMC ! SPECPMC = PMC !
                  FINE      (SPECPMF) -- Default: PMF ! SPECPMF = PMF !

Extinction Efficiency (1/Mm per ug/m**3)
---------------------------------------

    MODELED particulate species:
              PM  COARSE      (EEPMC) -- Default: 0.6 ! EEPMC  = 0.6 !
              PM  FINE        (EEPMF) -- Default: 1.0 ! EEPMF  = 1.0 !
    BACKGROUND particulate species:
              PM  COARSE    (EEPMCBK) -- Default: 0.6 ! EEPMCBK = 0.6 !
    Other species:
             AMMONIUM SULFATE (EESO4) -- Default: 3.0 ! EESO4  = 3.0 !
             AMMONIUM NITRATE (EENO3) -- Default: 3.0 ! EENO3  = 3.0 !
             ORGANIC CARBON   (EEOC)  -- Default: 4.0 ! EEOC   = 4.0 !
             SOIL             (EESOIL)-- Default: 1.0 ! EESOIL = 1.0 !
             ELEMENTAL CARBON (EEEC)  -- Default: 10. ! EEEC   = 10.0 !

Background Extinction Computation
---------------------------------

    Method used for background light extinction
                              (MVISBK) -- Default: 2   ! MVISBK =  2  !

         1 =  Supply single light extinction and hygroscopic fraction
              IWAQM (1993) RH adjustment applied to hygroscopic background
              and modeled sulfate and nitrate
         2 =  Compute extinction from speciated PM measurements (A)
              PATH RH adjustment applied to observed and modeled sulfate
              and nitrate
              RH factor is capped at RHMAX
         3 =  Compute extinction from speciated PM measurements (B)
              PATH RH adjustment applied to observed and modeled sulfate
              and nitrate
              Receptor-hour excluded if RH>RHMAX
              Receptor-day excluded if fewer than 6 valid receptor-hours
         4 =  Read hourly transmissometer background extinction measurements
              PATH RH adjustment applied to modeled sulfate and nitrate
              Hour excluded if measurement invalid (missing, interference,
              or large RH)
              Receptor-hour excluded if RH>RHMAX
              Receptor-day excluded if fewer than 6 valid receptor-hours
         5 =  Read hourly nephelometer background extinction measurements
              Rayleigh extinction value (BEXTRAY) added to measurement
```

```
            - PATH RH adjustment applied to modeled sulfate and nitrate
            - Hour excluded if measurement invalid (missing, interference,
              or large RH)
            - Receptor-hour excluded if RH>RHMAX
            - Receptor-day excluded if fewer than 6 valid receptor-hours

    Additional inputs used for MVISBK = 1:
    --------------------------------------
     Background light extinction (1/Mm)
                           (BEXTBK) -- No default   ! BEXTBK = 0.0 !
     Percentage of particles affected by relative humidity
                           (RHFRAC) -- No default   ! RHFRAC = 0.0 !

    Additional inputs used for MVISBK = 2,3:
    ----------------------------------------
     Background extinction coefficients are computed from monthly
     CONCENTRATIONS of ammonium sulfate (BKSO4), ammonium nitrate (BKNO3),
     coarse particulates (BKPMC), organic carbon (BKOC), soil (BKSOIL), and
     elemental carbon (BKEC).  Month 1 is January.
     (ug/m**3)

     (BKSO4)  -- No default     ! BKSO4 = 0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0 !
     (BKNO3)  -- No default     ! BKNO3 = 0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0 !
     (BKPMC)  -- No default     ! BKPMC = 0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0 !
     (BKOC)   -- No default     ! BKOC  = 0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0 !
     (BKSOIL) -- No default     ! BKSOIL= 0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0 !
     (BKEC)   -- No default     ! BKEC  = 0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0,
                                          0.0, 0.0, 0.0, 0.0 !

    Additional inputs used for MVISBK = 2,3,5:
    ------------------------------------------
     Extinction due to Rayleigh scattering is added (1/Mm)
                          (BEXTRAY) -- Default: 10.0 ! BEXTRAY = 0.0 !

!END!
--------------------------------------------------------------------------------

INPUT GROUP: 3 -- Processing options
-------------

Averaging time and TOP 50 Table control
---------------------------------------
    User-specified averaging time
                              (NAVG) -- Default: 0   !   NAVG =  0  !
    Top 50 table for  1-hr averages
                             (L1T50) -- Default: T   !  L1T50 = F  !
    Top 50 table for  3-hr averages
                             (L3T50) -- Default: T   !  L3T50 = T  !
    Top 50 table for 24-hr averages
                            (L24T50) -- Default: T   ! L24T50 = T  !
    Top 50 table for NAVG-hr averages
                             (LNT50) -- Default: F   !  LNT50 = F  !
    Top 50 table for length of run averages
                             (LRT50) -- Default: T   !  LRT50 = F  !

TOP 'n' Table control
---------------------

    Number of 'Top' values at each receptor
                              (NTOP) -- Default: 4   ! NTOP =  2   !
              (NTOP must be <= 4)

    Specific ranks of 'Top' values reported (NTOP values must be entered)
                     (ITOP(4) array) -- Default:     ! ITOP =  1 , 2   !
                                       1,2,3,4
```

```
    Top 'n' table for  1-hr averages
                            (L1TOPN) -- Default: F   !  L1TOPN = F  !
    Top 'n' table for  3-hr averages
                            (L3TOPN) -- Default: F   !  L3TOPN = T  !
    Top 'n' table for 24-hr averages
                           (L24TOPN) -- Default: F   ! L24TOPN = T  !
    Top 'n' table for NAVG-hr averages
                            (LNTOPN) -- Default: F   !  LNTOPN = F  !
    Top 'n' table for length of run averages
                             (LRAVG) -- Default: F   !   LRAVG = F  !


Output Units
------------
    Units for All Output       (IPRTU) -- Default: 1   ! IPRTU =  3   !
                    for            for
                Concentration    Deposition
       1 =         g/m**3          g/m**2/s
       2 =        mg/m**3         mg/m**2/s
       3 =        ug/m**3         ug/m**2/s
       4 =        ng/m**3         ng/m**2/s
       5 =      Odour Units

    Visibility: extinction expressed in 1/Mega-meters (IPRTU is ignored)


Threshold Exceedance control
----------------------------          -- Default: -1.0

    Counts will be tabulated for each average that
    exceeds a specified non-negative threshold (output units).


    Threshold for  1-hr averages   (THRESH1)     !  THRESH1 = -1.0  !
    Threshold for  3-hr averages   (THRESH3)     !  THRESH3 = -1.0  !
    Threshold for 24-hr averages  (THRESH24)     ! THRESH24 = -1.0  !
    Threshold for NAVG-hr averages (THRESHN)     !  THRESHN = -1.0  !


Selected Day (Echo) Output Control
----------------------------------     -- Default: F
    Output 1-hr averages for selected days (LECH1)     ! LECH1   = F !
    Output 3-hr averages for selected days (LECH3)     ! LECH3   = F !
    Output 24-hr averages for selected days (LECH24)   ! LECH24  = F !
    Output NAVG-hr averages for selected days (LECHN)  ! LECHN   = F !
    Output selected information for debugging (LDEBUG) ! LDEBUG  = F !

    Days selected for output IECHO(366)-- Default: 366*0
! IECHO  = 366*0  !
     (366 values must be entered)

Plot Output Options
-------------------

      Plot files can be created for selected Top-n, Exceedance and Echo
      tables selected above.  Two formats for these files are available,
      DATA and GRID.  In the DATA format, results at all receptors are
      listed along with the receptor location [x,y,val1,val2,...].
      In the GRID format, results at only gridded receptors are written,
      using a compact representation.  The gridded values are written in
      rows (x varies), starting with the most southern row of the grid.
      The GRID format is given the .GRD extension, and includes headers
      compatible with the SURFER(R) plotting software.

      A plotting and analysis file is also created for the daily peak
      visibility summary output, in DATA format only.

      Generate Plot-File Output   (LPLT) -- Default: F   ! LPLT  = F !

      Write Top-n files in GRID format?
                                  (LTGRD) -- Default: F   ! LTGRD = F !

      Write Exceedance files in GRID format?
                                  (LXGRD) -- Default: F   ! LXGRD = F !
      Write Echo files in GRID format?
                                  (LEGRD) -- Default: F   ! LEGRD = F !
```

```
 !END!


  CALPOST Control File Input Summary ------------------------

     Replace run data with data in Puff file 1=Y:    0
                      Run starting date -- year:   90
                                         month:    1
                                           day:    6
                                   Julian day:     6
                               hour ending(0-23):  0
                              Run length (hours):  8616
                                         Species: SO2

 Every hour of data processed -- NREP = 1


  Concentration & scaling factors
                          Layer of processed data:    1
      (>0 = concentrations, -1 = dry fluxes, -2 = wet fluxes)
                  Multiplicative scaling factor: 0.0000E+00
                          Additive scaling factor: 0.0000E+00
           Hourly background concentrations used?: F


  Receptor information
                    Gridded receptors processed?: F
                   Discrete receptors processed?: T
       CTSG Complex terrain receptors processed?: F

  Discrete Receptors Processed

  (All Discrete Receptors are Used)


  Visibility Processing is NOT Selected


  Averaging time & TOP 50 table control
      User-specified averaging time (NAVG hours):     0
                 Top 50 table for  1-hr averages:     F
                 Top 50 table for  3-hr averages:     T
                 Top 50 table for 24-hr averages:     T
               Top 50 table for NAVG-hr averages:     F
          Top 50 table for length of run averages:    F


  Top "n" table control
         Number of "top" values at each receptor:     2
         Specific ranks of "top" values reported:   1   2

                Top "n" table for  1-hr averages: F
                Top "n" table for  3-hr averages: T
                Top "n" table for 24-hr averages: T
              Top "n" table for NAVG-hr averages: F
        Top "n" table for length of run averages: F


  Units requested for output:   (ug/m**3)


  Threshold Exceedance control
       Exceedances of a specified value will be counted for --


  Output options
                             Plot files created: F
       Output    1-hr averages for selected days: F
       Output    3-hr averages for selected days: F
       Output   24-hr averages for selected days: F
       Output NAVG-hr averages for selected days: F
       Output selected information for debugging: F


  Days selected for output tables
     0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000000
     0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000000
```

0000000000 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000 0000000000
0000000000 0000000000 0000000000 0000000000 0000000000 0000000000 000000

IDENTIFICATION OF PROCESSED MODEL FILE ----------

CALPUFF 5.0 990228

REFINED SO2 PSD CLASS I INCREMENTAL ANALYSIS, SONAT PASCO CO 10/11/99
RECEPTORS AT CHASSAHOWITZKA NWA, OFFSETTING EMISSION SOURCES
FDEP CHASSAHOWITZKA CALMET DOMAIN WITH PRECIPITATION

Chemical species names for each layer in model:

SO2	1
SO4	1
NOX	1
HNO3	1
NO3	1
PM10	1

********** NOTICE **********
NDRECP array reset to full range: all 1s

INPUT FILES

Default Name	Unit No.	File Name and Path
CALPOST.INP	5	calpost.inp
MODEL.DAT	4	c:\calmet\chass\bin

OUTPUT FILES

Default Name	Unit No.	File Name and Path
CALPOST.LST	7	calpost.lst

****
CALPOST Version 5.0 Level 990228
****

SO2 1

TOP-50 3-HOUR AVERAGE CONCENTRATION VALUES (ug/m**3)

YEAR	DAY	HOUR(0-23)	RECEPTOR	TYPE	CONCENTRATION	COORDINATES (km)	
90	138	11	(0, 2)	D	4.2487E+01	340.300	3167.700
90	138	11	(0, 3)	D	4.2076E+01	340.300	3169.800
90	138	11	(0, 1)	D	3.6919E+01	340.300	3165.700
90	112	11	(0, 12)	D	3.5727E+01	334.000	3183.400
90	138	11	(0, 4)	D	3.4482E+01	340.700	3171.900
90	143	11	(0, 12)	D	2.9561E+01	334.000	3183.400
90	143	11	(0, 11)	D	2.7508E+01	336.500	3183.400
90	143	11	(0, 7)	D	2.5162E+01	343.700	3178.300
90	158	11	(0, 4)	D	2.3495E+01	340.700	3171.900
90	158	11	(0, 3)	D	1.8426E+01	340.300	3169.800
90	85	11	(0, 6)	D	1.8395E+01	343.000	3176.200
90	143	11	(0, 6)	D	1.7843E+01	343.000	3176.200
90	260	20	(0, 12)	D	1.7737E+01	334.000	3183.400
90	260	20	(0, 11)	D	1.7225E+01	336.500	3183.400
90	85	11	(0, 7)	D	1.7073E+01	343.700	3178.300
90	240	11	(0, 5)	D	1.5679E+01	342.000	3174.000
90	260	17	(0, 12)	D	1.5077E+01	334.000	3183.400
90	260	20	(0, 13)	D	1.4799E+01	331.500	3183.400
90	260	17	(0, 13)	D	1.4705E+01	331.500	3183.400
90	260	20	(0, 10)	D	1.4297E+01	339.000	3183.400
90	151	11	(0, 5)	D	1.3338E+01	342.000	3174.000
90	252	11	(0, 7)	D	1.3274E+01	343.700	3178.300

90	135	8	(0,	2)	D	1.2996E+01	340.300	3167.700
90	88	8	(0,	5)	D	1.2975E+01	342.000	3174.000
90	252	11	(0,	8)	D	1.2579E+01	342.400	3180.600
90	323	17	(0,	10)	D	1.2558E+01	339.000	3183.400
90	170	11	(0,	6)	D	1.2498E+01	343.000	3176.200
90	211	23	(0,	9)	D	1.2337E+01	341.100	3183.400
90	250	23	(0,	12)	D	1.2327E+01	334.000	3183.400
90	250	23	(0,	11)	D	1.2315E+01	336.500	3183.400
90	85	11	(0,	8)	D	1.2242E+01	342.400	3180.600
90	219	11	(0,	9)	D	1.2210E+01	341.100	3183.400
90	112	14	(0,	9)	D	1.2208E+01	341.100	3183.400
90	250	23	(0,	13)	D	1.1967E+01	331.500	3183.400
90	143	14	(0,	13)	D	1.1963E+01	331.500	3183.400
90	250	23	(0,	10)	D	1.1897E+01	339.000	3183.400
90	356	8	(0,	1)	D	1.1755E+01	340.300	3165.700
90	253	11	(0,	5)	D	1.1688E+01	342.000	3174.000
90	221	23	(0,	9)	D	1.1569E+01	341.100	3183.400
90	170	11	(0,	2)	D	1.1533E+01	340.300	3167.700
90	135	5	(0,	2)	D	1.1515E+01	340.300	3167.700
90	88	8	(0,	6)	D	1.1436E+01	343.000	3176.200
90	135	8	(0,	4)	D	1.1427E+01	340.700	3171.900
90	135	5	(0,	1)	D	1.1407E+01	340.300	3165.700
90	88	8	(0,	7)	D	1.1314E+01	343.700	3178.300
90	250	23	(0,	9)	D	1.1236E+01	341.100	3183.400
90	170	11	(0,	1)	D	1.1204E+01	340.300	3165.700
90	260	17	(0,	11)	D	1.1135E+01	336.500	3183.400
90	88	8	(0,	12)	D	1.1129E+01	334.000	3183.400
90	88	8	(0,	11)	D	1.1125E+01	336.500	3183.400

****

CALPOST Version 5.0 Level 990228

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SO2 1

TOP-50 24-HOUR AVERAGE CONCENTRATION VALUES (ug/m**3)

YEAR	DAY	HOUR(0-23)	RECEPTOR	TYPE	CONCENTRATION	COORDINATES (km)	
90	70	23	(0, 1)	D	5.4652E+00	340.300	3165.700
90	135	23	(0, 4)	D	5.3626E+00	340.700	3171.900
90	253	23	(0, 4)	D	5.3333E+00	340.700	3171.900
90	138	23	(0, 2)	D	5.2076E+00	340.300	3167.700
90	138	23	(0, 3)	D	5.1780E+00	340.300	3169.800
90	135	23	(0, 2)	D	5.0888E+00	340.300	3167.700
90	143	23	(0, 12)	D	5.0795E+00	334.000	3183.400
90	336	23	(0, 1)	D	5.0138E+00	340.300	3165.700
90	356	23	(0, 1)	D	4.7026E+00	340.300	3165.700
90	135	23	(0, 3)	D	4.5684E+00	340.300	3169.800
90	253	23	(0, 3)	D	4.5375E+00	340.300	3169.800
90	257	23	(0, 1)	D	4.5336E+00	340.300	3165.700
90	138	23	(0, 1)	D	4.5104E+00	340.300	3165.700
90	253	23	(0, 1)	D	4.5040E+00	340.300	3165.700
90	253	23	(0, 2)	D	4.4366E+00	340.300	3167.700
90	225	23	(0, 2)	D	4.3581E+00	340.300	3167.700
90	69	23	(0, 1)	D	4.3422E+00	340.300	3165.700
90	135	23	(0, 1)	D	4.3082E+00	340.300	3165.700
90	112	23	(0, 12)	D	4.2631E+00	334.000	3183.400
90	138	23	(0, 4)	D	4.2606E+00	340.700	3171.900
90	143	23	(0, 11)	D	4.2087E+00	336.500	3183.400
90	356	23	(0, 2)	D	4.2018E+00	340.300	3167.700
90	135	23	(0, 5)	D	4.1974E+00	342.000	3174.000
90	116	23	(0, 6)	D	4.1734E+00	343.000	3176.200
90	336	23	(0, 2)	D	4.0748E+00	340.300	3167.700
90	260	23	(0, 12)	D	4.0390E+00	334.000	3183.400
90	180	23	(0, 5)	D	4.0225E+00	342.000	3174.000
90	257	23	(0, 2)	D	4.0099E+00	340.300	3167.700
90	143	23	(0, 7)	D	4.0037E+00	343.700	3178.300
90	257	23	(0, 5)	D	3.9973E+00	342.000	3174.000
90	257	23	(0, 4)	D	3.9630E+00	340.700	3171.900
90	252	23	(0, 3)	D	3.9556E+00	340.300	3169.800
90	158	23	(0, 4)	D	3.9486E+00	340.700	3171.900
90	117	23	(0, 7)	D	3.8686E+00	343.700	3178.300
90	115	23	(0, 2)	D	3.8650E+00	340.300	3167.700
90	271	23	(0, 1)	D	3.8215E+00	340.300	3165.700
90	361	23	(0, 1)	D	3.8083E+00	340.300	3165.700

90	180	23	(0,	4)	D	3.8080E+00	340.700	3171.900
90	180	23	(0,	3)	D	3.8054E+00	340.300	3169.800
90	257	23	(0,	3)	D	3.7929E+00	340.300	3169.800
90	225	23	(0,	1)	D	3.7765E+00	340.300	3165.700
90	260	23	(0,	13)	D	3.7388E+00	331.500	3183.400
90	132	23	(0,	2)	D	3.7100E+00	340.300	3167.700
90	290	23	(0,	1)	D	3.6432E+00	340.300	3165.700
90	225	23	(0,	3)	D	3.6411E+00	340.300	3169.800
90	145	23	(0,	1)	D	3.6223E+00	340.300	3165.700
90	180	23	(0,	6)	D	3.5750E+00	343.000	3176.200
90	226	23	(0,	6)	D	3.5707E+00	343.000	3176.200
90	363	23	(0,	4)	D	3.5700E+00	340.700	3171.900
90	260	23	(0,	11)	D	3.5692E+00	336.500	3183.400

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CALPOST Version 5.0 Level 990228

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SO2 1

2 RANKED 3-HOUR AVERAGE CONCENTRATION VALUES AT EACH DISCRETE RECEPTOR (YEAR,DAY,ENDING HOUR) (ug/m**3)

RECEPTOR	COORDINATES (km)		1 RANK		2 RANK	
1	340.300	3165.700	3.6919E+01	(90,138,11)	1.1755E+01	(90,356, 8)
2	340.300	3167.700	4.2487E+01	(90,138,11)	1.2996E+01	(90,135, 8)
3	340.300	3169.800	4.2076E+01	(90,138,11)	1.8426E+01	(90,158,11)
4	340.700	3171.900	3.4482E+01	(90,138,11)	2.3495E+01	(90,158,11)
5	342.000	3174.000	1.5679E+01	(90,240,11)	1.3338E+01	(90,151,11)
6	343.000	3176.200	1.8395E+01	(90, 85,11)	1.7843E+01	(90,143,11)
7	343.700	3178.300	2.5162E+01	(90,143,11)	1.7073E+01	(90, 85,11)
8	342.400	3180.600	1.2579E+01	(90,252,11)	1.2242E+01	(90, 85,11)
9	341.100	3183.400	1.2337E+01	(90,211,23)	1.2210E+01	(90,219,11)
10	339.000	3183.400	1.4297E+01	(90,260,20)	1.2558E+01	(90,323,17)
11	336.500	3183.400	2.7508E+01	(90,143,11)	1.7225E+01	(90,260,20)
12	334.000	3183.400	3.5727E+01	(90,112,11)	2.9561E+01	(90,143,11)
13	331.500	3183.400	1.4799E+01	(90,260,20)	1.4705E+01	(90,260,17)

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CALPOST Version 5.0 Level 990228

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SO2 1

2 RANKED 24-HOUR AVERAGE CONCENTRATION VALUES AT EACH DISCRETE RECEPTOR (YEAR,DAY,ENDING HOUR) (ug/m**3)

RECEPTOR	COORDINATES (km)		1 RANK		2 RANK	
1	340.300	3165.700	5.4652E+00	(90, 70,23)	5.0138E+00	(90,336,23)
2	340.300	3167.700	5.2076E+00	(90,138,23)	5.0888E+00	(90,135,23)
3	340.300	3169.800	5.1780E+00	(90,138,23)	4.5684E+00	(90,135,23)
4	340.700	3171.900	5.3626E+00	(90,135,23)	5.3333E+00	(90,253,23)
5	342.000	3174.000	4.1974E+00	(90,135,23)	4.0225E+00	(90,180,23)
6	343.000	3176.200	4.1734E+00	(90,116,23)	3.5750E+00	(90,180,23)
7	343.700	3178.300	4.0037E+00	(90,143,23)	3.8686E+00	(90,117,23)
8	342.400	3180.600	3.3386E+00	(90,226,23)	3.2145E+00	(90,123,23)
9	341.100	3183.400	3.4812E+00	(90,123,23)	3.1857E+00	(90,290,23)
10	339.000	3183.400	3.1225E+00	(90,257,23)	3.1100E+00	(90,226,23)
11	336.500	3183.400	4.2087E+00	(90,143,23)	3.5692E+00	(90,260,23)
12	334.000	3183.400	5.0795E+00	(90,143,23)	4.2631E+00	(90,112,23)
13	331.500	3183.400	3.7388E+00	(90,260,23)	3.4507E+00	(90,180,23)

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CALPOST Version 5.0 Level 990228

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SUMMARY SECTION

SO2 1

(ug/m**3)

RECEPTOR	COORDINATES (km)	TYPE	PEAK (YEAR,DAY,ENDING HOUR)	FOR RANK	FOR AVERAGE PERIOD

2	340.300	3167.700	DISCRETE	4.2487E+01 (90,138,11)	RANK	1	3-HOUR
12	334.000	3183.400	DISCRETE	2.9561E+01 (90,143,11)	RANK	2	3-HOUR
1	340.300	3165.700	DISCRETE	5.4652E+00 (90, 70,23)	RANK	1	24-HOUR
4	340.700	3171.900	DISCRETE	5.3333E+00 (90,253,23)	RANK	2	24-HOUR

```
**********************************************************************************************************************
                                        CALPOST  Version 5.0          Level 990228
**********************************************************************************************************************


 Run Title:
    SONAT POWER, PASCO CO PSD CLASS ISO2 REFINEMENT   10/12/99
    RECEPTORS AT CHASSAHOWITZKA NWA, 24-AND 3 HOUR AVERAGING TIME, CALPOST
    PROJECT ONLY

 ----------------------------------------------------------------------------

 INPUT GROUP: 1 -- General run control parameters
 -------------

     Option to run all periods found
     in the met. file(s)  (METRUN)        Default: 0   ! METRUN =   0  !

         METRUN = 0 - Run period explicitly defined below
         METRUN = 1 - Run all periods in CALPUFF data file(s)

     Starting date:    Year  (ISYR) --    No default   ! ISYR  =  90   !
     (used only if     Month (ISMO) --    No default   ! ISMO  =  1    !
      METRUN = 0)      Day   (ISDY) --    No default   ! ISDY  =  6    !
                       Hour  (ISHR) --    No default   ! ISHR  =  0    !

     Number of hours to process (NHRS) -- No default   ! NHRS  =  8616  !

           Species to process (ASPEC) -- No default   ! ASPEC = SO2  !
           (ASPEC = VISIB for visibility processing)

     Process every hour of data?(NREP) -- Default: 1   ! NREP  =  1  !
      (1 = every hour processed,
       2 = every 2nd hour processed,
       5 = every 5th hour processed, etc.)

 Concentration and scaling factors
 ---------------------------------

       Layer/deposition code (ILAYER)   -- Default: 1   ! ILAYER =  1  !
         '1'  for CALPUFF concentrations,
         '-1' for dry deposition fluxes,
         '-2' for wet deposition fluxes.

       Scaling factors of the form:     -- Defaults:    ! A =  0.0    !
            X(new) = X(old) * A + B          A = 0.0    ! B =  0.0    !
         (NOT applied if A = B = 0.0)        B = 0.0

       Add Hourly Background Concentrations?
                              (LBACK)  -- Default: F   ! LBACK =  F !

 Receptor information
 --------------------

   Gridded receptors processed?    (LG) -- Default: F   ! LG  = F  !
   Discrete receptors processed?   (LD) -- Default: F   ! LD  = T  !
   CTSG Complex terrain receptors processed?
                                  (LCT) -- Default: F   ! LCT = F  !

 --Select range of DISCRETE receptors (only used when LD = T):

   Select ALL DISCRETE receptors by setting NDRECP flag to -1;
                              OR
   Select SPECIFIC DISCRETE receptors by entering a flag (0,1) for each
      0 = discrete receptor not processed
      1 = discrete receptor processed
   using repeated value notation to select blocks of receptors:
      23*1, 15*0, 12*1
   Flag for all receptors after the last one assigned is set to 0
   (NDRECP) -- Default: -1
                                            ! NDRECP =  -1  !


 --Select range of GRIDDED receptors (only used when LG = T):

                                                    Page: 1
```

```
      X index of LL corner (IBGRID) -- Default: -1     ! IBGRID = -1  !
          (-1 OR 1 <= IBGRID <= NX)

      Y index of LL corner (JBGRID) -- Default: -1     !.JBGRID = -1  !
          (-1 OR 1 <= JBGRID <= NY)

      X index of UR corner (IEGRID) -- Default: -1     ! IEGRID = -1  !
          (-1 OR 1 <= IEGRID <= NX)

      Y index of UR corner (JEGRID) -- Default: -1     ! JEGRID = -1  !
          (-1 OR 1 <= JEGRID <= NY)

  Note: Entire grid is processed if IBGRID=JBGRID=IEGRID=JEGRID=-1

!END!
--------------------------------------------------------------------------------

INPUT GROUP: 2 -- Visibility Parameters (ASPEC = VISIB)
--------------

    Maximum relative humidity (%) used in particle growth curve
                            (RHMAX) -- Default: 98   ! RHMAX  = 0.0 !

    Modeled species to be included in computing the light extinction
     Include SULFATE?          (LVSO4) -- Default: T   ! LVSO4  = T  !
     Include NITRATE?          (LVNO3) -- Default: T   ! LVNO3  = T  !
     Include ORGANIC CARBON?   (LVOC)  -- Default: T   ! LVOC   = T  !
     Include COARSE PARTICLES? (LVPMC) -- Default: T   ! LVPMC  = T  !
     Include FINE PARTICLES?   (LVPMF) -- Default: T   ! LVPMF  = T  !

    And, when ranking for TOP-N, TOP-50, and Exceedance tables,
     Include BACKGROUND?       (LVBK)  -- Default: T   ! LVBK   = T  !

    Species name used for particulates in MODEL.DAT file
                  COARSE    (SPECPMC) -- Default: PMC ! SPECPMC = PMC !
                  FINE      (SPECPMF) -- Default: PMF ! SPECPMF = PMF !

Extinction Efficiency (1/Mm per ug/m**3)
---------------------------------------
    MODELED particulate species:
              PM  COARSE      (EEPMC) -- Default: 0.6 ! EEPMC  = 0.6 !
              PM  FINE        (EEPMF) -- Default: 1.0 ! EEPMF  = 1.0 !
    BACKGROUND particulate species:
              PM  COARSE    (EEPMCBK) -- Default: 0.6 ! EEPMCBK = 0.6 !
    Other species:
             AMMONIUM SULFATE (EESO4) -- Default: 3.0 ! EESO4  = 3.0 !
             AMMONIUM NITRATE (EENO3) -- Default: 3.0 ! EENO3  = 3.0 !
             ORGANIC CARBON   (EEOC)  -- Default: 4.0 ! EEOC   = 4.0 !
             SOIL             (EESOIL)-- Default: 1.0 ! EESOIL = 1.0 !
             ELEMENTAL CARBON (EEEC)  -- Default: 10. ! EEEC   = 10.0 !

Background Extinction Computation
---------------------------------

    Method used for background light extinction
                            (MVISBK) -- Default: 2   ! MVISBK =  2  !

        1 =  Supply single light extinction and hygroscopic fraction
             - IWAQM (1993) RH adjustment applied to hygroscopic background
               and modeled sulfate and nitrate
        2 =  Compute extinction from speciated PM measurements (A)
             - PATH RH adjustment applied to observed and modeled sulfate
               and nitrate
             - RH factor is capped at RHMAX
        3 =  Compute extinction from speciated PM measurements (B)
             - PATH RH adjustment applied to observed and modeled sulfate
               and nitrate
             - Receptor-hour excluded if RH>RHMAX
             - Receptor-day excluded if fewer than 6 valid receptor-hours
        4 =  Read hourly transmissometer background extinction measurements
             - PATH RH adjustment applied to modeled sulfate and nitrate
             - Hour excluded if measurement invalid (missing, interference,
               or large RH)
             - Receptor-hour excluded if RH>RHMAX
             - Receptor-day excluded if fewer than 6 valid receptor-hours
        5 =  Read hourly nephelometer background extinction measurements
             - Rayleigh extinction value (BEXTRAY) added to measurement
```

```
            - PATH RH adjustment applied to modeled sulfate and nitrate
            - Hour excluded if measurement invalid (missing, interference,
              or large RH)
            - Receptor-hour excluded if RH>RHMAX
            - Receptor-day excluded if fewer than 6 valid receptor-hours

   Additional inputs used for MVISBK = 1:
   --------------------------------------
    Background light extinction (1/Mm)
                          (BEXTBK) -- No default   ! BEXTBK = 0.0 !
    Percentage of particles affected by relative humidity
                          (RHFRAC) -- No default   ! RHFRAC = 0.0 !

   Additional inputs used for MVISBK = 2,3:
   ----------------------------------------
    Background extinction coefficients are computed from monthly
    CONCENTRATIONS of ammonium sulfate (BKSO4), ammonium nitrate (BKNO3),
    coarse particulates (BKPMC), organic carbon (BKOC), soil (BKSOIL), and
    elemental carbon (BKEC).  Month 1 is January.
    (ug/m**3)

    (BKSO4)  -- No default     ! BKSO4 = 0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0 !
    (BKNO3)  -- No default     ! BKNO3 = 0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0 !
    (BKPMC)  -- No default     ! BKPMC = 0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0 !
    (BKOC)   -- No default     ! BKOC  = 0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0 !
    (BKSOIL) -- No default     ! BKSOIL= 0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0 !
    (BKEC)   -- No default     ! BKEC  = 0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0,
                                         0.0, 0.0, 0.0, 0.0 !

   Additional inputs used for MVISBK = 2,3,5:
   ------------------------------------------
    Extinction due to Rayleigh scattering is added (1/Mm)
                          (BEXTRAY) -- Default: 10.0 ! BEXTRAY = 0.0 !

!END!
--------------------------------------------------------------------------------

INPUT GROUP: 3 -- Processing options
-------------

Averaging time and TOP 50 Table control
---------------------------------------
    User-specified averaging time
                             (NAVG) -- Default: 0   !   NAVG =  0  !
    Top 50 table for  1-hr averages
                            (L1T50) -- Default: T   !  L1T50 = F  !
    Top 50 table for  3-hr averages
                            (L3T50) -- Default: T   !  L3T50 = T  !
    Top 50 table for 24-hr averages
                           (L24T50) -- Default: T   ! L24T50 = T  !
    Top 50 table for NAVG-hr averages
                            (LNT50) -- Default: F   !  LNT50 = F  !
    Top 50 table for length of run averages
                            (LRT50) -- Default: T   !  LRT50 = F  !

 TOP 'n' Table control
 ---------------------

    Number of 'Top' values at each receptor
                              (NTOP) -- Default: 4   ! NTOP =  2   !
               (NTOP must be <= 4)

    Specific ranks of 'Top' values reported (NTOP values must be entered)
                       (ITOP(4) array) -- Default:     ! ITOP =  1 , 2   !
                                       1,2,3,4
```

```
    Top 'n' table for  1-hr averages
                            (L1TOPN) -- Default: F   !  L1TOPN = F  !
    Top 'n' table for  3-hr averages
                            (L3TOPN) -- Default: F   ! L3TOPN = T  !
    Top 'n' table for 24-hr averages
                           (L24TOPN) -- Default: F   ! L24TOPN = T  !
    Top 'n' table for NAVG-hr averages
                            (LNTOPN) -- Default: F   !  LNTOPN = F  !
    Top 'n' table for length of run averages
                             (LRAVG) -- Default: F   !   LRAVG = F  !


Output Units
------------
    Units for All Output       (IPRTU) -- Default: 1   ! IPRTU =  3   !
                      for           for
                Concentration   Deposition
       1 =          g/m**3        g/m**2/s
       2 =         mg/m**3       mg/m**2/s
       3 =         ug/m**3       ug/m**2/s
       4 =         ng/m**3       ng/m**2/s
       5 =       Odour Units

    Visibility: extinction expressed in 1/Mega-meters (IPRTU is ignored)


Threshold Exceedance control
----------------------------          -- Default: -1.0

    Counts will be tabulated for each average that
    exceeds a specified non-negative threshold (output units).


    Threshold for  1-hr averages   (THRESH1)     !  THRESH1 = -1.0  !
    Threshold for  3-hr averages   (THRESH3)     !  THRESH3 = -1.0  !
    Threshold for 24-hr averages  (THRESH24)     ! THRESH24 = -1.0  !
    Threshold for NAVG-hr averages (THRESHN)     !  THRESHN = -1.0  !


Selected Day (Echo) Output Control
----------------------------------     -- Default: F
    Output 1-hr averages for selected days (LECH1)     ! LECH1   = F !
    Output 3-hr averages for selected days (LECH3)     ! LECH3   = T !
    Output 24-hr averages for selected days (LECH24)   ! LECH24  = T !
    Output NAVG-hr averages for selected days (LECHN)  ! LECHN   = F !
    Output selected information for debugging (LDEBUG) ! LDEBUG  = F !

    Days selected for output IECHO(366)-- Default: 366*0
! IECHO  = 69*0,1*1,41*0,1*1,15*0,1*1,6*0,1*1,7*0,1*1,
14*0,1*1,94*0,1*1,82*0,1*1,30*0  !
     (366 values must be entered)

Plot Output Options
-------------------

     Plot files can be created for selected Top-n, Exceedance and Echo
     tables selected above.  Two formats for these files are available,
     DATA and GRID.  In the DATA format, results at all receptors are
     listed along with the receptor location [x,y,val1,val2,...].
     In the GRID format, results at only gridded receptors are written,
     using a compact representation.  The gridded values are written in
     rows (x varies), starting with the most southern row of the grid.
     The GRID format is given the .GRD extension, and includes headers
     compatible with the SURFER(R) plotting software.

     A plotting and analysis file is also created for the daily peak
     visibility summary output, in DATA format only.

     Generate Plot-File Output   (LPLT) -- Default: F   ! LPLT  = F !

     Write Top-n files in GRID format?
                            (LTGRD) -- Default: F   ! LTGRD = F !

     Write Exceedance files in GRID format?
                            (LXGRD) -- Default: F   ! LXGRD = F !
     Write Echo files in GRID format?
                            (LEGRD) -- Default: F   ! LEGRD = F !
```

```
 !END!

  CALPOST Control File Input Summary ------------------------

     Replace run data with data in Puff file 1=Y:    0
                     Run starting date -- year:    90
                                         month:     1
                                           day:     6
                                   Julian day:     6
                           hour ending(0-23):     0
                          Run length (hours):    8616
                                     Species: SO2

 Every hour of data processed -- NREP = 1


  Concentration & scaling factors
                          Layer of processed data:    1
       (>0 = concentrations, -1 = dry fluxes, -2 = wet fluxes)
                    Multiplicative scaling factor: 0.0000E+00
                          Additive scaling factor: 0.0000E+00
          Hourly background concentrations used?: F


  Receptor information
                       Gridded receptors processed?: F
                      Discrete receptors processed?: T
       CTSG Complex terrain receptors processed?: F

  Discrete Receptors Processed

  (All Discrete Receptors are Used)


  Visibility Processing is NOT Selected


  Averaging time & TOP 50 table control
      User-specified averaging time (NAVG hours):     0
                  Top 50 table for  1-hr averages:     F
                  Top 50 table for  3-hr averages:     T
                  Top 50 table for 24-hr averages:     T
                Top 50 table for NAVG-hr averages:     F
          Top 50 table for length of run averages:     F


  Top "n" table control
         Number of "top" values at each receptor:     2
         Specific ranks of "top" values reported:   1   2

                  Top "n" table for  1-hr averages: F
                  Top "n" table for  3-hr averages: T
                  Top "n" table for 24-hr averages: T
                Top "n" table for NAVG-hr averages: F
          Top "n" table for length of run averages: F


  Units requested for output:   (ug/m**3)


  Threshold Exceedance control
       Exceedances of a specified value will be counted for --


  Output options
                              Plot files created: F
       Output    1-hr averages for selected days: F
       Output    3-hr averages for selected days: T
       Output   24-hr averages for selected days: T
       Output NAVG-hr averages for selected days: F
       Output selected information for debugging: F


  Days selected for output tables
     0000000000  0000000000  0000000000  0000000000  0000000000  0000000000  0000000001  0000000000  0000000000  0000000000
```

0000000000 0100000000 0000000100 0000100000 0010000000 0000000100 0000000000 0000000000 0000000000 0000000000
0000000000 0000000000 0000000000 0000000000 0000000000 0010000000 0000000000 0000000000 0000000000 0000000000
0000000000 0000000000 0000000000 0000010000 0000000000 0000000000 000000

IDENTIFICATION OF PROCESSED MODEL FILE ----------

CALPUFF 5.0 990228

REFINED SO2 PSD CLASS I INCREMENTAL ANALYSIS, SONAT PASCO CO 10/12/99
RECEPTORS AT CHASSAHOWITZKA NWA, FUTURE EMISSION SOURCES
FDEP CHASSAHOWITZKA CALMET DOMAIN WITH PRECIPITATION, PROJECT ONLY

Chemical species names for each layer in model:
SO2 1
SO4 1
NOX 1
HNO3 1
NO3 1
PM10 1

********** NOTICE **********
NDRECP array reset to full range: all 1s

INPUT FILES

Default Name	Unit No.	File Name and Path
CALPOST.INP	5	calpost.inp
MODEL.DAT	4	c:\calmet\chass\sonatpas\proj.con

OUTPUT FILES

Default Name	Unit No.	File Name and Path
CALPOST.LST	7	calpost.lst

ECHO OPTION -
CONCENTRATION AT EACH RECEPTOR IS PRINTED FOR THE FOLLOWING DAYS (0=NOT printed; 1=PRINTED):
0000000000 0000000000 0000000000 0000000000 0000000000 0000000000 0000000001 0000000000 0000000000 0000000
0000000000 0100000000 0000000100 0000100000 0010000000 0000000100 0000000000 0000000000 0000000000 0000000
0000000000 0000000000 0000000000 0000000000 0000000000 0010000000 0000000000 0000000000 0000000000 0000000
0000000000 0000000000 0000000000 0000010000 0000000000 0000000000 000000
AND FOR THE FOLLOWING AVERAGING PERIODS: (NOTE THAT THE AVERAGING PERIOD IN MODEL IS MAVG = 1 HR.)
3*MAVG-HOUR AVERAGES
24*MAVG-HOUR AVERAGES

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 2

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 5

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 8

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 11

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 14

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 17

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00

13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 20

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

24-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 70 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23): 2

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23): 5

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23): 8

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23): 11

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23): 14

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23): 17

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23): 20

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

24-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 112 HOUR(0-23) 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 2

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 5

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)	CONCENTRATION	RECEPTOR	COORDINATES (km)	CONCENTRATION

1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 8

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 11

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 14

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 17

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 20

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

24-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 128 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 2

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	8.7697E-04	7	343.700	3178.300	6.6318E-04
2	340.300	3167.700	8.4374E-04	8	342.400	3180.600	6.3569E-04
3	340.300	3169.800	8.0940E-04	9	341.100	3183.400	6.0148E-04
4	340.700	3171.900	7.7377E-04	10	339.000	3183.400	6.0926E-04
5	342.000	3174.000	7.3484E-04	11	336.500	3183.400	6.1829E-04
6	343.000	3176.200	6.9701E-04	12	334.000	3183.400	6.2752E-04
				13	331.500	3183.400	6.3648E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 5

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)	CONCENTRATION	RECEPTOR	COORDINATES (km)	CONCENTRATION

1	340.300	3165.700	8.0987E-04	7	343.700	3178.300	6.6699E-04
2	340.300	3167.700	7.9094E-04	8	342.400	3180.600	6.5321E-04
3	340.300	3169.800	7.7083E-04	9	341.100	3183.400	6.3399E-04
4	340.700	3171.900	7.4785E-04	10	339.000	3183.400	6.4572E-04
5	342.000	3174.000	7.1893E-04	11	336.500	3183.400	6.5925E-04
6	343.000	3176.200	6.9137E-04	12	334.000	3183.400	6.7224E-04
				13	331.500	3183.400	6.8472E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 8

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	6.1721E-04	7	343.700	3178.300	5.7358E-04
2	340.300	3167.700	6.1305E-04	8	342.400	3180.600	5.6990E-04
3	340.300	3169.800	6.0819E-04	9	341.100	3183.400	5.6360E-04
4	340.700	3171.900	6.0161E-04	10	339.000	3183.400	5.6920E-04
5	342.000	3174.000	5.9183E-04	11	336.500	3183.400	5.7540E-04
6	343.000	3176.200	5.8228E-04	12	334.000	3183.400	5.8110E-04
				13	331.500	3183.400	5.8627E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 11

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	3.8107E-04	7	343.700	3178.300	3.7996E-04
2	340.300	3167.700	3.8286E-04	8	342.400	3180.600	3.8247E-04
3	340.300	3169.800	3.8439E-04	9	341.100	3183.400	3.8419E-04
4	340.700	3171.900	3.8476E-04	10	339.000	3183.400	3.8810E-04
5	342.000	3174.000	3.8291E-04	11	336.500	3183.400	3.9235E-04
6	343.000	3176.200	3.8132E-04	12	334.000	3183.400	3.9617E-04
				13	331.500	3183.400	3.9955E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 14

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	1.8556E-04	7	343.700	3178.300	1.9589E-04
2	340.300	3167.700	1.8867E-04	8	342.400	3180.600	2.0091E-04
3	340.300	3169.800	1.9179E-04	9	341.100	3183.400	2.0608E-04
4	340.700	3171.900	1.9397E-04	10	339.000	3183.400	2.1004E-04
5	342.000	3174.000	1.9420E-04	11	336.500	3183.400	2.1454E-04
6	343.000	3176.200	1.9492E-04	12	334.000	3183.400	2.1878E-04
				13	331.500	3183.400	2.2275E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 17

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	9.1617E-05	7	343.700	3178.300	1.0124E-04
2	340.300	3167.700	9.4094E-05	8	342.400	3180.600	1.0603E-04
3	340.300	3169.800	9.6685E-05	9	341.100	3183.400	1.1138E-04
4	340.700	3171.900	9.8633E-05	10	339.000	3183.400	1.1508E-04
5	342.000	3174.000	9.9082E-05	11	336.500	3183.400	1.1944E-04
6	343.000	3176.200	1.0002E-04	12	334.000	3183.400	1.2379E-04
				13	331.500	3183.400	1.2808E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 20

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

24-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	3.7029E-04	7	343.700	3178.300	3.2261E-04
2	340.300	3167.700	3.6417E-04	8	342.400	3180.600	3.1853E-04
3	340.300	3169.800	3.5766E-04	9	341.100	3183.400	3.1259E-04
4	340.700	3171.900	3.5007E-04	10	339.000	3183.400	3.1717E-04
5	342.000	3174.000	3.4023E-04	11	336.500	3183.400	3.2241E-04
6	343.000	3176.200	3.3086E-04	12	334.000	3183.400	3.2745E-04
				13	331.500	3183.400	3.3223E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 135 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 2

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 5

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00

2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 8

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 11

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 14

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 17

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	9.7377E-03	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	4.7836E-03	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	2.5244E-03	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	1.3237E-03	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 20

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	1.2759E-02	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	7.3630E-03	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	3.7163E-03	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	1.6137E-03	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

24-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	3.6814E-03	7	343.700	3178.300	2.0997E-04
2	340.300	3167.700	2.1909E-03	8	342.400	3180.600	1.5075E-04
3	340.300	3169.800	1.3209E-03	9	341.100	3183.400	9.3813E-05
4	340.700	3171.900	7.7625E-04	10	339.000	3183.400	8.5336E-05
5	342.000	3174.000	3.3520E-04	11	336.500	3183.400	7.9888E-05
6	343.000	3176.200	2.7040E-04	12	334.000	3183.400	7.0546E-05
				13	331.500	3183.400	6.3999E-05

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 143 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	6.9545E-03	7	343.700	3178.300	1.6798E-03
2	340.300	3167.700	5.3804E-03	8	342.400	3180.600	1.2060E-03
3	340.300	3169.800	4.3268E-03	9	341.100	3183.400	7.5050E-04
4	340.700	3171.900	3.2727E-03	10	339.000	3183.400	6.8269E-04
5	342.000	3174.000	2.6816E-03	11	336.500	3183.400	6.3910E-04
6	343.000	3176.200	2.1632E-03	12	334.000	3183.400	5.6437E-04
				13	331.500	3183.400	5.1199E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 2

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	3.6725E-02	7	343.700	3178.300	2.6255E-02
2	340.300	3167.700	3.4531E-02	8	342.400	3180.600	2.3339E-02
3	340.300	3169.800	3.2279E-02	9	341.100	3183.400	2.0358E-02
4	340.700	3171.900	3.0452E-02	10	339.000	3183.400	1.8249E-02
5	342.000	3174.000	2.9386E-02	11	336.500	3183.400	1.6817E-02
6	343.000	3176.200	2.7843E-02	12	334.000	3183.400	1.5797E-02
				13	331.500	3183.400	1.4812E-02

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 5

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	4.2971E-02	7	343.700	3178.300	2.9604E-02
2	340.300	3167.700	4.0048E-02	8	342.400	3180.600	2.7009E-02

3	340.300	3169.800	3.7266E-02	9	341.100	3183.400	2.4236E-02
4	340.700	3171.900	3.5160E-02	10	339.000	3183.400	2.3661E-02
5	342.000	3174.000	3.3513E-02	11	336.500	3183.400	2.2885E-02
6	343.000	3176.200	3.1549E-02	12	334.000	3183.400	2.2055E-02
				13	331.500	3183.400	2.1200E-02

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 8

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	1.0207E-01	7	343.700	3178.300	7.1609E-02
2	340.300	3167.700	9.6999E-02	8	342.400	3180.600	6.7515E-02
3	340.300	3169.800	9.1721E-02	9	341.100	3183.400	6.2413E-02
4	340.700	3171.900	8.6504E-02	10	339.000	3183.400	6.2296E-02
5	342.000	3174.000	8.1360E-02	11	336.500	3183.400	6.1591E-02
6	343.000	3176.200	7.6119E-02	12	334.000	3183.400	6.0689E-02
				13	331.500	3183.400	5.9659E-02

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 11

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	2.9609E-01	7	343.700	3178.300	1.5351E-01
2	340.300	3167.700	2.7468E-01	8	342.400	3180.600	1.4753E-01
3	340.300	3169.800	2.5265E-01	9	341.100	3183.400	1.3617E-01
4	340.700	3171.900	2.2877E-01	10	339.000	3183.400	1.4543E-01
5	342.000	3174.000	1.9837E-01	11	336.500	3183.400	1.5537E-01
6	343.000	3176.200	1.7314E-01	12	334.000	3183.400	1.6421E-01
				13	331.500	3183.400	1.7176E-01

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 14

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	1.2560E-01	7	343.700	3178.300	1.0081E-01
2	340.300	3167.700	1.2781E-01	8	342.400	3180.600	1.0635E-01
3	340.300	3169.800	1.2893E-01	9	341.100	3183.400	1.0976E-01
4	340.700	3171.900	1.2568E-01	10	339.000	3183.400	1.2222E-01
5	342.000	3174.000	1.1513E-01	11	336.500	3183.400	1.3742E-01
6	343.000	3176.200	1.0692E-01	12	334.000	3183.400	1.5306E-01
				13	331.500	3183.400	1.6851E-01

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 17

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	2.4211E-02	7	343.700	3178.300	2.9757E-02
2	340.300	3167.700	2.6613E-02	8	342.400	3180.600	3.6003E-02
3	340.300	3169.800	2.7830E-02	9	341.100	3183.400	4.2753E-02
4	340.700	3171.900	2.9240E-02	10	339.000	3183.400	4.9228E-02
5	342.000	3174.000	2.8182E-02	11	336.500	3183.400	5.7543E-02
6	343.000	3176.200	2.8436E-02	12	334.000	3183.400	6.6316E-02
				13	331.500	3183.400	7.5720E-02

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 20

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	2.5978E-03	7	343.700	3178.300	3.0664E-03
2	340.300	3167.700	2.7871E-03	8	342.400	3180.600	3.5115E-03
3	340.300	3169.800	3.0020E-03	9	341.100	3183.400	4.0277E-03
4	340.700	3171.900	3.1354E-03	10	339.000	3183.400	4.6084E-03
5	342.000	3174.000	3.0721E-03	11	336.500	3183.400	5.3847E-03
6	343.000	3176.200	3.0537E-03	12	334.000	3183.400	6.2398E-03
				13	331.500	3183.400	7.2333E-03

24-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	7.8816E-02	7	343.700	3178.300	5.1870E-02
2	340.300	3167.700	7.5469E-02	8	342.400	3180.600	5.1461E-02
3	340.300	3169.800	7.1749E-02	9	341.100	3183.400	5.0027E-02
4	340.700	3171.900	6.7409E-02	10	339.000	3183.400	5.3284E-02
5	342.000	3174.000	6.1168E-02	11	336.500	3183.400	5.7210E-02
6	343.000	3176.200	5.5924E-02	12	334.000	3183.400	6.1144E-02
				13	331.500	3183.400	6.4976E-02

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 158 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	2.6051E-04	7	343.700	3178.300	3.5059E-04
2	340.300	3167.700	2.8651E-04	8	342.400	3180.600	4.2076E-04
3	340.300	3169.800	3.1256E-04	9	341.100	3183.400	5.0374E-04
4	340.700	3171.900	3.3036E-04	10	339.000	3183.400	5.7968E-04
5	342.000	3174.000	3.3025E-04	11	336.500	3183.400	6.7448E-04
6	343.000	3176.200	3.3552E-04	12	334.000	3183.400	7.8443E-04
				13	331.500	3183.400	9.0669E-04

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 2

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 5

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00

4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 8

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 11

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 14

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 17

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 20

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

24-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 253 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 2

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 5

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00

5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 8

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 11

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 14

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 17

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 20

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

24-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

3-HOUR AVERAGE CONCENTRATION AT EACH RECEPTOR FOR THE PERIOD ENDING YEAR: 90 DAY: 336 HOUR(0-23): 23

DISCRETE RECEPTORS: SO2 1

RECEPTOR	COORDINATES (km)		CONCENTRATION	RECEPTOR	COORDINATES (km)		CONCENTRATION
1	340.300	3165.700	0.0000E+00	7	343.700	3178.300	0.0000E+00
2	340.300	3167.700	0.0000E+00	8	342.400	3180.600	0.0000E+00
3	340.300	3169.800	0.0000E+00	9	341.100	3183.400	0.0000E+00
4	340.700	3171.900	0.0000E+00	10	339.000	3183.400	0.0000E+00
5	342.000	3174.000	0.0000E+00	11	336.500	3183.400	0.0000E+00
6	343.000	3176.200	0.0000E+00	12	334.000	3183.400	0.0000E+00
				13	331.500	3183.400	0.0000E+00

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SO2 1

TOP-50 3-HOUR AVERAGE CONCENTRATION VALUES (ug/m**3)

YEAR	DAY	HOUR(0-23)	RECEPTOR	TYPE	CONCENTRATION	COORDINATES (km)	
90	154	11	(0, 7)	D	2.5173E+00	343.700	3178.300
90	96	11	(0, 13)	D	2.4593E+00	331.500	3183.400
90	223	11	(0, 1)	D	2.3503E+00	340.300	3165.700
90	154	11	(0, 8)	D	2.1164E+00	342.400	3180.600
90	154	11	(0, 6)	D	2.0778E+00	343.000	3176.200
90	228	11	(0, 2)	D	1.9841E+00	340.300	3167.700
90	228	11	(0, 3)	D	1.8993E+00	340.300	3169.800
90	189	8	(0, 1)	D	1.8882E+00	340.300	3165.700
90	96	11	(0, 12)	D	1.7004E+00	334.000	3183.400
90	228	11	(0, 4)	D	1.6478E+00	340.700	3171.900
90	228	11	(0, 1)	D	1.5310E+00	340.300	3165.700
90	154	11	(0, 9)	D	1.4674E+00	341.100	3183.400
90	189	8	(0, 2)	D	1.4463E+00	340.300	3167.700
90	223	11	(0, 2)	D	1.3901E+00	340.300	3167.700
90	154	11	(0, 5)	D	1.3347E+00	342.000	3174.000
90	107	14	(0, 12)	D	1.3215E+00	334.000	3183.400
90	119	14	(0, 1)	D	1.2971E+00	340.300	3165.700
90	189	8	(0, 3)	D	1.2656E+00	340.300	3169.800
90	107	14	(0, 11)	D	1.2539E+00	336.500	3183.400
90	238	11	(0, 1)	D	1.1923E+00	340.300	3165.700

90	119	14	(	0, 2)	D	1.1759E+00	340.300	3167.700
90	202	14	(	0, 1)	D	1.1744E+00	340.300	3165.700
90	189	8	(	0, 4)	D	1.1735E+00	340.700	3171.900
90	228	11	(	0, 5)	D	1.1685E+00	342.000	3174.000
90	194	2	(	0, 1)	D	1.1470E+00	340.300	3165.700
90	107	14	(	0, 4)	D	1.1369E+00	340.700	3171.900
90	107	14	(	0, 13)	D	1.1242E+00	331.500	3183.400
90	107	14	(	0, 10)	D	1.1181E+00	339.000	3183.400
90	107	14	(	0, 3)	D	1.1037E+00	340.300	3169.800
90	107	14	(	0, 2)	D	1.0816E+00	340.300	3167.700
90	107	14	(	0, 5)	D	1.0764E+00	342.000	3174.000
90	184	14	(	0, 4)	D	1.0737E+00	340.700	3171.900
90	194	5	(	0, 13)	D	1.0690E+00	331.500	3183.400
90	184	14	(	0, 3)	D	1.0511E+00	340.300	3169.800
90	107	14	(	0, 1)	D	1.0381E+00	340.300	3165.700
90	119	14	(	0, 3)	D	1.0345E+00	340.300	3169.800
90	238	11	(	0, 2)	D	1.0216E+00	340.300	3167.700
90	184	14	(	0, 5)	D	1.0146E+00	342.000	3174.000
90	107	14	(	0, 6)	D	1.0134E+00	343.000	3176.200
90	107	11	(	0, 1)	D	1.0099E+00	340.300	3165.700
90	237	11	(	0, 12)	D	1.0026E+00	334.000	3183.400
90	189	8	(	0, 5)	D	1.0008E+00	342.000	3174.000
90	107	14	(	0, 9)	D	9.9654E-01	341.100	3183.400
90	107	14	(	0, 8)	D	9.8462E-01	342.400	3180.600
90	189	11	(	0, 13)	D	9.7977E-01	331.500	3183.400
90	184	14	(	0, 2)	D	9.7498E-01	340.300	3167.700
90	154	11	(	0, 10)	D	9.6071E-01	339.000	3183.400
90	107	14	(	0, 7)	D	9.5033E-01	343.700	3178.300
90	96	11	(	0, 11)	D	9.4157E-01	336.500	3183.400
90	151	14	(	0, 1)	D	9.3851E-01	340.300	3165.700

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TOP-50 24-HOUR AVERAGE CONCENTRATION VALUES (ug/m**3)

YEAR	DAY	HOUR(0-23)	RECEPTOR		TYPE	CONCENTRATION	COORDINATES (km)	
90	223	23	(0,	1)	D	4.7861E-01	340.300	3165.700
90	228	23	(0,	2)	D	4.4733E-01	340.300	3167.700
90	228	23	(0,	3)	D	4.3000E-01	340.300	3169.800
90	154	23	(0,	7)	D	4.2407E-01	343.700	3178.300
90	228	23	(0,	1)	D	4.0536E-01	340.300	3165.700
90	228	23	(0,	4)	D	3.9809E-01	340.700	3171.900
90	154	23	(0,	6)	D	3.5643E-01	343.000	3176.200
90	154	23	(0,	8)	D	3.4822E-01	342.400	3180.600
90	243	23	(0,	1)	D	3.4171E-01	340.300	3165.700
90	96	23	(0,	13)	D	3.4102E-01	331.500	3183.400
90	228	23	(0,	5)	D	3.3772E-01	342.000	3174.000
90	223	23	(0,	2)	D	3.2908E-01	340.300	3167.700
90	194	23	(0,	13)	D	3.1632E-01	331.500	3183.400
90	243	23	(0,	2)	D	2.9723E-01	340.300	3167.700
90	228	23	(0,	11)	D	2.8597E-01	336.500	3183.400
90	107	23	(0,	1)	D	2.8510E-01	340.300	3165.700
90	107	23	(0,	2)	D	2.8446E-01	340.300	3167.700
90	228	23	(0,	12)	D	2.8416E-01	334.000	3183.400
90	228	23	(0,	6)	D	2.7784E-01	343.000	3176.200
90	107	23	(0,	12)	D	2.7195E-01	334.000	3183.400
90	107	23	(0,	3)	D	2.7194E-01	340.300	3169.800
90	189	23	(0,	1)	D	2.7145E-01	340.300	3165.700
90	151	23	(0,	1)	D	2.6826E-01	340.300	3165.700
90	107	23	(0,	4)	D	2.6681E-01	340.700	3171.900
90	228	23	(0,	10)	D	2.6368E-01	339.000	3183.400
90	228	23	(0,	13)	D	2.6187E-01	331.500	3183.400
90	107	23	(0,	11)	D	2.5999E-01	336.500	3183.400
90	194	23	(0,	12)	D	2.5299E-01	334.000	3183.400
90	96	23	(0,	12)	D	2.5244E-01	334.000	3183.400
90	243	23	(0,	3)	D	2.5153E-01	340.300	3169.800
90	202	23	(0,	1)	D	2.4947E-01	340.300	3165.700
90	107	23	(0,	13)	D	2.4928E-01	331.500	3183.400
90	181	23	(0,	1)	D	2.4801E-01	340.300	3165.700
90	154	23	(0,	9)	D	2.4715E-01	341.100	3183.400
90	107	23	(0,	5)	D	2.4446E-01	342.000	3174.000

90	154	23	(0, 5)	D	2.4304E-01	342.000	3174.000
90	107	23	(0, 10)	D	2.3994E-01	339.000	3183.400
90	228	23	(0, 8)	D	2.3726E-01	342.400	3180.600
90	228	23	(0, 9)	D	2.3556E-01	341.100	3183.400
90	228	23	(0, 7)	D	2.3433E-01	343.700	3178.300
90	107	23	(0, 6)	D	2.3122E-01	343.000	3176.200
90	223	23	(0, 3)	D	2.3011E-01	340.300	3169.800
90	202	23	(0, 2)	D	2.2622E-01	340.300	3167.700
90	107	23	(0, 8)	D	2.2522E-01	342.400	3180.600
90	85	23	(0, 1)	D	2.2472E-01	340.300	3165.700
90	107	23	(0, 9)	D	2.2391E-01	341.100	3183.400
90	189	23	(0, 2)	D	2.2350E-01	340.300	3167.700
90	181	23	(0, 2)	D	2.2284E-01	340.300	3167.700
90	151	23	(0, 2)	D	2.2169E-01	340.300	3167.700
90	107	23	(0, 7)	D	2.2168E-01	343.700	3178.300

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SO2 1

2 RANKED 3-HOUR AVERAGE CONCENTRATION VALUES AT EACH DISCRETE RECEPTOR (YEAR,DAY,ENDING HOUR) (ug/m**3)

RECEPTOR	COORDINATES (km)		1 RANK	2 RANK
1	340.300	3165.700	2.3503E+00 (90,223,11)	1.8882E+00 (90,189, 8)
2	340.300	3167.700	1.9841E+00 (90,228,11)	1.4463E+00 (90,189, 8)
3	340.300	3169.800	1.8993E+00 (90,228,11)	1.2656E+00 (90,189, 8)
4	340.700	3171.900	1.6478E+00 (90,228,11)	1.1735E+00 (90,189, 8)
5	342.000	3174.000	1.3347E+00 (90,154,11)	1.1685E+00 (90,228,11)
6	343.000	3176.200	2.0778E+00 (90,154,11)	1.0134E+00 (90,107,14)
7	343.700	3178.300	2.5173E+00 (90,154,11)	9.5033E-01 (90,107,14)
8	342.400	3180.600	2.1164E+00 (90,154,11)	9.8462E-01 (90,107,14)
9	341.100	3183.400	1.4674E+00 (90,154,11)	9.9654E-01 (90,107,14)
10	339.000	3183.400	1.1181E+00 (90,107,14)	9.6071E-01 (90,154,11)
11	336.500	3183.400	1.2539E+00 (90,107,14)	9.4157E-01 (90, 96,11)
12	334.000	3183.400	1.7004E+00 (90, 96,11)	1.3215E+00 (90,107,14)
13	331.500	3183.400	2.4593E+00 (90, 96,11)	1.1242E+00 (90,107,14)

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SO2 1

2 RANKED 24-HOUR AVERAGE CONCENTRATION VALUES AT EACH DISCRETE RECEPTOR (YEAR,DAY,ENDING HOUR) (ug/m**3)

RECEPTOR	COORDINATES (km)		1 RANK	2 RANK
1	340.300	3165.700	4.7861E-01 (90,223,23)	4.0536E-01 (90,228,23)
2	340.300	3167.700	4.4733E-01 (90,228,23)	3.2908E-01 (90,223,23)
3	340.300	3169.800	4.3000E-01 (90,228,23)	2.7194E-01 (90,107,23)
4	340.700	3171.900	3.9809E-01 (90,228,23)	2.6681E-01 (90,107,23)
5	342.000	3174.000	3.3772E-01 (90,228,23)	2.4446E-01 (90,107,23)
6	343.000	3176.200	3.5643E-01 (90,154,23)	2.7784E-01 (90,228,23)
7	343.700	3178.300	4.2407E-01 (90,154,23)	2.3433E-01 (90,228,23)
8	342.400	3180.600	3.4822E-01 (90,154,23)	2.3726E-01 (90,228,23)
9	341.100	3183.400	2.4715E-01 (90,154,23)	2.3556E-01 (90,228,23)
10	339.000	3183.400	2.6368E-01 (90,228,23)	2.3994E-01 (90,107,23)
11	336.500	3183.400	2.8597E-01 (90,228,23)	2.5999E-01 (90,107,23)
12	334.000	3183.400	2.8416E-01 (90,228,23)	2.7195E-01 (90,107,23)
13	331.500	3183.400	3.4102E-01 (90, 96,23)	3.1632E-01 (90,194,23)

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SUMMARY SECTION

SO2 1

(ug/m**3)

RECEPTOR	COORDINATES (km)		TYPE	PEAK (YEAR,DAY,ENDING HOUR)	FOR RANK	FOR AVERAGE PERIOD
7	343.700	3178.300	DISCRETE	2.5173E+00 (90,154,11)	RANK 1	3-HOUR
1	340.300	3165.700	DISCRETE	1.8882E+00 (90,189, 8)	RANK 2	3-HOUR
1	340.300	3165.700	DISCRETE	4.7861E-01 (90,223,23)	RANK 1	24-HOUR
1	340.300	3165.700	DISCRETE	4.0536E-01 (90,228,23)	RANK 2	24-HOUR